

Visions turn into light.

Simple, complete, innovative: light management systems from OSRAM.

SEE THE WORLD IN A NEW LIGHT



Simple. Complete. Innovative.

The right light – in the right amount, at the right place, and at the right time – promotes our sense of well-being and stimulates us to be active. In addition to the technical and architectural aspects, light management systems (LMS) therefore take on an important role in the holistic approach to planning high-quality lighting systems.

Light management systems detect and control different lighting levels and color mixes, thus giving lighting a dynamic dimension. Automatic changes in the amount, color, and direction of the light means that the lighting system can be controlled based on demand – from daylight-dependent control and dynamic lighting applications to pushbutton selection of different lighting scenes.

Light management solutions can bring the demands for comfort and energy savings into perfect harmony. Users can adjust the lighting level themselves at any time to suit their specific needs. At the same time, the lighting system can be faded up or down automatically depending on the amount of available daylight, leading to enormous potential energy savings.



OSRAM – your competent partner for LMS.

Light management products from OSRAM provide the ideal basis for innovative, tailor-made lighting concepts – from a simple individual luminaire to complex large-area solutions. Thanks to our extensive experience and in-depth technical expertise, our wide-ranging product portfolio meets the requirements in many different areas of application:

Separate brochures are available containing detailed information on the topics listed below.

Energy savings

Page 04



- Light management systems for daylight-dependent and presence-dependent lighting
- Light management systems with maintenance-free EnOcean radio technology
- Sensors for non-system specific use

Ambience

Page 06



- Light management systems for atmospheric and dynamic RGB lighting
- Light management systems for daylight simulation

Scenes

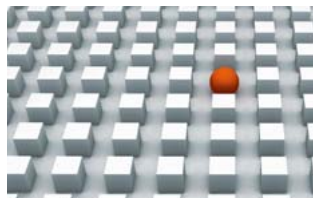
Page 07



- Light management systems for multifunctional management of lighting groups and lighting scenes
- Simple manual dimming solutions

Components

Page 10



- Non-system specific components for expanding, connecting, or installing of light management products

Light source control gears

Page 11



- Conventional and electronic control gear optimized for use with OSRAM products

Good for our climate and good for your business. Daylight and presence-dependent lighting.

Constantly rising energy costs and a growing focus on climate protection are driving the need for energy savings more and more into the forefront. Particularly in applications with high energy consumption, energy-efficient lighting solutions are assuming an increasingly important role.



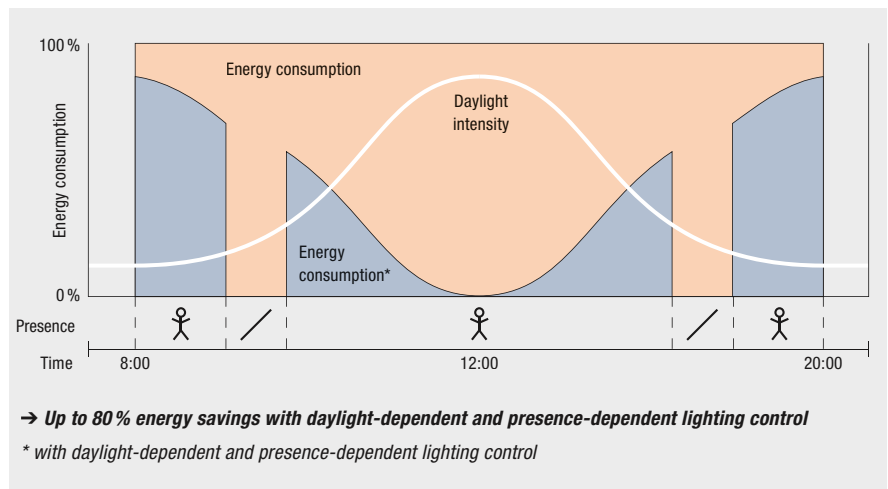
The lights are often left burning at 100 % output all day long, regardless of how much daylight enters the room or whether anyone is in the room. With a modern daylight-dependent and presence-dependent light management system from OSRAM, only as much artificial light is added to the available daylight as needed to maintain a predetermined lighting level – and only when there is someone in the room.



Energy saving at the highest level.
Innovative light management systems from OSRAM for daylight-dependent and presence-dependent lighting offer enormous potential for energy savings.

Only as much light as needed.

