



Technical Submission

Project	Sunlight House, Manchester	Project Ref.	1394
Tech Sub Ref.	TS-E- 1006	Issued By	Paul Moss
Date	08/05/2024	Authorised By	David Wilson

Technical Submission	Lighting Controls	
SPECIFICATION COMPLIANCE		
DEROGATIONS	✓	Osram via Artec lighting proposed in lieu of the specified controls to allow compatibility with fittings
CALCULATIONS PROVIDED		

Please refer to the following data for the lighting Controls to be installed on the above project

Osram HubSense

Information Required From	Myco
Latest Date Required	22/05/2024

Acceptance/Refusal	
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STATUS A	STATUS B	STATUS C
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Response From	
Response Date	



Light is networked

HubSense®: A new experience of commissioning radio-based lighting control

Scalable office retrofit solutions with intuitive commissioning. **Light is OSRAM**

Technology Partner
SILVAIR

OSRAM

Intelligent lighting infrastructure for existing buildings

Transform existing lighting installations into a flexible, efficient and wireless communication system that is easily scalable. With this retrofit solution, you can bring individual offices, corridors, conference rooms or open-plan offices, for example, up to the latest state of digitalization when renovating old systems. Quickly, cost-efficiently and easily.

HubSense® continuously saves you money

This system allows you to work more cost-efficiently in every project phase – from planning and installation to handover and use.

1 Project engineering

In this phase, you can use existing cabling and assign the zones independently of the cabling. In addition, changes can also be made shortly before installation.

2 Installation

During installation, there is no need to lay new cabling. This allows you to considerably reduce not only costs but also the time during which the building space cannot be used. When luminaires are commissioned on site, the HubSense® Commissioning Tool offers several ways to significantly reduce the time required for commissioning, including simple luminaire localization using range filters

and predefined lighting control profiles. In addition, multiple installers can perform commissioning simultaneously.

With the option to test the network quality after installation, you reduce the risk of needing subsequent corrections after the handover.

3 Operation

During operation, the various lighting control options (presence and daylight control) can be used to reduce energy consumption and operating costs, while at the same time creating a comfortable lighting environment. This can be adapted to new room utilization concepts at any time without having to make changes to the cabling. This reduces the costs for such adaptations to a minimum, making HubSense® a solid, sustainable investment.

Energy saving example for an office area of 500m² (67 luminaires 4 x T5, 12 hours operating time and 250 days of use)

Installation type	Energy consumption per year ¹⁾	Savings ¹⁾
Existing system, modern fluorescent lamps 4 x T5 (14 W)	11,848 kWh	
New system, LED luminaires (120 lm/W)	6,834 kWh	42 %
New system with daylight and presence control	3,895 kWh	67 %

¹⁾ The figures are only indicative and may vary from project to project.



HubSense® benefits at a glance



Intuitive planning and commissioning

Even comprehensive projects can be realized without special knowledge.

- Creation and pre-commissioning of the project in advance via web app (optional)
- Simultaneous on-site commissioning by several installers possible
- Predefined lighting control profiles for office applications
- Easy luminaire localization and zone assignment via mobile app



Fast and flexible installation

Compared to wire-based DALI systems, planning and replacement of existing lighting installations are made much easier.

- Suitable for existing infrastructures regardless of architectural conditions
- System quickly adaptable to new space usage and conditions
- No gateway required



Sustainable investment

Lighting control based on the open qualified Bluetooth mesh radio standard.

- Protection through three-level safety concept
- Scalability from individual rooms to complete buildings²⁾
- Network interoperability verified by an independent organization
- One tool for small and large projects

2) Up to 1,000 network nodes recommended



Profitable retrofitting

By modernizing lighting systems with efficient lighting control, you can prove your expertise.

- Better payback time than purely switchable lighting solutions
- Higher energy saving potential due to daylight control and presence detection
- Flexible adaptation of lighting control to different project requirements
- Reduced downtime during retrofitting
- Step-by-step modernization of the building possible

Easy realization of HubSense® projects

Benefit from easy commissioning, made possible by well-thought-out configuration options: with practical profiles, logical operation, intelligent linking of lighting groups and the option of storing a building plan.

Procedure for planning and commissioning

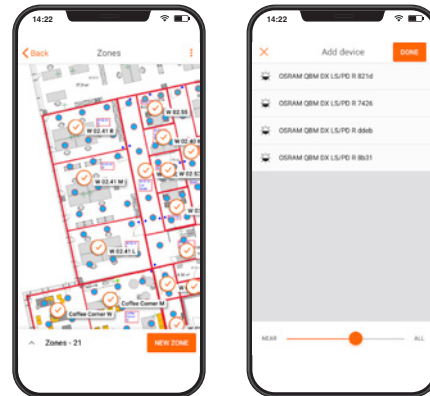
1 Creating a project plan (optional)

Using the web app¹⁾, you can create a floor plan for the project on your PC or tablet – from a single room to an open-plan office. Predefined lighting control profiles, which can also be modified, can be assigned to individual zones. This work can be done in advance, which reduces the time required on site.



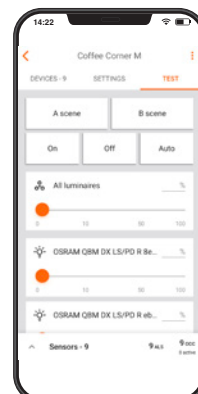
2 Commissioning luminaires on site

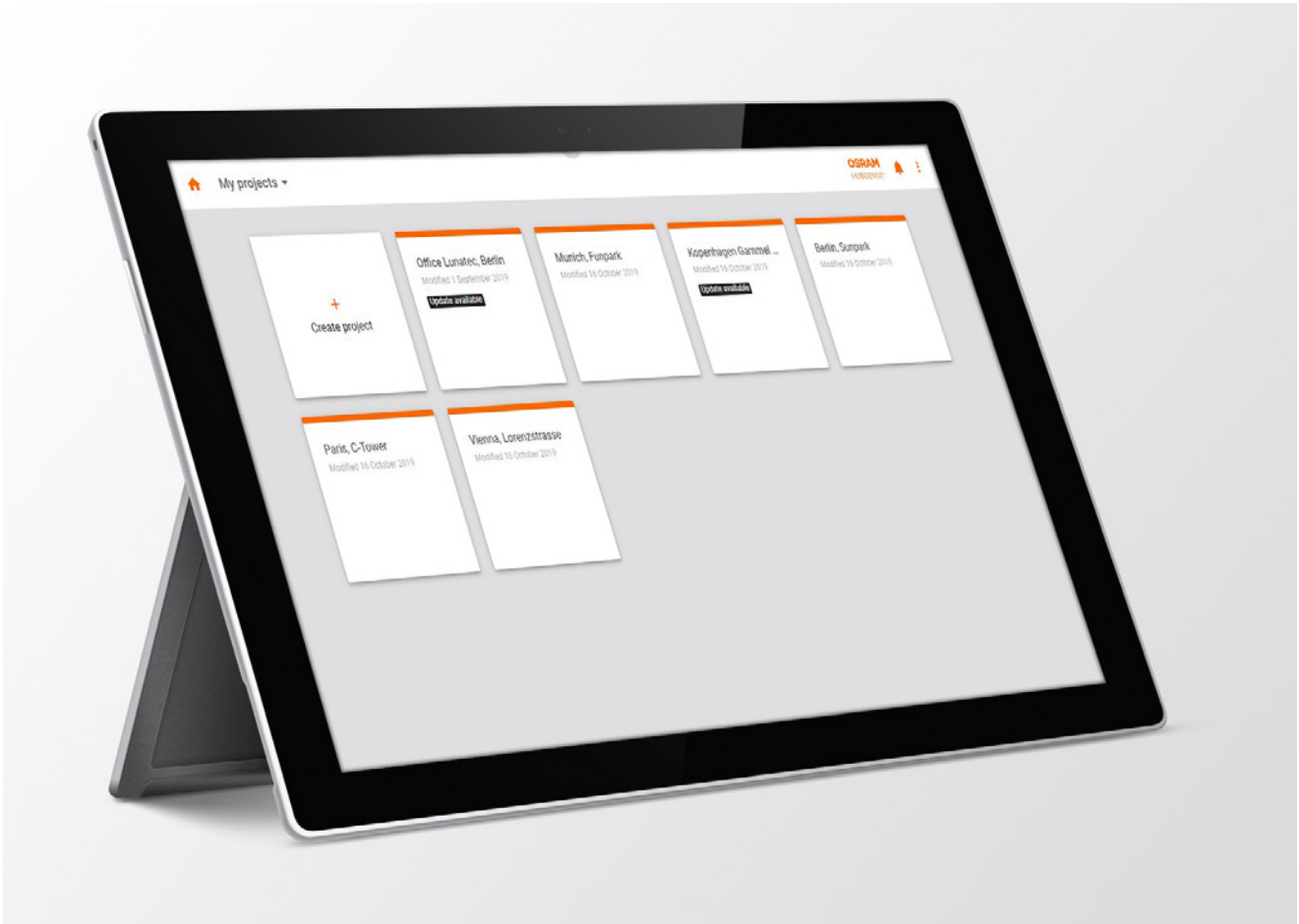
After the HubSense® luminaires have been installed, the mobile app²⁾ is used for locating the luminaires via the RSSI filter and assigning them to the zones. The assignment of luminaires can be carried out by several installers at the same time. Of course, projects can also be set up directly with the mobile app without creating them in the web app first.



