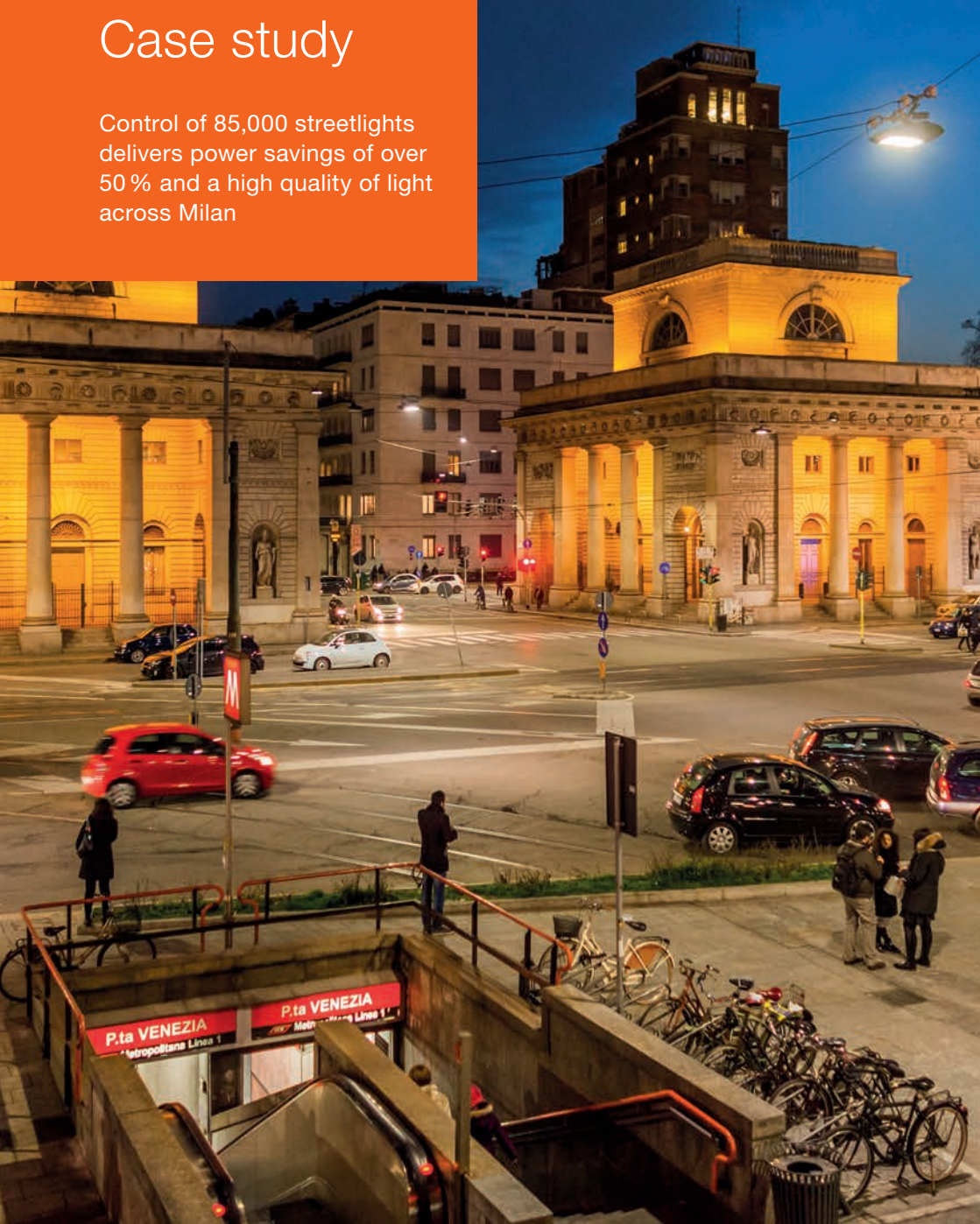


Case study

Control of 85,000 streetlights delivers power savings of over 50% and a high quality of light across Milan



Milan appears in a new light – in every sense of the word: For the first time, an Italian metropolis has opted for a large-scale upgrade of its street lighting to LED lighting. There is much better light in the streets of the city thanks to the state-of-the-art luminaire design and considerable energy and maintenance savings.

85,000 of the 141,000 street lights replaced come from Italian luminaire manufacturer AEC Illuminazione and are controlled by OPTOTRONIC® 3DIM electronic control gears. When switched on, their brilliant light provides optimum visibility and at the same time high energy savings. The aim is to achieve power savings of more than 50 % through the switch to LED technology.

The OPTOTRONIC® 3DIM LED drivers ensure timed lighting control throughout the night, and optimum LED control, especially at high and low temperatures.

Among other things, the LED drivers feature three control and dimming options – from classic bi-phase dimming (StepDIM), or using the integrated astronomical clock (AstroDIM) to integration in digital tele-management systems via a DALI interface.

“There were many good reasons for choosing this OSRAM product. Reliable overvoltage protection, a large variety of functions and easy installation, just to name a few. And we are now also using the latest technology which is available at the moment as far as energy savings are concerned,” says Alessandro Cini, CEO at AEC Illuminazione. Particularly noteworthy is the high surge (overvoltage) protection of the 3DIM DALI OPTOTRONIC® drivers (up to 6 kilovolts in protection classes I and II). The latest 4DIM DALI LED driver now protects from surges of up to 10 kilovolts (one pulse).

www.osram.com/milan-city



Light management systems



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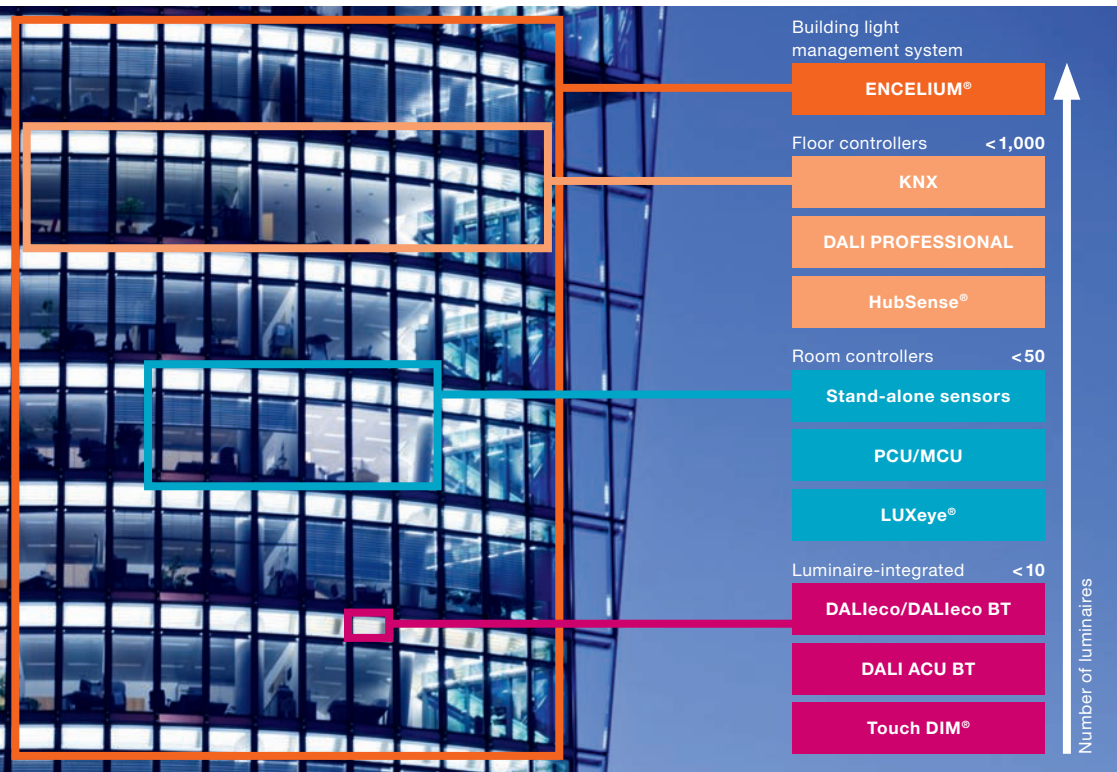
All under control with Light Management Systems

OSRAM light management systems (LMS)

The increasing demand for lighting solutions for more and more energy saving, flexibility and individual customization options has dramatically changed lighting requirements. Having the right light brings a greater sense of well-being, for example, and boosts motivation. Light management systems from OSRAM enable you to implement a diverse range of dynamic lighting solutions in a simple and efficient way – from simple dimming to daylight simulation.

OSRAM provides individual light management systems (LMS) for many different applications:

- Luminaire-integrated solutions for autonomous luminaires
- Room controllers for fast and easy installation in multiple rooms
- Flexible floor controllers for connected light in medium-sized installations
- Powerful building light management system with data analytics for big installations



Product highlights



Bluetooth® enabled light controls

New generation of OSRAM light controls with Bluetooth® interface

— DALI ACU BT

Easy-to-install light controller for integration into luminaires and flush-mounted boxes

— DALIeco BT

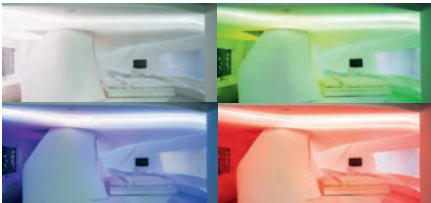
Multi-functional luminaire-integrated light controller

— LUXeye®

Stand-alone ceiling-integrated light controller

HubSense®

- Hybrid technology, design freedom
- Scalable for any building size
- Connected with data analytics
- Innovative and brandable user interface



DALI PROFESSIONAL

Big feature update

- App interface/configurator
- Tunable White control
- Human Centric Lighting (HCL) functions
- Color control functions
- Controller interconnectivity

FXS system

- Wireless light control for 12V and 24V LED modules
- Bluetooth® Low Energy (BLE) app by Casambi
- Up to 240W control in a four-channel device: White, Tunable White, RGB, RGBW



Touch DIM[®]

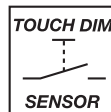
Lighting control without a controller and dimming without a control line

The Touch DIM[®] function in the DALI ECG family makes it possible to dim and switch the control gear directly with line voltage at the DALI control terminals. There is no longer any need for a separate controller as the ECG itself acts as the controller. By using DALI to 1...10 V converters, it is also possible to control 1...10 V ECGs via Touch DIM[®]. The Touch DIM[®] function is characterized in particular by protective soft starting, precise setting of the required light value, manual storage of the switch-on value by double-clicking or switching on at the last dimmer value and automatic restoration of the last state after a power failure.

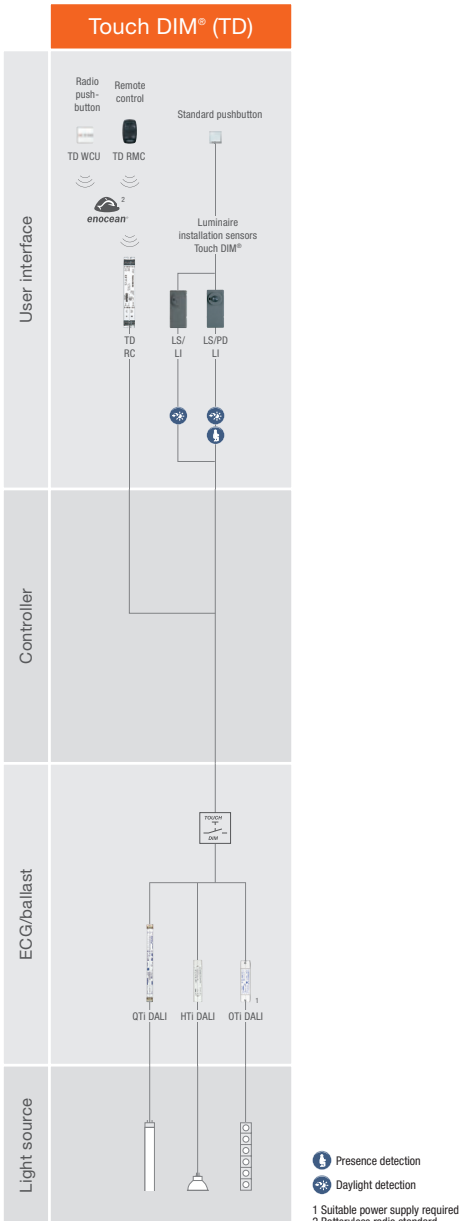
In conjunction with Touch DIM[®] sensors, it is possible to provide daylight-dependent and presence-dependent lighting control, and with the 2-channel radio switch + associated radio receiver module, all Touch DIM[®] compatible electronic control gears can be controlled. Both radio components are absolutely maintenance-free. Up to 30 radio switches can be easily saved and deleted in each receiver module with one click. Thanks to innovative induction technology, batteries are not needed to power the transmitter module in the radio switch. For realization of large Touch DIM[®] installations or long line lengths, the usage of a DALI Repeater is recommended. Thereby, the signal of the pushbutton will be transformed into a DALI signal. In this way, the usage of pushbutton control is possible for all DALI products.

Applications

- Free-standing and other single luminaires
- Strip lighting
- Modernization of existing installations

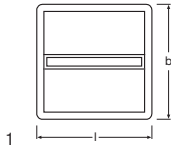


System overview



Touch DIM® WCU

User interfaces for light management systems



Product name	GTIN (EAN)					
TOUCH DIM WCU	4008321032737	Touch DIM	30 ¹⁾	IP20	Wall mounting	White
Product name						
TOUCH DIM WCU	80	80	20	20	1	

1) Maximum / Valid inside

Product features

- Batteryless radio pushbutton for up to 2 lighting groups
- Frequency band: 868.3 MHz
- Output power: 10 mW

Areas of application

- Wireless control in industry and office areas

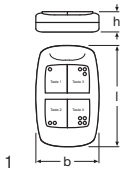
Product benefits

- Dimming without control line by maintenance-free EnOcean radio technology
- Batteryless operation thanks to inductive power generation



Touch DIM® RMC

User interfaces for light management systems



Product name	GTIN (EAN)				
TOUCH DIM RMC	4008321183033	Touch DIM	30 ¹⁾	IP20	Black
Product name					
TOUCH DIM RMC	82 [mm]	49 [mm]	20 [mm]	10	1

1) Maximum / Valid inside

Product features

- Batteryless radio remote control for up to 4 lighting groups
- Frequency band: 868.3 MHz
- Output power: 10 mW

Areas of application

- Wireless control in industry and office areas

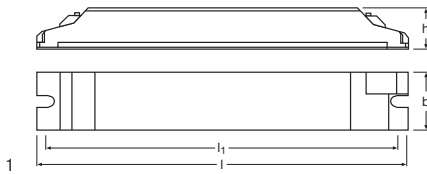
Product benefits

- Dimming without control line by maintenance-free EnOcean radio technology
- Batteryless operation thanks to inductive power generation



Touch DIM® RC

User interfaces for light management systems



Product name	GTIN (EAN)	V	Hz	CONTROL	IP		T_a
TOUCH DIM RC	4008321031938	220...240	50...60	Touch DIM	IP20	Luminaire integration / Ceiling integration	0...+50
Product name							No.
TOUCH DIM RC	189	30	21	180	25	1	

Product features

- Radio receiver for batteryless EnOcean radio pushbuttons for 2 lighting groups
- Maximum power input: 1,5 W
- Frequency band: 868.3 MHz
- 2 floating semiconductor relay outputs max. 45 mA/240 V
- Up to 30 transmitters can be trained

Areas of application

- Wireless control in industry and office areas
- Ceiling or independent installation via LMS CI BOX possible

Equipment/Accessories

- Suitable for up to 15 QTi DALI ECGs, OTi DALI ECGs or HTi transformers per output

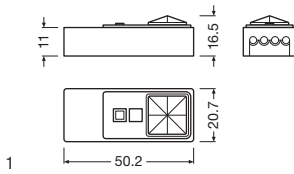
Product benefits

- Dimming without control line by maintenance-free EnOcean radio technology



LS/PD LT2 LI UF

Sensors for light management systems



Product name	GTIN (EAN)					
LS/PD LT2 LI UF	4052899984615	LEDset	4	IP20	Luminaire integration	White
Product name						
LS/PD LT2 LI UF	50.2	20.7	16.5	10	1	

