B.E.G. The lighting control professionals

DALI® Alliance

OCCUPANCY DETECTOR

DALI-SYS ROUTER

LIGHTING CONTROL WITH DALI

beg-luxomat.com

THE COMPANY FOR ENERGY SAVING AND ENERGY SECURITY

For over 45 years, the internationally active family company B.E.G. Brück Electronic GmbH, with its headquarters in Lindlar, Germany, has stood for quality and innovation. Since the beginning, the focus of our employees has been on satisfying customers.

1975 The foundation stone of the comprehensive product range was the development and production of emergency luminaires.

1979 A fire destroyed the entire company building overnight, and administration and production had to be rebuilt.

1986 B.E.G. was one of the first companies in Germany to start manufacturing motion detectors and automatic luminaires. To promote these products, the trademark LUXOMAT® was registered.

1999 The first B.E.G. branch was founded in France. Since then, the number of branches has been steadily increased.

2000 Development of the first occupancy detectors with brightness sensors for daylight-dependent lighting control. Since then, the range of detectors for daylight- and presence-dependent lighting control has been continuously expanded.

2007 Inauguration of the European sales and logistics centre.

2014 The new administration and training centre was built directly adjacent to the production and sales centre.

2017 The former administrative headquarters of B.E.G. is converted into a research and development centre with its own lighting laboratory.

2020 To mark the company's anniversary, the central warehouse in Lindlar is expanded to 8,000 square metres to cope with the distribution of 2.5 million products per year.

2021 We pack efficiently with the help of the Autostore: the newly introduced semi-automatic storage system has been installed in the B.E.G. hall and has been supporting the entire logistics process ever since.


Our heat pump in the B.E.G. building

CONTENTS

„Environmental protection is at the top of our list!“

Reducing climate emissions is the challenge of our time. Anyone renovating or constructing a new building today can rely on the advantages of building automation and building systems technology. We at B.E.G. have been developing and manufacturing quality products for decades that bring you more comfort, energy savings and safety.

Today, our B.E.G. occupancy detectors, motion detectors, sensors and actuators control lighting, room temperature, air quality, ventilation and shading automatically. They can contribute to significant energy savings and safety during building use – without the users thinking about it in everyday life.

Our medium-sized electrical engineering company B.E.G. Brück Electronic GmbH has been family-run since 1975. With 13 foreign branches and a total of over 260 employees, we offer customer proximity worldwide. We are known for a wide range of products and accessories, flexible, custmer-specific product development and application-relevant, specialised advice for networked products.

If you are looking for a specialist in building systems technology, please contact us. We will be happy to help you.

We also do our bit for the environment: a photovoltaic system enables us to generate some of our own electricity. In addition, our newly built company building is cooled and heated by means of geothermal energy on the company's premises.

We offer solutions and stand by your side as a strong partner

With every B.E.G. quality product you acquire a piece of well-being for building operators and users. At the same time, we at B.E.G. do our best that that the process of creating an automated building is pleasant for the people involved. The demands on buildings and those who work in the building industry have increased massively. A high degree of open-mindedness, knowledge, readiness for fu rther training and flexibility is demanded of them. We support them with our experience and expertise so that system integrations succeed.

From manufacturer to solution provider

In addition to our products, we convince with customer oriented planning, development, consulting and services. With products for numerous applications and their integration into systems such as KNX, DALI-2, DALI-LINK, DALI-SYS, NETx and Casambi, our product range is versatile and enables a high degree of flexibility. The future belongs to building automation, and B.E.G. provides support right up to complete system integration.

Pre-sales service - perfectly tailored to you

Our sales representatives will help you with project planning and the selection of detectors. They inform you about new B.E.G. products. Our competent contact persons in the office and in the field are also available for technical questions and support you in the implementation.

After-sales service - We won‘t let you down

The high standards we set for the quality of our products also apply to the after-sales service we provide to our customers. For this purpose, B.E.G. offers a comprehensive after-sales service. Our trained office staff will assist you with questions regarding application, reordering and warranty processing. If you need technical support, our qualified technicians are available by telephone or on site.

Warranty processing

In the event of a warranty claim, do not hesitate to contact us for assistance.

We are already looking forward to being part of your project:
+44 87 08 50 54 12

ENERGY SECURITY AND ENERGY

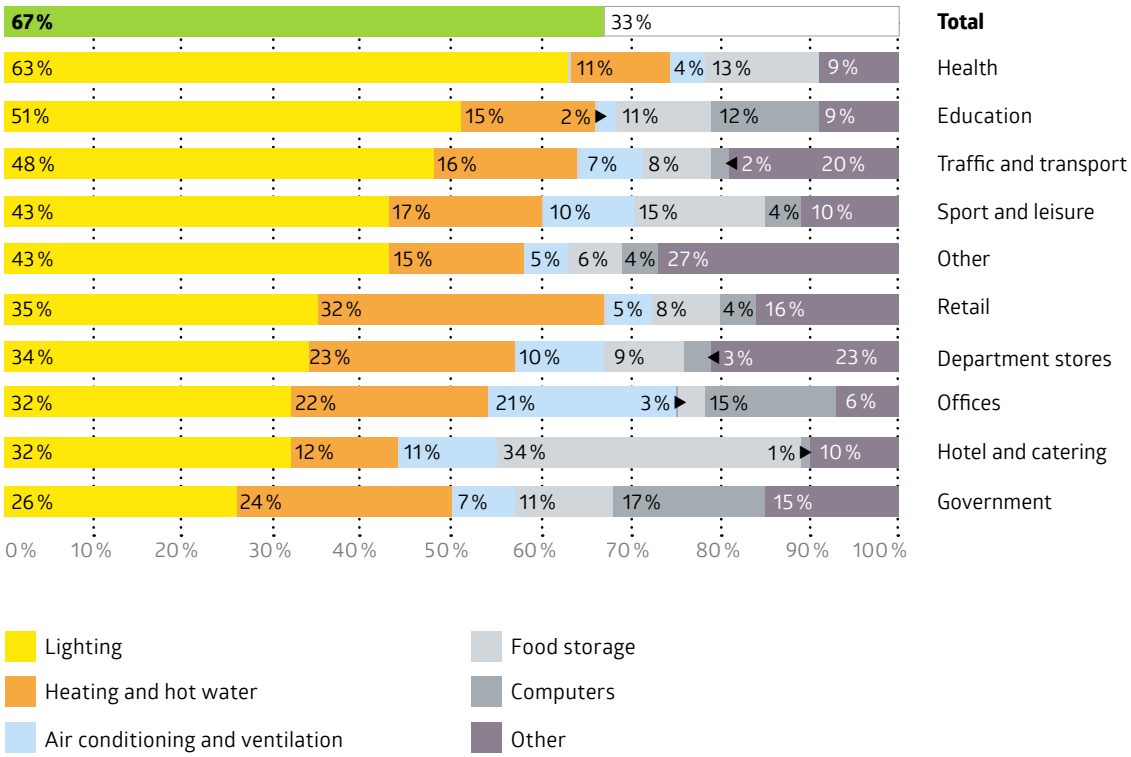
Species extinction, changing climate zones and weather extremes – global warming can no longer be denied. It is time to act: For the global community, but also for each individual. With B.E.G., saving energy means reducing costs and protecting the environment at the same time.

Climate change: Hardly any other topic is discussed more frequently by the media. We all feel that our climate is changing. In the last 150 years, the average temperature of the earth has risen by 1 degree – and this process is going on.

The current global warming is largely influenced by humans. One essential cause of warming is the so-called greenhouse effect. This is caused, for example, by industry or transport, for which fossil fuels such as coal or oil are used.

We are already feeling the consequences of climate change today, because the list of climate changes is long. Heat waves, drought, heavy rain events – these are all threats that change brings with it. Global warming is becoming noticeable: the number of hotter days is increasing, as the record summers of 2018, 2019 and 2022 have shown.

Typical annual energy consumption (approx. values)



INDEPENDENCE

The need to save energy

In recent years, the aspect of energy saving has come more and more to the fore and is taking on great importance in the consciousness of every individual and in industry. A crucial task is to contribute to the reduction of the greenhouse gas CO_2.

Politicians have recognised that something has to change: At the UN Climate Change Conference in Paris, almost all the countries of the world agreed to reduce their greenhouse gas emissions. The global temperature increase should be significantly less than 2 degrees, preferably 1.5 degrees, by 2100.

Energy independence with B.E.G.

What will our energy supply look like in the future? How can we achieve less dependence and more climate friendliness? These are questions that have never been more relevant to all of us than they are today.

The aim is to become less dependent on natural gas imports and to minimise the use of minimise the use of fossil fuels such as natural gas. B.E.G. has united comprehensive energy-efficient products in its range.

Measurements show that in a typical office in Central Europe, daylight provides up to 80 % of the light in the summer months, so that the proportion of artificial light can be reduced to 20 %.

Make yourself independent, too, and use energy only when it is really needed thanks to our occupancy detectors.

ENERGY SAVING POTENTIAL

Building Automation – The Future Begins With B.E.G.

Energy is precious, so saving energy means protecting the climate and conserving the environment's resources so that our living spaces are preserved.

Energy is a coveted and rare commodity. Rising prices, the energy transition and the noticeable effects of the climate crisis require a rethink in many areas of our lives. Buildings play a heavyweight role in climate protection. They account for around 38 % of our CO_2 emissions. Intelligent solutions are needed: one of these solutions is called **building automation**.

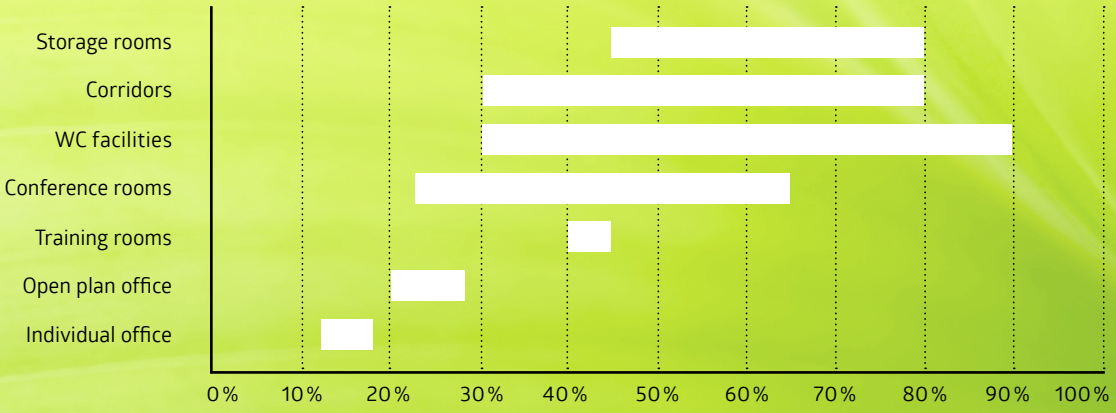
Saving energy made easy

In the field of building automation, there is great potential for savings in both the commercial and private sectors. Sensible switching of lighting, for example, makes a major contribution to reducing electricity consumption.

For the sake of the environment

With B.E.G., saving energy means reducing costs and protecting the environment at the same time. In order to meet the requirements of a clean environment, we have developed products that contribute to optimal light and heat management.

Potential for energy and cost reduction with occupancy detectors Energy-saving potential



Lighting is a major cost factor in energy consumption. In some buildings, it can account for up to 50 % of total electricity costs.

Saving energy and costs – slowing down climate change

38 % of global climate emissions are produced by the construction and operation of buildings. Political uncertainties, exploding energy prices and the tangible effects of climate change make immediate action essential.

The aim in the development of our motion and occupancy detectors is to switch the lighting according to demand and to realise a maximum of safety, comfort and energy savings. Artificial lighting is only switched on where it is needed, i.e., where there are people in the building. The existing natural light is permanently measured by B.E.G. occupancy detectors and only as much artificial light is provided as required. This significantly reduces energy consumption.

Today, 2 million B.E.G. sensors sold save 815,189,760 kWh annually. This corresponds to 11 kg CO_2 per second. Join in! For a safe future!

Certifications

To meet the requirements for a clean environment, we have developed products that contribute to optimal light and heat management according to demand. In addition, B.E.G. meets the latest environmental guidelines and standard requirements of the international standards.

For an environment worth living in.

Examples: Energy and environmental balance

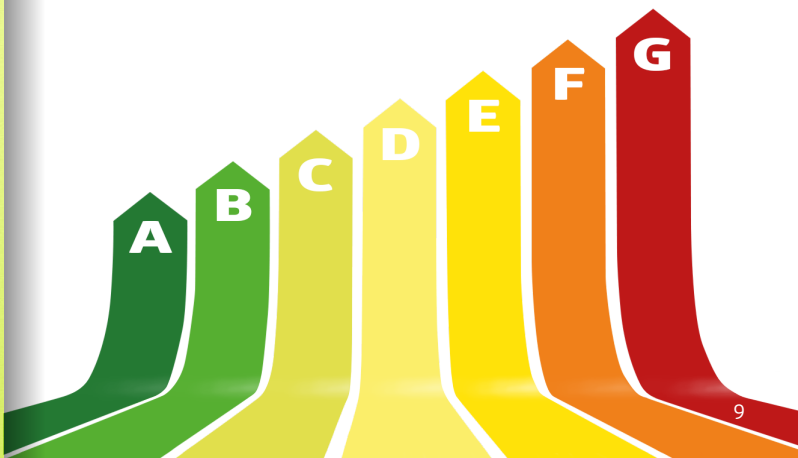
OFFICE (room size 8.5 m x 4.5 m) Period of use: 07:00-17:00, days of use/year: 260			
Operating mode/ illuminant	8 x 27 W LED panel luminaires (4000 lm)		**Savings***
	with detector	**without detector**	
Electrical work/year	81 kWh	562 kWh	481 kWh
Energy costs work/year	28,47 €	196,56 €	**168,09 €**
CO_2 savings/year			202 kg
Additional trees available for CO_2 reduction			x 10**

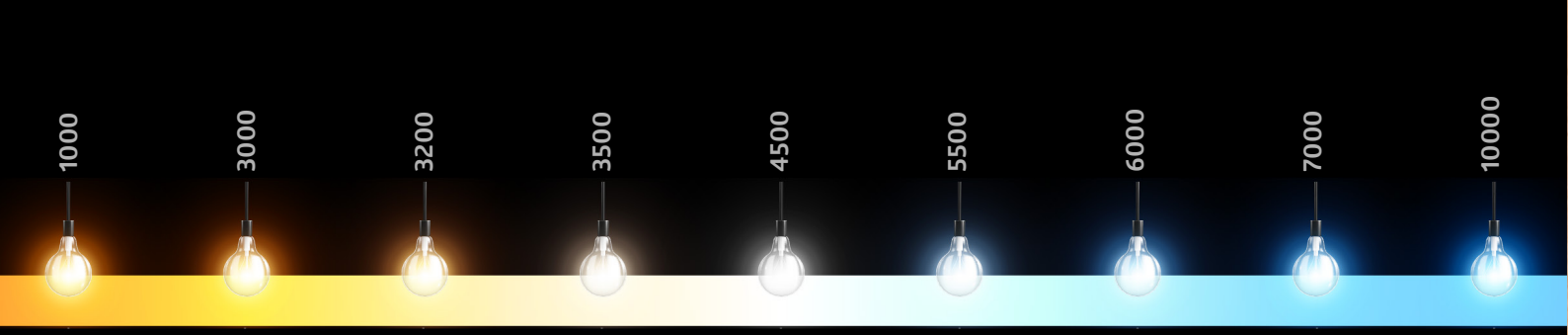
Electricity price 0,35 €

* Savings:
Motion detection 30 % Lighting control 74 %
Over-planning 12 % Planning factor 10 %

** 1 tree absorbs approx. 20 kg CO_2 /year

** 0.42 kg CO_2 for the generation of 1 kWh with medium energy mix





HUMAN CENTRIC LIGHTING

Feeling good through a natural environment

„Nature as the measure of all things“

Sleep problems, chronic fatigue, winter blues – these symptoms can be caused and influenced by artificial light.

With the first rays of light of a day, we slowly wake up. In the early morning, the colour spectrum of daylight is determined by the long-wave warm colours. Towards midday, the sun shines bright and cold white. Do you know that on a clear summer's day, the sunlight reaches up to 100,000 lux? We reach a peak of performance at such values. As the day progresses, the light weakens so that as dusk falls, the human organism produces the sleep hormone melatonin, which makes us fall asleep.

On average, we spend 90 % of our day indoors, which throws our inner clock out of sync. This is because conventional artificial light has a constant intensity, brightness and fixed colour components. Natural daylight, however, varies both in intensity and colour composition. Human Centric Lighting (HCL) – lighting that regulates light colour and illuminance in relation to daylight – thus creates a better quality of life.

With the integration of Human Centric Lighting, you are planning a piece of naturalness and well-being into the building. HCL is not only inspiring in wellness hotels, retirement homes and hospitals, where biodynamic light supports a positive state of mind during the day and sleep quality at night. In schools, administrative buildings and industrial facilities, too, the lighting technology promotes concentration and balance among building users.

As an established manufacturer on the market, B.E.G. has developed an occupancy detector with „Tunable White function“ that focuses on the natural needs of building users – the Well-being Detector®. It automatically controls the colour temperature and the brightness setpoint with the aim of supporting the human biorhythm. The detector receives the time information required for this from the KNX system.

With its wide range of occupancy detectors B.E.G. provides natural lighting scenes in indoor spaces and focuses on the health, well-being and performance of building users.

SCHOOL

OFFICE

INDUSTRY

HEALTH

Attention/
Relaxation

Efficiency/
Error prevention

Concentration/
Performance

Recreation/
Well-being

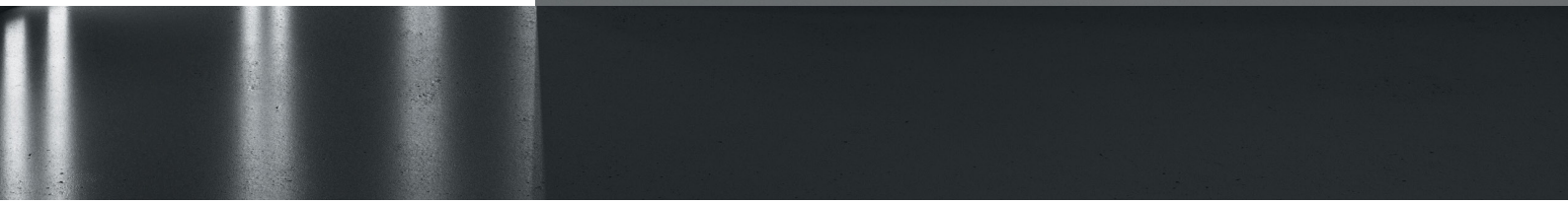
WHAT IS DALI?

The range of lighting systems and the interfaces required for their control is very extensive and, for some, unmanageable at first. Anyone wanting to integrate intelligent lighting control with dimmable lighting in offices, educational establishments, healthcare facilities and warehouses will quickly become aware of the international industry standard DALI – the widely used professional tool for lighting control. DALI uses very robust, bidirectional communication methods. The DALI BUS can be implemented in NYM cable, the use of which is widespread, parallel to the mains supply voltage as a control line, which is both installation-friendly and cost-effective.

DALI has received forward-looking stability and interoperability under the new auspices of the "DALI Alliance" (DiiA - Digital Illumination Interface Alliance) since 2019: With DALI-2 certification, not only control gear such as LED drivers must henceforth comply with the specifications of the standardisation. Control device types such as application controllers, push-buttons, rotary controllers, light sensors or motion sensors are thus defined in the standard. With the associated, newly introduced DALI-2 certification procedure and a publicly accessible product database, it is also possible to combine products from different manufacturers in a planning-safe manner.

DALI 2

Digital Illumination Interface Alliance



DALI-LINK DACO® DALI-SYS BMS DALI-2

Link to our DACO® movie

Technical insights into DALI-2

Unlike some other systems, DALI does not standardise commissioning and application methods, but only communication and basic functions. Thus, every manufacturer of DALI lighting control solutions must provide specially developed tools such as IR remote controls, smartphone apps or computer programs for commissioning. The way in which individual DALI devices work together conceptually is also up to the manufacturer. Interoperability is therefore not solely dependent on the DALI-2 logo, but also on the concept and supported functions of the devices used.