Daylight-dependent and presence-dependent lighting control offers great potential for energy savings. The available daylight in a room is supplemented as needed with artificial light from luminaires equipped with dimmable electronic control gear. Light sensors detect the lighting level comprising artificial light and natural daylight. The groups of luminaires are controlled according to their position in the room and the amount of available daylight, so that a predefined level of, for example, 500 lux is maintained. Users can adjust the lighting at any time to a level that meets their specific needs. Artificial light and daylight complement one another perfectly in this application.



If a presence sensor is also used, the lighting is automatically switched on only when someone is in the room. This significantly increases the potential energy savings even further.

A change of system pays for itself.

Simply replacing conventional control gear with electronic control gear can reduce energy consumption by as much as 25%. Changing also from T8 to T5 lamps will increase the percentage savings as high as 50%. The greatest savings, however, can be achieved by choosing a combined daylight and presence-dependent lighting system. Energy savings of up to 80% are possible by switching to a combination of electronic control gear and T5 lamps and using an appropriate light management system from OSRAM.



Light to suit your mood. Atmospheric lighting.

Dynamic light grabs our attention and arouses our interest – with atmospheric color changes and variable color temperature with white light. Whether it’s for a bar, a shop window display, an event, or daylight simulation, the intensity and color of the light can be changed automatically or at the touch of a button to create the right effects for the particular application.

Light influences our sense of well-being – it relaxes, stimulates, and motivates us. Depending on the color, intensity, and mix, different effects and moods can be created using colored light and even different white tones. With fluorescent lamps and LED modules, dynamic colored lighting can be produced, which is easy to integrate and easy to control – even dynamic white light, for example, for simulating daylight in windowless rooms.

Even if a room has windows, the amount of daylight entering the room is often not enough for concentrated ergonomic work. For most of the working day, that light must be supplemented with artificial lighting. The ideal lighting should therefore adapt to the changes in daylight throughout the day in terms of intensity, color temperature, and dynamics, without having to be controlled manually.



Multifunctional and flexible. Scene-based lighting.

Rooms that are used by different people for different events and purposes need more than just demand-based lighting – they need scene-oriented lighting.

In a conference room, individual lighting scenes can be selected at the touch of a button for different activities, such as the welcoming address, a presentation, and a group discussion. The lighting scenes can be adapted and changed at any time by the user. This gives the

system enormous flexibility. For rooms that are generally used by different people at different times, such as training rooms, it is also very important for the system to be easy and intuitive to use. OSRAM systems are specially developed for this requirement and are very

easy to use. Also at events, different lighting can be created to produce a festive, sporty, or relaxed atmosphere. Separate areas can be lit individually as needed, using individual luminaires and groups of luminaires.



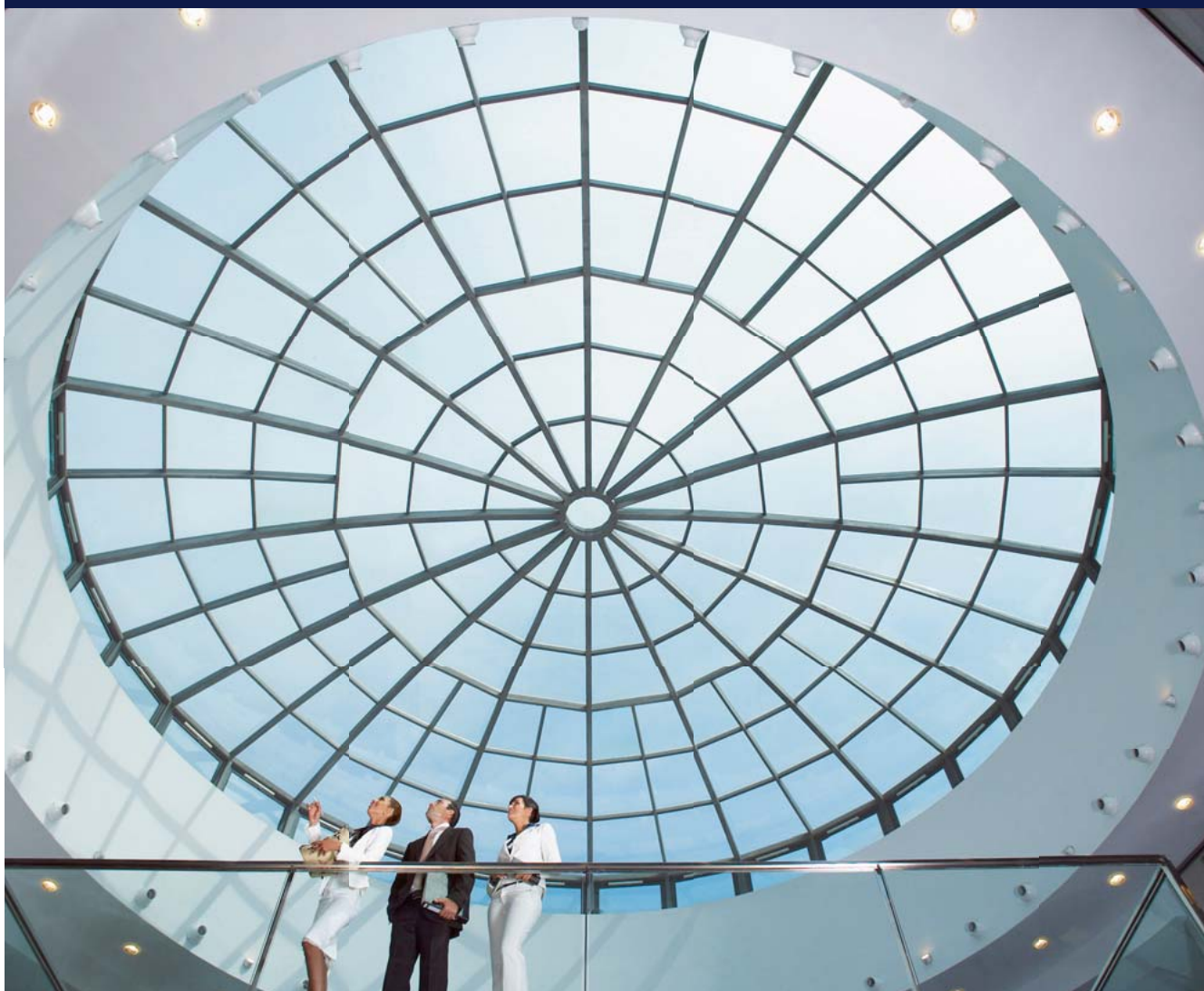
A modern light management system in conference rooms allows flexibility and at the same time function-specific lighting.