Product features

- Touch DIM® light and presence sensor for LEDset interface connection
- Can also be used purely as a light sensor or purely as a presence sensor

Product benefits

- A setpoint for daylight-dependent control can be stored by double-clicking
- Operated via standard switches or integrated pushbutton
- Extremely low profile
- Presence detection range can be restricted by snap-on shutters

Areas of application

- Single luminaires in office areas

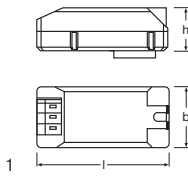
Equipment/Accessories

- Suitable for up to 2 OTi DALI UltraFlat LED drivers



Touch DIM® LS LI

Light sensors for light management systems



Product name	GTIN (EAN)					
TOUCH DIM LS LI	4008321023087	Touch DIM	4	10...350 ¹⁾	IP20	Luminaire integration
Product name						
TOUCH DIM LS LI	Anthracite	63	29	21	25	1

¹⁾ Approximately, measured at the sensor

Product features

- Touch DIM® light sensor
- Maximum signal line length: 10 m
- Maximum power input: 0.5 W

Product benefits

- A setpoint for daylight-dependent control can be stored by double-clicking
- Operated via standard switches

Areas of application

- Single luminaires in office areas

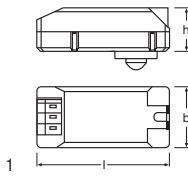
Equipment/Accessories

- Suitable for up to 4 QT*i* DALI ECGs or 4 HT*i* DALI transformers or 4 OT*i* DALI LED drivers



Touch DIM® LS/PD LI

Light and presence sensors for light management systems



Product name	GTIN (EAN)	CONTROL	A h m	°	Lx	No. of OUTPUTS	W SYSTEM	IP
TOUCH DIM LS/PD LI	4008321023025	Touch DIM	4	80 ¹⁾	10...350 ²⁾	1	0.50	IP20
Product name	Luminaire integration	COLOR	l (mm)	b (mm)	h (mm)	No.		
TOUCH DIM LS/PD LI	Luminaire integration	Anthracite	63	29	21	25	1	

1) Approximately

2) Approximately, measured at the sensor

Product features

- Touch DIM® light and presence sensor
- Can also be operated purely as a presence sensor
- Maximum signal line length: 10 m
- Maximum power input: 0.5 W
- Delay time: 15 min

Product benefits

- A setpoint for daylight-dependent control can be stored by double-clicking
- Operated via standard switches

Areas of application

- Single luminaires in office areas

Equipment/Accessories

- Suitable for up to 4 QT_i DALI ECGs or 4 HT_i DALI transformers or 4 OT_i DALI LED drivers



DALleco

An intelligent and powerful light management system for lighting groups in small, medium-sized and large rooms

2 DALI channels, 1-click setup, selectable lighting modes and remote controllable extra functions – DALleco offers a wide range of operation possibilities for intelligent energy saving solutions.

Flexible

The modular system is setting standards in terms of flexibility in planning and installing a cost-efficient light management system. The system components offer the possibility of direct luminaire integration as well as independent installation. Floor-standing luminaires, for example, can be connected wirelessly via the DALleco Swarm Adapter, if required.

Powerful

Up to 32 DALI ECGs, 10 sensors and any number of pushbuttons can be connected to a DALleco controller.

Intelligent

1-click setup enables fully automatic system calibration in accordance with the lighting regulations for workplaces.

Simple

Integration of extension sensors and additional pushbuttons via the DALI lines is simple and installation-friendly.

Convenient

With an intuitive PC software with visualization possibility, individual function profiles can be created, transmitted to the remote control via USB and stored at the push of a button.

Applications

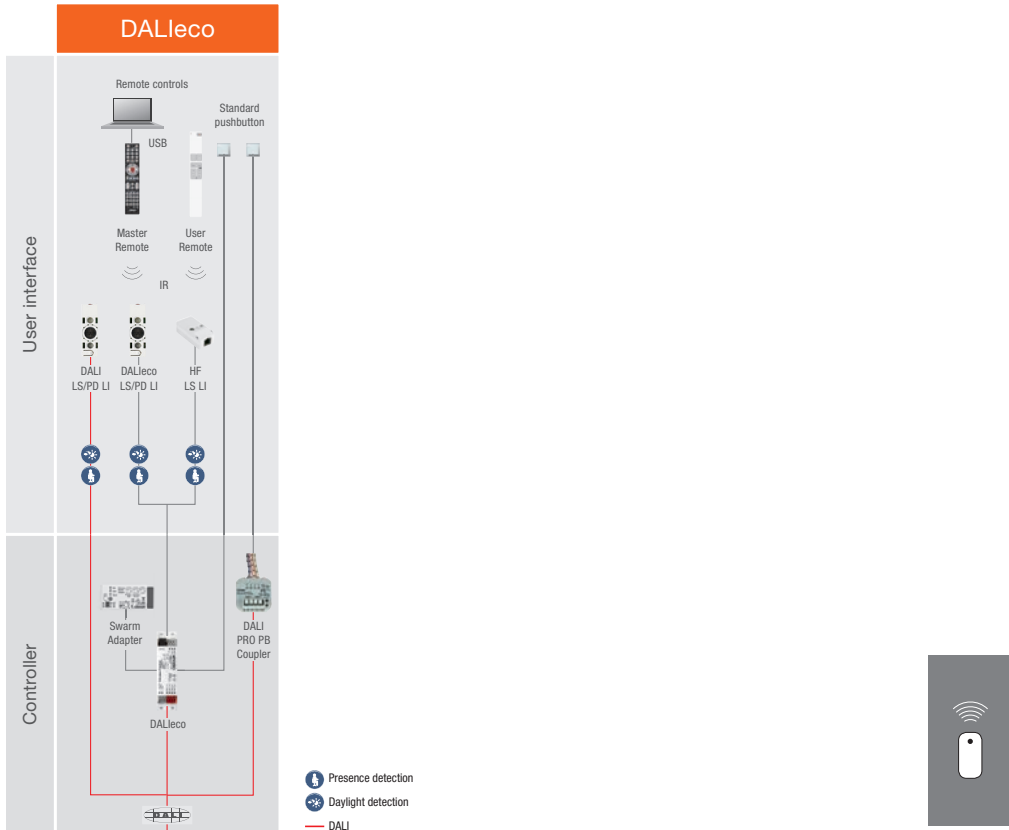
- Offices: single and group workplaces
- Classrooms and training rooms
- Corridors and foyers
- Toilets and washrooms
- Factories and warehouses

The latest software can be found here:

www.osram.com/ds-tools

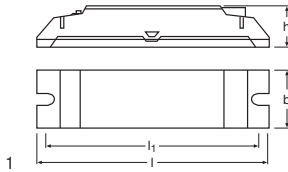





System overview



DALIECO Control

Control units for light management systems



Product name	GTIN (EAN)	V	Hz	CONTROL	No. of OUTPUTS	W SYSTEM	IP	
DALIECO CONTROL	4008321988645	230	50...60	DALI	2	4	IP20	Luminaire integration
Product name	T_a	l [mm]	b [mm]	h [mm]	h [mm]			
DALIECO CONTROL	-20...+50	118	30	21	110	25	1	

Product features

- 2 channel light control with DALI interface
- Daylight-dependent regulation and presence-dependent control of light
- 100 hours burn-in function for fluorescent lamps
- Operation via standard pushbutton or IR remote control
- Outputs with adjustable offset
- Outputs with electrical reversible overtemperature, short-circuit, overload protection
- Connection of up to 4 DALIECO LS/PD LI or 6 DALI LS/PD LI sensors
- Connection of up to 4 light and presence sensors via 4p4c plug system
- Individual adjustment of functional parameters via IR remote control
- Halogen-free polycarbonate plastic housing
- Sensor connection via polarity reversal protected 4p4c socket (RJ10)

Areas of application

- Offices
- Classrooms
- Training rooms
- Corridors
- Ceiling or independent installation via ECO CI KIT possible

Equipment/Accessories

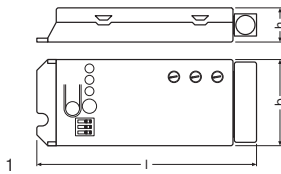
- Suitable for up to 32 electronic control gears

Product benefits

- VDE/VDE EMC certified system
- Simplified startup thanks to predefined operation modes
- Automatic and manual setting of regulation set point

DALieco Swarm Adapter

Radio adapter for DALieco Control

**Product name**

DALIECO SWARM ADAPTER

GTIN (EAN)

4052899955646



IP20

Luminaire
integration

0...+50



71

Product name

DALIECO SWARM ADAPTER



30



11



45



1

Product features

- 868 MHz radio adapter for wireless synchronization of DALieco control units
- Bidirectional transmission of motion signals and central on/off commands
- Digital radio coding of up to seven zones and seven group addresses
- Transmitter range: up to 50 m
- VDE certified system
- Direct connection and supply via DALieco control unit

Areas of application

- Offices
- Corridors

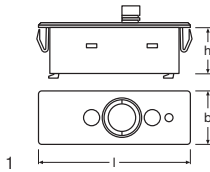
Product benefits

- Simple configuration via screwdriver



DALleco LS/PD LI NP

DALleco light and presence sensors



Product name	GTIN (EAN)						
DALleco LS/PD LI NP	4052899914636	5	7	80 ¹⁾	20...800	IP20	Luminaire integration
Product name							
DALleco LS/PD LI NP	-20...+50	Gray	48	15	17	25	1

1) Approximately

Product features

- Light and presence sensor
- Presence detection via passive IR element
- Function indicator with two-color LED
- Integrated infrared remote control receiver
- Halogen-free polycarbonate plastic housing
- Connection via polarity reversal protected 4p4c socket (RJ10)

Areas of application

- Corridors
- Office luminaires
- Classrooms
- Ceiling installation via LS/PD CI KIT or LS/PD AP KIT possible

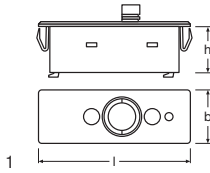
Product benefits

- VDE/VDE EMC certified system
- V(λ) corrected light sensor element
- Individual activation/deactivation of light and presence sensor via remote control
- Presence detection angle adjustable between 40...90° via integrated shutters



DALieco LS/PD LI

Sensors for light management systems



Product name	GTIN (EAN)						
DALieco LS/PD LI	4008321988652	5	7	80 ¹⁾	20...800 ²⁾	IP20	Ceiling integration / Luminaire integration
Product name							
DALieco LS/PD LI	-20...+50	Gray	48	15	17	25	1

1) Approximately

2) Approximately, measured at the sensor

Product features

- Light and presence sensor
- Presence detection via passive IR element
- Function indicator with two-color LED
- Integrated infrared remote control receiver
- Integrated pushbutton for automatic startup/deactivation of infrared receiver
- Halogen-free polycarbonate plastic housing

Areas of application

- Office luminaires
- Ceiling installation via LS/PD CI KIT possible

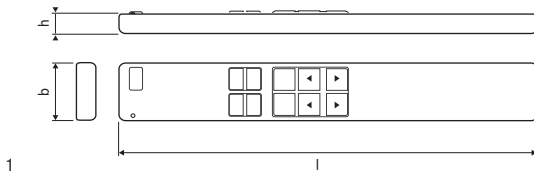
Product benefits

- VDE/VDE EMC certified system
- $V(\lambda)$ corrected light sensor element
- Individual activation/deactivation of light and presence sensor via remote control
- Presence detection angle adjustable between 40...90° via integrated shutters



User Remote

User interfaces for light management systems



Product name	GTIN (EAN)		COLOR					
User Remote	4008321826435	10	White	230	33	10	10	1

Product features

- Remote control for the DALIeco light control system
- Digital IR transmission
- Independent dimming and switching of two light groups
- Central switching of two light groups
- Store and recall of four light scenes
- Temporary deactivation of presence detection (holiday function)
- Supply via two included button cells type CR2032

Areas of application

- Office luminaires
- Industry

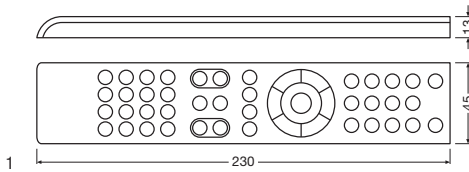
Product benefits

- Enables manual override via resume function
- Independent control of up to 15 systems thanks to adaptable IR coding



DALIeco Remote PC KIT

User interfaces for light management systems



Product name

GTIN (EAN)



DALIECO Remote PC KIT

4052899195967

10

Black

230

45

13

10

1

Product features

- Remote control for configuration and startup of DALIeco light control system
- Digital IR transmission
- LED indicator for operation and programming mode and signal transmission
- Interface for PC connection
- Supply via two included button cells type CR2032

Areas of application

- Offices
- Industry

Product benefits

- Clearly structured and labeled control elements



Easy-to-use light management with Bluetooth® interface for smartphone control

DALI ACU BT and DALIeco BT

One DALI channel for controlling standard or Tunable White LED drivers or any other DALI ECG, plug-and-play start-up and comfortable smartphone control with a free-of-charge app. Modern, state-of-the-art control for professional lighting has never been easier.

Flexible

Following the successful OSRAM toolbox approach, installation and planning of these two energy-efficient systems is extremely flexible. Components can be mounted directly into the luminaire, a false ceiling (DALIeco BT) or directly behind a classic pushbutton in a flush-mounted device box (DALI ACU BT).

Powerful

Up to 32 ECGs, four light and motion sensors and an unlimited number of pushbuttons can be connected.

Intelligent

Automatic detection of connected devices and self-calibrating differentiation of natural daylight and artificial light facilitates dynamic light control and energy saving with the use of light sensors.

Expandable and installation-friendly

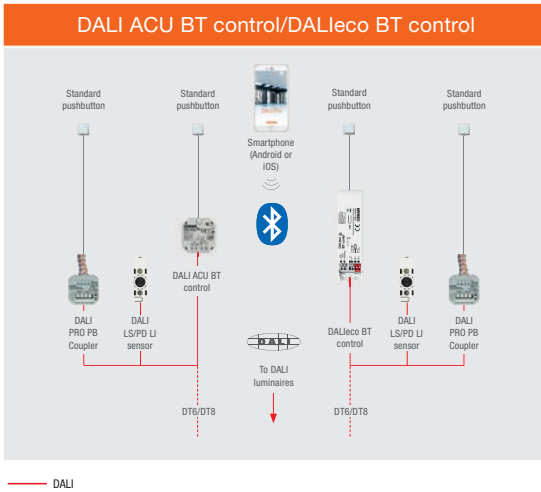
All components are simply interconnected via DALI. Sensors and pushbutton couplers are directly powered via DALI and do not need additional mains supply.

Easy light management

Intuitive user control of light levels and color temperatures, storage of individual scenes and manual override of automatic light control at any time via smartphone in combination with classic ON/OFF or dimming control by standard pushbuttons.