In concrete termse solutions such as presence detectors with application controller already integrated, B.E.G. offers standalon, BUS voltage supply and push-button control that can address all luminaires connected to the DALI BUS in a network (DACO®). Thanks to automatic, presence-dependent switch-off and daylight-dependent regulation of artificial lighting, energy can be saved quickly and easily.

If you want to save even more energy and also make maintenance processes more efficient, it is often necessary to connect the DALI ecosystem to other, higher-level systems in building automation. In this way, data from luminaires can be monitored and evaluated, resulting in predictable energy consumption and maintenance. B.E.G. therefore also offers networkable products that can establish a direct connection between the field and management levels via established standards from building automation such as KNX (B.E.G. DALI-LINK KNX variant) or BACnet (B.E.G. DALI-SYS).

In the following, we will go into the most important terms and features of a DALI ecosystem.

THE APPLICATION CONTROLLER

as the link in the system

The minimum composition for a functioning DALI ecosystem consists of three components:

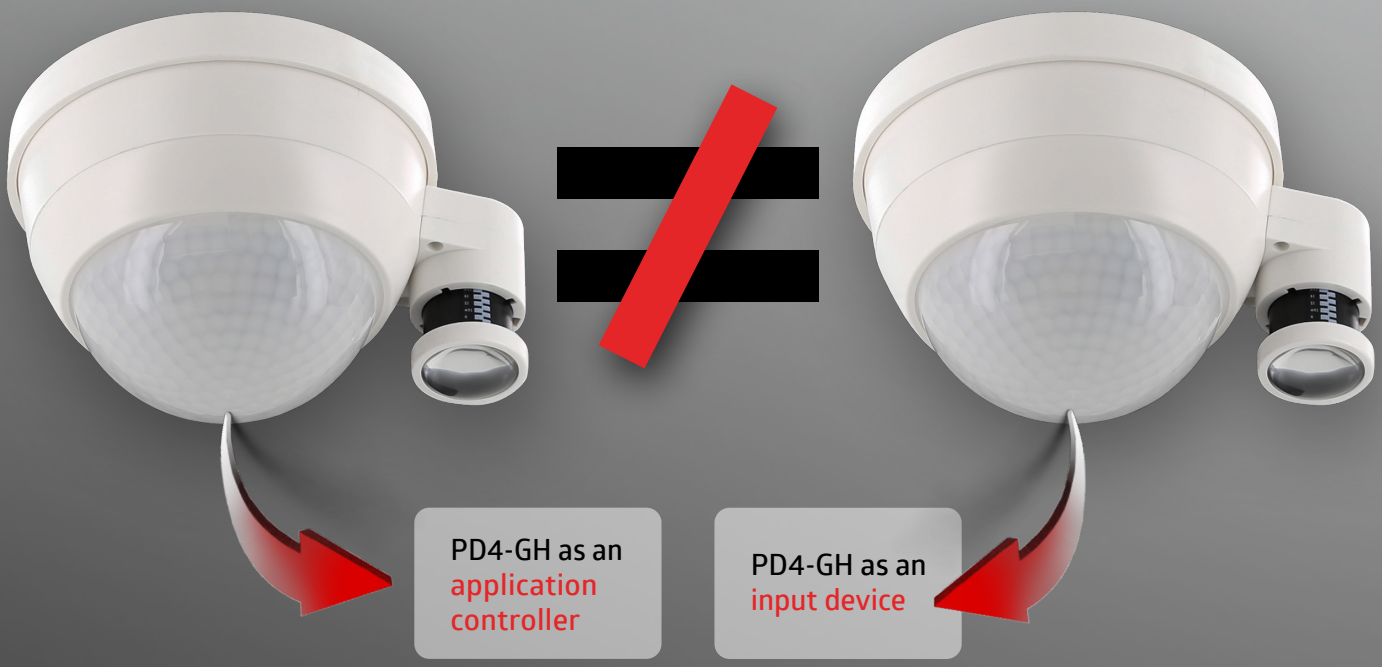
- One **BUS power supply**, so that communication can be established at all.
- One **control gear** that can react to control commands and convert them to the light source (e.g. LED) used.
- One **application controller** as a link to the sensor system, which sends the control commands to the control gear.

While sensors scan the environment, control gear is the executive organ and reacts in the application. The link between sensor and control gear is the application controller. It takes over the control. The application controller processes all signals from the sensors and decides how the respective control gear should react. If a brightness sensor detects less light, for example, the sensor transmits these values to the application controller. This controller assigns a new dimming value to the control gear, i.e., the luminaire, in order to keep the illuminance constant.

Sensors and push-buttons communicate with the application controller either directly, e.g. via an I2C BUS, or indirectly via the DALI line. If sensors or push-buttons talk to the application controller indirectly via the DALI BUS, these devices are called "input devices" in the DALI world.

Input devices and application controllers are referred to in the DALI world under the umbrella term "control device", even though both assume completely different roles in a DALI ecosystem: The input device exclusively supplies sensor data, the application controller controls luminaires. Technically, however, they have one thing in common: they may send telegrams to the DALI BUS at their own discretion.

In contrast, control gear may never send telegrams to the DALI BUS at their own discretion. They can only be queried, for example, to find out the current light value or elapsed operating hours.



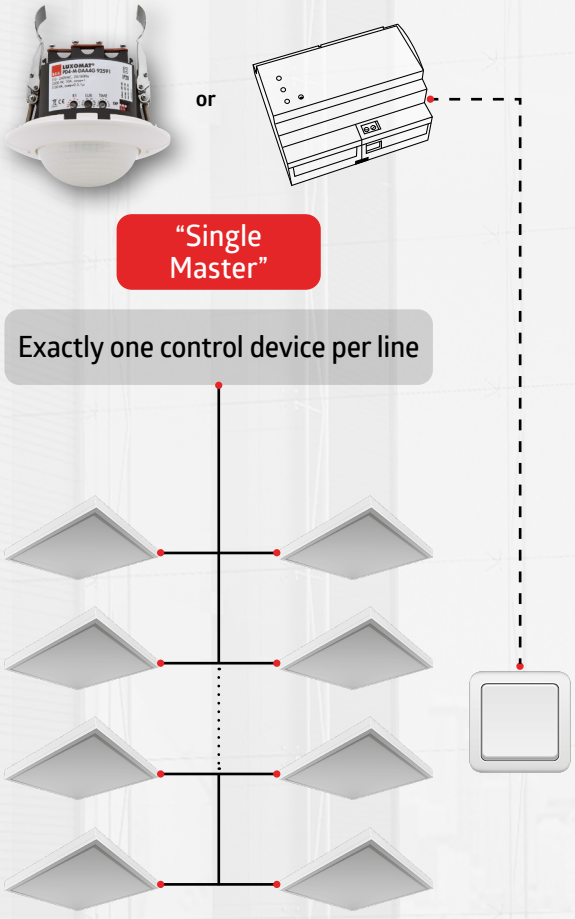
The PD4-M-DACO-GH DALI-2 (left) and the PD4-BMS-GH DALI-2 are both DALI-2 certified, look identical, but have completely different tasks in a DALI ecosystem.

Team building is also not possible in this constellation because the PD4-M-DACO-GH DALI-2 is a single-master application controller and therefore does not allow any other control devices on the DALI BUS.

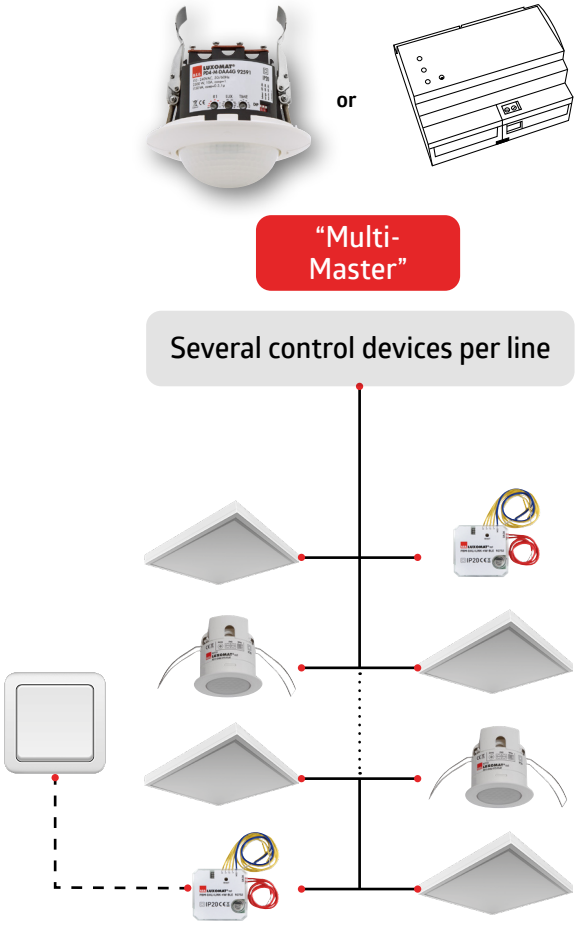
SINGLE- AND MULTI-MASTER

The partial term "...master" is best understood in this context by using a synonym for it: "...control device". A single-master control device is per se an application controller, since at least one application controller must be present in a DALI ecosystem. In a single-master system, therefore, only control gear may be connected to the DALI output of the application controller, otherwise malfunctions will occur. Although this simplifies the work for the designer and installer, it limits the general application possibilities.

A Multimaster control device, on the other hand, has the technical ability to avoid telegram collisions. Before sending a telegram, it checks whether there is already an exchange between other devices. As an aid to thinking and as an image to illustrate this, the joining of the flowing traffic when driving onto a motorway can be used. The great advantage of a Multimaster system is that the DALI line already laid for the lighting can also be used for additional input devices, e.g., to extend the detection range for motion detection. An additional control line for push-buttons or slave devices to the application controller can therefore be saved when planning and installing a multimaster-capable DALI control solution.



Single master with exactly one control device on one line.



Multi-Master with several control devices on one line.

CENTRALISED AND DISTRIBUTED INTELLIGENCE

If we now imagine that there are several multi-master control devices on one line, each containing an additional application controller, we speak of distributed intelligence or decentralised control. The key here is that in distributed intelligence, the devices can work together. Examples of this are B.E.G. DALI-LINK and B.E.G. DALI-SYS. All control devices are coordinated with each other and know how they should function in detail. Distributed intelligence provides a significantly higher level of fail-safety. If one application controller fails, there is often another available that can ensure simple basic functions if necessary.

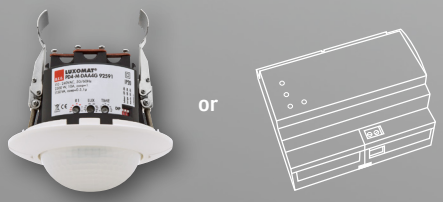
Since distributed intelligence is more complex for manufacturers to develop, decentralised DALI systems are often avoided. Most systems on the market are centrally oriented. This makes it easier for products from different manufacturers to work together, as only one application controller decides on the policy in the DALI ecosystem. Multi-sensors from the B.E.G. BMS DALI-2 product family are multi-master control devices and supply all important information, such as lux values or motion detection, to the application controller.

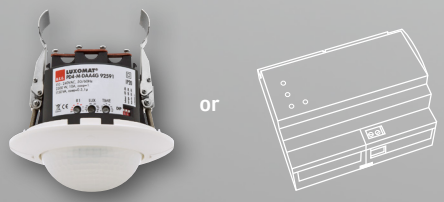
BROADCAST AND MULTICAST

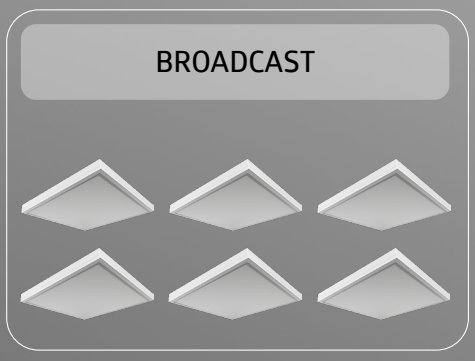
The application controller basically controls luminaires. Whether these can be controlled in one single group (broadcast) or by means of individual group commands (multicast) depends on manufacturer-specific product features.

The broadcast method allows very fast and simple commissioning, but limits the application possibilities. The control of luminaires in the multicast procedure has the advantage that a grouping of luminaires can be designed independently of the wiring and can be changed at any time.

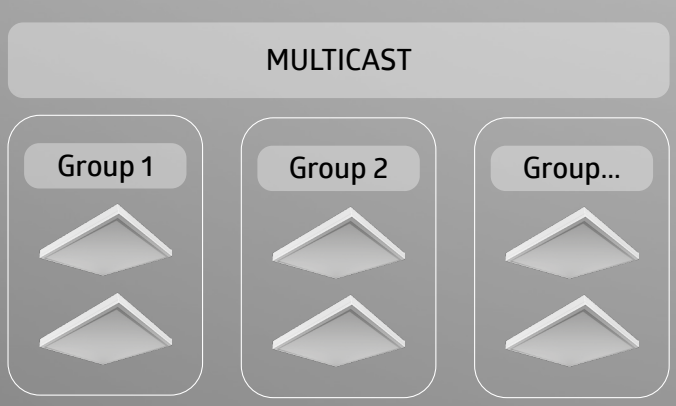
The disadvantage of multicast systems is that time must be allowed for addressing and grouping the luminaires during commissioning. With DALI, addressing is always done randomly with a so-called "BUS scan". After this BUS scan, individual luminaires can be made to flash and assigned to the desired group.







All luminaires are assigned the same properties via a broadcast telegram.



With a multicast telegram, **up to 16 groups** with different properties can be defined.

BUS POWER SUPPLY AND INSTALLATION PLANNING

In order to be able to establish communication between the control device and the control gear via a two-wire line, a certain voltage must be present. This is provided by the so-called BUS voltage supply, which is either already integrated in the application controller or must be connected to the DALI BUS as an additional device.

It is particularly important to note that normally only one BUS voltage supply may be used per DALI line. Some solutions also allow another BUS voltage supply to be connected in parallel, but this is explicitly stated by the manufacturer and must not exceed the maximum current of 250 mA on a DALI line. This is the case, for example, with the B.E.G. DACO® product family: the guaranteed output current can be increased with an additional device, with the result that more luminaires can be connected to the DALI line.

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DALI detectors can either be BUS-powered or they have to be supplied with 230 V. In the latter case, the BUS power supply (PSU BUS) is usually already integrated.

80 % of the guaranteed output current of a BUS power supply is used as the basis for calculating the possible number of control gear and control devices that can be connected. This is what the DALI Alliance recommends. In multicast systems, in addition to the limitation of current consumption, there is also the limitation of short addresses. A maximum of 64 operating devices and 63 additional control devices can be connected.

Control devices can be BUS-operated, i. e., the supply current required for basic functionality is taken from the DALI BUS. In this case, a 230 V supply line is not required, which in turn reduces material and installation costs. The disadvantage is that a relatively large amount of current is required from the DALI BUS, and this is device-dependent, detached from the standard. Control gear, on the other hand, usually has a 230V connection. Thus, a maximum of only 2 mA is required on the DALI BUS for the interface.

The DALI standard stipulates that the voltage drop on the DALI BUS between the voltage source and the load must not exceed 2 volts. If you measure a typical 16 volts DC at the power supply and only 13 volts at the control gear, something is wrong with the wiring. As a rule, the cable is too long. Based on experience and for reasons of simplification, the DALI Alliance recommends a maximum cable length of **300 m**, with a conductor cross-section of not less than 1.5 mm². In general, B.E.G. recommends the use of **NYM cable with a minimum cross-section of 1.5 mm²**.

Due to the fact that the DALI standard does not provide any specifications for a distinctive connector system for DALI control cables, **DALI must be treated as 230 V** (comply with low-voltage directives/DALI is not SELV).

However, the **B.E.G. Online DALI Line Planner** will help you work out a reliable plan for any DALI-based control system from B.E.G. with regard to the number of control gear and control devices on a DALI line.

DALI line planner

CHARACTERISTICS OF ALL

	DALI Compact SINGLE ROOM The “all-in-1” single-room solution for simple requirements (connection to building management system is only possible via switching contact)	DALI-LINK MULTIROOM The modular multi-room solution for simple to demanding requirements (connection to building management system is possible via KNX)
Class:	Application Controller	Application controller with
Control:	Central intelligence	Distributed
Technology:	Single Master	Multi-Master (= more than
Communication method:	Broadcast	Multicast (with addressing and
BUS power:	Integrated DALI power supply	
Supply voltage:	230 VAC operated	
Interoperability:	DALI Stand-alone	DALI/KNX

B.E.G. DALI CONTROL DEVICES

DALI-SYS BUILDING	BMS DALI-2 INTEGRATION	
The modular building solution for demanding to complex requirements (connection to building management system is possible via BACnet/IP)	Multi-sensors and push-buttons (Input Devices 301, 303, 304) for use in lighting control systems	
integrated input device	Input device	Class:
intelligence	Without intelligence (Separate control required)	Control:
1 control device per DALI loop permitted)		Technology:
grouping function)	No communication with control gears	Communication method:
Separate DALI power supply		BUS power:
Supply voltage via DALI BUS		Supply voltage:
DALI/BACnet	DALI-2 input device (303, 304)	Interoperability:

DALI FUNCTION MATRIX

- Yes
- Depending on additional device(s)
- No

DESCRIPTION	DALI-LINK DACO®	DALI-SYS	BMS DALI-2
Requirements			
Reducing energy consumption			
Monitoring energy consumption of luminaires			
Monitoring operating hours of luminaires			
Light value (lux) can be read out in standardised form via DALI BUS			
Presence status can be read out via DALI BUS in standardised form			
Push-button status can be read out via DALI BUS in standardised form			
Presence-dependent switching of light			
Presence-dependent switching of HVAC			
Daylight-dependent switching of light			
Daylight-dependent regulation (closed circuit) of light			
Orientation light			
Soft start (glare protection when switching on)			
HCL (time-of-day-dependent colour temperature and light intensity)			
Timer function			
Suitable for applications with folding doors			
Classroom functions			
Emergency light management			
Solution features			
Open (can be networked with other systems)			
Ideal for single-room applications			
Ideal for multi-room applications			
Ideal for building applications			
Suitable for simple overall requirements			
Suitable for sophisticated overall requirements			
Suitable for complex overall requirements			
Commissioning interface			
Infrared remote control (unidirectional)			
BLE/IR adapter (unidirectional)			
BLE/IR adapter (bidirectional)			
LAN			
BLE			
ETS/KNX BUS			
DALI-2 Configuration tool/DALI BUS			
Operation during operation			
via conventional push-button (normally open)			
via conventional switch (bistable)			
via Mini-IR-remote control			
via Smartphone (BLE or WiFi)			
via Windows PC (BLE or LAN/WiFi)			

	DALI COMPACT			DALI-LINK				
	DACO	DAA4G	HCL2	DALI-LINK BLE	DALI-LINK KNX	DALI-SYS BACnet	BMS	CASAMBI
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	🔴	🔴	🔴	🔴	🟢	🟢	🟠	🟠
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DALI FUNCTION MATRIX

- Yes
- Depending on additional device(s)
- No

BESCHREIBUNG
Modell
PD2(N)
PD4(N)
PD4(N)-C
PD4-TRIO
PD4-GH
PD9
PICO
PD11
LC-plus
Montageart
LC-Mini
Flush ceiling
Surface mounting
Flush mounting
Wall mounting
Design
Different colour designs possible

DALI-LINK
DACO®
DALI-SYS
BMS DALI-2

	DALI COMPACT			DALI-LINK				
	DACO	DAA4G	HCL2	DALI-LINK BLE	DALI-LINK KNX	DALI-SYS BACnet	BMS	CASAMBI
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DALI Compact/DACO®

The improved all-in-one solution for lighting control

B.E.G. has relaunched the DALI Compact range of detectors. Generation 2 introduces a powerful range of stand-alone devices. The devices with integrated application controller and a DALI BUS voltage supply are optimised to the maximum. Available in no less than four colour versions, versatile in application, digitally readable and controllable, the DALI-2 certified products convince with an unobtrusive appearance and a decisive degree of flexibility.

The communication protocol impresses with its robustness and ease of installation, and the new DALI-2 certification procedure adds future-oriented stability. Previously, only control gear had to comply with the standard. With DALI-2, device types such as application controllers, push-buttons, light sensors or motion sensors (so-called control devices) are also defined in the standard. This makes it possible to optimally combine products from different manufacturers, to put them into operation and to avoid errors.