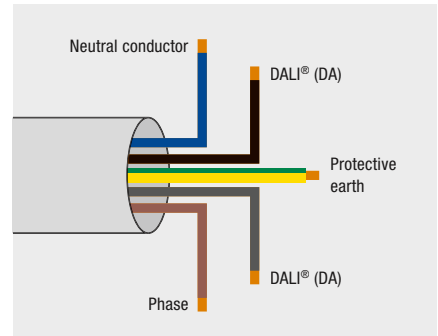
Different lighting scenes may be needed based on how the room is used.

Loaded with functions but simple to use. The DALI® interface standard.

To work together at peak performance, the light control system, sensors, controllers, electronic control gear, and lamps must be able to communicate with one another without restriction and react accordingly. A common interface for all of the components within a system is therefore extremely important.



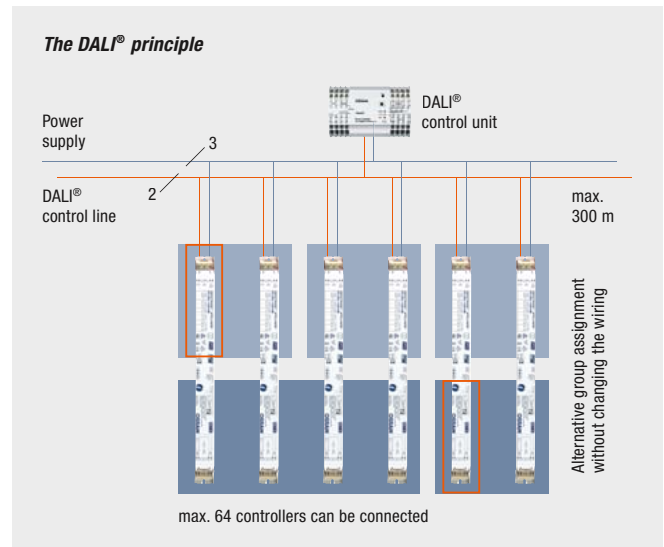
The possibilities are virtually endless: with DALI® light management systems, predefined lighting scenes and lighting effects can be created that are perfectly tailored to specific tasks. DALI®-based light control systems are also easier to plan and install and have greater functionality than systems based on the 1...10-V interface.



Simple luminaire wiring.
 Only a single sheathed cable is needed for both the DALI® control line and the power supply.

What is DALI® – and how does it work?