System overview



Applications

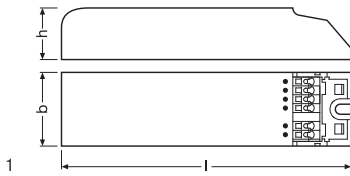
- Individual lighting and energy-saving light control at office workplaces
- Conference and meeting rooms
- Entrance areas
- Control of backlighting in signage or ambient lighting applications
- Presence-dependent lighting in corridors, staircases and sanitary rooms

For more details, go to
www.osram.com/btcontrol



DALIECO BT CONTROL

Control units for light management systems



Product name	GTIN (EAN)	V	Hz	CONTROL	No. of OUTPUTS	m	IP
DALIECO BT CONTROL	4052899988781	230	50 / 60	DALI	1	15	IP20
Product name		T_a	l [mm]	b [mm]	h [mm]		
DALIECO BT CONTROL	Luminaire integration / Independent mounting	-20...+60	108	31	21	25	1

Product features

- Light control with app connection via Bluetooth®
- One DALI broadcast output channel
- Daylight-dependent regulation and presence-dependent control of light
- Connection of up to 4 OSRAM DALI sensors
- Operation via standard pushbutton
- Outputs with electronical reversible overtemperature, short-circuit, overload protection
- Adjustment of all settings via smartphone

Product benefits

- Intuitive manual dimming, switching and changing of color temperature
- Simplified startup thanks to predefined operation modes
- Firmware update over-the-air via Bluetooth® possible

Areas of application

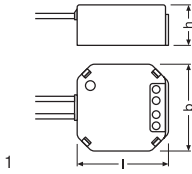
- Offices
- Meeting rooms
- Corridors

Equipment/Accessories

- Suitable for up to 32 electronic control gears
- Free app for iOS and Android available at the app store
- Ceiling or independent installation via ECO CI KIT possible

DALI ACU BT

Control units for light management systems

**Product name**

DALI ACU BT CON

GTIN (EAN)

4052899544819



220...240



50 / 60



DALI



1



IP20



15

Product name

DALI ACU BT CON

Luminaire integration /
Integrated in flush
device box

-20...+60



49



48



22



60



1

Product features

- Light control with app connection via Bluetooth®
- One DALI broadcast output channel
- Operation via standard pushbutton
- Combinable with OSRAM DALI presence- and motion detectors
- Length of the DALI control cable: up to 300 m
- Length of the pushbutton cable: up to 50 m

Product benefits

- Control of standard white or Tunable White light acc. to DALI device type 8 (DT8)
- Intuitive manual dimming and switching
- Basic functionality without configuration thanks to applied pre-settings
- Integrated DALI supply
- Simple creation of scenes via app

Areas of application

- Offices
- Conference rooms
- Training rooms
- Shop lighting

Equipment/Accessories

- Suitable for up to 32 electronic control gears
- Free app for iOS and Android available at the app store



LUXeye® – the smart way of controlling light

LUXeye® from OSRAM is an innovative, easy and robust light management system that makes your light smart. It has never been easier to connect light with a smartphone.

Simplicity is the core of the system

LUXeye® is designed to adjust itself automatically and start operating immediately after mains switch-on.

General basic functions, such as light level and delay time, can be easily adjusted with a screwdriver. This quick and easy way of light management saves time and requires no extra commissioning tools.

For full flexibility, all functions can be modified with the LUXeye® app for customization and analysis. A smart device can adapt every parameter of each individual controller. An integrated wizard supports you on site.

LUXeye® can be controlled either via smart device or traditionally with a standard wall switch. It is more than just an energy-saving tool, it is also highly flexible and convenient because you can control your light wirelessly from your desk.

LUXeye® products make your light smart and are:

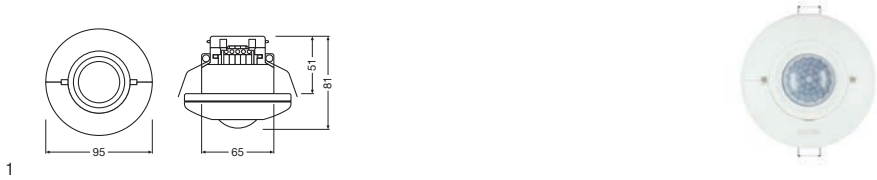
- Easy to install
- Easy to use
- Easy to maintain

The LUXeye® apps are available at the App Store or the Google Play Store. The app for controlling is called OSRAM BT Control and the app for commissioning is called OSRAM BT Config. Both apps have been optimized for smartphones using the operating systems iOS (version 8 or higher) and Android (version 4.4 or higher).

For more details, go to www.osram.com/luxeye



LUXeye® Sense DALI BT
Light management systems



Product name	GTIN (EAN)	V	Hz	CONTROL	A/h m	°	Lx	IP	⚙️
LUXeye Sense DALI BT	4052899957411	220...240	50...60	DALI	5	110	20...5000 ¹⁾	IP20	Ceiling integration
Product name	T_a	COLOR	d (mm)	h (mm)	⊞	Ⓛ	No.		
LUXeye Sense DALI BT	0...+55	White	95	81	12	1			

¹⁾ Approximately, measured at the sensor

Product features

- One DALI broadcast output channel
- Daylight-dependent regulation and presence-dependent control of light
- Operation via standard pushbutton
- Outputs with electronical reversible short-circuit and overload protection
- Change of delay time with screwdriver directly at the sensor
- Change of lighting intensity with screwdriver directly at the sensor
- Halogen-free polycarbonate plastic housing
- Controller with integrated light and presence sensor, DALI output channel
- Presence detection via passive IR element
- Light control with app connection via Bluetooth®
- Light control via smartphone
- Adjustment of all settings via smartphone
- Function indicator with three-color LED
- Various shutters included for different detection areas

Product benefits

- Automatic start of light regulation after power-on (out of the box function)
- Basic functionality without configuration thanks to applied pre-settings
- Easy and fast customization of important parameters via screwdriver
- Predefined and customizable configurations for all applications
- Password protection for user app and configuration app access
- Easy report sharing via e-mail

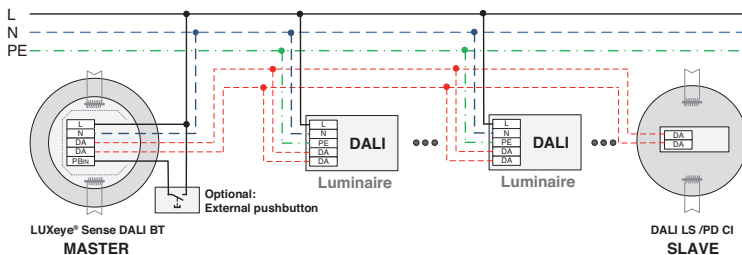
Areas of application

- Offices
- Conference rooms
- Training rooms
- Surface mounting via LUXeye® Sense CM KIT

Equipment/Accessories

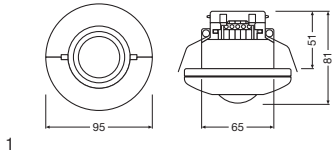
- Suitable for up to 20 electronic control gears
- Free app for iOS and Android

Wiring diagram



LUXeye® Sense 10A BT

Light management systems



1



Product name

LUXeye Sense 10A BT

GTIN (EAN)

4052899957428



220...240



50...60



5



110



20...5000¹⁾



10



IP20



Ceiling integration

Product name

LUXeye Sense 10A BT



0...+55



White



95



81



12



1

¹⁾ Approximately, measured at the sensor

Product features

- 10 A output relay for ohmic, inductive and capacitive load
- Daylight-dependent switching and presence-dependent control of light
- Operation via standard pushbutton
- Outputs with electronical reversible short-circuit and overload protection
- Change of delay time with screwdriver directly at the sensor
- Change of switch-off level with screwdriver directly at the sensor
- Halogen-free polycarbonate plastic housing
- Controller with integrated light and presence sensor, relay, Bluetooth® interface
- Presence detection via passive IR element
- Light control via smartphone
- Adjustment of all settings via smartphone
- Function indicator with three-color LED
- Various shutters included for different detection areas

Product benefits

- Automatic start of light regulation after power-on (out of the box function)
- Basic functionality without configuration thanks to applied pre-settings
- Easy and fast customization of important parameters via screwdriver
- Predefined and customizable configurations for all applications
- Password protection for user app and configuration app access
- Easy report sharing via e-mail

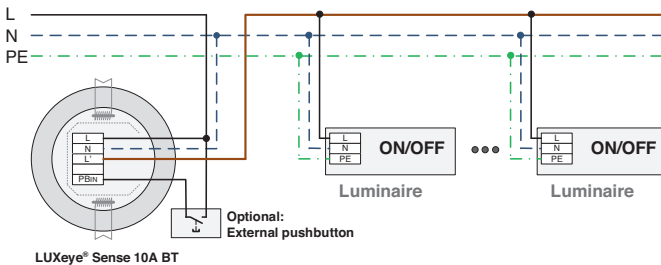
Areas of application

- Offices
- Conference rooms
- Training rooms
- Surface mounting via LUXeye® Sense CM KIT

Equipment/Accessories

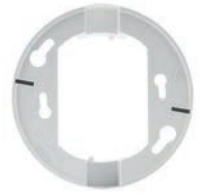
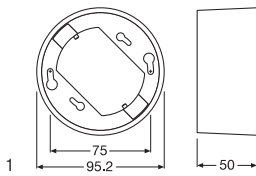
- Free app for iOS and Android
- Suitable for 10 A R/L/C load similar to 10 A fuse (B)

Wiring diagram



LUXeye® Sense CM KIT

Light management systems

**Produkt-
bezeichnung**

LUXeye Sense CM KIT

GTIN (EAN)**4052899988729**

On-top ceiling mounting



White



95.2



50



24



1

Product features

- Ceiling installation adapter

Areas of application

- Offices
- Conference rooms
- Training rooms

Equipment/Accessories

- Suitable for LUXeye® Sense DALI BT and LUXeye® Sense 10A BT



PCU/MCU

Simple manual dimming solutions

Installed in a flush-mounted box and connected to the AC power supply, a DALI PCU or DALI MCU can control up to 25 luminaires with the integrated DALI supply. Parallel connection enables the number of luminaires per group to be increased to 100 and up to four control points can be provided.

DALI PCUs or DALI MCUs connected to one another synchronize automatically; in other words, the control point can be changed at any time without the risk of side effects such as sudden changes in brightness. The DALI PCU allows controlling DALI control gears via standard pushbuttons, the digital rotary dimmer DALI MCU has tactile detents so brightness can be fine-tuned in individual steps as required.

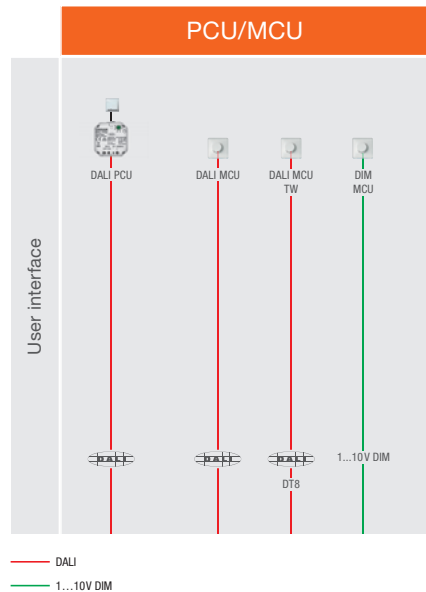
In addition, the DALI MCU TW allows a manual control of the color temperature if connected to Tunable White luminaires equipped with LED drivers compliant with DALI device type 8 (DT8).

Thanks to its integrated switch, the analog DIM MCU rotary dimmer enables up to ten single-lamp 1...10 V ECGs or five 2-lamp 1...10 V ECGs to be controlled directly from one control point. If an external power relay is used, up to one hundred 1...10 V ECGs can be controlled.

The white cover can be removed from the DALI MCU, DALI MCU TW and from the DIM MCU and replaced with commercially available covers.

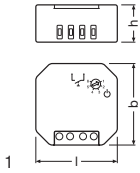
Applications



- Single luminaires
- Conference rooms
- Partitioned rooms
- Living rooms



DALI PCU

Light management systems



Product name	GTIN (EAN)	V	CONTROL	No. of OUTPUTS	W SYSTEM	IP	
DALI PCU	4052899955622	230	DALI	1	2	IP20	Integrated in flush device box
Product name	T_a	l [mm]	b [mm]	h [mm]		No.	
DALI PCU	0...+40	48	48	22	60	1	

Product features

- Up to four DALI PCUs can be connected in parallel to set up multiple control points
- Automatic synchronization between the control points
- Combinable with standard presence and motion detectors with mains contact
- Behavior after power failure configurable
- Length of the DALI control cable: up to 300 m

Product benefits

- Intuitive manual dimming and switching
- Integrated DALI supply
- Individual setting of minimal brightness level

Areas of application

- Conference rooms
- Restaurants
- Shop lighting

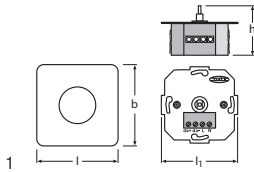
Equipment/Accessories

- Suitable for up to 25 electronic control gears
- Flexible expansion via DALI repeaters or further DALI PCUs



DALI MCU

Light management systems



Product name	GTIN (EAN)	V	CONTROL	No. of OUTPUTS	W SYSTEM	IP		T_a
DALI MCU	4008321189721	230	DALI	1	2	IP20	Integrated in flush device box	0...+50
Product name	COLOR	l [mm]	b [mm]	h [mm]	l₁ [mm]			No.
DALI MCU	White	80	80	50	70	15	1	

Product features

- Up to 4 DALI MCUs can be connected in parallel to set up multiple control points
- Automatic synchronization between the control points
- Cover and rotary switch in neutral white
- Length of the DALI control cable: up to 300 m

Product benefits

- Intuitive manual dimming and switching
- Individual setting of minimal brightness level

Areas of application

- Conference rooms
- Restaurants
- Shop lighting

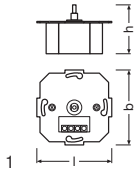
Equipment/Accessories



- Suitable for up to 25 electronic control gears
- Flexible expansion via DALI repeaters or further DALI MCUs
- Cover and rotary knob included



DALI MCU Tunable White

Light management systems



Product name	GTIN (EAN)	V	CONTROL	No. of OUTPUTS	IP		T_a
DALI MCU TW	4052899465916	230	DALI	1	IP20	Integrated in flush device box	0...+50
Product name	COLOR	l [mm]	b [mm]	h [mm]		No.	
DALI MCU TW	White	80	80	50	15	1	

Product features

- Up to 4 DALI MCUs can be connected in parallel to set up multiple control points
- Automatic synchronization between the control points
- Cover and rotary switch in neutral white
- Length of the DALI control cable: up to 300 m

Product benefits

- Intuitive manual dimming, switching and changing of color temperature
- Individual setting of minimal brightness level
- Individual setting of color temperature range

Areas of application

- Conference rooms
- Restaurants
- Shop lighting
- Private homes

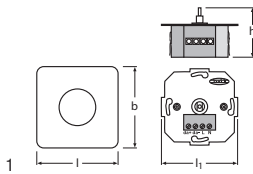
Equipment/Accessories

- Suitable for up to 25 electronic control gears
- Cover and rotary knob included



DIM MCU

Light management systems



Product name	GTIN (EAN)							
DIM MCU	4050300347424	230	1...10	1	6	IP20	Integrated in flush device box	0...+50
Product name								
DIM MCU	Cream white	80	80	40	70	100	1	

Product features

- Switching load contact: 250 V/6 A (10 1-lamp or 5 2-lamp ECGs)
- Cover and rotary knob in cream white

Product benefits

- Intuitive manual dimming and switching
- Individual setting of minimal brightness level

Areas of application

- Conference rooms
- Restaurants
- Shop lighting

Equipment/Accessories

- Suitable for up to 50 electronic control gears (external load contact required)
- Flexible expansion via external load contact and via signal amplifier DIM SA
- Cover and rotary knob included





Stand-alone sensors

The latest state-of-the-art technology

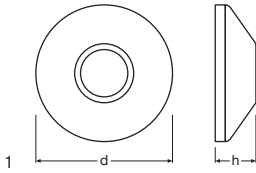
Stand-alone sensors with integrated control for daylight-dependent and motion/presence-dependent lighting provide the basis for energy saving. The incoming daylight is measured and, if necessary, supplemented with artificial light. The lighting system is only switched on if persons are present in the room. Using sensors can therefore achieve energy savings of up to 70 %.

OSRAM provides multiple different stand-alone sensors with integrated control functionality. The tables on pages 4.102 to 4.106 provide an overview of our stand-alone sensors by detection area, technology and mounting type.