3 Reconfiguring and testing the system

If you want to change settings at the end of the installation, you can use the web and mobile app to adjust the parameters of the individual zones as required, e.g. daylight control, dimming levels or delay periods. A new zone assignment is also possible. In addition, the network quality in the zone and in the entire installation can be checked.





Features of the HubSense® Commissioning Tools

Pre-defined profiles

for office applications for fast commissioning and reduction of overall project costs

Intuitive user interface

via touch screen

Optimized commissioning concept

reduces required time on site

Wide range of lighting control profiles

from manual switching to presence and absence control to daylight control

Intelligent linking of lighting groups

between zones (e.g. corridors)

Integrated user administration

for the respective project

Network quality test

possible after commissioning

1) The app requires an internet connection and Google Chrome version 70 or higher.

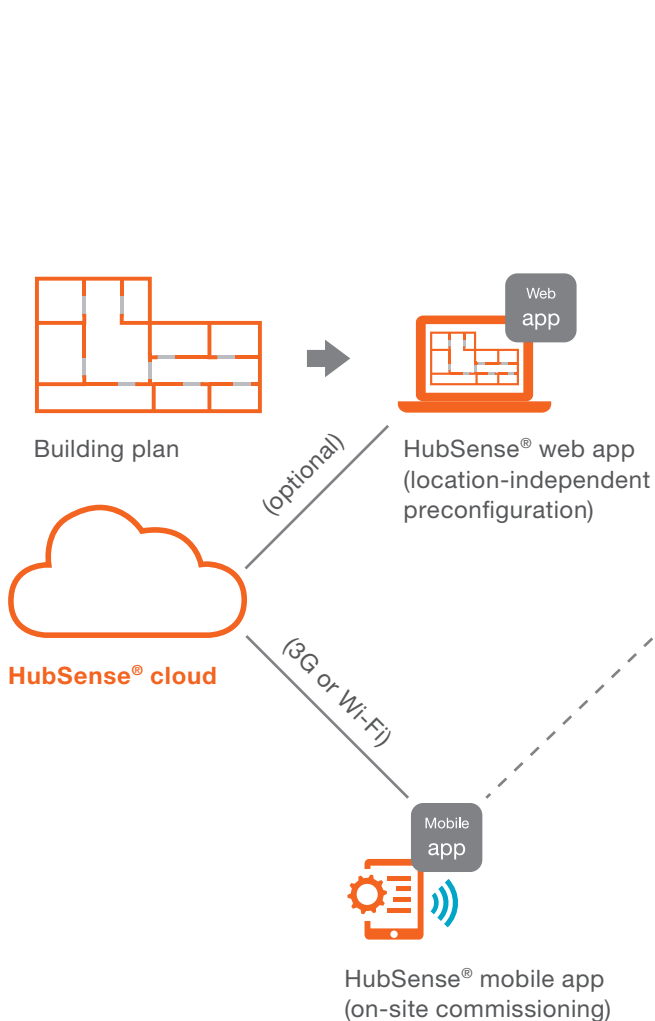
2) The HubSense® Commissioning app requires an iOS device running iOS 12+ and both an enabled Bluetooth feature and an internet connection either mobile (at least 3G) or Wi-Fi.

HubSense® system components

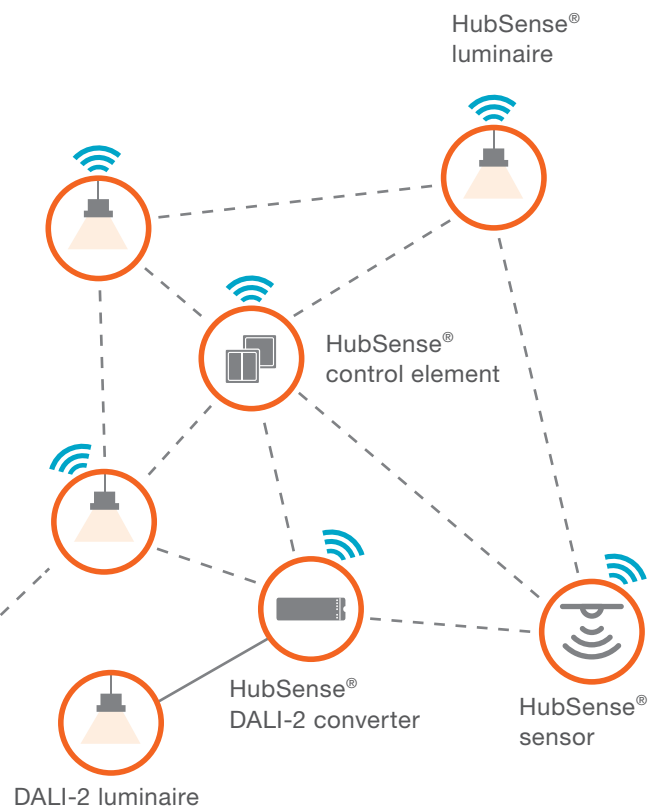
The HubSense® Commissioning Tool mobile app enables you to commission sensors, control elements and luminaires with OSRAM QBM components based on the qualified Bluetooth mesh radio standard.

The system also supports battery-free wireless switches. The QBM Bluetooth-to-DALI-2 converter DALI CONV LI can connect both DALI-2 luminaires and DALI-2 sensors to the wireless network, using the advantages of radio technology. This allows an easy transition from wired lighting control to the radio-based world.

HubSense® Commissioning



HubSense® – qualified Bluetooth mesh



HubSense® web and mobile app



HubSense® web app
(browser: Google Chrome)



HubSense® Commissioning
Tool mobile app



HubSense® components



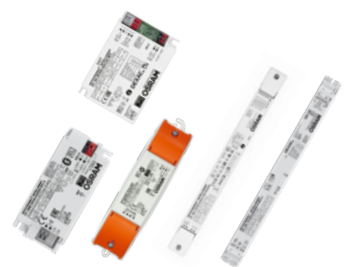
HubSense® component
integrated in luminaire
(example)



Entry device/Sensor



Control device/Sensor



LED driver

You want to contact us?
Here you can find our worldwide sales contacts

https://www.osram.com/ds/contact_2.jsp



Need more support? As a registered customer,
you can contact our experts by e-mail

support-ds@osram.com



Not a registered customer?
Please use our contact form

<https://www.osram.com/apps/cbcontact/contacts/add>



Disclaimer:

Luminaires with OSRAM HubSense® components (OSRAM QBM) can be commissioned with the OSRAM HubSense® Commissioning Tool (<https://platform.hubsense.eu>). For this purpose, the terms of use and the privacy policy must be accepted in advance.