DALI® – Digital Addressable Lighting Interface – is a non-proprietary interface standard for dimmable electronic control gear, offering greater functionality and greater ease of use. A maximum of 64 DALI® ECGs can be controlled with a high degree of flexibility via a 2-wire control line individually, jointly, or in as many as 16 groups. The lighting is switched and dimmed via the control line. In other words, there is no need for any relays. Important information such as the lamp status is stored in the control gear and is available to the controller. DALI® is an interface for all light sources in professional lighting solutions. OSRAM offers a wide range of DALI® devices for fluorescent lamps, compact fluorescent lamps, tungsten-halogen lamps, and LEDs.



Simplified lighting planning with DALI® at a glance.

> Simple planning:

A single 2-wire control line for up to 64 devices means that the lighting groups do not have to be assigned in the planning stage. Instead, they can simply be set up later with the aid of a controller. Planning of the control line can be completely separate from planning of the power supply.

> Simple installation:

The control line is protected against polarity reversal and can be routed together with the power supply, for example in a 5-core sheathed cable. The control line simply has to be rated for line voltage. There is no need for special cable.

> Fewer components:

No relays are needed for switching the luminaires. Switching and dimming are handled exclusively via the control line.

> Flexible for a later change of use:

With DALI®, the lighting groups are not hard-wired. The individual luminaires are grouped simply by assigning them to groups with the aid of a controller. These groupings can be changed at any time.

> Synchronized changes from one lighting scene to another:

Even if different luminaires are started at different dimmer values or different types of lamps are combined with one another, DALI® changes from one lighting scene to another in synchronism. All the light sources reach the new light value at the same time.

> Lamp status on request:

As a means of detecting failed lamps, the lamp status can be reported by a DALI® device to the controller and then displayed by the controller. This feature is of particular benefit for major projects in which DALI® can very easily be integrated into existing bus systems via gateways.

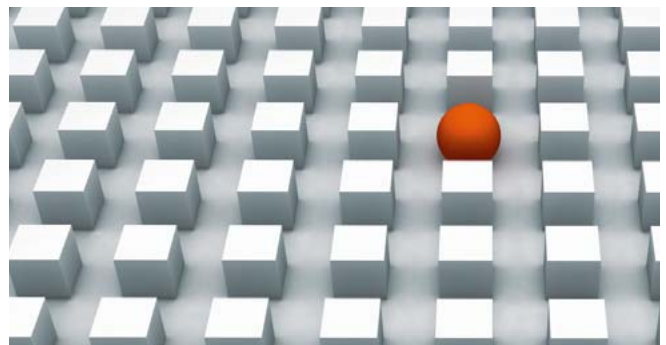
Quality is in the details.

Everything from a single source - expand, connect, and install light management systems with non-system specific components from OSRAM.

The complete OSRAM LMS range offers high-quality products for virtually all types of modern, energy-saving lighting control: luminaires, sensors, controllers, and ECGs. But that is not enough – OSRAM rounds out its offering even further with non-system specific components:

- Signal repeaters
- Signal converters
- Signal amplifiers
- Radio-controlled components
- Connectors
- Installation kits

With these accessories, which are optimized in terms of quality and fit for OSRAM products, the installation, connection, and expansion of innovative light management systems is very simple.



The heart of every light management system.

Benefit from our experience with more than 500 million installed ECGs. OSRAM ECGs do not offer only maximum reliability, they also improve efficiency, operating safety, and lighting comfort significantly – indispensable for modern lighting solutions.

OSRAM light source controllers feature excellent product quality and are also perfectly coordinated to luminaires and components from OSRAM. Your customers will receive a complete light management system that offers strong advantages:

- Especially long lamp life
- High energy efficiency, e. g. due to low standby consumption and high efficiency
- Maximum operating safety
- Perfect interaction of all components
- Extreme reliability
- Broad permissible ambient temperature range
- OSRAM System Guarantee

These excellent product attributes make OSRAM light source controllers the innovative core of each forward-looking light management system.

Up to 5 year guarantee.

Hundreds of thousands of customers place their trust in us each and every year. We give them longstanding guarantees. OSRAM ECGs feature highest quality, so that in combination with OSRAM lamps, we provide a system guarantee of 5 years. Therefore, with OSRAM ECG systems, you are ideally equipped, because these will give you the security you expect for a very long time. And you can depend on that.



At the Munich airport, over 100,000 OSRAM ECGs for fluorescent lamps are in use. The deciding factor for this was a 10 K lower tc temperature in typical luminaires, which translates for the user into double the service life of the ECGs.



Additional information on innovative light management systems, lamps, luminaires, and other solutions from OSRAM can be found on the internet at the following addresses:

www.osram.com
www.osram.com/lms

Other dynamic LED lighting solutions can be found at our Joint Venture Partner Traxon & e:cue

traxon e:cue

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