Proven product quality with new design and performance standards

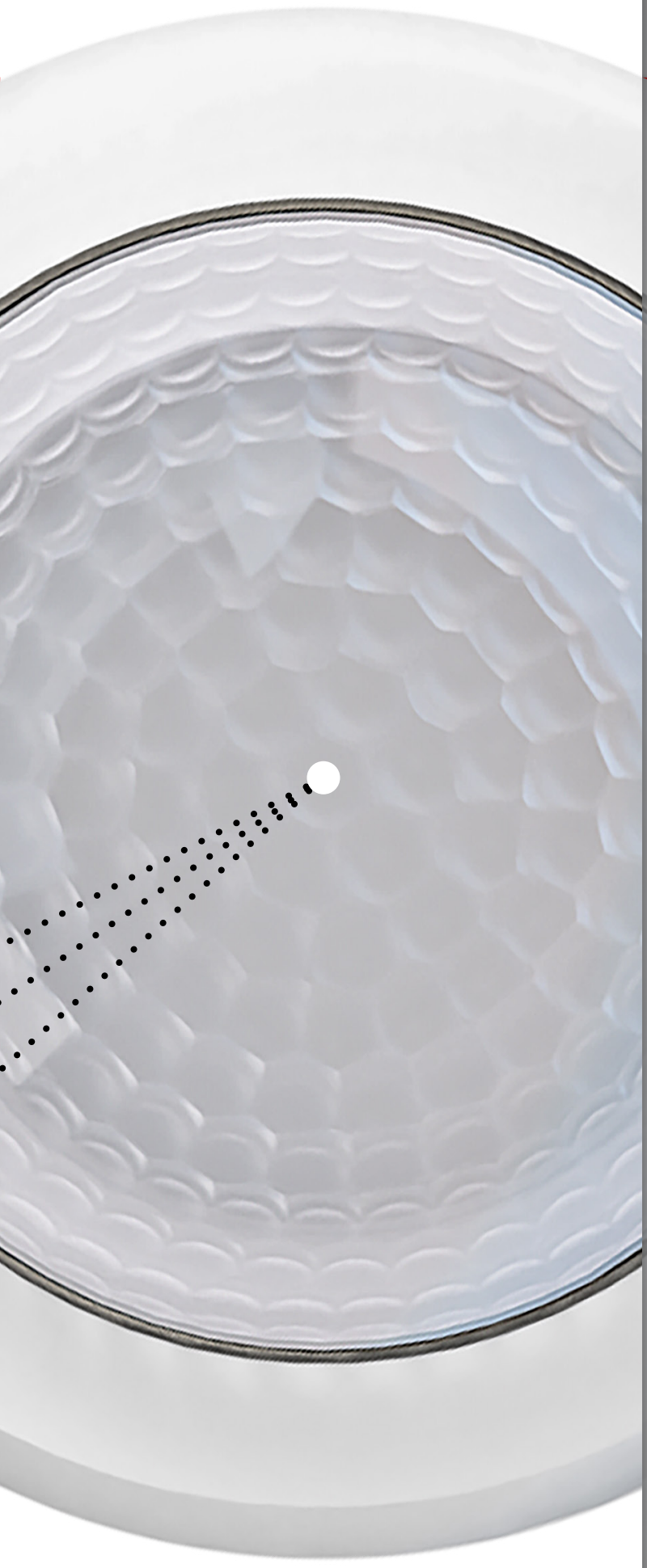
Generation 2 of DALI Compact occupancy detectors has been rethought. It now combines a wider range of functions in just a few products. Existing devices can be easily replaced by the new DALI-2 certified detectors. Interaction with Generation 1 products is still guaranteed by backwards compatibility.

All those who attach importance to occupancy detectors blending invisibly into the existing architecture can be pleased with the super-flat PD11-M-DACO-FLAT DALI-2 occupancy detector in the DALI Compact occupancy detector range. Cover rings and lenses are now available for all Generation 2 products not only in pure white, but also in the colours traffic white, anthracite and black.

Another new feature is a modular system. Detectors can be put together flexibly and according to requirements. In addition to the actual product, users can opt for an individual mounting set for surface or wall mounting.

ALL IN ONE

- Push-button control
- Application-Controller
- DALI BUS power supply

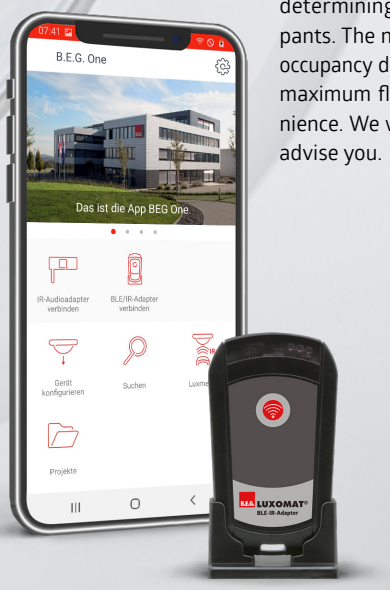


An external light sensor ensures optimum lighting control.

Easy operation with extensive setting options

The new devices can be parameterised quickly and easily with the with the B.E.G. One app, which allows users to store their projects. A cloud connection allows the exchange of information and the collaboration of several employees on a project. Work progress can be documented and transmitted in PDF format. Parameterisation is particularly easy with the new generation of DALI-2 compact occupancy detectors because all devices can be controlled bidirectionally, i. e. existing values, such as a current light sensor value and a self-test and display of device errors, are integrated.

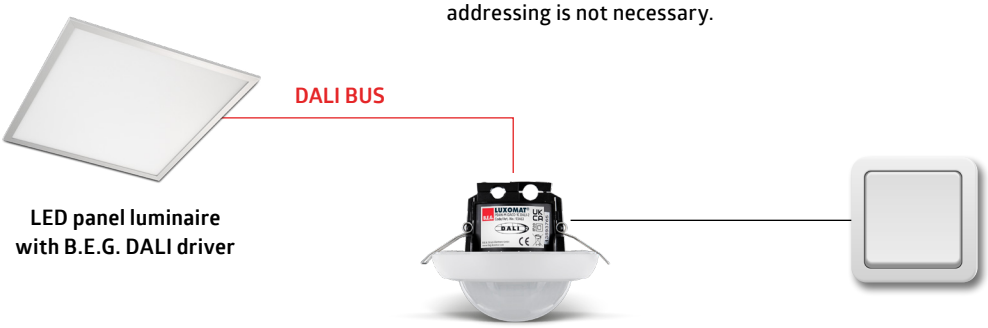
With the BLE/IR adapter and a smartphone or tablet, the full range of functions for lighting control can be used. The new logic functions include improved dimming regulation, adjustable regulation dynamics and other new parameters that promise more flexibility in use. In addition, B.E.G. provides the DALI line planner online, an effective tool for quickly and reliably determining the DALI participants. The new DALI-2 compact occupancy detectors thus enable maximum flexibility and convenience. We would be pleased to advise you.



DALI Compact/DACO®

Standalone solution

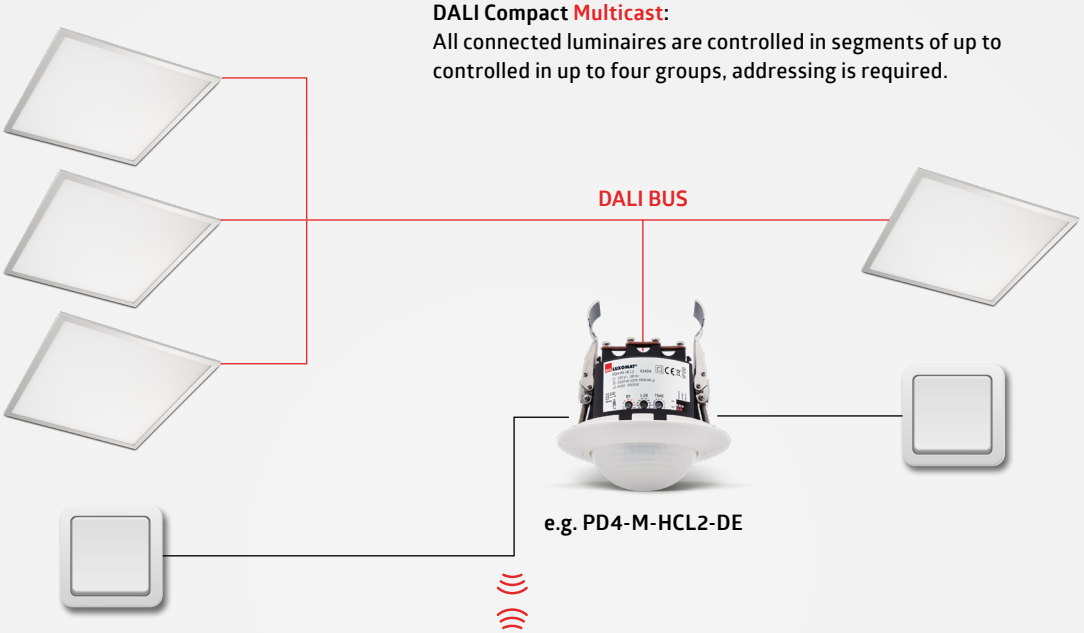
DALI Compact Broadcast:
All connected luminaires are controlled simultaneously, addressing is not necessary.



LED panel luminaire with B.E.G. DALI driver

e.g. PD4N-M-DACO DALI-2

DALI Compact Multicast:
All connected luminaires are controlled in segments of up to controlled in up to four groups, addressing is required.



e.g. PD4-M-HCL2-DE

Download the free remote control app now!

Features

- DALI power supply and push button control are integrated into the detector
- Standalone solution (BMS connection available via switch contacts)
- Commissioning and maintenance by installer
- With integrated light measurement (internal and partly additional external light sensor)
- Numerous options in settings via remote control or the B.E.G. smartphone app

DALI Compact Broadcast

- "All-in-1" single master concept
- Grouping of luminaires using fixed wiring
- No addressing required
- Detection areas extendable with conventional Slave devices

DALI Compact Multicast

- "All-in-1" multi master concept
- Grouping of lights using digital group ID allocation
- Administration using short addresses
- Detection areas extendable with conventional Slave devices

Functions

- Occupancy-dependent and daylight light-dependent switching and regulation
- Manual settings with conventional push buttons available
- Orientation light
- Soft-Start
- IR end-customer remote control (Mini)

Depending on product version

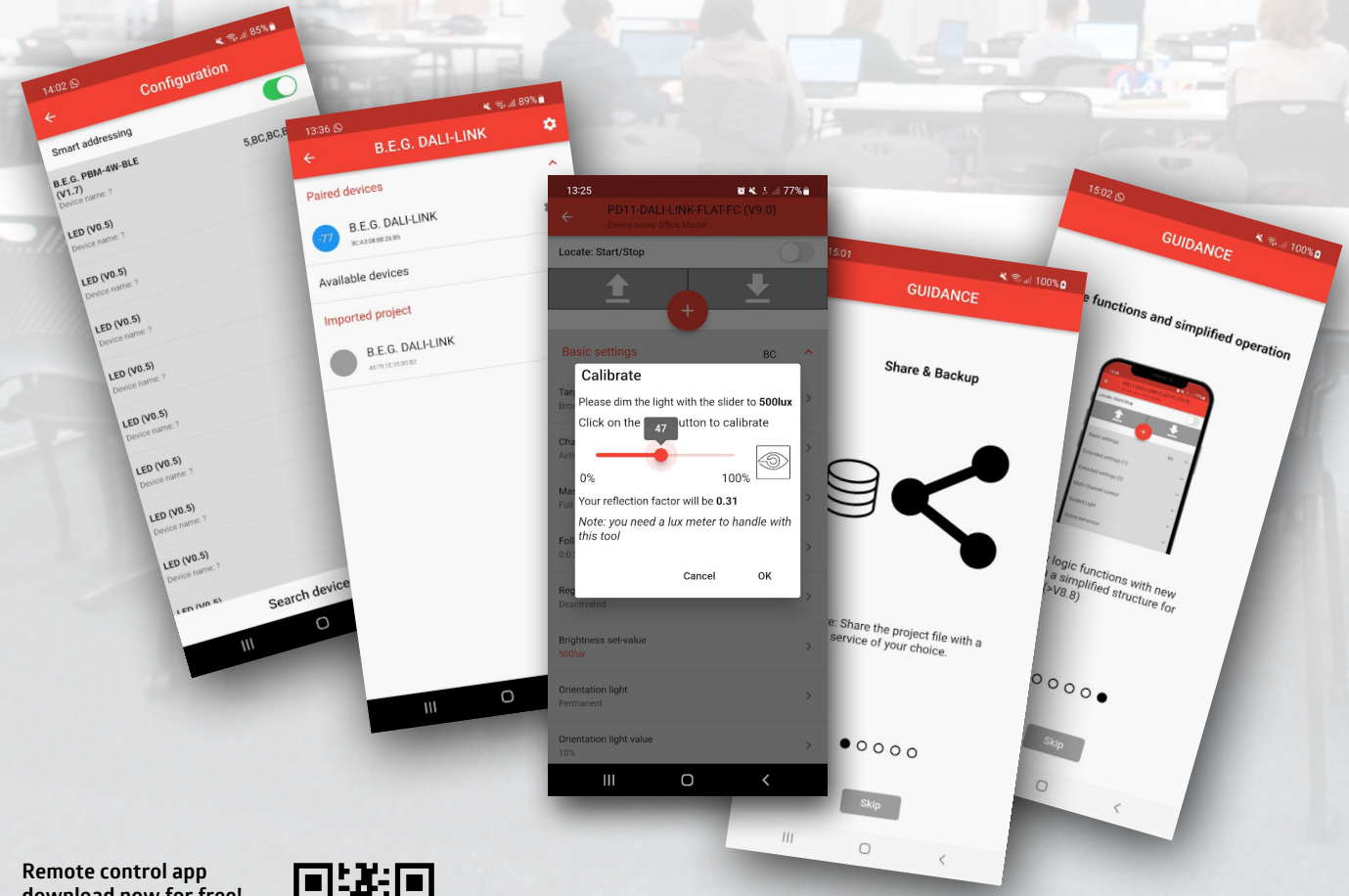
- Multi-channel control available with offset process
- Semi-automatic mode, full automatic mode, light controller or presence mode adjustable
- Adjustable control dynamics (minimum and maximum values)
- Number of DALI devices can be determined quickly and reliably via the B.E.G. Online DALI Line Planner
- Cutoff function and HVAC connection available

DALI-LINK

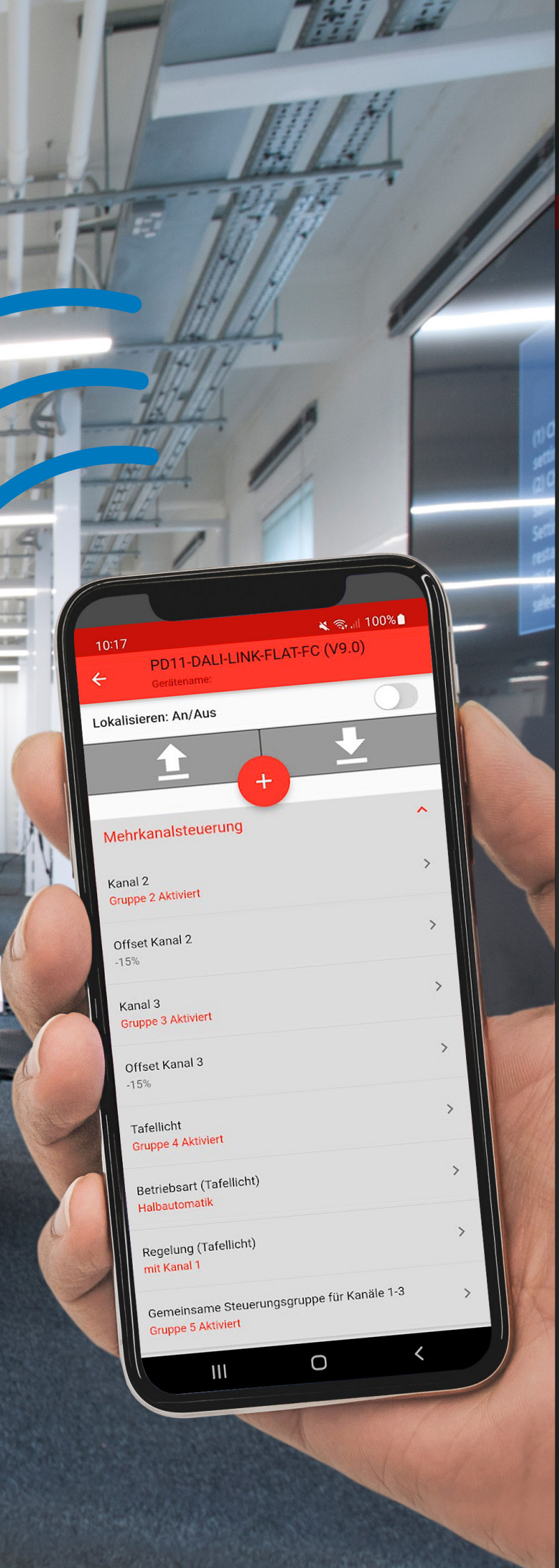
The flexible, simple, convenient lighting solution.

The B.E.G. DALI-LINK app enables easy and fast parameterisation.

The B.E.G. DALI-LINK app has become even more userfriendly and has been expanded to include numerous functionalities. For example, device parameters can be stored in a database. This can be shared and saved via e-mail, a messenger or your own cloud. This is helpful when project information is to be exchanged within the team and minimises the effort involved in swapping end devices such as smartphones, tablets or the BLE push-button module. All data is preserved and can be viewed.



Remote control app download now for free!



Application example:

Optimal learning is promoted by optimal lighting conditions. Those who equip or retrofit schools can benefit from the new logic function, the "classroom function". Different lighting conditions at workplaces on one side of the window front, the centre of the room and the wall side are easily compensated for, and this with up to three classrooms per line at the same time. Not only are up to three main regulation groups then available per room in offset regulation mode. The blackboard lighting can also be easily implemented and linked to the main regulation group.

By improving the dimming algorithm, the dimming of luminaires is perceived as extremely stylish and comfortable. At the same time, the BUS load is reduced by approx. 60 %. Daylight-dependent control is simplified by an adjustable regulation dynamic that virtually eliminates under-control caused by unfavourable light reflections.

B.E.G. DALI-LINK increases the quality of lighting while reducing costs and labour. This makes B.E.G. DALI-LINK attractive for anyone looking for a stable, professional yet simple solution.

Dieter Walz, Senior Product Manager DALI

For more information or assistance in developing lighting control and lighting management solutions in DALI and/or KNX, please contact your B.E.G. representative or visit our website: www.beg-luxomat.com

DALI-LINK

The flexible, simple, convenient lighting solution

If the pressing issues of our time, such as energy independence and climate change, are addressed now, this means an excellent order situation for electrical installers and planners. Energy-efficient lighting solutions have been around for a long time. Now is the time to implement them quickly. Extremely stable, designed to be even more convenient and user-friendly, plus flexibly integrable, the new edition of B.E.G. DALI-LINK will particularly impress.

Occupancy detectors and the integration of the DALI BUS system alone can reduce energy consumption for lighting by up to 80%. For customers, an investment is definitely worthwhile, because in addition to reducing energy costs, control via DALI can simultaneously extend the service life of LED luminaires. The costs for the installation are thus quickly amortised. The DALI BUS system then runs reliably, robustly and trouble-free.

DALI raises lighting to a higher, extremely comfortable feel-good level. This begins as soon as the luminaires in a room are switched on, when a soft start simultaneously dims them up in a way that is easy on the eyes. Individual dimming can quickly create the desired lighting atmosphere in the room. An adjustable fade time also ensures smooth transitions. If several devices are combined in groups, the digital nature of DALI allows changes to be made via software. The wiring can remain untouched.

B.E.G. DALI-LINK enables easy integration in buildings. Several rooms are equipped systematically at the same time (modular multi-room solution). **There are two types of operation**. Via Bluetooth, DALI-LINK can be set up as an "island" solution. In a KNX-controlled building, however, the system specially designed for lighting control can also be connected to KNX via the B.E.G. DALI/KNX Gateway. Detectors no longer have to run via the KNX BUS. They are connected directly to the DALI BUS. Where lighting control is concerned, less expensive DALI multi-sensors can be used. This eliminates the high installation effort and the costs for additional KNX cables.