HIGH BAY

Stand-alone motion sensors with switching contact



Product name	GTIN (EAN)							
HIGH BAY	4008321410078	120...277	50...60	13	18 ¹⁾	100 ²⁾	5	0.60
Product name								
HIGH BAY	IP20	On-top ceiling mounting	White	116	40	20	1	

1) Maximum diameter
2) Approximately

Product features

- Motion sensor with switching contact
- 3 to 10 m: detection of motion by people
- 3 to 13 m: detection of vehicle movement (e.g. forklift truck)
- Adjustable switch-off delay: 30 s to 20 min
- Maximum power consumption in stand-by mode: 0.25 W

Areas of application

- Suitable for high installation heights
- Industry
- Production halls

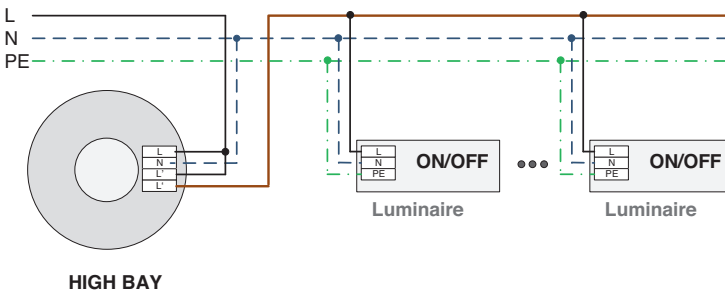
Equipment/Accessories

- Suitable for up to 15 electronic control gears
- Installation by means of mounting adapter possible

Product benefits

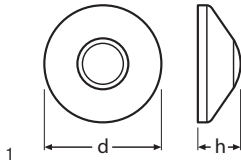
- Energy savings of up to 35 % (compared to manual switching)

Wiring diagram



VISION

Stand-alone motion sensors with switching contact



Product name	GTIN (EAN)	V	Hz	A/h/m	[m]	°	Max Load [A]	W SYSTEM
VISION	4008321957047	120...277	50...60	4.5	21 ¹⁾	140 ²⁾	5	0.60
Product name	IP	Wrench	COLOR	d [mm]	h [mm]	Mounting	No.	
VISION	IP20	On-top ceiling mounting	White	116	40	20	1	

1) Maximum diameter
2) Approximately

Product features

- Motion sensor with switching contact
- Adjustable switch-off delay: 30 s to 20 min
- Maximum power consumption in stand-by mode: 0.25 W

Product benefits

- Energy savings of up to 35 % (compared to manual switching)

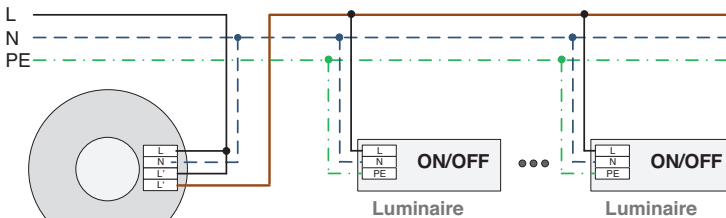
Areas of application

- Large areas
- Open-plan offices, corridors and storage rooms

Equipment/Accessories

- Suitable for up to 15 electronic control gears
- Installation by means of mounting adapter possible

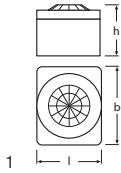
Wiring diagram



VISION

DUO

Stand-alone motion/daylight sensors with switching contact



Product name	GTIN (EAN)	V	Hz	A/m	[m]	°	Lx	Max Load[A]
DUO	4008321496355	220...240	50...60	5	12 ¹⁾	110 ²⁾	50...500 ²⁾	5
Product name	IP	Wrench icon	COLOR	I [mm]	b [mm]	h [mm]	Stacking icon	No. Lightbulb icon
DUO	IP20	Luminaire integration / On-top ceiling mounting / Clip-on lamp	White	58	71	47	20	1

1) Maximum diameter
2) Approximately

Product features

- Light and presence sensor with switching contact
- Daylight detection
- Presence detection
- Combined daylight and presence detection
- All functions selectable via rotary switch
- Adjustable switch-off delay: 1...60 min
- Maximum power consumption in stand-by mode: 0.7 W

Areas of application

- Individual offices
- Open-plan offices
- Waiting rooms

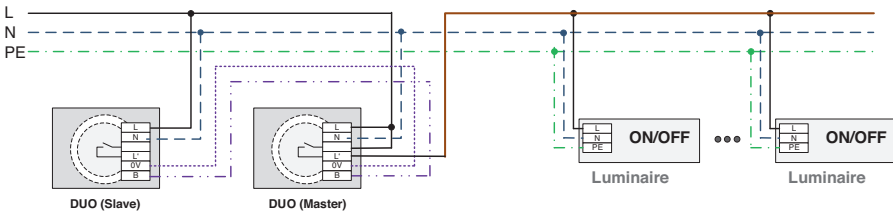
Equipment/Accessories

- Suitable for up to 30 electronic control gears

Product benefits

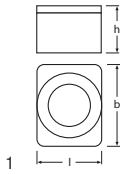
- Energy savings of up to 45 % (compared to manual switching)
- Multiple sensors can be networked

Wiring diagram



DIM MULTI

Stand-alone motion/daylight sensors with 1...10 V dimming interface



Product name	GTIN (EAN)	V	Hz	CONTROL	Ah m	[m]	°	Max Load[A]
DIM MULTI	4050300554471	220...240	50...60	1...10	5	12 ¹⁾	110 ²⁾	5
Product name	IP	Wrench icon	COLOR	I [mm]	b [mm]	h [mm]	Stacking icon	No. Lightbulb icon
DIM MULTI	IP20	Luminaire integration / On-top ceiling mounting / Clip-on lamp	White	58	71	42	20	1

1) Maximum diameter
2) Approximately

Product features

- 1...10 V light and presence sensor
- Combined daylight and presence detection
- All functions selectable via rotary switch
- Adjustable switch-off delay: 1...30 min

Areas of application

- Individual offices
- Open-plan offices
- Common areas

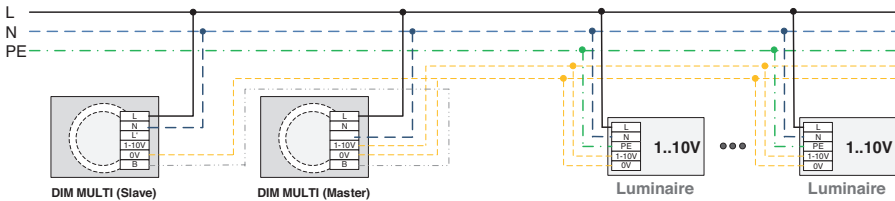
Product benefits

- Energy savings of up to 70 % (compared to CCG + T8 lamp, without sensors)
- Daylight-dependent control with automatic shutdown in adequate daylight
- Compensates for 100 % of the incoming daylight
- Multiple sensors can be networked

Equipment/Accessories

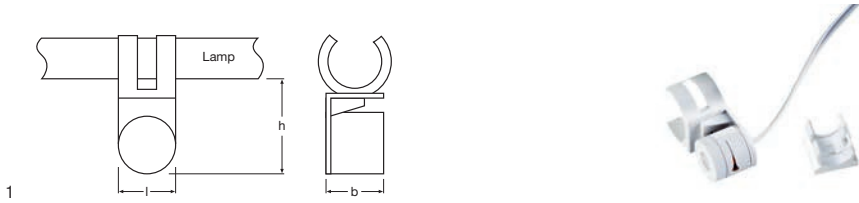
- Suitable for up to 30 electronic control gears

Wiring diagram



DIM PICO

Stand-alone daylight sensors with 1...10 V dimming interface



Product name	GTIN (EAN)					
DIM PICO	4050300554457	1...10	4	50 ¹⁾	IP20	Luminaire integration / Clip-on lamp
Product name						
DIM PICO	White	21	21	31	20	1

1) Approximately

Product features

- 1...10 V light sensor
- Simple clip-on installation for T8 and T5 lamps
- Cable length: 700 mm

Product benefits

- Energy savings of up to 30 %
(compared to CCG + T8 lamp, without sensors)
- Compensates for 50 % of the incoming daylight
- Direct connection to the 1...10 V interface
- Simple setting of the set point via aperture

Areas of application

- Individual luminaires

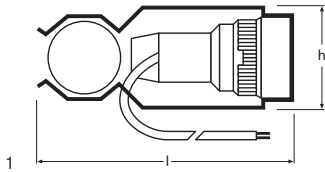
Equipment/Accessories

- Suitable for up to 10 electronic control gears



DIM MICO

Stand-alone daylight sensors with 1...10 V dimming interface



Product name

DIM MICO

GTIN (EAN)

4008321586056



1...10



8



80¹⁾



20...800



IP20



Luminaire integration /
Clip-on lamp

Product name

DIM MICO



Gray



59



28



40



20



1

1) Approximately

Product features

- 1...10 V light sensor
- Simple clip-on installation for T8 and T5 lamps
- Cable length: 700 mm

Product benefits

- Energy savings of up to 40 % (compared to CCG + T8 lamp, without sensors)
- Compensates for 100 % of the incoming daylight
- Direct connection to the 1...10 V interface
- Simple setting of the set point via aperture

Areas of application

- Strip lighting in single and open-plan offices
- Strip lighting in factory halls

Equipment/Accessories

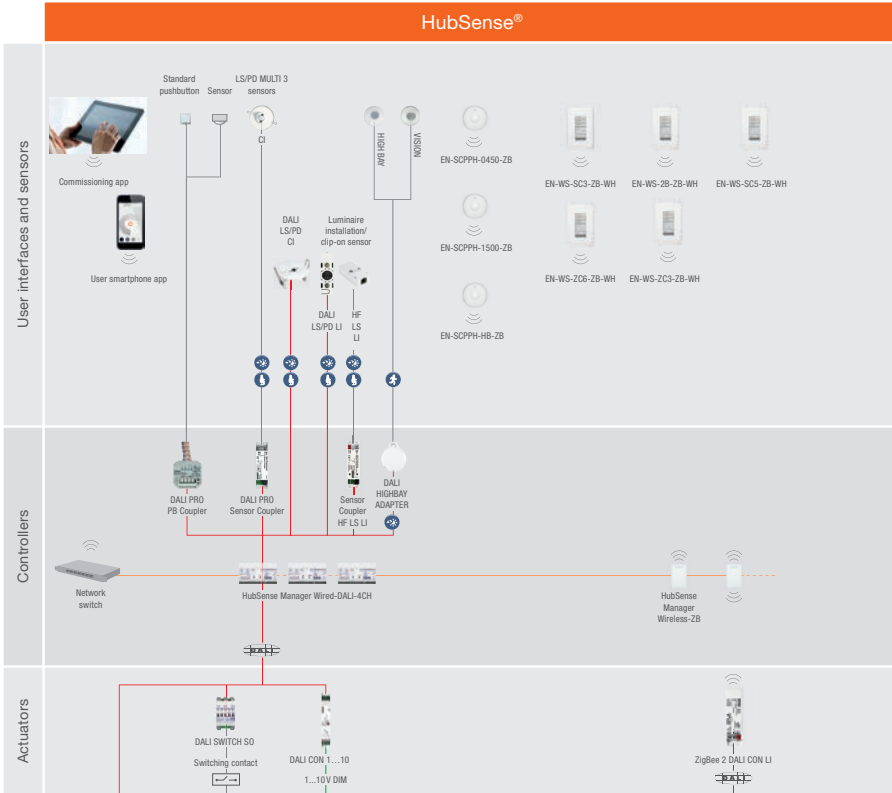
- Suitable for up to 100 electronic control gears
- Suitable for up to 16 signal amplifiers





HubSense®

The agile lighting control solution.



- Presence detection
- Motion detection
- Daylight detection
- DALI
- 1...10V DIM
- Ethernet
- Switching contact



The new HubSense® from OSRAM is a flexible, scalable and brandable lighting control system that fits to any building size. Thanks to the scalability of the system architecture and the lean portfolio, HubSense® provides the perfect control solution for new buildings or existing buildings undergoing renovation.

Flexibility is one of the key elements of a lighting control system. Being compatible with DALI and ZigBee, the de facto standards in the professional lighting control world, HubSense® now enables any type of application, no matter what constraints are found in the building layout.

The new commissioning software will drastically reduce the commissioning time thanks to the innovative commissioning experience. A project can be easily realized by adding preconfigured room profiles one after the other in the software. Proximity technology will help to address the devices installed, minimizing the time and the effort. An optional test procedure will then ensure that the system will work properly.

The different software packages of Basic and Advanced give multiple options to realize a project. Based on the project needs, the HubSense® can be flexibly adapted by choosing only the mandatory functionality in order to tailor the solution to expectations.

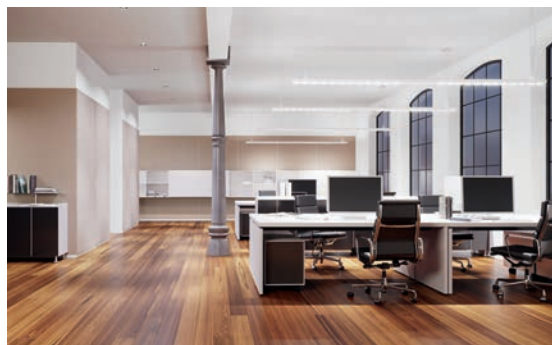
Any end user will be able to interact with his own environment by the simple touch of a finger. The HubSense® End User App will allow full control and personalization of the working environment, enhancing working life.

For the entire DALI portfolio, see

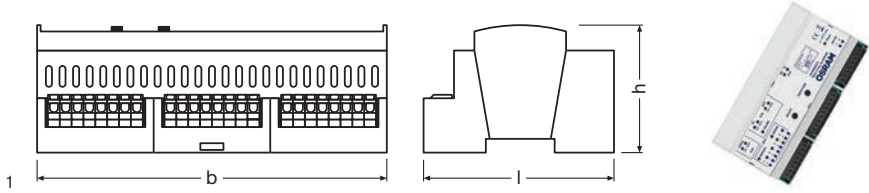
DALI components, page 4.60 ff.

For the entire Wireless portfolio, see

Wireless components, page 4.82 ff.



HubSense® Manager Wired-DALI-4CH Controllers



Product name

GTIN (EAN)

HubSense Manager Wired-DALI-4CH **4052899989771**



DALI



22



160



90



63



10



1

Product features

- DALI controller connected via network
- Daylight-dependent regulation and presence-dependent control of light
- Intelligent scheduling, task-related lighting
- Preconfigured room lighting profiles

Areas of application

- Offices
- Healthcare
- Public buildings
- Educational sector

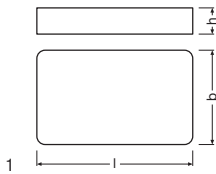
Product benefits

- Suitable for projects with up to 1,000 controllable light points
- Worldwide access and possibility of remote maintenance via Internet
- Initial software provided together with the hardware
- Upgradable software packages via licensing mechanism (see www.osram.com)



HubSense® Manager Wireless-ZB

Controllers



Product name

GTIN (EAN)



HubSense Manager Wireless-ZB

4052899989764

ZigBee HA

4

72

20

118

10

1

Product features

- Connected via network, wireless controller
- Daylight-dependent regulation and presence-dependent control of light
- Intelligent scheduling, task-related lighting
- Preconfigured room lighting profiles

Product benefits

- Suitable for projects with up to 1,000 controllable light points
- Worldwide access and possibility of remote maintenance via Internet
- Initial software provided together with the hardware
- Upgradable software packages via licensing mechanism (see www.osram.com)

Areas of application

- Offices
- Healthcare
- Public buildings
- Educational sector



DALI PROFESSIONAL

A flexible light management system for large rooms and multiroom solutions

The DALI PROFESSIONAL system with its 4 DALI lines (256 DALI ECGs) is suitable for complex applications in room and floor control, daylight-dependent regulation, RGB control, TW control and dynamic lighting. With LAN interconnectivity, you can connect up to 4 controllers, so in total 1024 DALI ECGs can be controlled.

Configuration and setup are easy to achieve with a Windows-based PC software and a USB or LAN port. Plug-and-play settings are preconfigured for instant use without any setup.