OSRAM GmbH

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OSRAM

QBM 220-240 LS/PD HB

QBM 220-240 LS/PD HB | Qualified Bluetooth mesh daylight and presence sensor (Highbay)



Product family features

- Presence detection via passive IR element
- Detection height up to 14 meter
- Qualified Bluetooth mesh enabled by Silvair
- Works with OSRAM Hubsense
- Suitable for up to 8 DALI-2 LED drivers (Part - 207) in broadcast mode

Product family benefits

- Ambient light dependent control and presence detection
- Shutter included to optimize sensor detection
- Simplified mounting for flush device boxes
- Motion detection height up to 14 m

Areas of application

- Suitable for high installation heights
- Entrance halls
- Industry
- Production halls



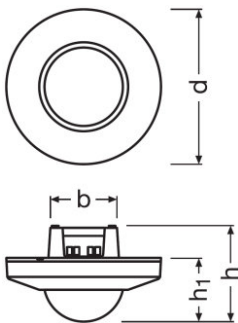
Technical data

Electrical data

Nominal voltage	220...240 V
Mains frequency	50...60 Hz
Radio frequency	2.4 GHz
Maximum TX power	+4 dBm ¹⁾
Wireless protocol	Qualified Bluetooth mesh enabled by Silvair
Wireless range	15 m line of sight
Guaranteed supply current (DALI)	16 mA
Maximum supply current (DALI)	250 mA
System wattage	1.00 W
Standby power	< 0.5 W
Average input current	14 mA

¹⁾ 2,512 mW

Dimensions & weight



Diameter	105.0 mm
Mounting hole spacing, diagonal	68...80 mm
Height	66.5 mm
Product weight	208.22 g
Cable cross-section, input side	1.0...2.5 mm ²
Wire preparation length, input side	6...8 mm
Wire preparation length, output side	6...8 mm
Cable cross-section, output side	1.0...2.5 mm ²

Colors & materials

Product color	White
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Temperatures & operating conditions

Ambient temperature range	-20...+50 °C
Permitted rel. humidity during operation	0...90 %
Temperature range at storage	-20...70 °C
Permitted relative humidity at storage	0...90 %
Maximum temperature at tc test point	75 °C

Lifespan

Lifespan	50000 h ¹⁾
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¹⁾ At T_C max

Capabilities

Control interface	qualified Bluetooth mesh
Number of control outputs	1 ¹⁾
Number of connected drivers	8
Type of sensor	Daylight / PIR
Operating range, light sensor	10...1500 lx
Detection angle (Light sensor)	+/- 30°
Detection angle (PIR)	+/- 55°
Maximum installation height	14 m
Dimmable	Yes
Compatibility	Works with OSRAM HubSense
Status Indicator	Blue: Network status ²⁾
Dimming interface	DALI-2
Control output	DALI-2
Detection angle	40 °
Reset	Manual
Type of installation	On-top ceiling mounting
Number of supported push buttons	4

¹⁾ DALI-2 LED Driver (Part-207), broadcast

²⁾ see additional product information

Certificates & standards

Approval marks – approval	CE / ioXT / PSA
Standards	Acc. to EN 55015 / Acc. to EN 61347-2-11 / Acc. to EN 61547 / Acc. to EN 62479 / Acc. to ETSI EN 300 328 / Acc. to ETSI EN 301 489-17 / Acc. to ETSI EN 301 489 - 1 / Acc. to EN 61347-2-1 / IEC 62386-101 / IEC 62386-103 / EN 62493

Logistical data

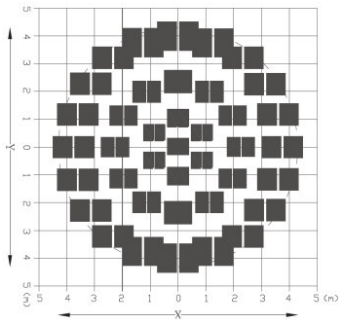
Commodity code	853710989900
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Environmental information

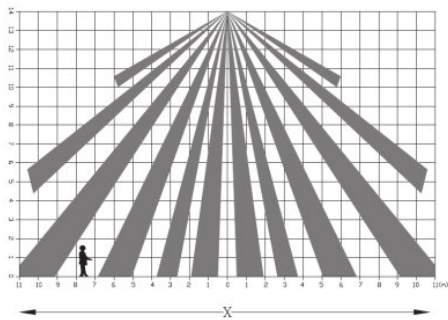
Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)	
Date of Declaration	19-05-2023
Primary Article Identifier	4062172161169
Candidate List Substance 1	Lead
CAS No. of substance 1	7439-92-1
Safe Use Instruction	The identification of the Candidate List substance is sufficient to allow safe use of the article.
Declaration No. in SCIP database	10e9199d-2407-4f55-8afa-e24a46bcfeec

Equipment / Accessories

- Surface and recessed ceiling integration via QBM 220-240 LS/PD CM KIT

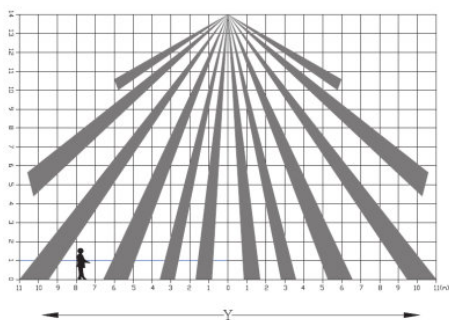


Detection pattern height QBM 220240 LSPD

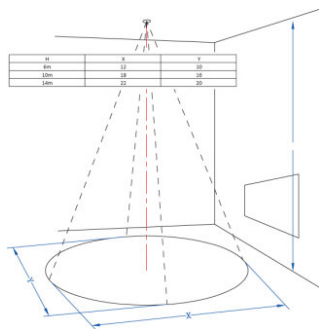


Detection pattern X direction QBM 220 240 LS PD HB CI

Product datasheet



Detection pattern Y direction QBM 220 240 LS PD HB CI



Detection area vs height QBM 220 240 LS PD HB CI

Additional product information

- This device is not allowed to be connected with other DALI Bus power supplies on the same line.
- The maximal total wire length to all connected push buttons must not exceed 10 m.
- By integrating the device into a casing the wireless range could be affected, in particular by metal surfaces. Therefore, the wireless range needs to be verified after integration.
- The device could be reset to factory default by pressing the reset button for longer than 10 sec.
- If the device is not connected to a network, it will take approximately 30 seconds for it to appear as an available device after it is powered on.
- The status LED of the device indicates the following network status. Fast blinking: Not connected to a network. Slow blinking: Connected to a network.
- The device has passed successfully the SILVAIR Testing process.
- The device can be put into operation using the OSRAM HubSense Commissioning Tool (<https://platform.hubsense.eu>), subject to prior acceptance of the Terms of Use and the Privacy Policy.
- OSRAM may terminate or suspend the use of the HubSense Commissioning Tool at any time and for any or no reason in its sole discretion, even if access and use is continued to be allowed to others.
- The device complies with Bluetooth mesh Standard v1.0. It can also be used in 3rd party Bluetooth mesh network, that complies with this standard and that supports the mesh models of this device, and with certain 3rd party commissioning tools, that support the mesh models of this device. In order to ensure correct interoperability a verification with the 3rd party network components and the 3rd party commissioning tool is necessary in advance. Please contact OSRAM (support@hubsense.eu) to receive the actual list of supported models for this device.
- OSRAM shall have no liability for any 3rd party commissioning tool and does not make any representations, express or implied, about the availability and/or performance of such commissioning tool.
- OSRAM shall have no liability for and does not make any representations, express or implied, about the connectivity of OSRAM QBM products with any other products, that have passed the SILVAIR Testing process.