BLE variant

KNX variant

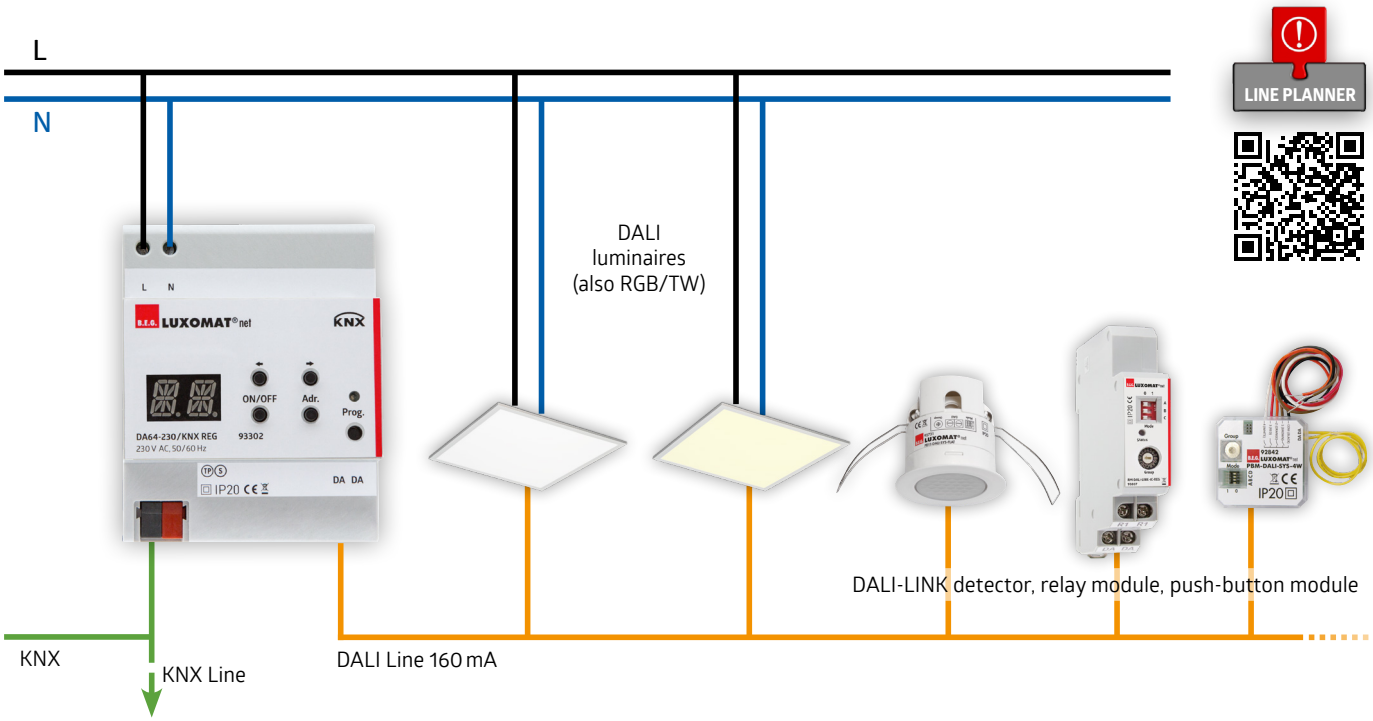
DALI/KNX-Gateway

New solutions in building control – DALI/KNX Gateway reduces costs and simplifies installation

DALI is the widely used professional tool for lighting control. Until now, the integration of a DALI lighting control system into KNX installations was done via gateways that only enabled the control of luminaires. The DALI/KNX gateway creates a new, attractive solution: the additional integration of DALI control devices makes installation simple and achieves a considerable reduction in costs.

B.E.G. has launched a DALI/KNX Gateway that can integrate motion and occupancy detectors as well as push-buttons into the DALI BUS in addition to luminaires. This new solution reduces the installation effort. Detectors no longer have to run via the KNX BUS, but can be connected directly to the DALI BUS. This eliminates the need for additional KNX cables. Where lighting control is concerned, cost-effective DALI multi-sensors can be used in a KNX-controlled building.

This solution not only reduces installation costs, but also simplifies installation and significantly increases installation flexibility. The integration of DALI-LINK multi-sensors into the DALI BUS simplifies the configuration of the installation and the calibration of the detectors. B.E.G. offers a complete range of KNX devices, from power supply to TP or IP line couplers, switching actuators with and without power consumption measurement and outputs for shutter/blind control. These advanced building automation solutions meet the legal requirements for energy efficiency. For more information or assistance in developing lighting control and management solutions in DALI and/or KNX, we will be happy to help you.



DA64-230/KNX REG **93302**

Compatible DALI control and operating devices:

Multi-sensors:

93908	PICO-DALI-LINK
93068	PD11-DALI-LINK-FLAT
93377	PD4N-DALI-LINK
93845	PD4-DALI-LINK-GH

Push-button:

93396	PBM-DALI-LINK-4W

Relays:

93807	RM-DALI-LINK-1C-REG
93854	RM-DALI-LINK-4C-REG

- Combines the advantages of DALI and KNX BUS
- Reduced Installation effort
- Incl. scene mode and RGB/TW control
- Controls up to 64 ECGs in 16 groups
- Greater flexibility and operational reliability

DALI-LINK

Multiroom solution BLE variant

LED panel luminaire
with B.E.G. DALI driver

DALI BUS

DALI power supply

or

REG DALI power supply

Push button
module with
bluetooth

(Push button unit
not included)

Commissioning and
Room control

Features

- Modular multimaster concept with only one DALI line
- Trend-setting Bluetooth technology for commissioning and scene operation
- Ideal for single or multi-room applications (e.g. conference room, staircase, doctor's surgery)
- Available as a "starter set" and individually
- Intuitive and free app for Android and iOS

Functions

BLE app functions:

- Scene control and configuration tool
- Grouping and light calibration wizard
- Share/backup database via email

Logic functions:

- Presence and/or brightness-dependent lighting control
- Segmentable control with offsets
- 16 groups, 16 scenes, panel light, orientation light and much more

DALI-LINK

Multiroom solution KNX variant

MANAGEMENT LEVEL

NETx Automation

Light value status

Presence status

Device status

Lock status

Ethernet – KNX/IP

AUTOMATION LEVEL

Lock active/inactive

Automatic control

Light value control

Scene control

Commissioning

DA64-230/KNX REG

FIELD LEVEL

Features

- Modular DALI Multimaster concept with KNX connection
- KNX wiring for sensor technology can be avoided by using this solution
- Cross-DALI line logic functions possible via KNX
- Automation logic takes place on the DALI side, commissioning via ETS
- Integration of emergency luminaires possible

Functions

ETS App functions:

- Commissioning of DALI luminaires and detectors via ETS (DCA)
- Communication objects for light value and presence information
- Disabling and enabling of DALI automation via KNX possible

Logic functions:

- Presence and/or brightness-dependent lighting control
- Segmentable control with offsets
- 16 groups, 16 scenes, panel light, orientation light and much more

DALI-SYS

Optimum lighting control with B.E.G. DALI-SYS

Reducing energy consumption and increasing comfort at the same time - this is possible with presence-controlled building automation. Once parameterised, the system works automatically in the background: this means, for example, that the lighting is automatically switched and dimmed when rooms are not in use or when optimal, natural conditions already prevail.

Lights off when not in use may still work in private homes, but the larger a building is, the less users feel responsible. Especially in large buildings such as commercial buildings, industrial halls, warehouses, car parks, hospitals, homes, hotels and public buildings, lighting control should work automatically as soon as an area is in use.

Cross-room lighting control with DALI-SYS
Anyone who thinks of a building automation system as a huge effort and a confusing number of components is not yet familiar with B.E.G. DALI-SYS. The B.E.G. DALI-SYS lighting control system is scalable, from equipping individual rooms to controlling the lighting of an entire building complex. The components are addressable and operate according to the principle of distributed intelligence, thus ensuring a high level of operational reliability.

Optimum brightness measurement
How do multi-sensors detect the required amount of light? In addition to PIR sensors for motion detection, they also have brightness sensors that can be used to control the lighting according to the amount of daylight. In addition, the multi-sensor dims only as much artificial light as is really needed to achieve the preset lux value in the room.

The brightness sensor in the multi-sensor is usually located behind the lens and measures the light in the entire room, from which it calculates an average value. Some multi-sensors even have a second brightness sensor that is attached to the outside of the design ring. With its point light measurement, this can contribute to an even more balanced measurement result.

User interface
The employee can dim the light via the push-button if he needs more or less brightness. Alternatively, he can also intervene in the B.E.G. DALI-SYS control system via his PC. By means of a user name and password, employees are given access to areas in which they can influence the lighting control. The respective employee logs in via his browser and can control the light in his office. Via a user-friendly interface, he selects the scenes, switches and dims the light so that he can work well.

In the conference room, employees can also control the light via their smartphone. For different meeting situations, so-called scenes are stored in the system, which can be called up with a click. For this purpose, the luminaires in the room are divided into groups and assigned dimming values. The staff can then switch, for example, from the “Meeting” scene with full illumination of the conference table to the “Presentation” scene with dimmed light in the area of the projection screen.

93480

Functions and building technology

A special function of B.E.G. DALI-SYS is called “Guided Light”, which has also become known on the market as “swarm intelligence”. With this function, lighting groups are synchronised across DALI lines. Thus, when movement is detected, not only the lighting group in which the movement is detected switches on the light. The adjacent lighting groups also react, but with dimmed light. Thus, the user is surrounded by a cloud of light that dims towards the outside. The user can therefore see what is happening in the adjacent areas at all times; he never looks from a brightly lit area into a totally dark area. The function is ideal for use in staircases, corridors or open-plan offices. The use of the function is more cost-effective than the usual 100% lighting due to dimming.

The connection of B.E.G. DALI-SYS to a higher-level building technology system or to parallel existing systems for other trades such as heating, ventilation, blind control or access control can be easily realised via the B.E.G. DALI-SYS BACnet router. So-called multi-state objects allow different lighting control commands to be routed to the B.E.G. DALI-SYS system from a higher-level software. This means that the lighting control system can be overridden from a BACnet-based control centre, for example.

“Hidden” functions such as the remote maintenance option or the software update of B.E.G. control devices via the DALI BUS contribute to the very high operational reliability of B.E.G. DALI-SYS. Maintenance is facilitated by a quick system overview and automatic error notification. Key figures such as the lighting duration of individual lamps or the system‘s energy consumption can be viewed transparently at any time. A system administrator can monitor, configure and maintain the systems via PC or mobile devices. This is how user-friendly and environmentally friendly lighting control systems can be set up today with networked systems.

93345

93340

92842

DALI-SYS

The Building Solution

MANAGEMENT LEVEL

NETxAutomation

Light value status

Presence status

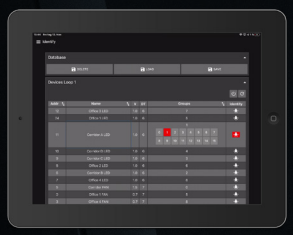
Device status

Ethernet – BACnet/IP

Automatic control

Light value control

Scene control



Commissioning

Room control

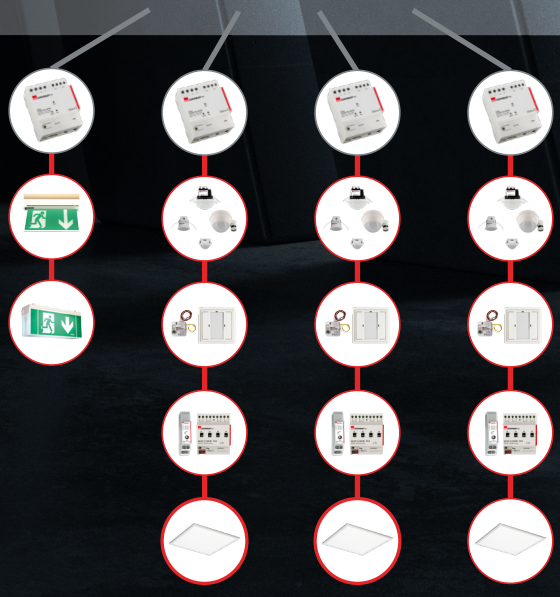
ViSTATION

AUTOMATION LEVEL

... up to 100 pieces

Router Router Router Router

FIELD LEVEL



Features

- Networkable, modular multi-master option
- Combines management of normal lighting and emergency lighting, control of blinds and HVAC functions on one platform
- Decentralised control with distributed Intelligence, to provide a high level of operational reliability
- Multi-sensors have no power supply and are supplied with power via the DALI BUS
- Visualisation and central functions available without an upstream BMS
- BMS connection available via BACnet
- Planning, commissioning and maintenance by B.E.G.
- Logic links across trades and protocols possible with NETx Automation

Functions

see DALI-LINK and ...

- Emergency lighting management
- Control of blinds
- Guided Light PLUS
- Central functions: email reporting, calendar function, energy monitoring
- ViSTATION – visualisation with user administration and virtual user terminals
- BACnet interface

BMS DALI-2

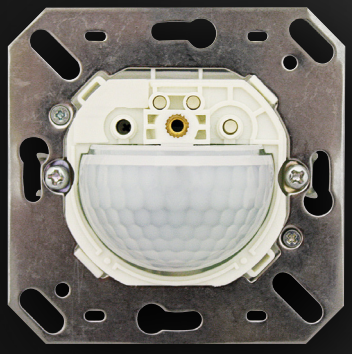
Multi-sensors and push-buttons as input devices for use in compatible lighting control systems

B.E.G. now offers a large number of the "occupancy detectors" as BMS multi-sensors. The advantage of BMS multi-sensors over the classic connection of 24 V multi-sensors is that the 2-wire DALI cable that is often already available or planned for lighting can be used for the connection.

The simplification is enormous: whereas a conventional 24 V multi-sensor often required an individual terminal per sensor and an individual supply line, a large number of BMS sensors can be connected to one line, depending on the DALI voltage supply. DALI luminaires and multi-sensors simply share the BUS line.

Sensor information such as movement, presence and light values are transmitted by the BMS multi-sensors even without cyclical polling in "multi-master" mode. This sensor information is standardised. This means that the B.E.G. BMS multi-sensors can be used with all multi-master-capable application controllers that support multi-sensors according to IEC 62386 parts 101, 103, 303 and 304.

With state-of-the-art digital passive infrared sensors, the detectors offer unique detection quality for motion and presence. B.E.G.'s light measurement is also particularly reliable thanks to external light sensors and allows constant light regulation up to 16 m mounting height with the PD4-BMS-GH, for example. The BMS family offers detectors for almost all areas of application, for example the "PICO" mini-sensor with an installation depth of only 11 mm, the super-flat PD11 sensor or the PD4-BMS-GH high-bay detector.



Indoor 180-BMS DALI-2

BMS

PICO-BMS DALI-2

PD11-BMS-FLAT-FC DALI-2

PD2N-BMS-FC DALI-2

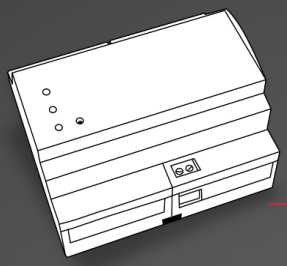
PD4N-BMS DALI-2

LC-Mini 120-BMS DALI-2

PD4-BMS-GH-SM DALI-2

BMS DALI-2

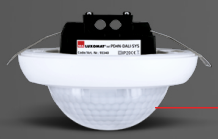
Standardised multi-sensors and push buttons



DALI BUS

Compatible controller
from any manufacturer

LED panel luminaire
with B.E.G. DALI driver



PD4N

PD2N-FC /-FM

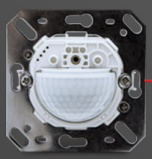
PD11-FLAT

PICO

Corridor lens
PD4N Typ A

PD4-GH-SM

LC-Mini



Indoor 180

2-, 4-, 6- and 8-fold push buttons

Push-button module

Features

- DALI-2 control devices of the class “Input Device” developed according to IEC 62386 parts 101, 103, 301, 303 and 304
- Multi-sensors and push buttons via DALI
- Lighting control takes place in a centralised multi-master compatible application controller from any manufacturer
- Operating voltage via DALI BUS
- Large range for a wide variety of requirements
- Multi-sensors:
  - Bright LED indication for rapid localisation
  - Exterior light sensors, some are orientable
- Commissioning and maintenance by systems integrator of lighting control solution installed

Functions (Multi-sensors)

- Sends lux values as required
- Sends information on room occupancy and motion detection as required
- Integrated follow-up time (hold time) for detection of room occupancy
- Polling support
- Adjustable weighting of the additional Ambient light measurement (PD2/4N only)
- Sensitivity of PIR sensor adjustable
- LED indication can be switched off

CASAMBI

New freedoms and more possibilities through Bluetooth-controlled sensors

Today's electrical contractors planning lighting installations have to take into account not only current energy efficiency requirements but also modern workplace demands. Cost-efficient energy saving can be marketed to the building owner just as well as flexible solutions for any user in the future. Such a modern system is made possible by the use of sensors. Here, B.E.G. has expanded its popular PD4N occupancy and multi-sensor series with two new, Bluetooth-controlled Casambi models: PD4N-CAS DALI-2 and PD4N-CAS can be quickly and easily operated wirelessly via the Casambi app.

In large rooms, there are often very different lighting situations. At window fronts, daylight illuminates the room. Near interior walls, there are rather dark areas. However, constant lighting conditions are desired throughout the room. Thanks to having two brightness sensors, the PD4N sensors from B.E.G. master such lighting situations easily. They ensure reliable constant light regulation. If areas are not used, they can be dimmed or switched off. This helps to reduce energy consumption and conserve luminaires. Building system technology is becoming more and more diverse, and so is B.E.G.'s range of products.

CASAMBI

New is the partnership with Casambi. The built-in Bluetooth modules of the Finnish manufacturer enable wireless control of the models via the Casambi app. The app is used to control the nearest device in the mesh network, which takes over communication with other devices. Desired lighting scenes and extensive automatic functions can be quickly realised via Casambi. In addition, other Casambi-enabled devices such as wireless push-buttons can also be integrated.

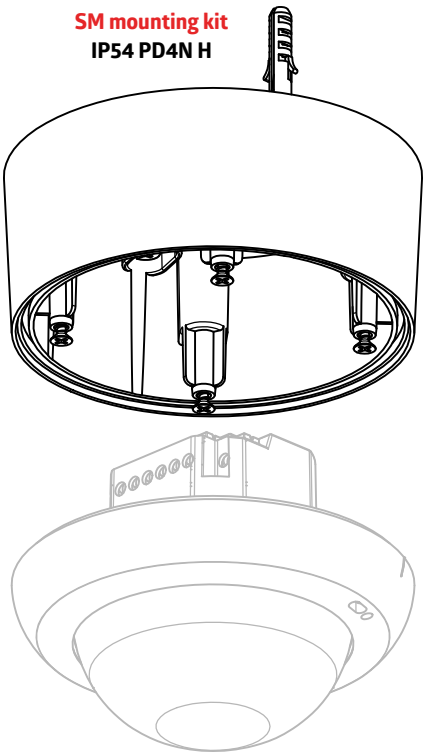
High ceilings, long corridors, large halls – these are places of application for the PD4-GH sensors from B.E.G. Instead of illuminating entire halls, light is only switched where it is needed. B.E.G. has developed the PD4-GH occupancy detector and multi-sensor series especially for these applications. Thanks to the telescopic light sensor that can be pulled out, the measuring range can be optimised even for an installation height of up to 16 metres. Together with the adjustable parameters, this ensures reliable and energy-efficient constant light regulation. The oval detection area is optimally designed for use in long aisles: It has a diameter of 30 m in longitudinal direction even for frontal movements. Thus, the PD4-GH sensors create safety and comfort for hall users.