The system is operated with standard pushbuttons, which are connected to a DALI PRO Pushbutton Coupler. Furthermore, the DALI PRO Sensor Coupler integrates all light and occupancy sensors from the LS/PD MULTI 3 family. In total, a maximum of 50 couplers can be attached. A smartphone app is available as an attractive and functional input device. Using the DALI HIGHBAY ADAPTER and HIGH BAY sensor, daylight-dependent light control and motion control is possible up to an installation height of 13m.

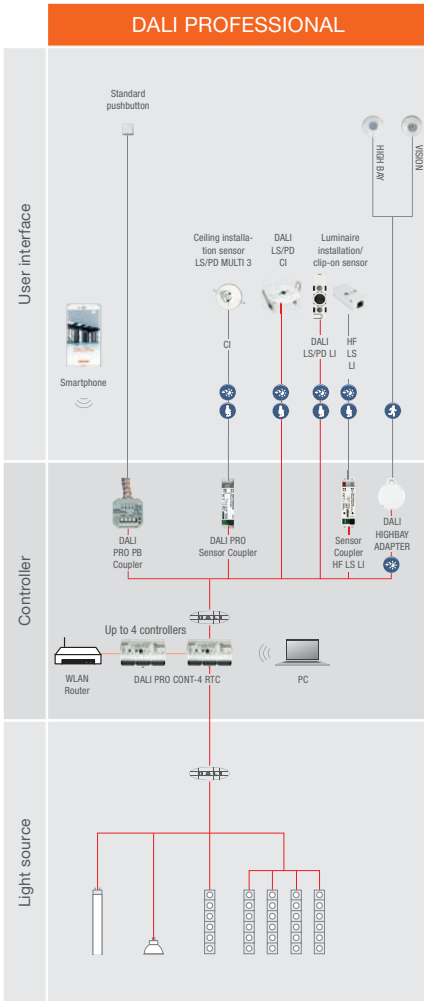
Applications

- Offices
- Retail outlets
- Storage areas
- Production and assembly facilities

The latest software can be found here:
www.osram.com/ds-tools



System overview



New: RGB sequencer

- Freely configurable color sequences for dynamic light with adjustable stopping times and cross-fading times
- Up to 100 sequences are programmable
- Up to 50 color scenes per sequence
- Easy color selection via color wheel



New: Time-of-day-dependent color temperature adjustment (Human Centric Lighting)

- Profiles with time-of-day-dependent light value and color temperature adjustment are freely configurable
- Integrated astro function with adjusted sunrise and sundown times for any time of the year
- Can be interrupted any time (starting triggers light and color temperature value according to the current time of day)
- Combinable with timer function and presence detector
- Up to 50 different scenes per profile
- Up to 100 profiles per project



New: App features at a glance

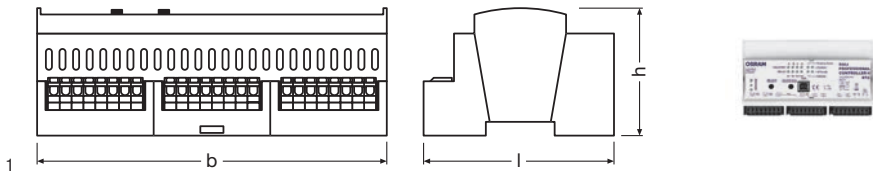
- Comfortable switching and dimming of illumination with status display
- Clearly arranged through grouping of rooms
- Access restriction with individual clearance of each control element per user
- Activate/override daylight control
- Selection of static lighting scenes and dynamic sequences
- Control element for colored light (RGB)
- Control element for color temperature adjustment (TW)






DALI Pro Control

DALI PRO CONT-4 RTC

Controllers for light management systems



Product name	GTIN (EAN)	V	Hz	CONTROL	No. of OUTPUTS	W SYSTEM	IP
DALI PRO Cont-4 RTC	4008321710871	100...240	50 / 60	DALI	4	20	IP20
Product name		T_a	l [mm]	b [mm]	h [mm]		 No.
DALI PRO Cont-4 RTC	DIN rail mounting	0...+40	90	160	62	10	1

Product features

- Interconnection of up to 4 DALI PROFESSIONAL control units
- Configuration via LAN/WLAN/USB
- RGB color sequences
- Time-of-day-dependent color temperature adjustment (human centric lighting)
- Controller for 4 DALI lines
- Up to 50 pushbutton/sensor couplers can be integrated
- Integrated DALI supply
- 4 freely programmable switchover relays; load contact: 4 x 5 A
- Daylight-dependent and/or presence-dependent or manual control
- Up to 4 x 16 groups can be controlled
- Integrated clock for event control
- Weekly scheduler
- Connection via push-in terminals
- Control of lighting scenes and sequences (recall/store)
- Housing for series installation
- Length of the DALI control cable: up to 300 m

Product benefits

- Easy and intuitive control via app
- Control of up to 1024 DALI ECGs via LAN interconnectivity
- Plug and Play preconfigured for instant use without any startup procedure
- Mains voltage interruption buffer battery
- All the luminaires in the system can be dimmed or switched
- Simple creation of scenes and sequences
- Switching and dimming of up to 256 DALI ECGs per DALI PROFESSIONAL control unit
- A setpoint for daylight-dependent control can be stored by double-clicking
- Sensor integration in DALI
- Remote access/remote maintenance

Areas of application

- Room control, floor control, daylight-dependent control
- Connection of light and presence sensors in DALI systems
- Conference rooms
- Offices: Individual and group workplaces
- Production and assembly facilities
- Suitable for indoor applications
- Large luminaire groups
- Industry
- Corridors
- Strip lighting
- Logistics centers
- Classrooms
- Sports halls
- Training rooms

Equipment/Accessories

- Free smartphone app for iOS and Android
- Suitable for up to 256 electronic control gears with DALI interfaces
- Graphic configuration software with Windows user interface

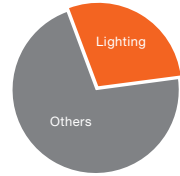
References/Links

Configuration software available at www.osram.com/ds-tools

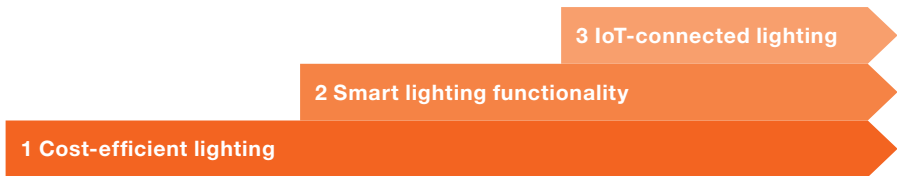


OSRAM – your KNX lighting partner

Lighting represents one of the largest domains of KNX applications. For your projects, OSRAM offers a variety of solutions (source: BSRIA 2016).



OSRAM delivers KNX lighting solutions for your needs



1 Use cost-efficient DALI devices in your project

- Fast integration of dimmable DALI devices and DALI sensors
- Luminaire information available via KNX (e.g. lamp status)

2 Use smart lighting in your KNX project to improve the light experience for you

- Control color and Tunable White DALI devices with KNX (e.g. HCL/TW with DT8)
- Retrieve real-time luminaire information in your KNX environment (e.g. operating hours, max. temperature power metering)
- Direct control lighting and more via smartphone/tablet

3 Connect your light to the Internet of Things (IoT)

- Light and KNX solutions will have connectivity to the cloud
- Cloud integration gives you, for example, the benefits of multi-building benchmarking, space optimization and further applications beyond lighting
- OSRAM will also be your partner for KNX IoT solutions, providing secure cloud access and further services

Connectivity is one of the key elements of smart building solutions

Visit us at Light & Building 2018 and online at www.osram.com/knx

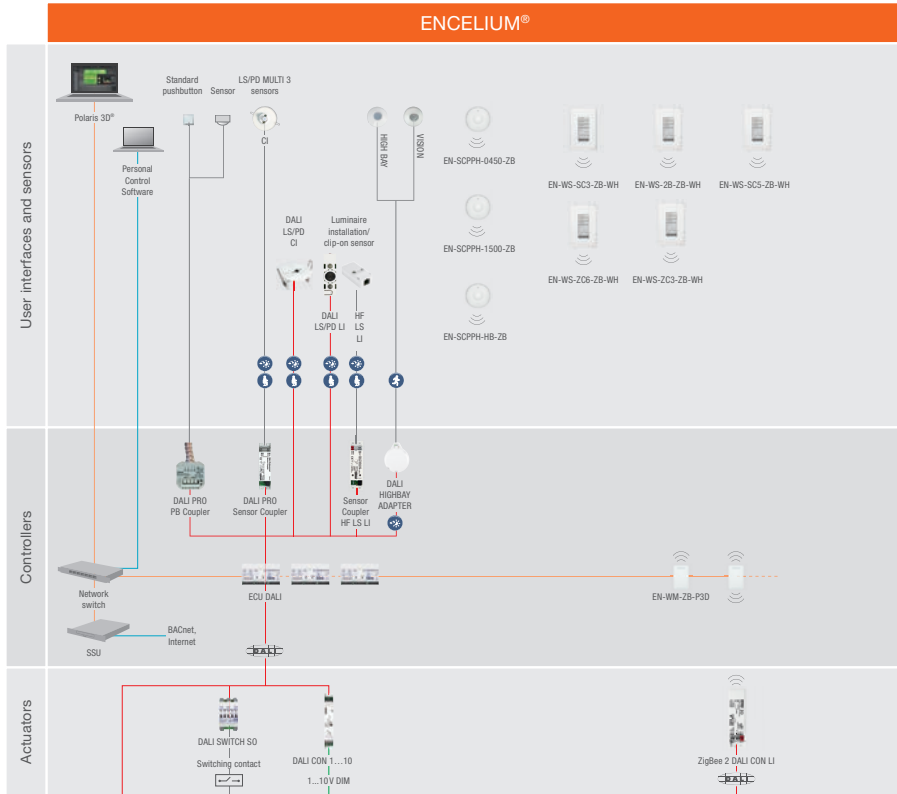


OSRAM: Your lighting partner for more than 110 years



ENCELIUM®

The holistic light management system for intelligent buildings



- Presence detection
- Motion detection
- Daylight detection
- DALI
- 1...10V DIM
- Ethernet
- Switching contact

ENCELIUM® by OSRAM is a comprehensive light management system which facilitates energy saving in a very practical and versatile manner. The heart of the system, the innovative Polaris 3D™ software, permits remote access to provide comprehensive control of the entire lighting system.

Thanks to the scalability of the system architecture, ENCELIUM® can be used for buildings of any size and can easily be integrated in existing building management systems. In this way, you can change and optimize your lighting with just a few clicks of your mouse and you can prepare your building for the future.



Winner – Controls Product of the Year –
ENCELIUM® Wireless

Flexibility is one of the core characteristics of a light management system. Because it is compatible with DALI and ZigBee, and therefore with state-of-the-art lighting technologies, the ENCELIUM® system now allows any type of application no matter which constraints can be found in a project.

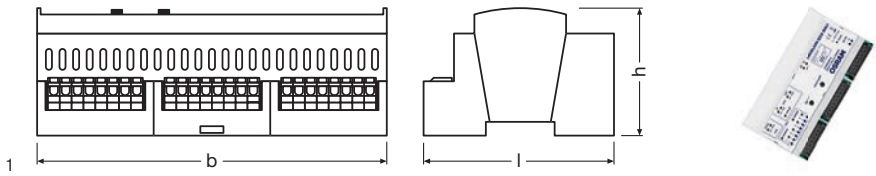
All ENCELIUM® light management components, including planning and commissioning, are constituents of the comprehensive OSRAM solution.

ENCELIUM® – more flexibility, more control and more energy savings.



ECU DALI

Controllers



Product name	GTIN (EAN)	CONTROL	W SYSTEM	l [mm]	b [mm]	h [mm]		
DALI ECU	4052899016842	DALI	22	90	160	63	10	1

Product features

- Individual control
- Daylight-dependent regulation and presence-dependent control of light
- Intelligent scheduling, task-related lighting, variable load distribution
- Realtime light control, analysis of energy consumption and display of lamp failures

Areas of application

- Offices
- Healthcare
- Public buildings
- Educational sector

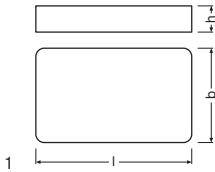
Product benefits

- Energy savings of up to 75 % (compared to CCG + T8 lamp without sensors)
- DALI-based light management system integrable into building management systems
- Worldwide web access and possibility of remote maintenance



EN-WM-ZB-P3D

Controllers

**Product name****GTIN (EAN)**

EN-WM-ZB-P3D

4052899957336

ZigBee HA

4

118

72

20

10

1

Product features

- Individual control
- Daylight-dependent regulation and presence-dependent control of light
- Intelligent scheduling, task-related lighting, variable load distribution
- Realtime light control, analysis of energy consumption and display of lamp failures

Areas of application

- Offices
- Healthcare
- Public buildings
- Educational sector

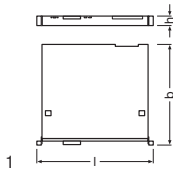
Product benefits

- Energy savings of up to 75 % (compared to CCG + T8 lamp without sensors)
- ZigBee-based light management system for integration into building management systems
- Worldwide web access and possibility of remote maintenance



SSU Server

Controllers



Product name	GTIN (EAN)	W SYSTEM	l [mm]	b [mm]	h [mm]	Icon 1	Icon 2
EN-SSU-1U	4008321791535	250	395	483	43	1	1

Product features

- Individual control
- Daylight-dependent regulation and presence-dependent control of light
- Intelligent scheduling, task-related lighting, variable load distribution
- Realtime light control, analysis of energy consumption and display of lamp failures

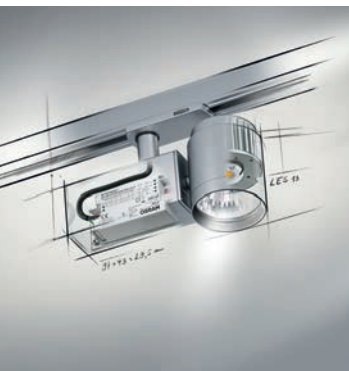
Areas of application

- Offices
- Healthcare
- Public buildings
- Educational sector

Product benefits

- Energy savings of up to 75 % (compared to CCG + T8 lamp without sensors)
- DALI-based light management system integrable into building management systems
- Worldwide web access and possibility of remote maintenance





Light is easy

Build your own lighting system with the **OSRAM Lighting Designer**. Find the ideal components for your specific application and create the perfect system solution.

Light is OSRAM

OSRAM

DALI components

Non-system-specific DALI components and sensors

DALI sensors and DALI couplers transmit information according to presence, movement and light value on the DALI line. With the DALI pushbutton coupler, the contact signal is transferred from conventional pushbuttons and switches to the DALI system. These devices can be used in many OSRAM control systems as well as in third-party manufacturers' systems. For details, please see the table with the supported systems below.

This results in a significant simplification of the installation as sensor signals on the DALI line are also transmitted and, therefore, no additional wiring is required. Particularly in case of strip lights that are electrically connected via mounting rail contacts, an optimum integration of the sensor system is possible via DALI without having to install an additional line with differing isolation requirements.

To check if an OSRAM DALI sensor or coupler can be used with a specific standard DALI control unit, please refer to the compatibility list of the respective manufacturer.

More information:
www.osram.com/lms

Additional non-system-specific components complement the DALI functionality:

- DALI REPEATER – System expansion without additional DALI address
- DALI CON 1...10 V – Integration of 1...10 V control gears into DALI
- DALI SWITCH – Integration of switchable devices into DALI

Manufacturer	Control system manager	Interface
OSRAM	DALieco BT Control / DALieco Control	DALI / BT
OSRAM	DALI ACU BT	DALI / BT
OSRAM	LUXeye® Sense DALI BT	DALI / BT
OSRAM	HubSense®	DALI / Ethernet
OSRAM	DALI PROFESSIONAL CONT-4 RTC	DALI / Ethernet
OSRAM	ENCELIUM® DALI ECU	DALI / Ethernet
TRAXON	e:cue ETH2DALI	DALI / DMX / Ethernet / e.net
SIEMENS	KNX/DALI Gateway Twin plus N141/21, plus N141/03	DALI / KNX
WAGO	DALI Multi Master Clamp 753-647	DALI / PROFIBUS / LON / KNX / MODBUS / Ethernet ...
BECKHOFF	KL6821	DALI / KNX / LON / BACnet / Ethernet / DMX ...
LOYTEC	LDALI CEA-709*	DALI / LON
LOYTEC	LDALI-ME204* / LDALI-E201-U*	DALI / BACnet

Information is subject to change. For details, please contact the respective manufacturer.