Download Data

File	
	User instruction QBM 220-240

Product datasheet

	Declarations of conformity QBM 220 240 LS PD HB CI CE 4256868 150221
	Declarations of conformity QBM 220 240 LS PD HB CI UK DoC 4283210 150221

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4062172161169	QBM 220-240 LS/PD HB	Shipping carton box 24	525 mm x 390 mm x 215 mm	44.02 dm ³	7197.00 g

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.

QBM D4i LS P Z

Light sensor outdoor for HubSense®

Qualified Bluetooth Mesh device

For light harvesting in outdoor

D4I standard

Product family benefits

DiiA D4I certified incl. parts -351
Design freedom due to compact size
Easy to integrate in luminaire

Areas of application

Parking area
Urban squares

Benefits

Light control of outdoor application
Std socket Zhaga Book 18
Control of D4I drivers or DALI drivers
Works with HubSense
Works with OSRAM DEXAL

Approval marks

CE, (SRRRC), Bluetooth mesh, D4I,
Housing material: plastic material, white



Product Features

- Light sensor for luminaire integration based on qualified Bluetooth mesh
- D4I controlled (energy reporting, diagnostic and maintenance)
- Stand by power consumption <150mW
- 50000 h lifetime at tc max = 60°C
- Installation height for head poles up to 15m
- IP grade IP66
- light detection 1 – 5000 lux
- Socket compliant to ZhagaBook 18
- 5 years guarantee

Electrical Specifications

	Item	Value	Unit	Remarks
INPUT	Rated voltage	21.6 – 26.4 12 – 22.5	Vdc	PIN 1 aux power PIN 2-3 According to D4i standard
	Average input current	10	mA	tbc
	Peak input current	30	mA	
	Standby power	<150	mW	Stand by power @ 16V
	Radio frequency	2.4 – 2.483	GHz	
	Max Tx Power	+8	dBm	4.484 mW
	Wireless protocol			Qualified Bluetooth mesh provided by SILVAIR
CAPABILITIES	Range	40	m	Line of sight
	Control	D4i		DALI parts: 101, 103, 351
	Number of connected drivers	4		D4i LED drivers
	Type of sensor			Ambient light sensor
	Mounting heights	<15	m	
	Installations			In Luminaire
	Light measurement			1 – 5000 lux
ENVIRONMENT	Reset			Magnet – see instruction manual
	LEDs indicator			Blue x 1, Red x 1 (pairing, connected & etc. indications)
	Ambient temperature range t_a	-20 ... +60	°C	
	Maximum case temperature t_c	65	°C	(50,000 hrs lifetime at max. $T_a = 50^{\circ}\text{C}$ / $T_c = 60^{\circ}\text{C}$)
	Storage temperature range	-20 ... +70	°C	
	Operating humidity	0 ... 95	%	(Tbc)
	Storage humidity	0 ... 95	%	Not condensing
	Environmental rating	outdoor		
DIMENSIONS AND WEIGHT	IP rating	IP 66		Socket included (tdb)
	Expected lifetime	100'000	h	$T_c=65^{\circ}\text{C}$
	dimension		mm	Refer to ZB 18
			mm	
	Diameter external	40	mm	
			mm	
			mm	
	Product weight	tdb	g	
STANDARDS	Wire preparation length, input side	11	mm	Poke in connectors
	Cable cross section, input side	16 AWG 18 AWG 20 AWG		Solid Solid / stranded Solid /stranded
	Maximum allowed cable length	10	m	For trunking systems
STANDARDS	CE LVD: EN61347-1 EN61347-2-11 EMC: EN 301 489-1 EN 301 489-17 EN51547 EN 55015 EN 50663 EN 300 328 DALI 2: EN IEC 62386-101, EN IEC 62386-103 and D4i Part 351 RoHS & REACH compliance			
	SRRC			

Additional product information

- By integrating the device into a casing, the wireless range could be affected by metal surfaces. Therefore, the wireless range needs to be verified after integration.
- The device could be reset to factory default by magnet (cfr User Instruction)
- The status LED of the device indicates following Network status
- Blue LED Indicator:
 - Success connection: LED indicator flashes 2s at once
 - No connections: LED indicator flashes 0.3s at once
- Reset to factory settings:
 - LED indicator flashes 1s at once, then quickly flashes and disappears
- Red LED Indicator:
 - Warm up: LED indicator disappears after 60s
 - When PIR is triggered, the LED indicator quickly flashes at once; continuous triggered, LED indicator flashes every 1s at once
- The device has passed successfully the SILVAIR Testing process.
- The device can be put into operation using the HubSense Commissioning Tool (<https://platform.hubsense.eu>), subject to prior acceptance of the Terms of Use and the Privacy Policy.
- Inventronics may terminate or suspend the use of the HubSense Commissioning Tool at any time and for any or no reason in its sole discretion, even if access and use is continued to be allowed to others.
- The device complies with Bluetooth mesh Standard v1.0. It can also be used in 3rd party Bluetooth mesh network, that complies with this standard and that supports the mesh models of this device, and with certain 3rd party commissioning tools, that support the mesh models of this device. In order to ensure correct interoperability a verification with the 3rd party network components and the 3rd party commissioning tool is necessary in advance. Please contact Inventronics (support@hubsense.eu) to receive the actual list of supported models for this device.
- Inventronics shall have no liability for any 3rd party commissioning tool and does not make any representations, express or implied, about the availability and/or performance of such commissioning tool.
- Inventronics shall have no liability for and does not make any representations, express or implied, about the connectivity of Inventronics qualified Bluetooth mesh products with any other products, that have passed the SILVAIR Testing process

ordering information

Product name	EAN10
QBM D4I LS P Z	



Inventronics GmbH

Parkring 31-33, 85748 Garching,
Germany
Phone: +49 89 6213-0
Email:
support@inventronicsglobal.com



Part Code: **853710989900**



- PIR for recessing or surface mounting application up to 4m ceiling height.
- Qualified Bluetooth mesh enabled by Silvar for use with Osram Hubsense.
- Suitable for up to 8 DALI-2 LED drivers (part-207) in broadcast mode.

Production Information

Electrical characteristics

Nominal voltage	220...240Vac
Wireless range	10m line of sight
System wattage	1.00 W
Standby power	<0.5 W
Average input current	14 mA

Physical dimensions

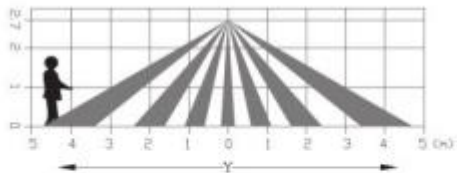
Diameter	105 mm
Height	45 mm
Product weight	182.58 g
Product colour	White

Operating conditions and lifetime

Ambient temperature range	0...+50 °C
Lifespan	50 000 hours
Permitted humidity in operation	0...90%

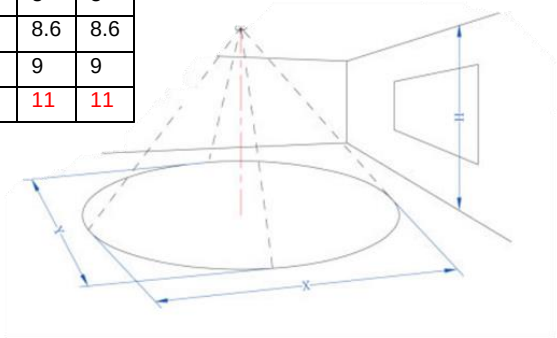
Capabilities

Control interface	QBM
Type of sensor	Daylight/PIR
Operating range	10...1500 lx
Detection angle (light)	+/- 30 °
Detection angle (motion)	+/- 55 °
Max installation height	4 m
Status indicator	Blue: Network status
Control output	DALI-2
Reset	Manual
Dimming interface	DALI-2
Detection range	Dia. <8m



Detection pattern Y direction QBM 220 240 LSPD CI

H(m)	X	Y
2.4	8	8
2.7	8.6	8.6
3	9	9
4	11	11



Artech lighting strives to ensure all solutions are supplied with the latest technology, we therefore reserve the right to make technical and design changes without prior notice. Electrical connected load and luminous flux are subject to initial tolerance of up +/- 10%. Colour Temperature is subject to a tolerance of +/-150 Kelvin.