THE HOUSING CONCEPT OF THE FUTURE

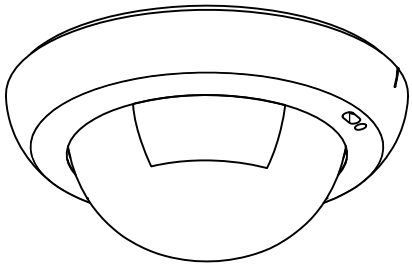
The PD4N housing for DALI, KNX ans Casambi

- Maximum flexibility in mounting options
- Installation in suspended ceilings (ceiling installation) thanks to pre-mounted spring clamp with integrated strain relief
- Installation in flush-mounted/fireproof box thanks to easily removable spring clamp
- Surface mounting thanks to easily removable spring clamp and accessories (surface-mounted base)
- Cavity wall mounting thanks to easily removable spring clamp and accessories (wall bracket)
- Solid wall mounting thanks to easily removable spring clamp and accessories (wall bracket and wall bracket surface-mounted base)
- Removable design ring with PIR lens for variability with regard to: colour/PIR lens type (e. g., corridor lens as accessory)
- Also available as Casambi version
- Further accessories for colour matching optionally available (design rings, bases, brackets):
  Pure white (RAL 9010)
  Traffic white (RAL 9016)
  Anthracite grey (RAL 7016)
  Jet black (RAL 9005)
- Splash-proof (IPX4) for surface and wall mounting
- Inside and outside light sensor for more quality of light regulation

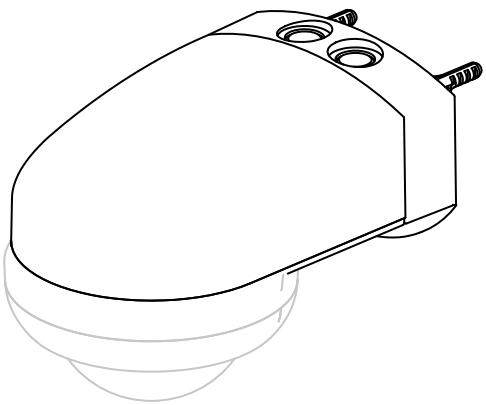
SM mounting kit
IP54 PD4N H



Corridor lens PD4N type A, cover ring



Wall bracket PD4N type PD4N type A
Surface-mounted base for wall bracket



Wall mounting

Traffic white RAL 9016 93192/93164	
Pure white RAL 9010 93712/93164	
Anthracite grey RAL 7016 93711/93701	
Jet black RAL 9005 93713/93703	

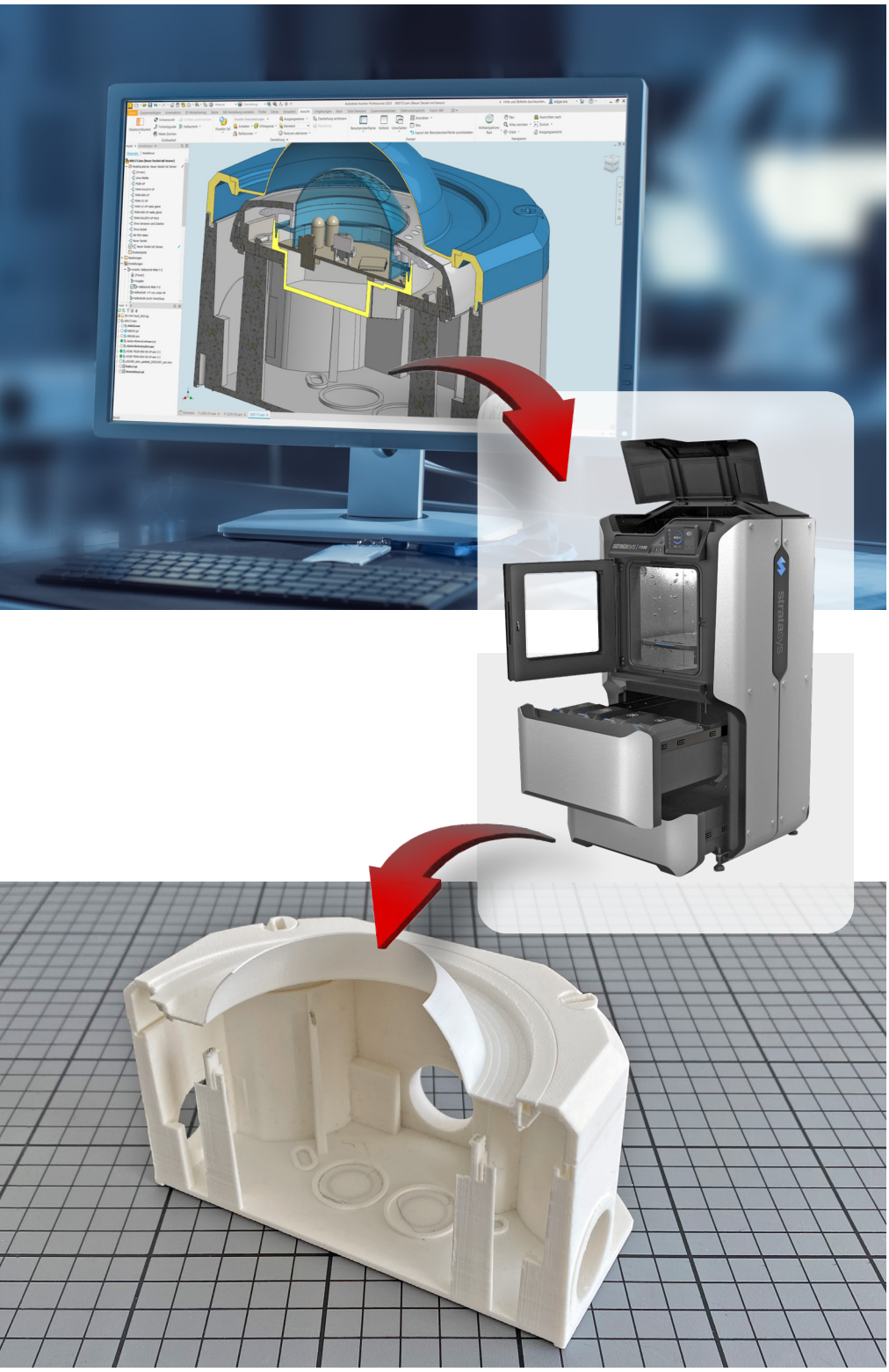
VARIABLE DESIGN

- Accessories optionally available in various colours

MORE MOUNTING FREEDOM

- Accessories for surface mounting optionally available
- Wall bracket available for PD4N and PD2N
- Optional surface-mount base for wall bracket enables side cable entry

DEVELOPMENT AND PRODUCTION



Professional quality assurance with EMC laboratory

- In the in-house EMC laboratory, the technical team tests the electromagnetic emission and radiation of the products. In this way, B.E.G. ensures that the products do not emit high levels of radiation and that other devices, such as smartphones, do not influence the reliable performance of B.E.G. products through radiation.

- The B.E.G. quality testers expose the products to temperatures of -50 to +50 °C in the climatic cabinet for longer periods of time. The temperature resistance of the products is tested under extreme conditions.

- At the very end, a B.E.G. quality product must then pass the impact and IP test, in which the stability of the housing and the reliability of the seals are examined in great detail.

- Through these elaborate test procedures, the demanding experts at B.E.G. ensure that their own products always meet the company's high quality requirements. You can rely on that!

Flexibility in the development of new products

- For the production of prototypes, the B.E.G. CAD department uses the 3D printing manufacturing process to develop precise and testable components..

- Layer by layer, three-dimensional test models are printed from objects created on the computer according to precise specifications.

- Afterwards, the tools for series production are created or existing tools are modified. The use of extremely robust plastics and high-quality electronic components is a cornerstone of the extraordinary durability of B.E.G. products.

HIGH-QUALITY DETECTOR TECHNOLOGY

■ High-performance motion detectors have been optimised for time-saving and easy installation. The detectors are individually adjustable, so the detection area can be optimally aligned, for example, to cover the property outdoors but not the street.

■ Motion detectors are designed to reliably detect moving heat sources in their detection range. According to the respective ambient brightness, they automatically switch on the light when movement is detected. If no more movement is detected, the detector switches the light off again after the set follow-up time.

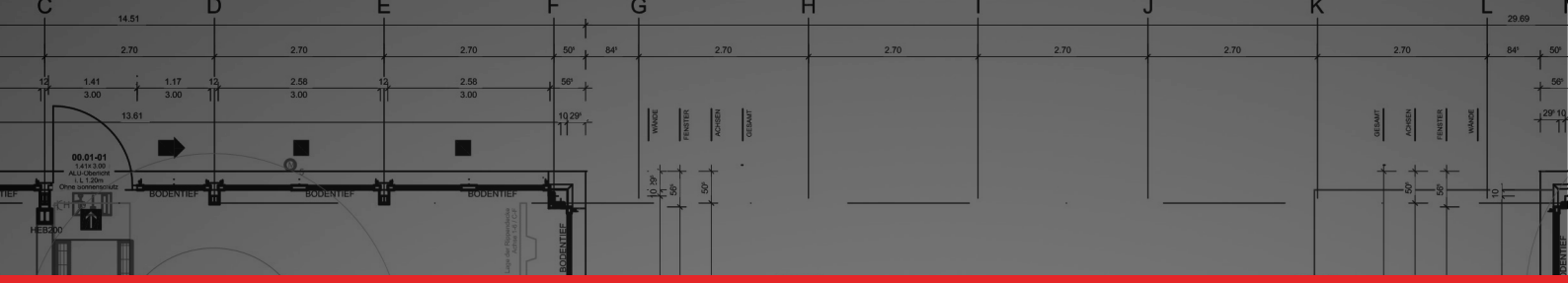
■ This is made possible by the passive infrared technology (PIR): The motion detector divides the detection area into many small sub-areas. In these, the detector measures the heat radiation emitted by a living being, for example. If temperature differences occur in several sub-areas due to movement, these are detected by a PIR sensor integrated in the motion detector. The sensor itself does not emit any radiation and is therefore referred to as passive.

Biodynamic occupancy detector technology (with HCL)

■ The bidirectional PD4-M-HCL2 occupancy detector with integrated DALI controller and “Tunable White” function for “Human Centric Lighting” controls various luminaire groups according to presence and daylight and also features time-of-day-dependent control of brightness and colour temperature by means of a real-time clock.

■ If requirements change, the settings can be adjusted as needed at any time. Even more convenient than using the potentiometers, the settings can be made using the matching B.E.G. remote control.

■ B.E.G. is characterised by decades of experience in the development of motion detectors and automatic luminaires, high quality and reliability. Thus, B.E.G. motion detector technology provides the perfect combination of safety, convenience and energy savings.



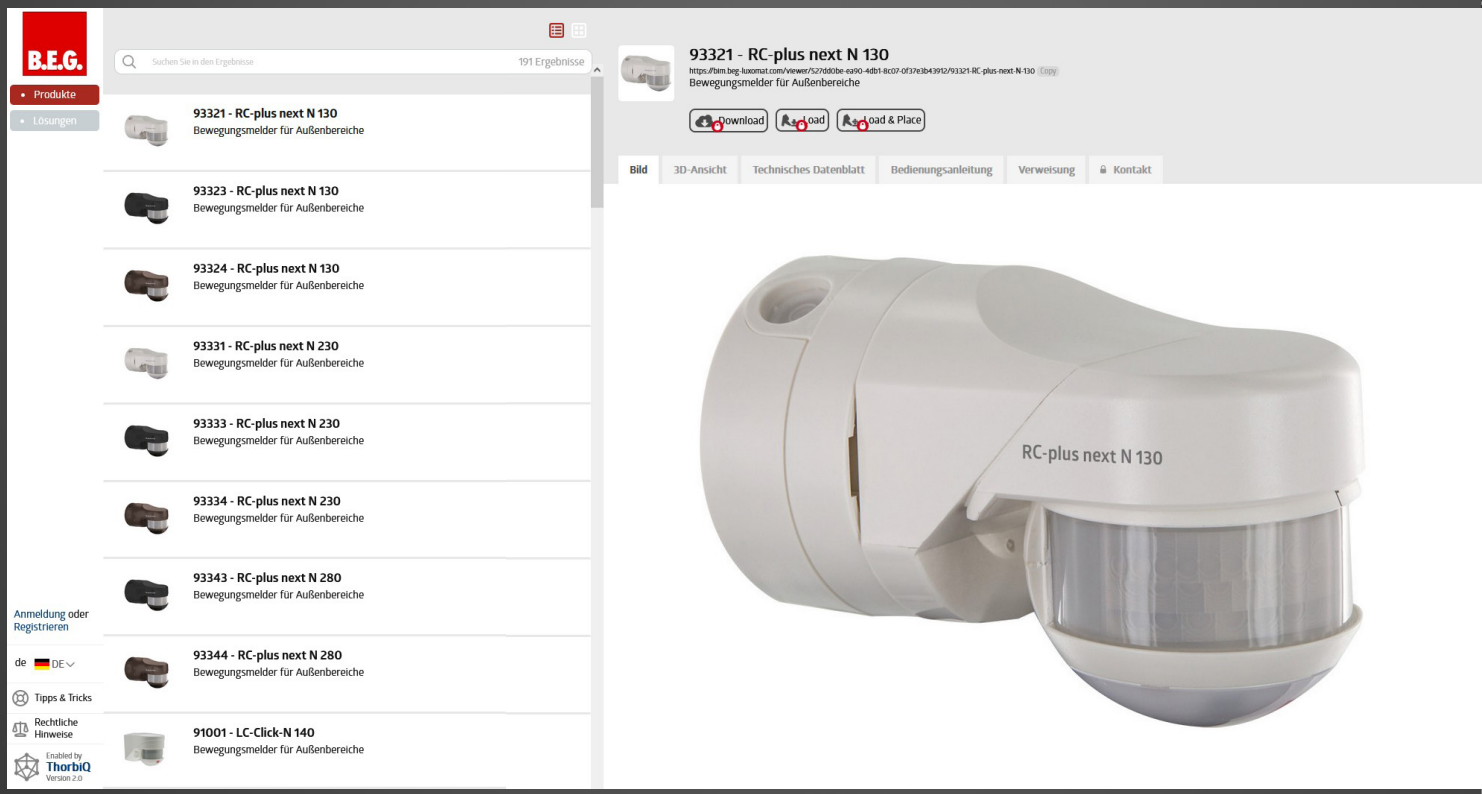
CONSULTANT SUPPORT

We know that we can only achieve great things together, which is why our project planning team is always available to advise you from the project idea to its implementation.

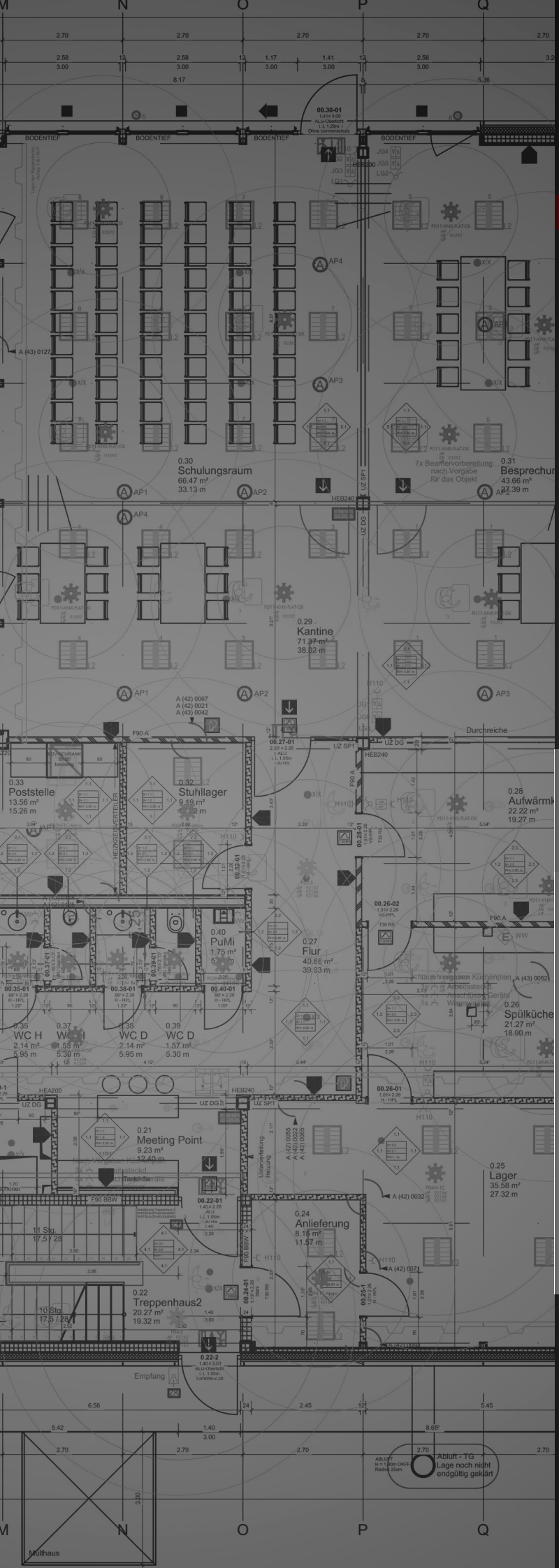
As experts in building automation, we rely on the planning method, BIM, Building Information Modelling, which is increasingly becoming the standard for planning large-scale projects worldwide. The programme not only offers advantages for us, but also for you, because all alphanumeric properties of the planned building are displayed here and made accessible to all project participants. Thanks to automatic updating, all those involved are kept up to date with the latest planning and are provided with background information on the basis of which further decisions can be made.

Data and project information of many B.E.G. motion and occupancy detectors are waiting for you in the web application “B.E.G. BIM Application Suite”.

B.E.G. BIM Application Suite



Do you have any questions or would you like to contact us? Our project planning team is already looking forward to supporting you in many exciting projects. E-mail to projects@beg.de.



Service and information for planners

- We support you at every stage. Our in-house planning department will provide you with a non-binding plan of the appropriate lighting control system with specific installation locations for the motion and occupancy detectors.

- On our homepage, the photometric data of all luminaires are available in LDT format for import into lighting design programs such as DIALUX or RELUX.

- Our competent field staff regularly undergo further training. This means that you always have a contact person at your side, who is also happy to visit you on site and at the construction site.

- Our office staff are highly trained and will be happy to advise you on all aspects of your order. Your contact person will also be happy to answer any questions you may have about the products.

- Our products are available exclusively from electrical wholesalers. Thanks to many years of cooperation, the local staff can help you in most cases with questions about B.E.G. products.

- We offer the right solution for many requirements. If the right product is not available, we offer special solutions, tailormade for your project. Our years of experience and the outstanding quality of our products make us experts in intelligent building automation.

SYSTEM CONSULTING AND INTEGRATION SERVICE

For us, excellent project support does not end with the construction of your building: Our technical support is also there for you during and after completion!

We at B.E.G. value sustainable customer relationships and therefore want to offer more. Not only do we provide you with advice and expertise during the planning and implementation of your project, but we have also developed a comprehensive range of services for you.

Our reliable support answers technical questions of all kinds quickly and easily over the phone.

Find your contact person near you:

Because not only our products, but also our service are SUSTAINABLE

B.E.G. building system technology
Solution with NetxAutomation

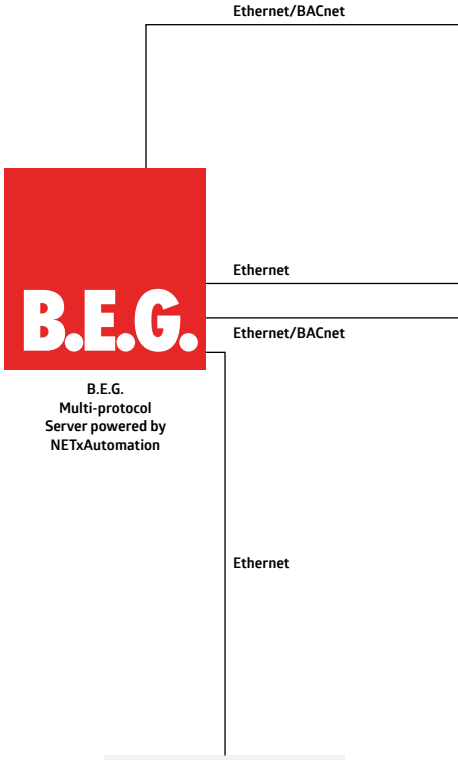
Would you like to use the full potential of your automated building? Then our multi-protocol gateway is perfect for you. The server solution connects different building system technology protocols.

These can be functionally linked with each other, e.g. to centrally monitor and control the energy consumption of a property remotely via BACnet and KNX. A web platform is also provided for the provision of building management functions such as ‚Trending', ‚Alarm Management', ‚Scheduler' and a ‚Logic Engine'.

The BMS platform also provides a freely configurable and designable visualisation solution, which, like the web plaform, comes with extensive user administration and a web interface. In addition to the basic functions, it is possible to add further functions via ‚add-ons', such as automatic shading control or KNX/DALI management.