* DALI pushbutton coupler not compatible.

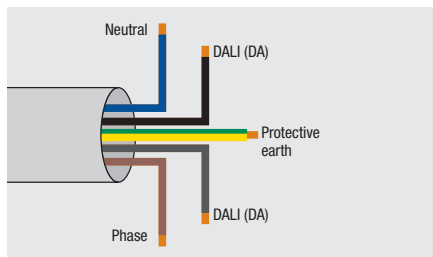


What is DALI and how does it work?

DALI – Digital Addressable Lighting Interface – is a (non-proprietary) interface standard for digital dimmable electronic drivers, offering greater functionality and greater ease of use. Per DALI line, up to 64 DALI drivers can be controlled with a high degree of flexibility via a two-wire control line individually or jointly and in up to 16 groups. The lighting is switched and dimmed via control line. In other words, there is no need for any relays.

DALI is the standard interface for professional lighting solutions. OSRAM offers a wide range of DALI drivers.

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



Requirements to be met by the DALI line

When choosing a cable, make sure that the voltage drop on the line does not exceed 2 V at 250 mA. The maximum permitted distance between the controller and the connected DALI driver is 300 m.

The following table is used as a basis for finding the cable cross-section.

Cable length:	< 100 m	100–150 m	100–300 m
Min. cable cross-section:	0.5 mm ²	0.75 mm ²	1.5 mm ²

DALI input devices (sensors/couplers)

OSRAM has a wide range of DALI input devices (sensors and couplers) for multiple application areas.

OSRAM DALI sensors are grouped by:

- Luminaire integration
- Ceiling mounting/integration

Simple planning

DALI is the main standard to dim luminaires. The same wiring can be used for OSRAM DALI sensors. OSRAM DALI sensors are compatible with all our DALI controllers which support light or motion detection. OSRAM DALI sensors can also be used with controllers of our partners.

DALI sensors are using different addresses to DALI drivers. Up to 64 addresses for input devices (sensors and couplers) per DALI line are possible.

Simple installation

All our sensors are protected against polarity reversal to minimize installation failures. The DALI cabling should be rated for line voltage (by DALI standard) so it can be routed together with line voltage (e.g. a five-core sheathed cable). There is no need for a special cable.

For an overview of the different OSRAM DALI sensors, see pages 4.102 ff.



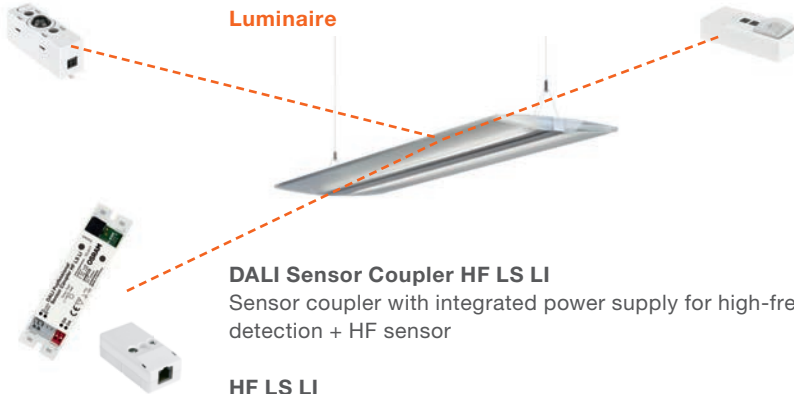
DALI sensors for luminaire integration

DALI LS/PD LI

Very compact DALI light and presence detector with integrated shutter

LS/PD DALI LI UF

Ultraflat light and presence detector



DALI Sensor Coupler HF LS LI

Sensor coupler with integrated power supply for high-frequency detection + HF sensor

HF LS LI

Light and presence detector with high-frequency detection technology, not susceptible to heat. Optimized for IP-rated luminaires.

DALI sensors for ceiling integration

DALI LS/PD CI

DALI light and presence detector for ceiling integration

DALI Sensor Coupler + LS/PD Multi 3 CI + ECO CI KIT

Minaturized light and presence detector for ceiling integration



DALI sensors for ceiling/trunking system mounting

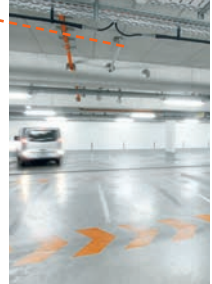
DALI Highbay Adapter + HIGH BAY sensor

DALI light and presence detector for high mounting heights of up to 13 m.



DALI Highbay Adapter + VISION sensor

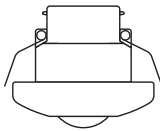
DALI light and presence detector for wide detection areas.



Sensor couplers to integrate third-party sensors

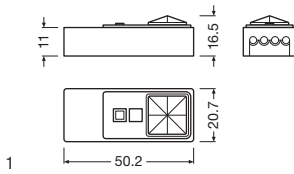
DALI Sensor Coupler E + third-party sensor

Universal DALI interface for standard 230 V or 24 V motion detectors.



LS/PD DALI LI UF

Sensors for light management systems



Product name

LS/PD DALI LI UF

GTIN (EAN)

4052899984608



DALI



2



IP20



Luminaire integration



0...+50

Product name

LS/PD DALI LI UF



White



50.2



20.7



16.5



10



1

Product features

- Direct connection to DALI
- Light and presence sensor for luminaire installation
- Presence detection via passive IR element
- Light sensor operating range: 10...1000 lx (measured at sensor)
- Function indication via integrated LED
- Mounting height: 2...4 m

Areas of application

- Installation in industry and office luminaires

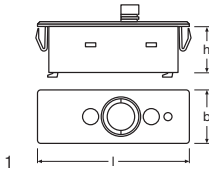
Product benefits

- Extremely low profile
- Presence detection range can be restricted by snap-on shutters



DALI LS/PD LI

Sensors for light management systems



Product name	GTIN (EAN)						
DALI LS/PDLI	4052899043954	5	6	80	20...800	IP20	Ceiling integration / Luminaire integration
Product name							
DALI LS/PDLI	0...+50	Gray	48	15	17	25	1

Product features

- Direct connection to DALI
- Light and presence sensor for luminaire installation
- Presence detection via passive IR element
- Light sensor operating range: 20...800 lx (measured at sensor)
- Function indicator with two-color LED
- Mounting height: 2...5 m

Product benefits

- Small housing design
- Presence detection angle adjustable between 40...90° via integrated shutters
- Can be addressed via DALI
- Compact housing for luminaire installation
- Daylight-dependent control with automatic shutdown in adequate daylight
- Slim housing design and flexible mounting concept
- Power supply from DALI
- DALI-based light management system integrable into building management systems
- Multiple sensors can be networked
- Sensor integration in DALI

Areas of application

- Installation in industry and office luminaires
- Ceiling installation via LS/PD Ci KIT or LS/PD AP KIT possible
- Classrooms
- Conference rooms
- Corridors
- Individual offices
- Suspended luminaires
- Suitable for indoor applications
- Open-plan offices

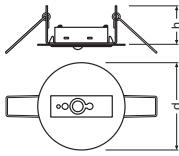
Equipment/Accessories

- Suitable for many OSRAM DALI control systems
- Attachable mounting frame for luminaire mounting from inside and outside



DALI LS/PD CI

Sensors for light management systems



1



Product name	GTIN (EAN)						
DALI LS/PD CI	4052899930292	5	6	40...90	20...800	IP20	Ceiling integration
Product name							
DALI LS/PD CI	0...+50	55	80	10	1		

Product features

- Mounting height: 2...5 m
- Presence detection via passive IR element
- Light sensor operating range: 20...800 lx (measured at sensor)
- Daylight-dependent regulation and presence-dependent control of light
- Direct connection to DALI
- Function indicator with two-color LED
- Ceiling installation adapter

Areas of application

- Classrooms
- Conference rooms
- Corridors
- Individual offices
- Open-plan offices
- Restaurants
- Shop lighting
- Suitable for indoor applications

Product benefits

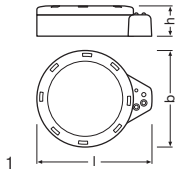
- Can be addressed via DALI
- Daylight-dependent control with automatic shutdown in adequate daylight
- Multiple sensors can be networked
- Simple installation
- Sensor integration in DALI
- Power supply from DALI
- Presence detection angle adjustable between 40...90° via integrated shutters
- DALI-based light management system integrable into building management systems

Equipment/Accessories

- Suitable for many OSRAM DALI control systems

DALI Highbay Adapter

Sensors for light management systems



Product name	GTIN (EAN)						
DALI Highbay Adapter	4008321774132	DALI	13	20...800 ¹⁾	IP20	On-top ceiling mounting	
Product name							
DALI Highbay Adapter	0...+50	139	118	37	20	1	

1) Approximately, measured at the sensor

Product features

- DALI adapter for HIGH BAY and VISION sensors
- Direct connection to DALI
- Connection via push-in terminals
- Light sensor operating range: 20...800 lx (measured at sensor)
- Integrated light sensor
- Suitable for through-wiring
- Suitable for daylight-dependent control
- Light regulation for mounting heights of up to 13 m
- Power supply for coupler from DALI
- Integration into building management systems

Product benefits

- Sensor integration in DALI
- Embedding of HIGH BAY and VISION motion sensors into DALI
- Extended terminal section enables mains looping
- Daylight-dependent control with automatic shutdown in adequate daylight
- DALI-based light management system integrable into building management systems
- Flexible addressing via DALI

Areas of application

- Industry
- Production halls
- Sports halls
- Logistics centers
- Areas with high ceilings
- Connection of light and presence sensors in DALI systems
- Suitable for indoor installations
- Production and assembly facilities
- Open-plan offices, corridors and storage rooms
- Corridors
- Strip lighting in factory halls

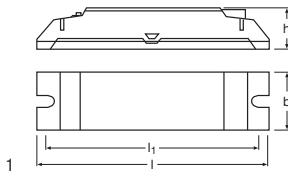
Equipment/Accessories

- Blind cover included
- Suitable for many OSRAM DALI control systems



DALI PRO Sensor Coupler

Sensors for light management systems



Product name	GTIN (EAN)	CONTROL	No. of OUTPUTS	IP		T_a
DALI PRO Sensor Coupler	4008321379269	DALI	1	IP20	Luminaire integration / Ceiling integration	0...+50

Product name						
DALI PRO Sensor Coupler	118	30	21	110	25	1

Product benefits

- Power supply from DALI

Areas of application

- Connection of light and presence sensors in DALI systems
- Ceiling or independent installation via ECO CI KIT possible

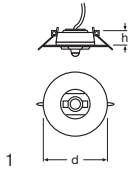
Equipment/Accessories

- Suitable for all light and presence sensors from the MULTI 3 range
- Suitable for many OSRAM DALI control systems



LS/PD MULTI 3 CI

Sensors for light management systems



Product name	GTIN (EAN)						
LS/PD MULTI 3 CI	4008321916648	4	6	80 ¹⁾	20...600 ²⁾	IP20	On-top ceiling mounting / Ceiling integration
Product name							
LS/PD MULTI 3 CI	0...+50	White	25	50	10	1	

1) Approximately

2) Approximately, measured at the sensor

Product features

- Ceiling installation sensor with moveable sensor head
- Connection via four-pole screw terminal or modular 4c4p connector

Product benefits

- Particularly small construction

Areas of application

- Offices
- Corridors
- Classrooms
- Training rooms
- Stairways
- Sanitary areas

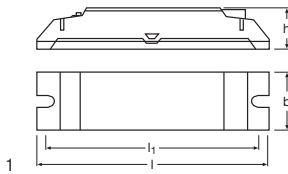
Equipment/Accessories

- Surface mounting in connection with SENSOR KIT
- Suitable for MULTeeco, DIM MULTeeco and DALI MULTeeco control units
- Suitable for DALI PROFESSIONAL Sensor Coupler



DALI Sensor Coupler HF LS LI

Sensors for light management systems



Product name	GTIN (EAN)	CONTROL	No. of OUTPUTS	IP	Installation	T_a
DALI Sensor Coupler HF LS LI	4052899141728	DALI	1	IP20	Luminaire integration / Ceiling integration	0...+50
Product name	l [mm]	b [mm]	h [mm]	h [mm]	Installation	No.
DALI Sensor Coupler HF LS LI	118	30	21	110	25	1

Product features

- Mounting height: 2...13 m
- Combined daylight and motion detection
- Suitable for daylight-dependent control
- Presence detection via active radar sensor element
- Light sensor operating range: 20...800 lx (measured at sensor)

Product benefits

- Sensor integration in DALI
- Small housing design

Areas of application

- Connection of light and presence sensors in DALI systems
- Ceiling or independent installation via ECO CI KIT possible
- Luminaire and ceiling integration
- Installation in industry and office luminaires
- Installation in IP protected luminaires possible
- Areas with high ceilings

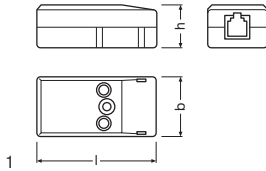
Equipment/Accessories

- Separate installation possible with ECO CI KIT
- Suitable for many OSRAM DALI control systems



HF LS LI

Control units for light management systems



Product name	GTIN (EAN)						
HF LS LI	4052899921481	8	35...80	20...800 ¹⁾	IP20	Luminaire attachment / Luminaire integration	-20...+50
Product name							
HF LS LI	White	56	28	21	25	1	

1) Approximately, measured at the sensor

Product features

- Light and presence sensor for luminaire installation or attachment
- Presence detection via active radar sensor element
- Function indicator with two-color LED
- Motion detection range adjustable
- Mounting height: 2...13 m
- Light sensor operating range: 20...800 lx (measured at sensor)
- Integrated infrared remote control receiver
- Connection via polarity reversal protected 4p4c socket (RJ10)

Product benefits

- Individual activation/deactivation of light and presence sensor via remote control
- V(λ) corrected light sensor element

Areas of application

- Installation in IP protected luminaires possible
- Corridor lighting control in logistics centers and factory halls
- Areas with high ceilings

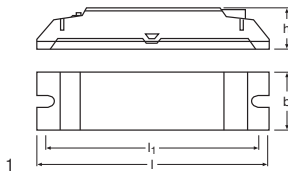
Equipment/Accessories








- Suitable for DALIeco Control unit
- Suitable for DALI Sensor Coupler HF LS LI



DALI Sensor Coupler E

Sensors for light management systems



Product name	GTIN (EAN)	CONTROL	No. of OUTPUTS	IP		T_a
DALI Sensor Coupler E	4052899230491	DALI	1	IP20	Luminaire integration / Ceiling integration	-20...+50
Product name						
DALI Sensor Coupler E	118	30	21	110	25	1

Product features

- Suitable for daylight-dependent control

Product benefits

- Small housing design

Areas of application

- Connection of light and presence sensors in DALI systems
- Ceiling or independent installation via ECO CI KIT possible
- Suitable for external light and presence sensors
- Installation in industry and office luminaires
- Corridors
- Warehouses

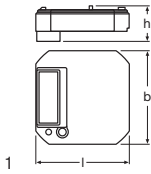
Equipment/Accessories

- Separate installation possible with ECO CI KIT
- Suitable for many OSRAM DALI control systems



DALI PRO PB Coupler

User interfaces for light management systems



Product name

DALI PRO PB Coupler

GTIN (EAN)