St Johns Rd, Meadowfield Ind. Estate, Durham, Co. Durham, DH7 8RJ, United Kingdom
T: +44(0) 191 3787960 E: info@artechlighting.com



QBM 220-240 LS/PD CI

QBM 220-240 LS/PD CI | Qualified Bluetooth mesh daylight and presence sensor (Office)



Product family features

- Presence detection via passive IR element
- Detection height up to 4 meter
- Qualified Bluetooth mesh enabled by Silvair
- Works with OSRAM Hubsense
- Suitable for up to 8 DALI-2 LED drivers (Part - 207) in broadcast mode

Product family benefits

- Ambient light dependent control and presence detection
- Shutter included to optimize sensor detection
- Simplified mounting for flush device boxes
- Large motion detection range

Areas of application

- Open offices
- Individual offices
- Conference rooms
- Classrooms
- Storage and break areas
- Stairways
- Sanitary areas



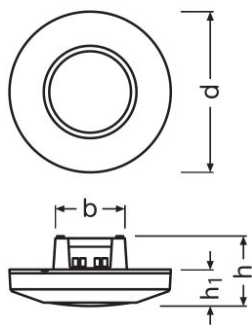
Technical data

Electrical data

Nominal voltage	220...240 V
Mains frequency	50...60 Hz
Radio frequency	2.4 GHz
Maximum TX power	+4 dBm ¹⁾
Wireless protocol	Qualified Bluetooth mesh enabled by Silvair
Wireless range	10 m line of sight
Guaranteed supply current (DALI)	16 mA
Maximum supply current (DALI)	250 mA
System wattage	1.00 W
Standby power [GMS]	< 0.5 W
Average input current	14 mA

¹⁾ 2.512 mW

Dimensions & weight



Diameter	105.0 mm
Mounting hole spacing, diagonal	68...80 mm
Height	45.0 mm
Product weight	182.58 g
Cable cross-section, input side	1.0...2.5 mm ²
Wire preparation length, input side	6...8 mm
Wire preparation length, output side	6...8 mm
Cable cross-section, output side	1.0...2.5 mm ²

Colors & materials

Product color	White
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Temperatures & operating conditions

Ambient temperature range	0...+50 °C
Permitted rel. humidity during operation	0...90 %
Temperature range at storage	-20...70 °C
Permitted relative humidity at storage	0...90 %
Maximum temperature at tc test point	75 °C

Lifespan

Lifespan	50000 h ¹⁾
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¹⁾ At T_C max

Capabilities

Control interface	qualified Bluetooth mesh
Number of control outputs	1 ¹⁾
Number of connected drivers	8
Type of sensor	Daylight / PIR
Operating range, light sensor	10...1500 lx
Detection angle (Light sensor)	+/- 30°
Detection angle (PIR)	+/- 55°
Maximum installation height	4 m
Dimmable	Yes
Compatibility	Works with OSRAM HubSense
Status Indicator	Blue: Network status ²⁾
Control output	DALI-2
Detection angle	90 °
Reset	Manual
Dimming interface	DALI-2
Type of installation	On-top ceiling mounting
Number of supported push buttons	4

¹⁾ DALI-2 LED Driver (Part-207), broadcast

²⁾ see additional product information

Certificates & standards

Approval marks – approval	CE / ioXT / PSA
Standards	Acc. to EN 55015 / Acc. to EN 61347-2-11 / Acc. to EN 61547 / Acc. to EN 62479 / Acc. to ETSI EN 300 328 / Acc. to ETSI EN 301 489-17 / Acc. to ETSI EN 301 489 - 1 / Acc. to EN 61347-2-1 / IEC 62386-101 / IEC 62386-103 / EN 62493

Logistical data

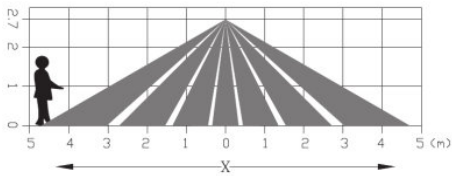
Commodity code	853710989900
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Environmental information

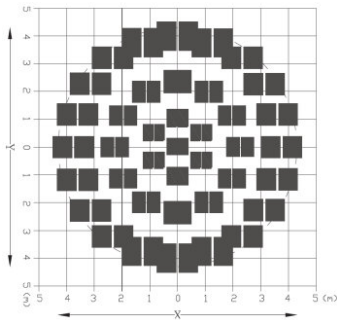
Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)	
Date of Declaration	06-06-2022
Primary Article Identifier	4062172161145
Candidate List Substance 1	Lead
CAS No. of substance 1	7439-92-1
Safe Use Instruction	The identification of the Candidate List substance is sufficient to allow safe use of the article.
Declaration No. in SCIP database	65741eb3-482b-4631-ab84-d43ec72c9b9c

Equipment / Accessories

- Surface and recessed ceiling integration via QBM 220-240 LS/PD CM KIT

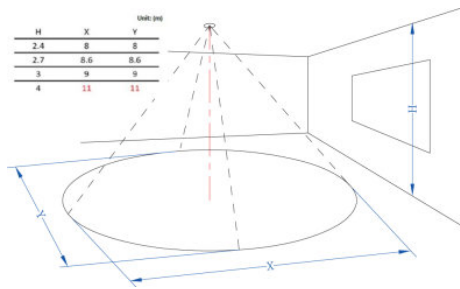


Detection patter X direction QBM 220240 LSPD

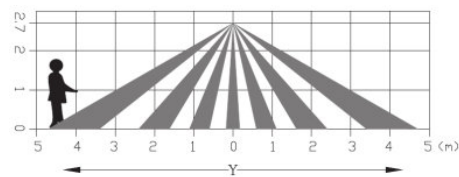


Detection pattern height QBM 220240 LSPD

Product datasheet



Detection area vs height QBM 220240 LSPD CI



Detection pattern Y direction QBM 220 240 LSPD CI

Additional product information

- This device is not allowed to be connected with other DALI Bus power supplies on the same line.
- The maximal total wire length to all connected push buttons must not exceed 10 m.
- By integrating the device into a casing the wireless range could be affected, in particular by metal surfaces. Therefore, the wireless range needs to be verified after integration.
- The device could be reset to factory default by pressing the reset button for longer than 10 sec.
- If the device is not connected to a network, it will take approximately 30 seconds for it to appear as an available device after it is powered on.
- The status LED of the device indicates the following network status. Fast blinking: Not connected to a network. Slow blinking: Connected to a network.
- The device has passed successfully the SILVAIR Testing process.
- The device can be put into operation using the OSRAM HubSense Commissioning Tool (<https://platform.hubsense.eu>), subject to prior acceptance of the Terms of Use and the Privacy Policy.
- OSRAM may terminate or suspend the use of the HubSense Commissioning Tool at any time and for any or no reason in its sole discretion, even if access and use is continued to be allowed to others.
- The device complies with Bluetooth mesh Standard v1.0. It can also be used in 3rd party Bluetooth mesh network, that complies with this standard and that supports the mesh models of this device, and with certain 3rd party commissioning tools, that support the mesh models of this device. In order to ensure correct interoperability a verification with the 3rd party network components and the 3rd party commissioning tool is necessary in advance. Please contact OSRAM (support@hubsense.eu) to receive the actual list of supported models for this device.
- OSRAM shall have no liability for any 3rd party commissioning tool and does not make any representations, express or implied, about the availability and/or performance of such commissioning tool.
- OSRAM shall have no liability for and does not make any representations, express or implied, about the connectivity of OSRAM QBM products with any other products, that have passed the SILVAIR Testing process.

Download Data

File	
	User instruction QBM 220-240
	Declarations of conformity QBM 220 240 LS PD HB CI CE 4256868 150221

Product datasheet



Declarations of conformity
QBM 220 240 LS PD HB CI UK DoC 4283210 150221

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4062172161145	QBM 220-240 LS/PD CI	Shipping carton box 24	525 mm x 390 mm x 215 mm	44.02 dm ³	6594.00 g

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.