System requirements:

The physical server must have a Windows operating system, Windows 10 or Windows Server 2019 (and higher) is recommended. However, it is also possible to run the software on older Windows versions up to Windows 7 and Windows Server 2008. Unfortunately, there is no full support for these systems, as this has been discontinued by Microsoft. The system requirements vary greatly depending on the size of the project. It is also possible to install the software in a virtual environment (Hyper-V, Vmware, etc.).



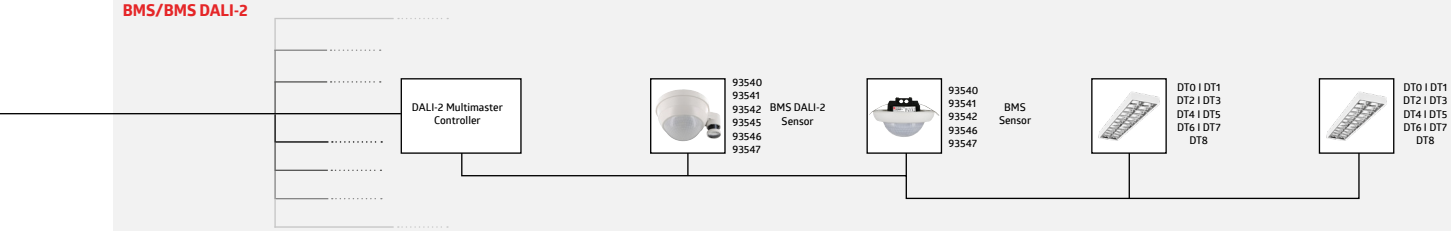
Currently available software interfaces are:

- KNX · BACnet · Modbus
- OPC · SNMP · Fidelio/Opera
- Infor · Protel · VingCard
- Salto · Kaba
- Universal XIO interface
- HTTP Server **and other Web Service Gateways**
- BACnet, oBIX, MQTT and third-party OPC clients
- Web Service Clients from third parties

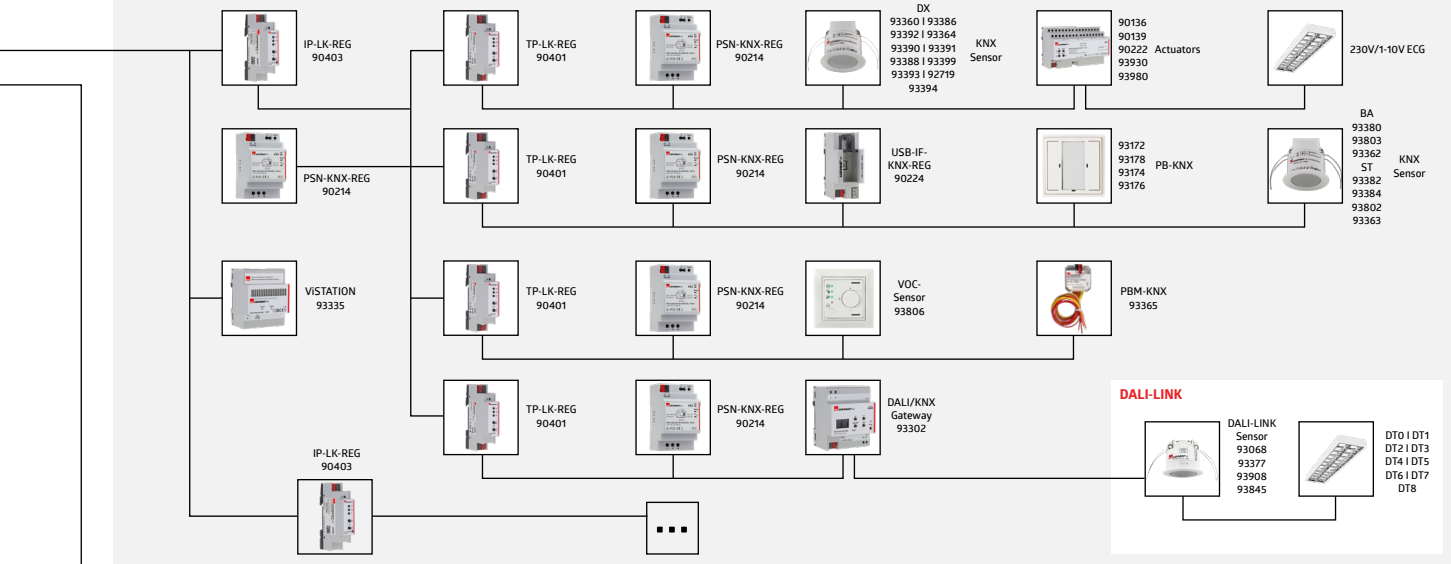
Supported hardware gateways:

· DALI · EnOcean · M-Bus · DMX

BMS/BMS DALI-2

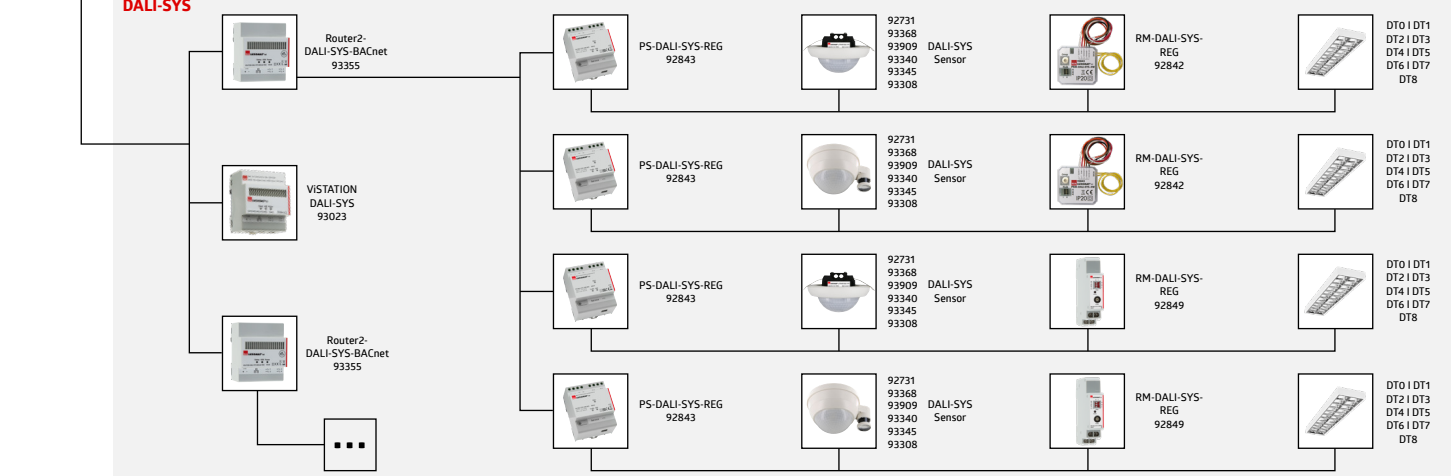


KNX



DALI-LINK

DALI-SYS



DACO® Technical data

1 Chanel Broadcast

	PD2N-M-DACO DALI-2	PD4N-M-DACO DALI-2
		
Range (approx.):	max. Ø 10 m across max. Ø 6 m towards max. Ø 4m seated	max. Ø 24 m across max. Ø 8 m towards max. Ø 6.4 m seated
Dimensions:	Ø 84 x 85 mm	Ø 106 x 95 mm
Mounting height min./max./recommended:	2 m/5 m/2.5 m	2 m/5 m/2.5 m
Impact strength:	IK05	IK04
Degree/class of protection:	IP20/Class II	IP20/Class II
Cable length:	–	–
Part number:	**93452**	**93460**

More infos online

Common technical data	
Voltage: 230 V AC ±10 % 50 Hz	Power consumption: approx. 2 W
Approx.: 360° range	Orientation light: 10-30 %/OFF/5 min-60 min/∞
Housing: polycarbonate, UV-resistant	Supported control gear: DT0, DT5, DT6, DT7
Brightness set value: 10-2500 Lux	Ambient temperature: -25 °C to +55 °C

PD11-M-DACO-FLAT DALI-2	PD9-M-DACO DALI-2	PD4-M-DACO-GH DALI-2
		
max. Ø 9 m across max. Ø 6 m towards max. Ø 3 m seated	max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated	oval detection area: 30 m x 19 m
Sensor head: Ø 43 x 48 mm, Power supply: 240 x 26 x 26 mm	Sensor head: Ø 45 x 28 mm, Power supply: 240 x 26 x 26 mm	Ø 101 x 76 mm
2 m/5 m/2.5 m	2 m/5 m/2.5 m	5 m/16 m/14 m
IK02	IK03	IK04
IP20/Class II	IP20/Class II	IP54/Class II
50 cm	50 cm	–
93459	**93470**	**93469**

Slave devices: up to 8

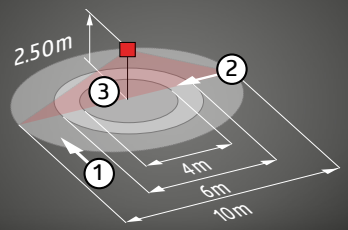
DALI output: 80 mA (guaranteed), 125 mA (max.),
Shut-down mechanism

Follow-up time: 1 min-150 min

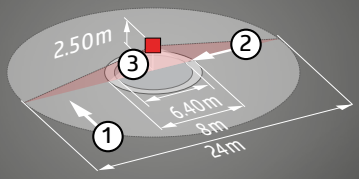
Remote controllable with:
IR-Adapter for Smartphones, BLE/IR-Adapter
IR-PD-DALI, IR-PD-DALI-LD
IR-PD-DALI-E , IR-PD-DALI-Mini

RANGE CHARTS

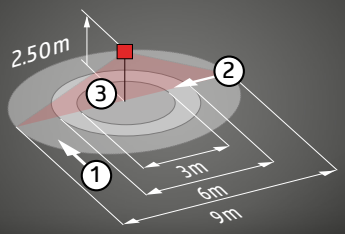
PD2N-M-DACO DALI-2



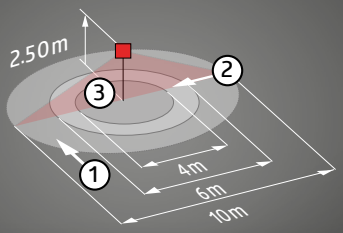
PD4N-M-DACO DALI-2



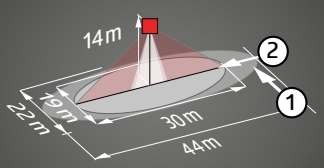
PD11-M-DACO-FLAT DALI-2



PD9-M-DACO DALI-2



PD4-M-DACO-GH DALI-2



DACO® Technical data
2 Chanel Broadcast

PD2N-M-DACO-1C DALI-2

More infos online

Range (approx.):	max. Ø 10 m across max. Ø 6 m towards max. Ø 4m seated
Dimensions:	Ø 84 x 85 mm
Impact strength:	IK05
Part number:	**93455**

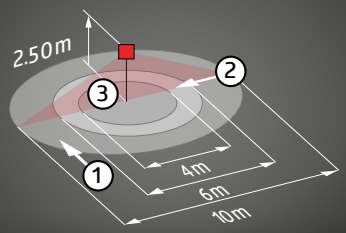
Common technical data	
Voltage: 230 V AC ±10% 50 Hz	Power consumption: approx. 2 W
Follow-up time: 1 min-150 min; chanal 2: 5 min-120 min, Alarm pulse, Pulse	Orientation light: 10-30 %/OFF/5 min-60 min/∞
Housing: polycarbonate, UV-resistant	Supported control gear: DT0, DT5, DT6, DT7
Mounting height: min./max./recommended: 2 m/5 m/2,5 m	Brightness set value: 10-2500 Lux
Type of contact: chanal 2: 1x µ-contact, dry, bistable	Remote controllable with: IR-Adapter for Smartphones, BLE/IR-Adapter IR-PD-DALI, IR-PD-DALI-LD, IR-PD-DALI-E, IR-PD-DALI-Mini
Degree/class of protection: IP20/Class II	

PD4N-M-DACO-1C DALI-2

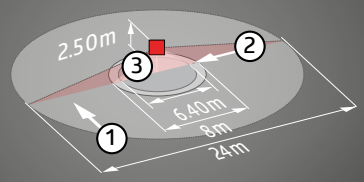
	max. Ø 24 m across max. Ø 8 m towards max. Ø 6.4 m seated
	Ø 106 x 95 mm
	IK04
	93463

Slave devices: up to 8
DALI output: 80 mA (guaranteed), 125 mA (max.), Shut-down mechanism
Ambient temperature: -25 °C to +55 °C
Approx. 360° range
Switching power: Kanal 2: 2300 W, cos φ = 1/1150 VA, cos φ = 0.5 300 W LED/max. inrush current Ip (20 ms) = 165 A

RANGE CHARTS



PD4N-M-DACO -1C DALI-2



DACO® Product information
Broadcast

	PD2N-M-DACO DALI-2 PD2N-M-DACO-1C DALI-2	PD4N-M-DACO DALI-2 PD4N-M-DACO-1C DALI-2
		
Product related information	93452/93455	93460/93463
External telescopic light sensor for a mounting height between 5 and 16 m (mechanically adjustable) for measuring the light according to the application	–	–
Mixed light measurement with internal and external light sensor	■/■	■/■
Powerful switching relay for different operating modes, e.g. Cutoff function for DALI ballasts, HVAC, blackboard illumination.	–/■	–/■
Including pre-assembled spring clamp with strain relief and contact protection cap for recessed ceiling mounting	■/■	■/■
Accessories for wall mounting optionally available	■/■	■/■
Accessory for surface mounting available	–	■/■
Further accessories for colour matching optionally available	■/■	■/■

	Common product information
Occupancy detector with integrated DALI application controller for energy-efficient lighting control	Adjustable regulation dynamics (minimum and maximum values)
DALI-2 certified product	DALI output power can be increased with accessories
Integrated DALI power supply	Integrated daylight harvesting circuit (or switch output)
DALI interface for controlling digital, dimmable ECGs in broadcast mode	Adjustable switch-on value
Manual switching or dimming via conventional push buttons	Last value – Reminder function for switch-on value
Bidirectional IR communication enables fast integration into the project management function of the B.E.G. One app	Adjustable brightness set value and reflection factor
Complete range of functions can only be activated using the BLE-IR-Adapter and a compatible Smartphone or Tablet (Android, iOS)	Adjustable speed and delay of the regulation
Semi-automatic, full automatic, presence-independent or light-independent mode adjustable	Single master version, not networkable

PD11-M-DACO-FLAT DALI-2	PD9-M-DACO DALI-2	PD4-M-DACO-GH DALI-2
		
93459	93470	93469
–	–	■
Inside only	Inside only	Inside only
–	–	–
–	–	–
■	–	–
–	–	–
–	–	–

- Detection area can be extended with slave devices
- Indication of the current light sensor value in the B.E.G. One App
- Self-check and display of device errors in the B.E.G. One App
- Status LED can be activated/deactivated
- Factory setting 10 min follow-up time and 500 lux brightness set value
- Corridor function - Deactivates the possibility to switch off the light via the push-button
- Number of DALI participants can be determined quickly and reliably via the B.E.G. Online DALI Line Planner
- Software is backwards compatible with the first generation (except DSI, double lock and corridor function)
- PIN Code

SUITABLE FOR

PD2N/PD4N

- Entrance hall
- Conference room
- Open plan office
- Classroom

PD4N-K

- Corridor
- Staircase

PD4-GH

- Parking lot
- Sports hall
- Great height

DACO® Technical data
Multicast

	PD4-M-DAA4G	PD4-S-DAA4G
		

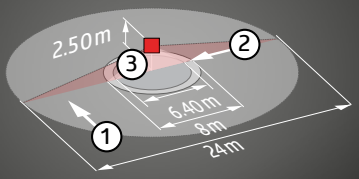
More infos online

Voltage:	110-240 V AC 50/60 Hz	via DALI BUS, max. 22.5 V DC
Power consumption:	approx. 2 W	–
Impact strength:	IK04	IK04
Remote control with:	BLE/IR-adapter	–
DALI output:	up to 64 DALI ballasts , can be grouped into 3 DALI groups plus blackboard lighting or HVAC control	–
Follow-up time:	1 min-150 min (Lighting zones)	–
Orientation light:	10-30 %/OFF/5 min-60 min/∞	–
Brightness set value:	10-2500 Lux	–
Switching power:	2300 W, cos φ = 1 1150 VA, cos φ = 0.5 300 W LED	–
Type of contact:	Chanel 2: 1x µ-contact, dry, bistable	–
Follow-up time:	5 s-120 min (HVAC)	–
Part number:	**92591** **92743**	**92721** **92759**

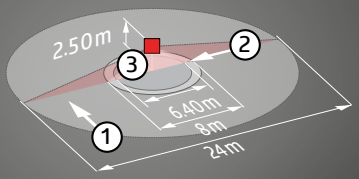
Common technical data

Ambient temperature: -25 °C to +50 °C	Housing: polycarbonate, UV-resistant	Approx. 360° range
Range (approx.): max. Ø 24 m across max. Ø 8 m towards max. Ø 6.4 m seated	Mounting height min./max./recommended: 2 m/10 m/2.5 m	Dimensions: SM= Ø 124 x 85 mm FC= Ø 117 x 100 mm
Degree/class of protection: IP20/Class II		

RANGE CHARTS



PD4-S-DAA4G



DACO® Product information

Multicast

	PD4-M-DAA4G	PD4-S-DAA4G
		
Product related information	92591/92743	92721/92759
Flexible DALI Compact solution designed for conference rooms, training rooms and classrooms	■	–
High-sensitivity occupancy detector with the capability to address up to 64 DALI electronic ballasts (EB) automatically, with segmented control via 4 groups	■	–
Quick commissioning and maintenance processes via Smart-phone/Tablet App (Android, iOS) – No PC-Tool required	■	–
3 lighting zones	■	–
A for main lighting with segmented constant light regulation via three DALI groups and offset control,	■	–
B for lectern or blackboard lighting via separate DALI group,	■	–
C for lectern or blackboard lighting by integrated relay	■	–
Powerful switching relay for different operating modes, e.g. Cutoff function for DALI ballasts, HVAC, blackboard illumination	■	–
Manual switching or dimming via conventional push buttons	■	–
Detection area can be extended with up to four Slave devices of type PD4-S-DAA4G	■	–
Complete range of functions can only be activated using the B.E.G. IR Adapter or the BLE-IR-Adapter and a compatible Smartphone or Tablet (Android, iOS)	■	–
External light sensor can be swivelled by 45°	■	–
For extension of the detection area of a master device PD4-M-DAA4G/PD4-M-HCL	–	■
Trigger pulse to master device upon detected movement independent of the ambient light level	–	■
Automatic test mode via master device	–	■
Plug & Play – no parameterisation required	–	■
Easy to mount	–	■
False ceilling or surface mount version available	–	■

SUITABLE FOR

PD4

Conference room

Classroom

BMS-DALI-2 Technical data
Multi-sensors

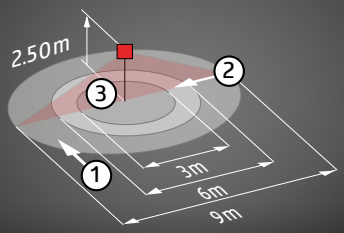
	PD11-BMS-FLAT DALI-2	PICO-BMS DALI-2
		
More infos online		
Range (approx.):	max. Ø 9 m across max. Ø 6 m towards max. Ø 3 m seated	max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated
Dimensions:	Ø 52 x 48 mm	Ø 33 x 27 mm
Monitored area (tangential movement):	63 m²/2.5 m mounting height	78 m²/2.5 m mounting height
Impact strength:	IK02	IK04
Part number:	**93542**	**93547**

Common technical data	
Voltage: via DALI BUS, max. 22.5 V DC	Typ. power input: 7 mA
Ambient temperature: -25 °C to +55 °C	Approx. 360° range
Settings: via DALI BUS by application which supports DALI multi-sensors according to IEC62386 parts 101, 103, 303 and 304 are supported	Degree/class of protection: IP20/Class II