4008321496461



DALI



1



IP20



Integrated in flush device box



0...+50

Product name

DALI PRO PB Coupler



42



42



20



20



1

Product features

- DALI pushbutton coupler
- 4 floating inputs

Product benefits

- Power supply from DALI
- Standard pushbuttons/switches can be used

Areas of application

- Classrooms
- Conference rooms
- Suitable for installation in flush-type boxes
- Production and assembly facilities
- Individual offices

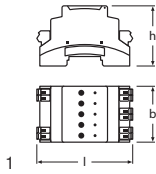
Equipment/Accessories




- Suitable for many OSRAM DALI control systems



DALI Switch SO

Actuators for light management systems



Product name	GTIN (EAN)	V	CONTROL	No. of OUTPUTS	Max. Load [A]	IP	
DALI SWITCH SO	4008321533364	24	DALI	3	6	IP20	DIN rail mounting
Product name	T_a	l [mm]	b [mm]	h [mm]			No.
DALI SWITCH SO	0...+45	96	54	62	8	1	

Product features

- DALI-controlled switch output for non-dimmable lamps, QT, OT, PT, HT control gears
- 3 independent relay contacts
- Load capacity of switching contact: 6 A ohmic load
- Supply voltage: 24 V DC
- Floating contacts

Product benefits

- Can be addressed via DALI

Areas of application

- Industry
- Suitable for use in combination with all POWERTRONIC® control gears

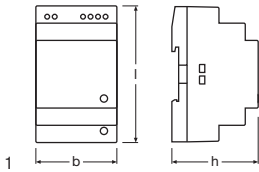
Equipment/Accessories

- Suitable for many OSRAM DALI control systems
- 24 V supply required (e.g. PS 30)



Power Supply PS 30

Power supplies



Product name

POWER SUPPLY PS 30

GTIN (EAN)

4052899553880



100...240



50...60



IP20



DIN rail mounting



-20...+55

Product name

POWER SUPPLY PS 30



90



36



58



200



1

Product features

- Output voltage: 24 V DC
- Output current: 1.3 A

Areas of application

- Wide range of applications

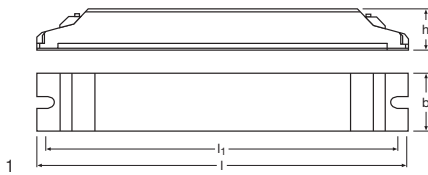
Product benefits

- Large input voltage range



DALI REP LI

Signal repeaters for LMS



Product name	GTIN (EAN)	V	Hz	CONTROL	No. of OUTPUTS	W SYSTEM	IP	
DALI REP LI	4008321292599	230	50 / 60	DALI	1	4	IP20	Luminaire integration
Product name	T_a	l [mm]	b [mm]	h [mm]	l₁ [mm]		No.	
DALI REP LI	0...+50	189	30	21	180	25	1	

Product features

- Expansion of DALI systems by 64 DALI control gears each time
- Extends the DALI line by 300 m
- Touch DIM® control of 64 DALI control gears
- Maximum power input: 4 W

Areas of application

- Device for luminaire installation

Equipment/Accessories

- Independent installation in connection with LMS CI BOX

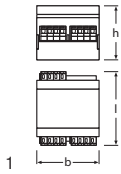
Product benefits




- The DALI control gears connected to the repeater operate as a group
- Can be addressed via DALI
- Cascadable



DALI REP SO

Signal repeaters for LMS



Product name	GTIN (EAN)	V	Hz	CONTROL	No. of OUTPUTS	W SYSTEM	IP
DALI REP SO	4008321301093	230	50 / 60	DALI	1	5	IP20
Product name		T_a	l [mm]	b [mm]	h [mm]		 No.
DALI REP SO	DIN rail mounting	0...+50	96	72	62	16	1

Product features

- Expansion of DALI systems by 64 DALI control gears each time
- Extends the DALI line by 300 m
- Touch DIM® control of 64 DALI control gears
- Maximum power consumption in standby mode: 1 W

Areas of application

- Large luminaire groups

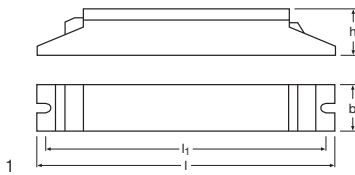
Product benefits

- The DALI control gears connected to the repeater operate as a group
- Disconnection of ECG standby power via integrated load contact
- Can be addressed via DALI
- Cascadable



DALI CON 1...10 LI

Signal converters DALI to 1...10 V



Product name	GTIN (EAN)	V	Hz	CONTROL	No. of OUTPUTS	Max. Load [A]	IP	
DALI CON LI	4050300638973	220...240	50...60	DALI / 1...10	1	5	IP20	Luminaire integration
Product name	Ta	l [mm]	b [mm]	h [mm]	l1 [mm]		No.	
DALI CON LI	0...+50	190	30	27	180	40	1	

Product features

- Load capacity of the signal output: max. 100 mA
- 0...10 V max. 5 mA active
- Switchable characteristic: linear/logarithmic
- Touch DIM® control of 1...10 V ECGs

Product benefits

- Can be used purely as a switching actuator

Areas of application

- Device for luminaire installation

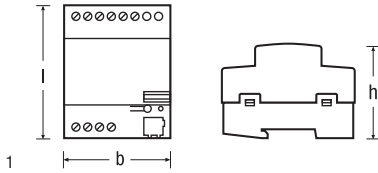
Equipment/Accessories




- Suitable for up to 100 electronic control gears
- Suitable for up to 33 signal amplifiers DIM SA



DALI CON 1...10 SO

Signal converters DALI to 1...10 V



Product name	GTIN (EAN)	V	Hz	CONTROL	No. of OUTPUTS	Max Load[A]	IP
DALI CON SO	4050300639802	220...240	50...60	DALI / 1...10	1	5	IP20
Product name		T_a	I [mm]	b [mm]	h [mm]		
DALI CON SO	DIN rail mounting	0...+45	72	64	90	16	1

Product features

- Load capacity of the signal output: max. 100 mA
- 0...10 V max. 5 mA active
- Switchable characteristic: linear/logarithmic
- Load capacity of switching contact: 5 A
- Touch DIM® control of 1...10 V ECGs

Areas of application

- Common areas

Equipment/Accessories

- Suitable for up to 100 electronic control gears
- Suitable for up to 33 signal amplifiers DIM SA

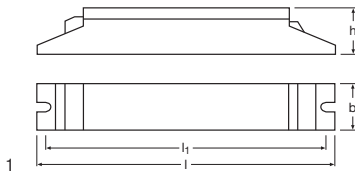
Product benefits




- Flexible addressing via DALI
- Can be used purely as a switching actuator



DIM SA

Signal repeaters for LMS



Product name	GTIN (EAN)	V	Hz	CONTROL	No. of OUTPUTS	W SYSTEM	IP	
DIM SA	4008321097095	220...240	50...60	1...10	1	2	IP20	Luminaire integration
Product name	T_a	l [mm]	b [mm]	h [mm]	l₁ [mm]			No.
DIM SA	0...+50	189	30	30	180	40	1	

Product features

- Signal amplifier for 1...10 V controllers and sensors
- Load capacity of the signal output: max. 100 mA

Product benefits

- Supports large luminaire groups and long control lines
- Cascadable

Areas of application

- Device for luminaire installation

Equipment/Accessories

- Suitable for up to 100 electronic control gears
- Suitable for up to 33 signal amplifiers DIM SA





Wireless components

ZigBee is the most popular industrial wireless mesh networking standard for connecting sensors and control systems in the professional lighting market. ZigBee is an open, global, packet-based protocol designed to provide an easy-to-use architecture for secure, reliable, low-power wireless networks. ZigBee is a low-data-rate wireless networking standard that can eliminate the costly and time-consuming wiring in professional control applications. All types of control equipment can be placed anywhere and still communicate with the rest of the system. It can also be moved, since the network doesn't care about the physical location of a sensor, wallswitch or actuator. The ZigBee standard enhances the IEEE 802.15.4 standard by providing a simple networking layer and standard application profiles that can be used to create interoperable multi-vendor consumer electronics solutions.

ZigBee is one of the most reliable global control/sensor network standards due to its scalability and flexibility. It has been designed to provide the following features:

- Low power consumption, simple to implement
- Batteries that last from many months to years
- Active (transmit/receive) or sleep statuses that simplify the communication between the nodes
- Mains-powered equipment with extremely low standby consumption

Low total cost (device, installation, maintenance)

Low cost to the user means low device cost, low installation cost and low maintenance effort. ZigBee devices allow batteries to last up to years using primary cells without any chargers, which means low cost and easy installation. ZigBee's simplicity allows inherent configuration and redundancy of network devices and provides low maintenance.

High density of nodes per network

ZigBee's use of the IEEE 802.15.4 PHY and MAC allows networks to handle any number of devices. This attribute is critical for massive sensor arrays and control networks.



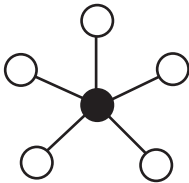
Wireless communication

All wireless communication systems have the following components: Transmitter, receiver, antennas, connection path between the transmitter and the receiver. In short, the transmitter feeds a signal of encoded data modulated into RF waves into the antenna. The antenna radiates the signal through the air where it is picked up by the antenna of the receiver. The receiver demodulates the RF waves back into the encoded data stream sent by the transmitter.

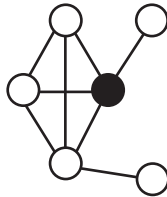
Wireless network topologies

This section discusses the network topologies supported by the IEEE 802.15.4 and ZigBee specifications. The topology of a network describes how the nodes are connected, either physically or logically. The physical topology is a geometrical shape resulting from the physical links from node to node, as shown in the figure below. The logical topology maps the flow of data between the nodes.

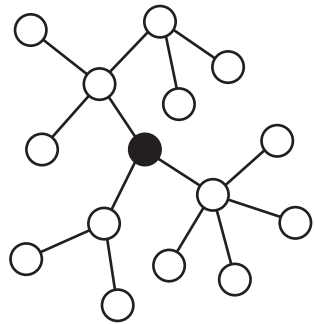
ZigBee network topology



Star



Mesh



Cluster tree



IEEE 802.15.4 supports star and peer-to-peer topologies. The ZigBee specification supports star and two kinds of peer-to-peer topologies (mesh and cluster tree).

ZigBee-compliant devices are sometimes specified as supporting point-to-point and point-to-multipoint topologies.

All OSRAM wireless devices communicate together on a “mesh network.” This means that all wireless nodes are interconnected together with more than one communication pathway connected to each node. Wireless control modules (actuators) work to extend the mesh network allowing communication to the wireless managers through them, while devices such as wireless sensors and wall stations are end devices and do not allow communication through them.

Wireless sensors

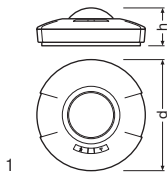
The wireless sensors are an integral part of the ENCELIUM® energy management system and of the HubSense® platform. Both offer passive infrared (PIR) occupancy sensing as well as daylight sensing. They are available for detection areas from 40 square meters (EN-SCPPH-0450-ZB – version with standard range) to 140 square meters (EN-SCPPH-1500-ZB – version with extended range) for standard installation heights and for detection areas of up to 260 square meters for high-bay installation with heights of up to 12 meters (HB – High Bay).

These award-winning wireless sensors are battery-powered and currently the smallest wireless presence sensors on the market. The sensors operate on a mesh network based on ZigBee standards. The sensors offer three tool-less mounting options for easy installation. They also offer options to mask parts of the detection area to maximize control flexibility. In combination with ENCELIUM® or the HubSense® platform, these sensors allow to gain considerable energy savings from presence detection as well as daylight harvesting. The software allows you to map the sensor to any zone and set the time-out to any level.



EN-SCPPH-0450-ZB

Sensors



Product name	GTIN (EAN)						
EN-SCPPH-0450-ZB	4052899957343	3.60	110	0...1000	IP20	On-top ceiling mounting	0...+40
Product name							
EN-SCPPH-0450-ZB	86	29	10	1			

Product features

- Presence detection via passive IR element
- Light sensor operating range: 0...1,000 lx
- Daylight-dependent regulation and presence-dependent control of light
- Integrated ZigBee Home Automation connectivity
- Battery-powered

Areas of application

- Ceiling surface mounting

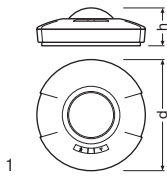
Product benefits











- Multiple sensors can be networked
- Simple installation



EN-SCPPH-1500-ZB

Sensors



Product name	GTIN (EAN)					
EN-SCPPH-1500-ZB	4052899989337	3	136	0...1000	IP20	
Product name						
EN-SCPPH-1500-ZB	On-top ceiling mounting	0...+40	86	29	10	1

Product features

- Presence detection via passive IR element
- Light sensor operating range: 0...1,000 lx
- Daylight-dependent regulation and presence-dependent control of light
- Integrated ZigBee Home Automation connectivity
- Battery-powered

Areas of application

- Ceiling surface mounting
- Wide range of applications
- Indoor parking areas

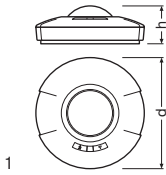
Product benefits

- Multiple sensors can be networked
- Simple installation



EN-SCPPH-HB-ZB

Sensors

**Product name**

EN-SCPPH-HB-ZB

GTIN (EAN)

4052899989344



12



75



0...1000



IP20

Product name

EN-SCPPH-HB-ZB



On-top ceiling mounting



0...+40



86



29



10



1

Product features

- Presence detection via passive IR element
- Light sensor operating range: 0...1,000 lx
- Daylight-dependent regulation and presence-dependent control of light
- Integrated ZigBee Home Automation connectivity
- Battery-powered

Areas of application

- Ceiling surface mounting
- Suitable for high installation heights
- Warehouses

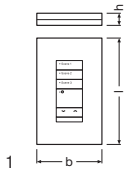
Product benefits

- Multiple sensors can be networked
- Simple installation



EN-WS-2B-ZB-WH

User interfaces



Product name	GTIN (EAN)	IP		T_a	l [mm]	b [mm]	h [mm]		 No.
EN-WS-2B-ZB-WH	4052899989290	IP20	Surface mounting	-10...+40	70	13	114	20	1

Product features

- Single-zone controller
- Standardized ZigBee Home Automation protocols for wireless communication
- Wireless technology
- Surface-mounted unit powered by four AAA alkaline batteries
- Lifetime of battery: up to 10 years

Areas of application

- New installations or retrofit of existing installations

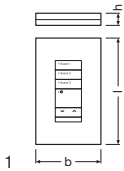
Product benefits

- Easy installation and versatile application
- No wiring required



EN-WS-ZC3-ZB-WH

User interfaces



Product name	GTIN (EAN)	IP		T_a	l [mm]	b [mm]	h [mm]		 No.
EN-WS-ZC3-ZB-WH	4052899989306	IP20	Surface mounting	-10...+40	70	13	114	20	1

Product features

- 3-zone controller
- Standardized ZigBee Home Automation protocols for wireless communication
- Wireless technology
- Surface-mounted unit powered by four AAA alkaline batteries
- Lifetime of battery: up to 10 years

Product benefits

- Easy installation and versatile application
- No wiring required

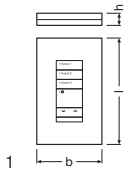
Areas of application

- New installations or retrofit of existing installations



EN-WS-ZC6-ZB-WH

User interfaces



Product name	GTIN (EAN)	IP	Surface mounting	T _a	l [mm]	b [mm]	h [mm]	Quantity	No.
EN-WS-ZC6-ZB-WH	4052899989320	IP20	Surface mounting	-10...+40	70	13	114	20	1

Product features

- 6-zone controller
- Standardized ZigBee Home Automation protocols for wireless communication
- Wireless technology
- Surface-mounted unit powered by four AAA alkaline batteries
- Lifetime of battery: up to 10 years