QBM 220-240 LS/PD CM KIT

QBM 220-240 CM KIT | Mounting Accessory



Product family features

- Surface mounting box
- Recessed ceiling spring clips

Product family benefits

- Enables surface and recessed ceiling mounting

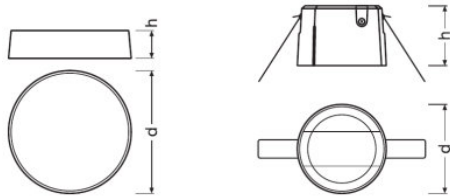
Areas of application

- Open offices
- Individual offices
- Conference rooms
- Classrooms
- Storage and break areas
- Stairways
- Toilets
- Entrance halls
- Industry
- Production halls

Product datasheet

Technical data

Dimensions & weight



Product weight	80.00 g
Length	0.0 mm

Colors & materials

Product color	White
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Logistical data

Commodity code	392690979000
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Environmental information

Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)	
Date of Declaration	01-04-2022
Primary Article Identifier	4062172161466
Candidate List Substance 1	Lead
CAS No. of substance 1	7439-92-1
Safe Use Instruction	The identification of the Candidate List substance is sufficient to allow safe use of the article.
Declaration No. in SCIP database	add2feeb-4082-4e1e-8d46-5085635136f6

Equipment / Accessories

– Suitable for QBM 220-240 LS/PD CI and QBM 220-240 LS/PD HB CI

Download Data

Product datasheet

File	
	User instruction QBM 220-240
	Declarations of conformity QBM 220 240 LS PD HB CI CE 4256868 150221
	Declarations of conformity QBM 220 240 LS PD HB CI UK DoC 4283210 150221

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4062172161466	QBM 220-240 LS/PD CM KIT	Shipping carton box 48	630 mm x 460 mm x 244 mm	70.71 dm ³	8032.00 g

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Disclaimer

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QBM D4i LS/PD LI R

Qualified Bluetooth mesh DEXAL Module | Actuators



Product family features

- With/without Daylight and Occupancy Sensor DEXAL Module
- Qualified Bluetooth mesh enabled by Silvair
- Control of DEXAL drivers or DALI drivers with additional DALI bus power supply
- Intended for installation into a standard ½" knockout
- Works with OSRAM Hubsense
- Works with OSRAM DEXAL

Product family benefits

- Design freedom due to compact size
- Easy to integrate in luminaire
- Minimize internal wiring in combination with DEXAL drivers
- Secured product communication granted by ioXT and PSA Certificates

Areas of application

- Open offices
- Individual offices
- Conference rooms
- Classrooms
- Storage and break areas
- Stairways
- Toilets

Technical data

Electrical data

Input voltage DC	12...22.5 V
Peak input current	30 mA
Average input current	10 mA
Radio frequency	2.4 GHz
Maximum TX power	+4 dBm
Wireless protocol	Qualified Bluetooth mesh enabled by Silvair
Wireless range	11 m line of sight
System wattage	0.30 W
Standby power [GMS]	< 150 mW
Screw thread length	25 mm
Required DALI current (typical)	10 mA
Peak DALI current	30 mA
Maximum start-up time (DALI)	-

Dimensions & weight



Length	43.5 mm
Diameter	28.0 mm
Mounting hole diameter	22.2...23.2 mm
Product weight	18.20 g
Wire preparation length, input side	7...9 mm
Cable cross-section, output side	-
Cable cross-section, input side	0.25...0.75 mm ²
Maximum allowed cable length	10
Screw thread length	25 mm

Temperatures & operating conditions

Product datasheet

Temperature range in operation at Tc point	-
Ambient temperature range	-20...+50 °C
Permitted rel. humidity during operation	0...90 %
Temperature range at storage	0...70 °C
Permitted relative humidity at storage	0...95 %
Maximum temperature at tc test point	60 °C

Lifespan

Lifespan	50000 h
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Capabilities

Control output	D4i
Number of connected drivers	4
Dimmable	Yes
Type of sensor	Daylight / PIR
Operating range, light sensor	<1000 lx
Detection angle	90 °
Maximum installation height	5 m
Compatibility	Works with OSRAM HubSense / Works with OSRAM DEXAL
Status Indicator	Blue: network Status / Red: Motion detected
Reset	Magnetic ¹⁾
Number of control outputs	-
Dimming interface	D4i
Type of installation	Luminaire integration
Control interface	qualified Bluetooth mesh
Detection angle (Light sensor)	+/- 25°
Detection angle (PIR)	+/-90°

¹⁾ by magnet

Certificates & standards

Approval marks – approval	CE / D4i / ioXT / PSA
Type of protection	IP54

Logistical data

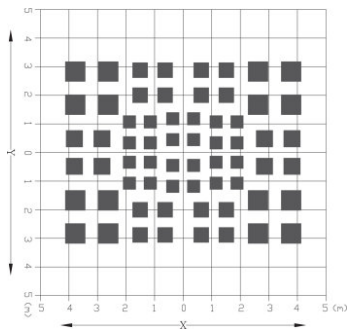
Commodity code	903149900000
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Environmental information

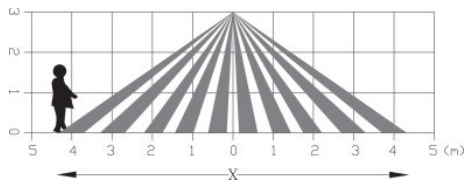
Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)

Product datasheet

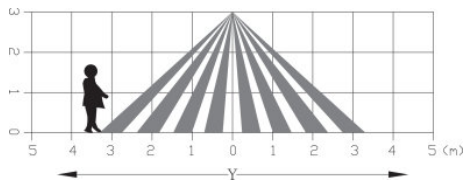
Date of Declaration	06-06-2022
Primary Article Identifier	4052899627154
Candidate List Substance 1	Lead
CAS No. of substance 1	7439-92-1
Safe Use Instruction	The identification of the Candidate List substance is sufficient to allow safe use of the article.
Declaration No. in SCIP database	8888f312-58c2-4496-bd36-bd787e3e4167



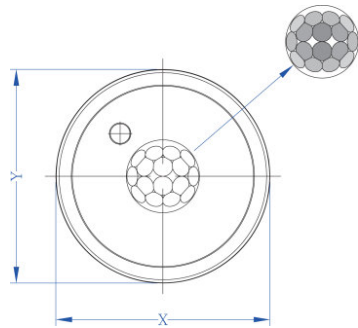
QBM D4i LS PD LI R DP detection pattern height