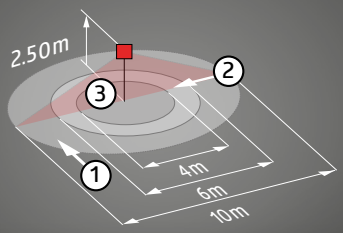
PD2N-BMS DALI-2	PD4N-BMS DALI-2
	
	
max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated	max. Ø 24 m across max. Ø 8 m towards max. Ø 6.4 m seated
FM= Ø 106 x 42 mm FC= Ø 83 x 55 mm	Ø 106 x 68 mm
78 m²/2.5 m mounting height	450 m²/2.5 m mounting height
IK05	IK04
93543 **93544**	**93546**

Housing: polycarbonate, UV-resistant
Measured light output: 0-4095 Lux, Mixed light measuring
Mounting height min./max./recommended: 2 m/5 m/2.5 m

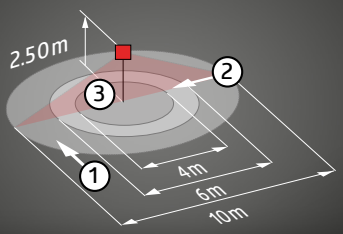
RANGE CHARTS



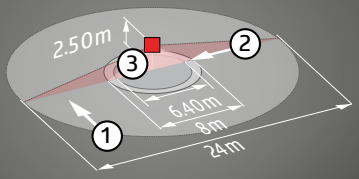
PICO-BMS DALI-2



PD2N-BMS DALI-2



PD4N-BMS DALI-2



BMS-DALI-2 Product information

Multi-sensors

	PD11-BMS-FLAT DALI-2	PICO-BMS DALI-2
		

Produktbezogene Informationen	93542	93547
Mixed light measurement with internal and external light sensor	–	–
Measuring of mixed light thanks to internal light sensor	■	■
Including pre-assembled spring clamp with strain relief and contact protection cap for recessed ceiling mounting	■	–
Suitable for mounting in false ceilings and flush-mounting	–	–
Designed for installation in luminaires	–	■
Accessory for surface mounting available	■	–
Accessories for wall mounting optionally available	–	–
Further accessories for colour matching optionally available	■	–

	Common technical data
DALI-2 multi-sensor (input device)	DALI multimaster technology according to IEC 62386 part 103
DALI-2 certified product	Instance 0 provides information regarding occupancy and movement for the DALI-BUS according to IEC 62386 part 303
Powered via DALI BUS	Instance 1 provides LUX values for the DALI-BUS according to IEC 62386 part 304
Bright LED indication for commissioning	Parameterisation is possible via mandatory Multimaster-Application-Controller of any manufacturer. This controller must support IEC 62386 parts 101, 103, 303, 304

PD2N-BMS DALI-2

PD4N-BMS DALI-2

93543/93544	93546
■	■
–	–
■	■
■	■
–	–
■	■
■	■
■	■

- Detection area can be restricted with blinds
- Individual adaption of the PIR sensor sensitivity
- Status LED can be activated/deactivated

SUITABLE FOR

PD11-BMS-FLAT DALI-2

- Office (small)
- Corridor
- Staircase
- Classroom

PICO-BMS DALI-2

- Staircase
- Sanitary room
- Office (small)
- Conference room

PD2N-BMS DALI-2

- Parking lot
- Sports hall

PD4N-BMS DALI-2

- Parking lot
- Sports hall

BMS-DALI-2 Technical data
Multi-sensors

	PD4-BMS-GH-AP DALI-2	LC-Mini 120-BMS DALI-2
		
Range (approx.):	30 m x 19 m	max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated
Dimensions:	Ø 101 x 76 mm	80 x 70 x 55 mm
Detection area:	horizontal 360° oval (Ceiling mounting)	horizontal 120° (Wall mounting)
Mounting height min./max./recommended:	5 m/16 m/14 m	2 m/3 m/2.5 m
Monitored area (tangential movement):	440 m²/14 m mounting height	100 m²/2.5 m mounting height
Degree/class of protection:	IP54/Class II	IP44/Class II
Impact strength:	IK04	–
Part number:	**93545**	**93541**

More infos online

Common technical data	
Voltage: via DALI BUS, max. 22.5 V DC	Typ. power input: 7 mA
Measured light output: 0-4095 Lux, Mixed light measuring	Degree/class of protection: IP20/Class II
Settings: via DALI BUS by application which supports DALI multi-sensors according to IEC62386 parts 101, 103, 303 and 304 are supported	

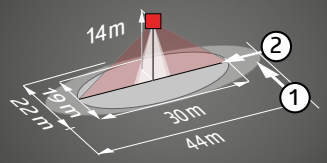
Indoor 180-BMS DALI-2

	max. Ø 10 m across max. Ø 3 m towards
	70 x 70 x 61 mm
	horizontal 180° (Wall mounting)
	1 m/2.2 m/1.1 m
	150 m²/1.1 m mounting height
	IP20/Class II
	IK05
	93540

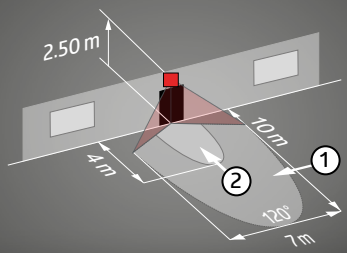
Ambient temperature: -25 °C to +55 °C
Housing: polycarbonate, UV-resistant

RANGE CHARTS

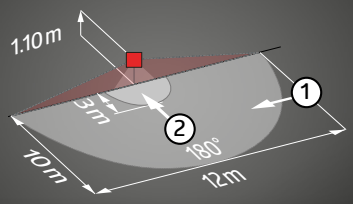
PD4-BMS-GH-AP DALI-2



LC-Mini 120-BMS DALI-2



Indoor 180-BMS DALI-2



BMS-DALI-2 Product information

Multi-sensors

PD4-BMS-GH-SM DALI-2 LC-Mini 120-BMS DALI-2

Product related information	93545	93541
Mixed light measurement with internal light sensor	–	■
Mixed light measurement with external light sensor	■	–
External telescopic light sensor for a mounting height between 5 and 16 m (mechanically adjustable) for measuring the light according to the application	■	–
Accessories for wall mounting optionally available	■	–
Adjustable ball head	–	■
For use with covering (interior cover dimensions 50 x 50 mm) in 5 different colours	–	–
In combination with centre plates usable with current frame systems of various manufacturers	–	–
B.E.G. frames and centre plates for combination with other frame systems available	–	–
Please order cover frame separately, available in various colours	–	–

Common product information	
DALI-2 multi-sensor (input device)	DALI multimaster technology according to IEC 62386 part 103
DALI-2 certified product	Instance 0 provides information regarding occupancy and movement for the DALI-BUS according to IEC 62386 part 303
Powered via DALI BUS	Instance 1 provides LUX values for the DALI-BUS according to IEC 62386 part 304
Bright LED indication for commissioning	Parameterisation is possible via mandatory Multimaster-Application-Controller of any manufacturer. This controller must support IEC 62386 parts 101, 103, 303, 304

Indoor 180-BMS DALI-2

93540
■
–
–
–
–
■
■
■
■

- Detection area can be restricted with blinds
- Individual adaption of the PIR sensor sensitivity
- Status LED can be activated/deactivated

SUITABLE FOR

PD4-BMS-GH-AP DALI-2

Great height

Sports hall

LC-Mini 120-BMS DALI-2

Outdoor areas

Parking lot

Indoor 180-BMS DALI-2

Corridor

Staircase

DALI-LINK Technical data
Multi-sensors

More infos online

	PD11-DALI-LINK-FLAT	PICO-DALI-LINK
		
Range (approx.):	max. Ø 9 m across max. Ø 6 m towards max. Ø 3 m seated	max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated
Dimensions:	Ø 52 x 48 mm	Ø 33 x 27 mm
Mounting height min./max./recommended:	2 m/10 m/2.5 m	2 m/5 m/2.5 m
Power consumption:	0,1 W	–
Typ. power input:	4 mA	2 mA
Impact strength:	IK02	IK04
Degree/class of protection:	IP20/Class II	IP20/Class II
Remote control with:	R-PD-DALI-Mini	–
Connections and wires:	0.5-2.5 mm² for solid conductors	–
Follow-up time:	1 s-120 min	–
Orientation light:	5-100 %/1 min-120 min/∞	–
Part number:	**93068**	**93908**

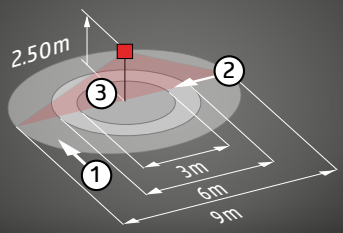
Common technical data	
Voltage: via DALI BUS, max. 22.5 V DC	Housing: polycarbonate, UV-resistant
Brightness set value: 10-2500 Lux	Degree/class of protection: IP20/Class II

PD4N-DALI-LINK	PD4-DALI-LINK-GH-AP
	
max. Ø 24 m across max. Ø 8 m towards max. Ø 6.4 m seated	oval detection area: 30 m x 19 m
Ø 106 x 68 mm	Ø 101 x 76 mm
2 m/10 m/2.5 m	5 m/16 m/14 m
–	–
7 mA	7 mA
IK04	IK04
IP20/Class II	IP54/Class II
R-PD-DALI-Mini	–
–	–
1 s-120 min	1 s-120 min
5-100 %/1 min-120 min/∞	5-100 %/1 min-120 min/∞
93377	**93845**

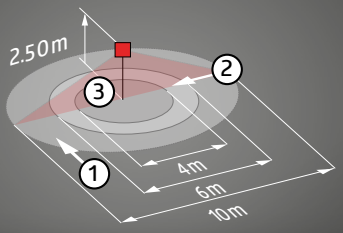
Approx. 360° range

Ambient temperature: -25 °C to +55 °C

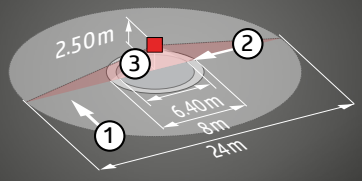
RANGE CHARTS



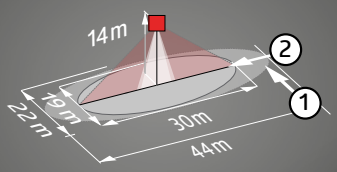
PICO-DALI-LINK



PD4N-DALI-LINK



PD4-DALI-LINK-GH-AP



DALI-LINK Product information
Multi-sensors

	PD11-DALI-LINK-FLAT	PICO-DALI-LINK
		
Product related information	93068	93908
Bright LED indication for commissioning	■	–
Mixed light measurement with internal and external light sensor	–	–
Measuring of mixed light thanks to internal light sensor	■	■
Mixed light measurement with external light sensor	–	–
External telescopic light sensor for a mounting height between 5 and 16 m (mechanically adjustable) for measuring the light according to the application	–	–
Including pre-assembled spring clamp with strain relief and contact protection cap for recessed ceiling mounting	■	–
Suitable for surface mounting	–	–
Suitable for mounting in false ceilings and flush-mounting	–	–
Designed for installation in luminaires	–	■
Accessories for surface mounting optionally available	■	–
Accessories for wall mounting optionally available	–	–
Further accessories for colour matching optionally available	■	■

Common product information	
DALI Multi-sensor (application controller)	Semi-automatic, full-automatic or twilight switch mode
Powered via DALI BUS	Integrated daylight harvesting circuit (or switch output)
Seemless integration in DALI lighting control system B.E.G. LUXOMAT®net DALI-LINK as modular multimaster option	Guided Light, Soft-Start PLUS, Orientation light PLUS
Detection area can be extended thanks to master-slave-mode	Works out-of-the box for easy installation check

PD4N-DALI-LINK

PD4-DALI-LINK-GH-SM

93377	93845
■	■
■	–
–	–
–	■
–	■
■	–
–	■
–	■
–	–
■	–
■	■
■	–

- Commissioning of the B.E.G. LUXOMAT®net DALI-LINK solution takes place via a free app and the PBM-DALI-LINK-4W-BLE push-button module
- Full range of functions can only be activated with other products of the product group B.E.G. LUXOMAT®net DALI-LINK
- Detection area can be restricted with blinds
- Individual adaption of the PIR sensor sensitivity
- Status LED can be activated/deactivated

SUITABLE FOR

PD11-DALI-LINK-FLAT

- Entrance hall
- Conference room
- Open plan office
- Classroom

PICO-DALI-LINK

- Corridor
- Staircase

PD4N-DALI-LINK

- Parking lot
- Sports hall
- Great height

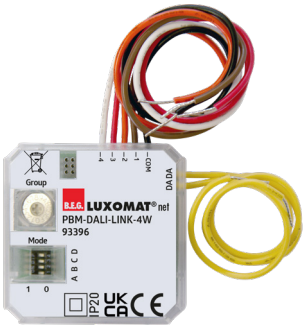
PD4-DALI-LINK-GH-SM

- Great height
- Sports hall

DALI-LINK Technical data

Push button modules/other devices

More infos online

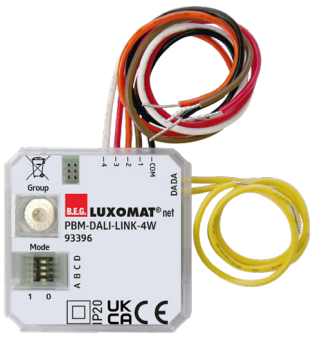
	PBM-DALI-LINK-4W-BLE	PBM-DALI-LINK-4W
		
Voltage:	via DALI-BUS, max. 22.5 V DC	via DALI-BUS, max. 22 V
Dimensions:	38 x 38 x 14 mm	38 x 38 x 12 mm
Output voltage:	–	–
Settings:	Smartphone with DALI-LINK App (iOS/Android)	via DIP switch, HEX switch, DALI-LINK App (iOS/Android)
Power consumption:	–	–
Typ. power input:	7 mA	7 mA
Ambient temperature:	-25 °C to +50 °C	-25 °C to +50 °C
Housing:	polycarbonate	polycarbonate, UV-resistant
Degree/class of protection:	IP20/Class II	IP20/Class II
Cable length:	max. 50 cm	50 cm
Connections and wires:	–	–
Switching power:	–	–
Type of contact:	–	–
Follow-up time:	1 min-150 min (staircase mode only)	1 min-150 min (staircase mode only)
Switch-on delay:		
Frequency:	2,4 GHz ISM-band, GFSK 3 dBm	–
Nominal current:	–	–
Nominal current (max.):	–	–
Part number:	**92732**	**93396**

PS-DALI-LINK-DE	PS-DALI-LINK-USB-REG	RM-DALI-LINK-1C-REG
		
110-277 V AC 50/60 Hz	230 V AC -15/+10% 50/60 Hz	via DALI-BUS, max. 22.5 V DC
240 x 26 x 26 mm	(4 TE) 90 x 72 x 64 mm	(1 TE) 85 x 18 x 63 mm
16 V DC (DALI, typically)	16 V DC	–
–	–	PBM-DALI-LINK-4W-BLE + Smartphone with DALI-LINK App (iOS/Android)
3.3 W	6 W	–
–	–	10 mA
-5 °C bis +45 °C	-5 °C to +45 °C	-25 °C to +50 °C
polycarbonate + ABS mixture	polycarbonate, UV-resistant	polycarbonate, UV-resistant
IP20/Class II	IP20/Class II	IP20/Class II
–	–	
0.25-2.5 mm² for solid conductors	USB	
–	–	3000 W, cos φ = 1 1500 VA, cosφ= 0.5
–	–	µ-contact, NO contact
1 s-120 min	1 s-120 min	1 min-150 min (Cutoff and HVAC mode only)
		1 min-150 min (HVAC mode only)
–	–	–
100 mA	–	–
120 mA	210 mA	–
92846	**93189**	**93807**

DALI-LINK Product information

Push button modules

	PBM-DALI-LINK-4W-BLE	PBM-DALI-LINK-4W



Product related information	92732	93396
Integrated BLE interface for commissioning and operation	■	–
DIP- and HEX-switch for quick commissioning with basic functionality	–	■

Common product information	
DALI push button module (application controller)	Integrated buzzer to determine location of installed device
4 inputs for conventional push buttons, freely configurable	Designed for mounting behind flush-mounted inserts in flush-mounted boxes
Powered via DALI BUS	DALI multimaster technology according to IEC 62386 part 103
Full range of functions can only be activated with other products of the product group B.E.G. LUXOMAT®net DALI-LINK	Commissioning of the B.E.G. LUXOMAT®net DALI-LINK solution takes place via a free app and the PBM-DALI-LINK-4W-BLE push-button module
Works out-of-the box for easy installation check	Operating modes: Standard, staircase or scene mode


Group
B.E.G. LUXOMAT® net
PBM-DALI-LINK-4W
93396
Mode
A B C D
1 0
IP20
4 3 2 1 COM
DA DA

DALI-LINK Product information

System -/Operating devices

	PS-DALI-LINK-USB-REG	PS-DALI-LINK-FC
		

Product related information	93189	92846
DALI-2 certified product	–	■
DALI output power can be increased with accessories	–	■
Integrated temperature monitoring	–	■
Integrated USB interface allows expansion to networkable B.E.G. LUXOMAT®net DALI-SYS lighting management solution	■	–
Suitable for ceiling installation	–	■
Suitable for surface mounting	–	■
Suitable for mounting on top-hat rail	■	–

Common product information	
BUS power supply for B.E.G. LUXOMAT®net DALI-LINK	Integrated short-circuit detection
Number of DALI participants can be determined via the B.E.G. Online DALI line planner quickly and reliably	Commissioning of the B.E.G. LUXOMAT®net DALI-LINK solution takes place via a free app and the PBM-DALI-LINK-4W-BLE push-button module
Integrated LED for visualisation of operating information	

RM-DALI-LINK-1C-REG

DIN-rail DALI relay module with 1 switching channel	■
High-output and potential-free contact for loads with high inrush current	■
Integrated application controller with different operating modes	■
Operating modes: Standard, Cutoff, HVAC, Impulse, Alarm	■
DIP- and HEX-switch for quick commissioning with basic functionality	■
Full range of functions can only be activated with other products of the product group B.E.G. LUXOMAT®net DALI-LINK	■

DALI-SYS Technical data
Multi-sensors

	PD11-DALI-SYS-FLAT	PICO-DALI-SYS
		

More infos online

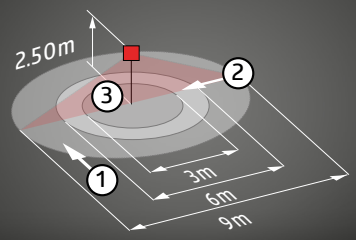
Range (approx.):	max. Ø 9 m across max. Ø 6 m towards max. Ø 3 m seated	max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated
Dimensions:	Ø 52 x 48 mm	Ø 33 x 27 mm
Typ. power input:	7 mA	2 mA
Mounting height min./max./recommended:	2 m/5 m/2.5 m	2 m/5 m/2.5 m
Monitored area (tangential movement):	63 m²/2.5 m mounting height	78 m²/2.5 m mounting height
Impact strength:	IK02	IK04
Brightness set value:	10-2500 Lux	5-2500 Lux
Part number:	**92731**	**93909**

Common technical data	
Voltage: via DALI BUS, max. 22.5 V DC	Approx. 360° range
Follow-up time: 1 s-120 min	Degree/class of protection: IP20/Class II
Settings: B.E.G. DALI-SYS ROUTER/B.E.G. DALI-SYS PC tools	Orientation light: 5-100 %/1 min-120 min/∞

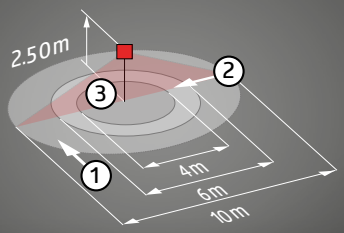
PD2N-DALI-SYS DE/UP	PD4N-DALI-SYS
 	
max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated	max. Ø 24 m across max. Ø 8 m towards max. Ø 6.4 m seated
Ø 106 x 42 mm Ø 83 x 55 mm	Ø 106 x 68 mm
3 mA	7 mA
2 m/5 m/2.5 m	2 m/10 m/2.5 m
78 m²/2.5 m mounting height	450 m²/2.5 m mounting height
IK05	IK04
5-2500 Lux	10-2500 Lux
93369 **93368**	**93340**