Areas of application

- New installations or retrofit of existing installations

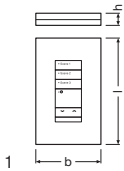
Product benefits

- Easy installation and versatile application
- No wiring required



EN-WS-SC3-ZB-WH

User interfaces

**Product name****GTIN (EAN)**

EN-WS-SC3-ZB-WH

4052899957367

IP20

Surface mounting

-10...+40

70

13

114

20

1

Product features

- Multi-scene control with switching and dimming options
- Standardized ZigBee Home Automation protocols for wireless communication
- Wireless technology
- Surface-mounted unit powered by four AAA alkaline batteries
- Lifetime of battery: up to 10 years

Product benefits

- Easy installation and versatile application
- No wiring required

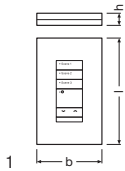
Areas of application

- New installations or retrofit of existing installations



EN-WS-SC5-ZB-WH

User interfaces



Product name	GTIN (EAN)	IP		T _a	l [mm]	b [mm]	h [mm]		No.
EN-WS-SC5-ZB-WH	4052899989313	IP20	Surface mounting	-10...+40	70	13	114	20	1

Product features

- 5-scene controller
- Standardized ZigBee Home Automation protocols for wireless communication
- Wireless technology
- Surface-mounted unit powered by four AAA alkaline batteries
- Lifetime of battery: up to 10 years

Areas of application

- New installations or retrofit of existing installations

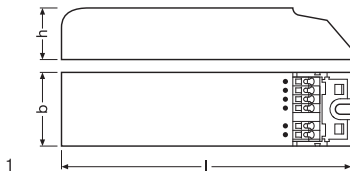
Product benefits




- Easy installation and versatile application
- No wiring required



ZigBee DALI CON LI

Signal converters for LMS



Product name	GTIN (EAN)	V	Hz	CONTROL	No. of OUTPUTS	m	IP
ZIGBEE DALI CON LI	4052899988804	230	50 / 60	DALI	1	15	IP20
Product name		T_a	I [mm]	b [mm]	h [mm]		 No.
ZIGBEE DALI CON LI	Luminaire integration / Independent mounting	-20...+60	108	30	21	25	1

Product features

- Integrated ZigBee transceiver module
- DALI interface for addressed or broadcast operation
- OSRAM DALI light and presence sensor connectible
- Standard pushbutton interface
- Outputs with electrical reversible overtemperature, short-circuit, overload protection

Product benefits

- Bidirectional ZigBee – DALI communication
- Prepared for ZigBee 3.0 standard
- Firmware update over the air possible

Areas of application

- Offices
- Meeting rooms
- Training rooms
- Corridors

Equipment/Accessories

- Suitable for up to 8 DALI gears in broadcast mode
- Suitable for up to 2 DALI gears in addressed mode
- Ceiling or independent installation via ECO CI KIT possible



LMS components

OSRAM LMS accessory components

Expand, connect and install light management systems – all from a single source with non-system-specific components from OSRAM.

These accessories, perfectly matched to OSRAM products in terms of quality and compatibility, make installing and connecting innovative light management systems extremely simple. OSRAM rounds off its offering with non-system-specific components.

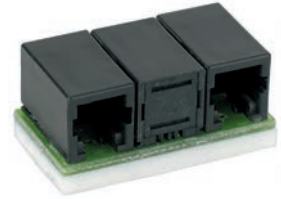
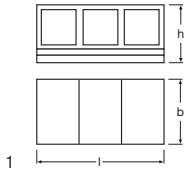
Accessories



Product reference	EAN10	VISION/ HIGH BAY	Touch DIM RC DALI REPEATER LI	DALI MULTIEco DIM MULTIEco MULTIEco DALIEco Control DALI Sensor Coupler LS/PD DALI Sensor Coupler HF DALI Sensor Coupler E	LS/PD MULTI 3 CI	DALIEco LS/PD LI DALIEco LS/PD LI NP DALI LS/PD LI
LMS CI BOX	4008321083692		■			
ECO CI KIT	4008321392091			■		
SENSOR KIT	4008321916662				■	
LS/PD CI KIT	4052899920293					■
LS/PD AP KIT	4052899173385					■
Mounting adapter	4008321480798	■				
DALI HIGHBAY ADAPTER	4008321774132	■				

Product reference	EAN10	HF LS LI	DALIEco Control	DALI MULTIEco DIM MULTIEco MULTIEco	DALI Sensor Coupler LS/PD DALI Sensor Coupler HF
Y-CONNECTOR	4050300803135		■	■	
Y-CONNECTOR SCREW	4008321916686		■	■	
CABLE 25CM	4008321660145	■	■	■	■
CABLE 50CM	4008321660152	■	■	■	■
CABLE 100CM	4008321660169	■	■	■	■
CABLE 200CM	4008321660190	■	■	■	■

Y-CONNECTOR

Branching for light management systems



Product name	GTIN (EAN)	IP	l [mm]	b [mm]	h [mm]		 No.
Y-CONNECTOR	4050300803135	IP20	34	18	16	25	1

Product features

- Passive distributor
- Connections: 3 x modular 4p4c socket
- Type of installation: Adhesive pad mounting on smooth surfaces

Product benefits

- For parallel connection of sensors to a MULTleco, MULTI 3 or DALleco system
- Enables synchronization and connection of multiple EASY system components

Areas of application

- Suitable for all OSRAM components with modular 4p4c connector system

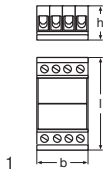
Equipment/Accessories

- 2 connecting cables included, modular 4p4c connector on both ends, length 2.1 m



Y-CONNECTOR SCREW

Branching for light management systems



Product name

GTIN (EAN)



Y-CONNECTOR SCREW

4008321916686

IP20

40

20

16

25

1

Product features

- Passive distributor
- Connection via 2 x four-pole screw terminal or modular 2 x 4p4c connector
- Type of installation: Adhesive pad mounting on smooth surfaces

Product benefits

- For parallel connection of sensors to a MULTleco, MULTI 3 or DALIeco system
- Enables synchronization and connection of multiple EASY system components

Areas of application

- Suitable for all OSRAM components with modular 4p4c connector system



Equipment/Accessories

- 2 connecting cables included, modular 4p4c connector on both ends, length 2.1 m



4p4c connection cables



Product name	GTIN (EAN)	 [mm]	
4P4C CONNECTION CABLE 25CM	4008321660145	250	50
4P4C CONNECTION CABLE 50CM	4008321660152	500	50
4P4C CONNECTION CABLE 100CM	4008321660169	1000	50
4P4C CONNECTION CABLE 200CM	4008321660190	2000	50

Product features

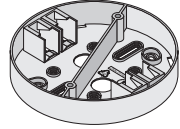
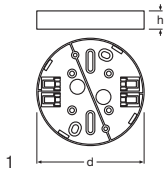
- Cable for modular 4p4c connection
- Pack contains 50 pieces

Areas of application

- Suitable for all OSRAM components with modular 4p4c connector system



Mounting adapters



Product name	GTIN (EAN)		COLOR				
Mounting adapter	4008321480798	On-top ceiling mounting	White	116	19	20	1

Product features

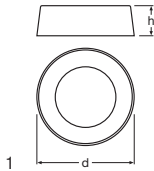
- Two separate wiring areas for input and output side

Areas of application

- Adapter for surface-mounted sensor elements with 116 mm diameter

SENSOR KIT

Mounting adapters for surface mounting of LMS sensors



Product name	GTIN (EAN)		COLOR				
SENSOR KIT	4008321916662	On-top ceiling mounting	White	80	25	10	1

Product features

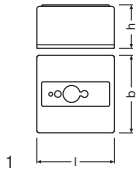
- Material: Plastic

Areas of application

- Adapter for surface-mounted sensor elements with 50 mm diameter

LS/PD AP KIT

Mounting kits



Product name	GTIN (EAN)		COLOR	 l [mm]	 b [mm]	 h [mm]		 No.
LS/PD AP KIT	4052899173385	On-top ceiling mounting	White	65	65	34	10	10

Areas of application

- Offices
- Classrooms
- Conference rooms
- Corridors
- Stairways

Product features

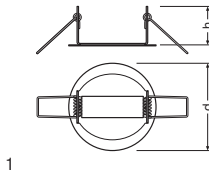
- Ceiling installation adapter

Equipment/Accessories

- Suitable for DALIeco LS/PD LI, DALI LS/PD LI and LS/PD LI Analog sensors

LS/PD CI KIT

Mounting kits



Product name	GTIN (EAN)		 h [mm]	 d [mm]		 No.
LS/PD CI KIT	4052899920293	Ceiling integration	36	80	10	1

Product features

- Ceiling installation adapter
- Adapter ring and spring holder made of metal

Product benefits

- Simple ceiling recessed mounting

Areas of application

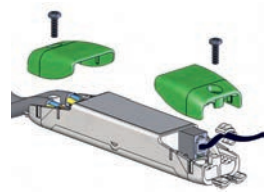
- Offices
- Classrooms
- Conference rooms
- Corridors
- Stairways

Equipment/Accessories

- Suitable for DALIeco LS/PD LI, DALI LS/PD LI and LS/PD LI analog sensors

ECO CI KIT

Mounting kits for independent installation of LMS control units



Product name	GTIN (EAN)		
ECO CI Kit	4008321392091	Ceiling integration	100

Product features

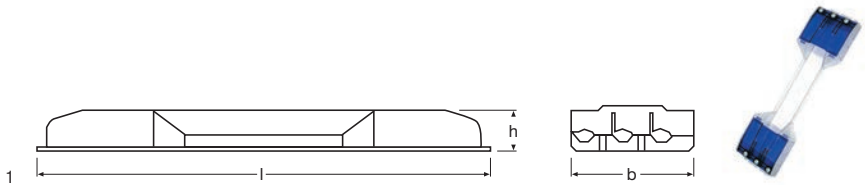
- Cable clamp kit for independent mounting

Areas of application

- OSRAM controllers with dimensions 118 mm x 30 mm x 21 mm

LMS CI BOX

Mounting kits for independent installation of LMS control units



Product name	GTIN (EAN)						
LMS CI BOX	4008321083692	Ceiling integration	261 [mm]	71 [mm]	27 [mm]	40	1

Product features

- Cable clamp housing for independent mounting

Areas of application

- OSRAM controllers with dimensions 189 mm x 30 mm x 21 mm



OSRAM stand-alone sensors – Overview by detection area and technology

Sensor matrix (stand-alone/Touch DIM®)			Standard 360°	Standard 360°	Standard 360°
Detection areas		Mounting type			
Mounting height			2 2.5 3 4 5	2 2.5 3 4 5	2 2.5 3 4
Presence		Luminaire-integrated Ceiling-integrated Ceiling-mounted	2.5 3.3 4 5 –	4 5.0 6 7 –	3.9 4.9 5.9 –
Motion			4.5 5.3 6 7 7	4.8 6.0 6 8 10	5.9 7.4 8.9 11.84
Vehicles		– – – – –	– – – – –	– – – – –	
Technology			PIR	PIR	PIR
Light sensor			20–800 lx @ sensor	20–800 lx @ sensor	20–800 lx @ sensor
DALI Controller + sensor					
LUXeye® Sense DALI BT + * Ceiling mounting adapter LUXeye® Sense CM KIT	4052899957411 4052899988729	■ ■*			
DALI ACU BT CONTROL + DALI LS/PD LI	4052899544819 4052899043954	■			
DALileco BT CONTROL + DALI LS/PD LI	4052899988781 4052899043954	■			
DALileco Control + DALileco LS/PD LI	4008321988645 4008321789310	■			
DALileco Control + DALI Sensor Coupler HF LS LI	4008321988645 4052899141728	■			
Touch DIM®					
LS/PD LT2 LI UF (only in combination with UltraFlat driver)	4052899 984615	■			
Touch DIM® LS PD LI (only in combination with an OSRAM DALI driver in Touch DIM® mode)	4008321023025	■			
1...10V sensors (ceiling-mounted)					
DIM MULTI	4050300554471	■			
ON/OFF sensors					
LUXeye® Sense 10A BT + * Ceiling mounting adapter LUXeye® Sense CM KIT	4052899957428 4052899988729	■ ■*			
DUO sensor	4008321496355	■			
VISION sensor + Mounting adapter	4008321956965 4008321480798	■			
HIGH BAY sensor + Mounting adapter	4008321410078 4008321480798	■			



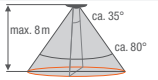
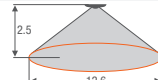





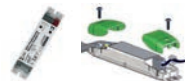
Squared	Elipsoid corridor shape	Wide range 360°	Highbay 360°	Page
2 2.5 3 4	4 6 8 10	2 2.5 3 4 4.5	4 6 8 10 13	
3 3.7 4.4 -	- - - -	- - - - -	- - - - -	
4 5.0 6 6.5	6.7 10 13.4 -	12.6 15.7 19 21 21	10.0 12.0 12 12 -	
- - - -	6.7 10 13.4 16	- - - -	10.0 12.0 12 12 18	
PIR	HF	PIR	PIR	
20-800 lx @ sensor	20-800 lx @ sensor	20-800 lx @ sensor	20-800 lx @ sensor	
				4.25
				4.27
				4.23
				4.65
				4.22
				4.65
				4.14
				4.17
				4.14
				4.70
				4.09
				4.11
				4.38
				4.26
				4.27
				4.37
				4.36
				4.98
				4.35
				4.98



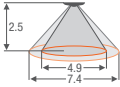
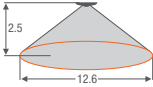



OSRAM DALI sensors – Overview by detection area and mounting type

Sensor matrix (DALI slaves)		Standard 360°					Squared			
Detection areas										
Mounting height		2	2.5	3	4	5	2	2.5	3	4
Presence		2.5	3.3	4	5	–	3	3.7	4.4	–
Motion		4.5	5.3	6	7	7	4	5.0	6	6.5
Vehicles		–	–	–	–	–	–	–	–	–
Technology		PIR					PIR			
Light sensor		20–800 lx @ sensor					20–800 lx @ sensor			
Luminaire-integrated										
DALI LS/PD LI	4052899043954									
LS/PD DALI LI UF	4052899984608									
HF LS LI sensor + DALI Sensor Coupler HF LS LI	4052899921481 4052899141728									
Ceiling-integrated										
DALI LS/PD CI	4052899930292									
LS/PD MULTI 3 CI sensor + DALI PRO Sensor Coupler + ECO CI KIT	4008321916648 4008321379269 4008321392091									
Ceiling-mounted										
DALI LS/PD LI + LS/PD AP KIT	4052899043954 4052899173385									
VISION sensor + DALI HIGHBAY ADAPTER	4008321957047 4008321774132									
HIGH BAY sensor + DALI HIGHBAY ADAPTER	4008321410078 4008321774132									
3rd-party sensor integration										
DALI Sensor Coupler E ECO CI KIT	4052899230491 4008321392091									



Elipsoid corridor shape	Wide range 360°	Highbay 360°	3rd party	Page
				
4 6 8 10	4 6 8 10 4.5	4 6 8 10 13	3rd-party sensor range	
- - - -	- - - - -	- - - - -		
6.7 10 13.4 -	6.7 10 13.4 - 21	10.0 12.0 12 12 -		
6.7 10 13.4 16	6.7 10 13.4 16 -	10.0 12.0 12 12 18		
HF	PIR	PIR		
20-800lx @ sensor	20-800lx @ sensor	20-800lx @ sensor		
				4.65
				4.64
				4.71
				4.70
				4.66
				4.69
				4.68
				4.100
				4.65
				4.99
				4.36
				4.67
				4.35
				4.67
				4.72
				4.100



Sensor matrix	Standard 360°	Wide range 360°	Highbay 360°
Detection areas			
Mounting height	3	3	15
Presence	6	8	-
Motion	9	15	12
Vehicles	- - - -	- - - -	- - 22 - -
Technology	PIR	PIR	PIR
Light sensor	0-1000 lx @ sensor	0-1000 lx @ sensor	0-1000 lx @ sensor
Ceiling-mounted			
EN-SCCPH-0450-ZB 4052899957343			
EN-SCCPH-1500-ZB 4052899989337			
EN-SCCPH-HB-ZB 4052899989344			