QBM D4i LS PD LI R DP1 detection pattern X direction

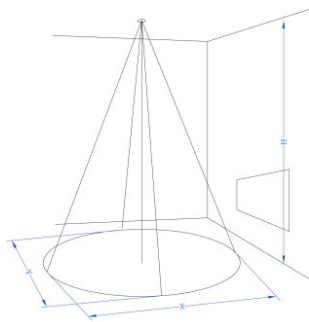


QBM D4i LS PD LI R DP2 detection pattern Y direction

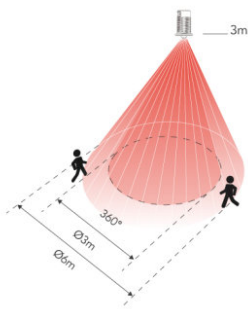


QBM D4i LS PD LI R DP4

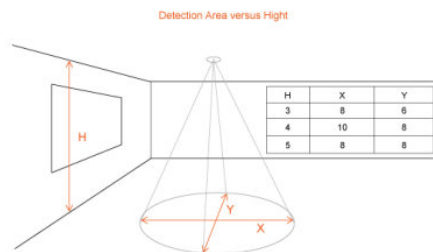
Product datasheet



QBM D4i LS PD LI R DP3 detection area vs height



QBM D4i LS PD LI R detection



QBM D4i LS PD LI R Pattern

Product datasheet

Additional product information

- By integrating the device into a casing the wireless range could be affected, in particular by metal surfaces. Therefore, the wireless range needs to be verified after integration.
- The device could be reset to factory default by placing a strong Neodym magnet (e.g. N35, d=6.35 mm x h=1.59 mm) near the corner of the bezel for 5 seconds.
- The status LED of the device indicates following Network status. Fast blinking (Blue): Not connected to a network, Slow blinking (Blue); Connected to a network, Blink twice (Blue): Mesh package received, Long blink (Blue) Factory reset, Blink one (Red): Motion detected
- The device has passed successfully the SILVAIR Testing process.
- The device can be put into operation using the OSRAM HubSense Commissioning Tool (<https://platform.hubsense.eu>), subject to prior acceptance of the Terms of Use and the Privacy Policy.
- OSRAM may terminate or suspend the use of the HubSense Commissioning Tool at any time and for any or no reason in its sole discretion, even if access and use is continued to be allowed to others.
- The device complies with Bluetooth mesh Standard v1.0. It can also be used in 3rd party Bluetooth mesh network, that complies with this standard and that supports the mesh models of this device, and with certain 3rd party commissioning tools, that support the mesh models of this device. In order to ensure correct interoperability a verification with the 3rd party network components and the 3rd party commissioning tool is necessary in advance. Please contact OSRAM (support@hubsense.eu) to receive the actual list of supported models for this device.
- OSRAM shall have no liability for any 3rd party commissioning tool and does not make any representations, express or implied, about the availability and/or performance of such commissioning tool.
- OSRAM shall have no liability for and does not make any representations, express or implied, about the connectivity of OSRAM QBM products with any other products, that have passed the SILVAIR Testing process.

Download Data

File	
	Product Datasheet QBM D4i LS PD LI R DS 280621
	Brochures Technical application guide DEXAL LED drivers (EN)
	CAD data QBM D4i LS PD LI R STEP 060821

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899627154	QBM D4i LS/PD LI R	Shipping carton box 50	330 mm x 287 mm x 195 mm	18.47 dm ³	1530.00 g

The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.

DALI-2 SENSOR LS/PD HB CM

DALI-2 SENSOR PD HB CM | Sensors



Product family features

- Motion sensor for surface mounting
- Motion detection via passive IR element
- Detection height up to 14 meter
- Function indicator LED

Product family benefits

- Protection Class IP54
- Detection range optimised for great heights
- Robust housing
- DALI-2 certified
- DALI Bus powered (No mains connection necessary)
- Multiple sensors connectable to the same DALI line
- Shutter included to optimize sensor detection
- Integreable in light- and building management systems supporting DALI-2 sensors

Areas of application

- Industry
- High-bay warehouse
- Suitable for high installation heights
- Production halls
- Entrance halls

Product datasheet

Technical data

Electrical data

Required DALI current (typical)	8 mA
Peak DALI current	8 mA
Maximum start-up time (DALI)	600 ms

Dimensions & weight



Product weight	130.00 g
Length	105.0 mm

Temperatures & operating conditions

Ambient temperature range	-20...+45 °C
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Capabilities

Dimming interface	DALI-2
Detection area	21 m ² ¹⁾
Maximum installation height	14 m
Dimmable	No
Type of installation	Surface mounting

¹⁾ Maximum diameter

Certificates & standards

Type of protection	IP54
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Logistical data

Commodity code	903180800000
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Environmental information

Product datasheet

Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)

Date of Declaration	18-11-2022
Primary Article Identifier	4052899630475
Candidate List Substance 1	Lead
CAS No. of substance 1	7439-92-1
Safe Use Instruction	The identification of the Candidate List substance is sufficient to allow safe use of the article.
Declaration No. in SCIP database	d5b8da00-4125-465e-929a-96ee02ad2758

Equipment / Accessories

- Optional: Surface mounting via QBM 220-240 LS/PD CM KIT

Download Data

File	
	User instruction OPTOTRONIC LED Power Supply OTi DALI 10 700 NFC

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
4052899630475	DALI-2 SENSOR LS/PD HB CM	Shipping carton box 24	525 mm x 390 mm x 215 mm	44.02 dm ³	6585.00 g

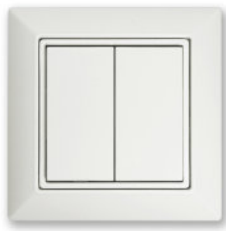
The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Disclaimer

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EASYFIT EWSDb by EnOcean

EASYFIT Bluetooth switch | User interfaces



Product family features

- Based on the Bluetooth low energy pushbutton transmitter PTM 215B
- Switch frame could be replaced by the frames of certain other manufacturers

Product family benefits

- Batteryless Bluetooth low energy switch

Areas of application

- Open offices
- Individual offices
- Conference rooms
- Storage and break areas
- Stairways
- Toilets



Product datasheet

Technical data

Dimensions & weight

Height	14.0 mm
Product weight	57.00 g
Length	81.0 mm
Width	81.0 mm

Temperatures & operating conditions

Ambient temperature range	-25...+65 °C
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Capabilities

Compatibility	Works with OSRAM HubSense ¹⁾
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¹⁾ See additional product information

Certificates & standards

Type of protection	IP20
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Logistical data

Commodity code	852692009000
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Environmental information

Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)	
Date of Declaration	07-04-2022
Primary Article Identifier	4062172082044
Declaration No. in SCIP database	In work

Additional product information

- For detailed information please refer to the product datasheet of the manufacturer EnOcean.
- The device can be put into operation using the OSRAM HubSense Commissioning Tool (<https://platform.hubsense.eu>), subject to prior acceptance of the Terms of Use and the Privacy Policy.
- OSRAM may terminate or suspend the use of the HubSense Commissioning Tool at any time and for any or no reason in its sole discretion, even if access and use is continued to be allowed to others.

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
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Product datasheet

Logistical Data

4062172082044	EASYFIT EWSDB by EnOcean	Shipping carton box 10	205 mm x 100 mm x 100 mm	2.05 dm ³	684.00 g
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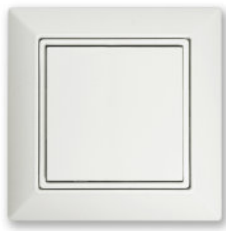
The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.

EASYFIT EWSSB by EnOcean

EASYFIT Bluetooth switch | User interfaces



Product family features

- Based on the Bluetooth low energy pushbutton transmitter PTM 215B
- Switch frame could be replaced by the frames of certain other manufacturers

Product family benefits

- Batteryless Bluetooth low energy switch

Areas of application

- Open offices
- Individual offices
- Conference rooms
- Storage and break areas
- Stairways
- Toilets



Product datasheet

Technical data

Dimensions & weight

Height	14.0 mm
Product weight	57.00 g
Length	81.0 mm
Width	81.0 mm

Temperatures & operating conditions

Ambient temperature range	-25...+65 °C
---------------------------	--------------

Capabilities

Compatibility	Works with OSRAM HubSense ¹⁾
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¹⁾ See additional product information

Certificates & standards

Type of protection	IP20
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Logistical data

Commodity code	853650809000
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Environmental information

Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)	
Date of Declaration	19-01-2022
Primary Article Identifier	4062172082068
Declaration No. in SCIP database	In work

Additional product information

- For detailed information please refer to the product datasheet of the manufacturer EnOcean.
- The device can be put into operation using the OSRAM HubSense Commissioning Tool (<https://platform.hubsense.eu>), subject to prior acceptance of the Terms of Use and the Privacy Policy.
- OSRAM may terminate or suspend the use of the HubSense Commissioning Tool at any time and for any or no reason in its sole discretion, even if access and use is continued to be allowed to others.

Logistical Data

Product code	Product description	Packaging unit (Pieces/Unit)	Dimensions (length x width x height)	Volume	Gross weight
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Product datasheet

Logistical Data

4062172082068	EASYFIT EWSSB by EnOcean	Shipping carton box 10	205 mm x 100 mm x 100 mm	2.05 dm ³	684.00 g
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The mentioned product code describes the smallest quantity unit which can be ordered. One shipping unit can contain one or more single products. When placing an order, for the quantity please enter single or multiples of a shipping unit.

Disclaimer

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Product data sheet: QBM 1.10V CONV for HubSense®

Qualified Bluetooth Mesh Converter For 0...10V LED driver

Product family benefits

Design freedom due to compact size
Easy to integrate in HubSense

Areas of application

Warehouse
Factories
Retailers
Sports Hall

Benefits

Remote controlled relay and 0.10V converter
Fast and easy provisioning

Works with OSRAM Hubsense

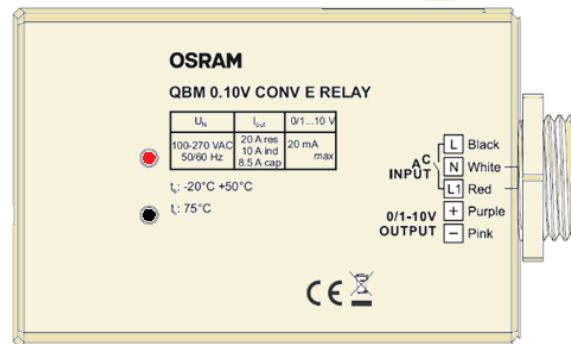
Approbations & Certifications

CE, (SRRC) CE, Bluetooth, ,

Housing material: plastic

Product Features

- Qualified Bluetooth controlled dimmer for 0/1...10V LED drivers
- Qualified Bluetooth remote controlled relay up to 20A
- Very long wireless range
- Plastic enclosure for industrial application
- Failure reports

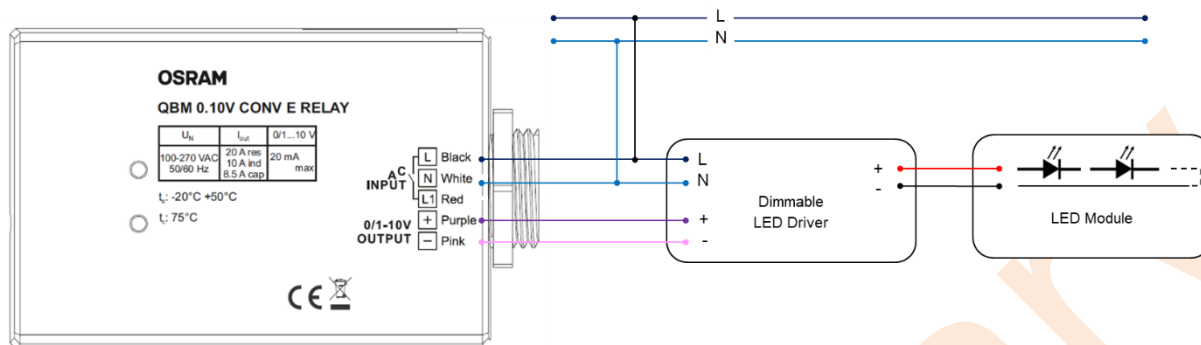


Electrical Specifications

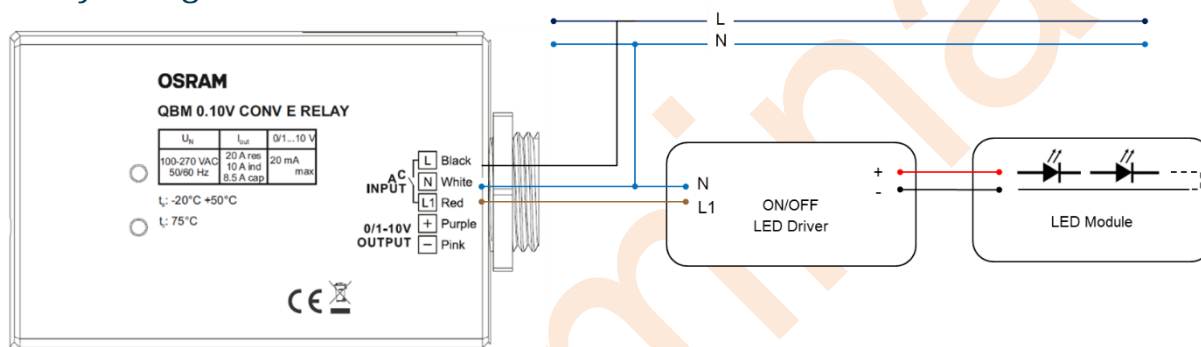
	Item	Value	Unit	Remarks
INPUT/ OUTPUT	Rated voltage	100 - 277	VAac	
	Mains frequency	50/60	Hz	
	Peak input current		mA	
	System wattage	2000 / 4000	W	Inductive load / resistive load
	Radio frequency	2.4	GHz	
	Max Tx Power	+4	dBm	2.512 mW
	Wireless protocol			Qualified Bluetooth mesh provided by SILVAIR
	Range	40	m	Line of sight
CAPABILITIES	Control interface			Qualified Bluetooth mesh
	Number of connected drivers	See note		Max 20 mA @ 0/1...10V
	Output relay current	20A		Resistive load
		10A		Inductive load
		8.5A		Capacitive load
	Stand by power	tbd	W	
	Dimmable	yes		
	Dimming interface	0/1...10V		
	Installations			Flush box
	Reset			Manual by button
ENVIRONMENT	LEDs indicator			Blue: network status
	Ambient temperature range t_a	-20...+50	°C	
	Maximum case temperature t_c	75		
	Storage temperature range		°C	
	Operating humidity	8 ... 80	%	
	Storage humidity	0 ... 95	%	Not condensing
	Environment rating	Indoor		
DIMENSIONS AND WEIGHT	IP rating	IP 20		
	Expected lifetime	50'000	h	Ta=40°C
	Length	82.5	mm	
	Width	55	mm	
	Height	31	mm	
	Product weight		mm	
	Wire length, input/output side	15	cm	Black (L), white (N), red (L1)
S T	Cable cross section, input side	3.3	mm ²	AWG 12
	Wire length, control side	15	cm	Purple (+), pink (-)
	Cable cross section, control side	0.32	mm ²	AWG 22
SRRC, CE, DALI-2				

Installation

0/1...10V Dimming configuration



Relay configuration



Additional product information

- By integrating the device into a casing, the wireless range could be affected by metal surfaces. Therefore, the wireless range needs to be verified after integration.
- The device could be reset to factory default by pressing the button (cfr User Instruction)
- The status LED of the device indicates following Network status
 - Blue LED Indicator:
 - Success connection: LED indicator flashes 2s at once
 - No connections: LED indicator flashes 0.3s at once
 - Reset to factory settings:
 - LED indicator flashes 1s at once, then quickly flashes and disappears
- The device has passed successfully the SILVAIR Testing process.
- The device can be put into operation using the OSRAM HubSense Commissioning Tool (<https://platform.hubsense.eu>), subject to prior acceptance of the Terms of Use and the Privacy Policy.
- OSRAM may terminate or suspend the use of the HubSense Commissioning Tool at any time and for any or no reason in its sole discretion, even if access and use is continued to be allowed to others.
- The device complies with Bluetooth mesh Standard v1.0. It can also be used in 3rd party Bluetooth mesh network, that complies with this standard and that supports the mesh models of this device, and with certain 3rd party commissioning tools, that support the mesh models of this device. In order to ensure correct interoperability a verification with the 3rd party network components and the 3rd party commissioning tool is necessary in advance. Please contact OSRAM (support@hubsense.eu) to receive the actual list of supported models for this device.
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- OSRAM shall have no liability for and does not make any representations, express or implied, about the connectivity of OSRAM qualified Bluetooth mesh products with any other products, that have passed the SILVAIR Testing process

ordering information

Product type	EAN10
QBM 0...10V CONV E RELAY	4062172392600

Inventronics GmbH

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Germany
Phone: +49 89 6213-0
Email:
contact@inventronicsglobal.com