Housing: polycarbonate, UV-resistant
Ambient temperature: -25 °C to +50 °C

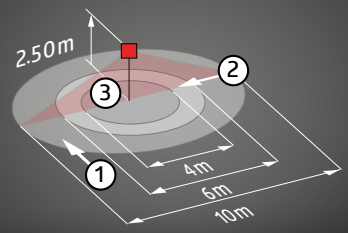
RANGE CHARTS



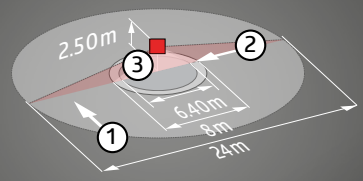
PICO-DALI-SYS



PD2N-DALI-SYS DE/UP



PD4N-DALI-SYS



DALI-SYS Product information
Multi-sensors

	PD11-DALI-SYS-FLAT	PICO-DALI-SYS
		

Product related information	92731	93909
Mixed light measurement with internal light sensor	■	■
Mixed light measurement with internal and external light sensor	–	–
Bright LED indication for commissioning	■	–
Designed for installation in luminaires	–	■
Suitable for ceiling installation	■	–
Including pre-assembled spring clamp with strain relief and contact protection cap for recessed ceiling mounting	■	–
Suitable for flush mounting	–	–
Accessories for surface mounting optionally available	■	–
Accessories for wall mounting optionally available	–	–
Further accessories for colour matching optionally available	■	–

Common product information	
DALI Multi-sensor (Application-Controller)	Semi-automatic, full-automatic or twilight switch mode
Powered via DALI BUS	Integrated daylight harvesting circuit (or switch output)
Seemless integration in B.E.G. LUXOMAT®net DALI-SYS	Guided Light, Soft-Start PLUS, Orientation light PLUS
Detection area can be extended thanks to master-slave-mode	Works out-of-the box for easy installation check

PD2N-DALI-SYS FC/FM	PD4N-DALI-SYS

93369/93368	93340
–	–
■/■	■
■/■	■
–	–
■/–	■
■/–	■
–/■	■
■	■
■	■
■	■

- Commissioning of the B.E.G. LUXOMAT®net DALI-SYS solution takes place via B.E.G.
- Full range of functions can only be activated with other products of the product group B.E.G. LUXOMAT®net DALI-SYS
- Detection area can be restricted with blinds
- Individual adaption of the PIR sensor sensitivity
- Status LEDs can be activated/deactivated

SUITABLE FOR

PD11-DALI-SYS-FLAT

- Office (small)
- Corridor
- Staircase
- Classroom

PICO-DALI-SYS

- Staircase
- Sanitary room
- Office (small)
- Conference room

PD2N-DALI-SYS FC/FM

- Parking lot
- Sports hall

PD4N-DALI-SYS

- Parking lot
- Sports hall

DALI-SYS Technical data
Multi-sensors

More infos online

	PD4-DALI-SYS-GH	LC-plus-DALI-SYS 280
		
Range (approx.):	30 m x 19 m	max. 16 m across max. 9 m towards
Dimensions:	Ø 101 x 76 mm	110 x 68 x 78 mm
Settings:	–	B.E.G. PC Tools, B.E.G. DALI-SYS router
Mounting height min./max./recommended:	5 m/16 m/14 m	2 m/3 m/2.5 m
Monitored area (tangential movement):	440 m²/14 m mounting height	620 m²/2.5 m mounting height
Impact strength:	IK04	IK02
Follow-up time:	1 s-120 min	1 s-120 min
Orientation light:	5-100 %/1 min-120 min/∞	5-100 %/1 min-120 min/∞
Brightness set value:	10-2500 Lux	10-2500 Lux
Cable length:	–	–
Part number:	**93345**	**93308**

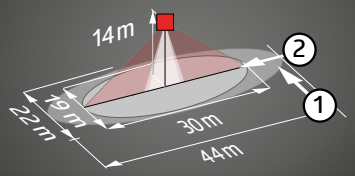
Common technical data	
Voltage: via DALI BUS, max. 22.5 V DC	Approx. 360° range
Ambient temperature: -25 °C to +50 °C	Stromaufnahme: 7 0A

PBM-DALI-SYS-4W

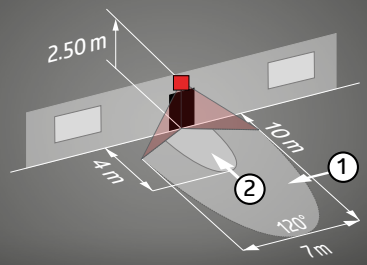
–
38 x 38 x 12 mm
via DIP switch, HEX switch, B.E.G. DALI Router
–
–
–
1 min-150 min (staircase mode only)
–
5-2500 Lux
max. 50 cm
92842

Housing: polycarbonate, UV-resistant

RANGE CHARTS



LC-plus-DALI-SYS 280



DALI-SYS Product information
Multi-sensors

	PD4-DALI-SYS-GH	LC-plus-DALI-SYS 280
		

Product related information	93345	93308
Adjustable ball head	–	■
External telescopic light sensor for a mounting height between 5 and 16 m (mechanically adjustable) for measuring the light according to the application	■	–

Common product information	
Powered via DALI BUS	Integrated daylight harvesting circuit (or switch output)
Seemless integration in B.E.G. LUXOMAT®net DALI-SYS	Guided Light, Soft-Start PLUS, Orientation light PLUS
Bright LED indication for commissioning	Works out-of-the box for easy installation check
Detection area can be extended thanks to master-slave-mode	Full range of functions can only be activated with other products of the product group B.E.G. LUXOMAT®net DALI-SYS

PBM-DALI-SYS-4W

Product related information	92842
Binary DALI input device for installation in in-wall sockets	■
Four inputs for conventional push buttons, freely configurable	■
Seemless integration in B.E.G. LUXOMAT®net DALI-SYS	■
Operating modes: Standard, staircase or scene mode	■
Integrated LED to determine location of dismantled device	■
Integrated buzzer to determine location of installed device	■
DIP- and HEX-switch for quick commissioning with basic functionality	■
Full range of functions can only be activated with other products of the product group B.E.G. LUXOMAT®net DALI-SYS	■

SUITABLE FOR

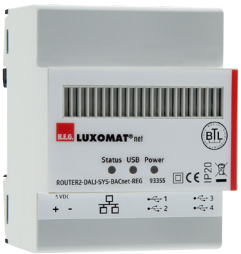
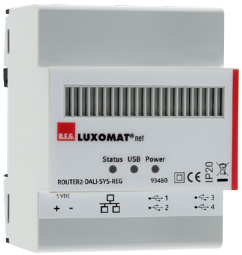
PD4-DALI-SYS-GH

- Great height
- Sports hall
- Storage hall

LC-plus-DALI-SYS 280

- Corridor
- Staircase
- Outdoor areas

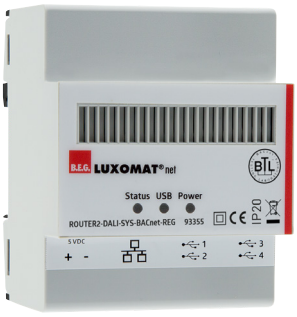
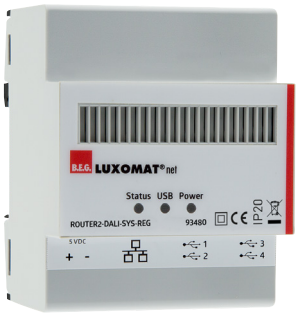
DALI-SYS Technical data
System devices

	ROUTER2-DALI-SYS-BACnet-REG	ROUTER2-DALI-SYS-REG
		
More infos online		
Voltage:	5 V DC	5 V DC
Dimensions:	(4 TE) 90 x 72 x 64 mm	(4 TE) 90 x 72 x 64 mm
Settings:	Via integrated web server and compatible web browser	Via integrated web server and compatible web browser
Output voltage:	–	–
Power consumption:	< 5 W	max. 5 W
Ambient temperature:	0 °C to +45 °C	0 °C to +45 °C
Housing:	Polyamide, UV-resistant	Polyamide, UV-resistant
Degree/class of protection:	IP20/Class II	IP20/Class II
Connections and wire:	4 x USB, 1 x LAN	4 x USB, 1 x LAN
Nominal current (max.):	–	–
Part number:	**93355**	**93480**

PS-DALI-SYS-USB-REG	ViSTATION-DALI-SYS-REG	VPN Remote Hardware RUT950
		
230 V AC -15/+10% 50/60 Hz	5 V DC	9-30 V DC
(4 TE) 90 x 72 x 64 mm	(4 TE) 90 x 72 x 64 mm	106 x 80 x 46 mm
Firmware update function button, B.E.G. PC Tools	–	–
16 V DC	–	–
6 W	max. 5 W	max. 5 W
+5 °C to +45 °C	0 °C to +45 °C	-40 °C to +75 °C
Polyamid, UV-beständig	Polyamid, UV-beständig	Aluminium
IP20/Class II	IP54/Class II	
0.2 ... 4.0 mm² rigid 0.25 ... 2.5 mm² fine-wired (with or without ferrule), USB	–	–
210 mA	–	–
92843	**93023**	**99120**

DALI-LINK Product information

System devices

	ROUTER2-DALI-SYS-BACnet-REG	ROUTER2-DALI-SYS-REG
		

Product related information	93355	93480
BTL certified device	■	–
Integrated BACnet/IP interface	■	–
BACnet device type B-ASC (Application Specific Controller)	■	–
BACnet device type B-GW (Gateway)	■	–
Dynamically generated BACnet objects	■	–
Multi-state BACnet outputs for scene and automation override	■	–
Analogue BACnet outputs for dimming value override	■	–
Analogue BACnet inputs for dimming value status queries	■	–
Digital BACnet inputs for presence status queries	■	–
Digital BACnet inputs for device status queries	■	–

Common product information

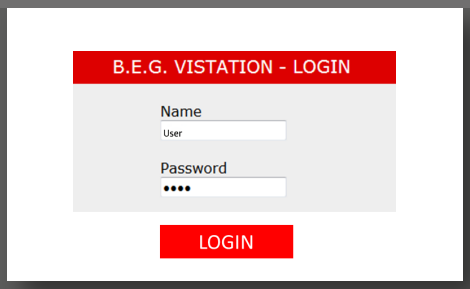
Router with integrated web server and application controller for DIN rail mounting according to DIN EN 60715
4 USB ports for controlling up to 4 separately available B.E.G. application controllers with integrated DALI power supply unit
1 LAN port for networking up to 100 devices, up to 400 inter-connected DALI lines possible
Central management of parameters, addresses, groups and scenes for all networked DALI components
Decentralized application logic in multi-sensors and buttons - Router only takes over higher-level functions
User and rights management for different roles
Event routing function for implementing DALI cross-line lighting zones
Update Manager, for updating the router firmware via LAN/WAN
Planning support from B.E.G. free of charge
Analysis and diagnosis tools for fault-finding
DALI emergency light manager
Expanded guided light function GUIDED LIGHT PLUS (across all DALI lines)
Minor maintenance work (e.g. replacing luminaires) can be carried out independently by a building technician or local electrical installer
High-quality fan with automatic speed control
Remote maintenance option via an existing VPN connection or one provided by B.E.G.
Temperature monitoring of main processor and housing
Including separately enclosed 5VDC/2A power supply for DIN rail mounting (~18 mm)
Including 4 USB connection cables (0.5m) and 1 LAN cable (0.5 m)
Can be operated via compatible web browser on any user device (smartphone, tablet, PC)
Fee-based commissioning support from B.E.G.
Integrated real-time clock
LED status display

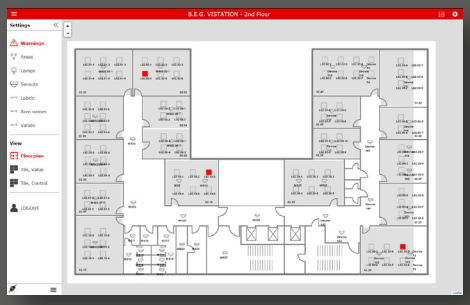
DALI-LINK Product information

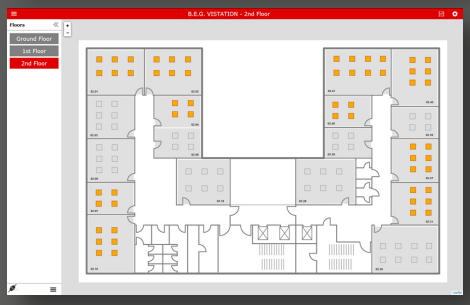
System devices

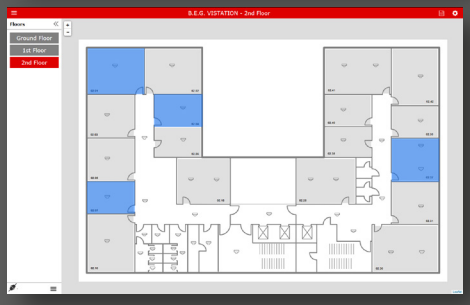
	ViSTATION- DALI-SYS-REG
	
Product related information	93023
Virtual Interface Station - The visualisation and remote server for the B.E.G. LUXOMAT®net DALI-SYS lighting management system	■
Energy monitoring of all luminaires (calculated)	■
2D floor plan and/or tile view with customer-specific data (separate service costs for graphic design)	■
For up to 100 DALI-SYS routers per LAN	■
Central visualisation of light, occupancy and error data	■
Manual override of individual lighting zones possible	■
Manual override via scene function possible	■
User and rights management for individual control of specific rooms	■
Can be operated via compatible web browser on any user device (smartphone, tablet, PC)	■
Including separately enclosed 5VDC/2A power supply for DIN rail mounting (~18mm)	■
Preconfigured for in-house technicians with all rights	■
Administration access preconfigured for user administration	■
Weekly timer (external NTP service required)	■
Calendar program, overwrites week timer for specified days (external NTP service required)	■
Astro program, e.g. for sunrise or sunset events (external NTP service required)	■
Show status report, e.g. to list health status of all DALI devices	■
Send status report regularly by e-mail (external SMTP server required)	■

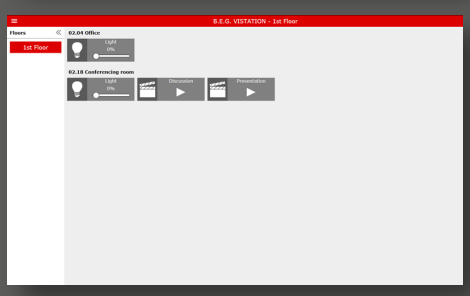
ViSTATION-
INTERFACE











SMART BUILDING ENERGY MONITORING

DALI-SYS Product information/Technical data

Operating devices

	PS-DALI-SYS-USB-REG
	
Product related information	92843
DALI power supply with integrated USB interface for DIN-rail mounting	■
As standalone solution or for seamless integration into B.E.G. LUXOMAT®net DALI-SYS	■
Integrated application controller for addressing up to 64 DALI components	■
Update function via integrated keypad and USB interface	■
Enclosed LTE and Wi-Fi antennas for mounting outside control cabinets	■
Integrated LEDs for visualisation of operating information	■
Full range of functions can only be activated with other products of the product group B.E.G. LUXOMAT®net DALI-SYS	■

	VPN Remote Hardware RUT950
	
Product related information	99120
LTE router for DIN-rail mounting	■
Immediate commissioning with preconfigured software for B.E.G. DALI-SYS applications	■
Provision of the following services: NTP, DHCP, BEG-VPN	■
Integrated SIM card with 500MB data volume	■
Accompanying LTE and Wi-Fi antennas for mounting outside of control cabinets	■
Includes separately contained power supply 230 VAC - 9VDC (1A)	■
3 LAN connections for the B.E.G. DALI-SYS IT infrastructure	■
1 WAN connection for secure and easy integration into the in-house IT infrastructure (access to B.E.G. ViSTATION-DALI-SYS)	■

RM-DALI-SYS-1C-REG

More infos online

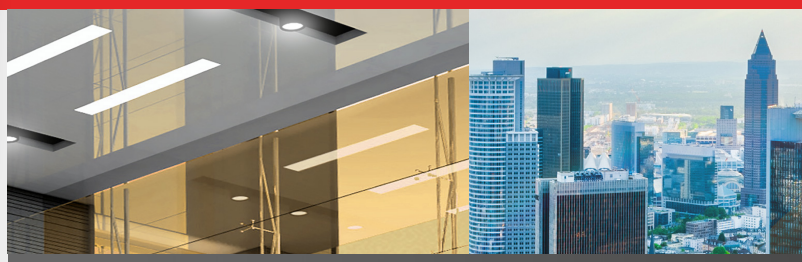
Voltage:	via DALI BUS, max. 22 V DC
Dimensions:	(1 TE) 85 x 18 x 63 mm
Settings:	via DIP switch, HEX switch, B.E.G. DALI Router
Typ. power input:	10 mA
Degree/class of protection:	IP20/Class II
Ambient temperature:	-25 °C to +50 °C
Housing:	polycarbonate, UV-resistant
Switching power:	3000 W, cos φ = 1 1500 VA, cosφ = 0.5
Type of contact:	µ-contact, NO contact
Follow-up time:	1 min-150 min (Cutoff and HVAC mode only)
Switch-on delay:	1 min-150 min (HVAC mode only)
Part number:	**92849**

Product related information	92849
DIN-rail DALI relay module with 1 switching channel	■
High-output and potential-free contact for loads with high inrush current	■
Seemless integration in B.E.G. LUXOMAT®net DALI-SYS	■
Integrated application controller with different operating modes	■
Operating modes: Standard, Cutoff, HVAC, Impulse, Alarm	■
DIP- and HEX-switch for quick commissioning with basic functionality	■
Full range of functions can only be activated with other products of the product group B.E.G. LUXOMAT®net DALI-SYS	■

B.E.G. The lighting control professionals

DALI-KNX-GATEWAY

for economical and intelligent lighting management



- Combines the advantages of DALI and KNX BUS
- Reduced installation effort
- Incl. scene mode and RGB/TW control
- Controls up to 64 ECGs in 16 groups
- Greater flexibility and operational reliability

KNX®

Digital Illumination Interface Alliance

beg-luxomat.com

Subsidiaries

B.E.G. Brück Electronic GmbH
Gerberstraße 33 · D-51789 Lindlar
Tel. +49 2266 90 121 0
Fax +49 2266 90 121 50
E-Mail: vertrieb@beg.de

B.E.G. Belgium bv/srl
Intercity Business Park
General De Wittelaan 17 C
B-2800 Mechelen
Tel. +32 38 87 81 00
Fax +32 38 87 41 00
E-Mail: luxomat@beg-belgium.be

B.E.G. Brück Electronic CZ s.r.o.
Thákurova 531/4 · CZ-160 00 Praha 6
Tel. +420 23 33 23 089
Fax +420 27 20 48 494
E-Mail: info@beg-luxomat.cz

B.E.G. Danmark ApS
Kokbjerg 14 · DK-6000 Kolding
Tel. +45 76 31 40 00
E-Mail: info@beg.dk

B.E.G. Hispania S.L.U.
Central:
Avgda. de Cornellà, 140 - 8°2ª
08950 Esplugues de Llobregat (Barcelona)
Tel. +34 93 01 81 609
Fax +34 93 68 14 190
E-Mail: info@beg-luxomat.es

Delegación:
C/ Aguacate 41 - Bloque A-2, 2ª planta,
Ofic. 8 - 28044 Madrid
Tel. +34 912 95 15 02
E-Mail: info@beg-luxomat.es

B.E.G. France
42, Rue Eugène Dupuis
F-94000 CRETEIL
Tel. +33 1.48.93.71.02
E-Mail: info@begfrance.fr
Renseignements techniques SAV:
Tel. +33 1 48 93 74 04
Fax +33 1 48 93 74 01

B.E.G. UK Ltd.
Apex Court – Grove House · Camphill Road ·
West Byfleet, Surrey KT14 6SQ
Tel. +44 87 08 50 54 12
E-Mail: info@beguk.co.uk

B.E.G. ITALIA S.R.L.
Viale Brianza 181
I-20092 Cinisello Balsamo MI
Tel. +39 02 49 79 55 63
Fax +39 02 49 75 50 08
E-Mail: info@beg-luxomat.it

B.E.G. Hungary Kft.
Székhely: 1143 Budapest, Stefánia út 101-103.
Bemutató terem, iroda: 2040 Budaörs,
Malomkő utca 7. (időszakosan üzemel,
látogatás előtt telefonos egyeztetés szükséges)
E-Mail: info@beg-luxomat.hu

B.E.G. Brück Electronic B.V. - Nederland
Groenewoudsedijk 50 · 3528 BK Utrecht
Tel. +31 85 04 33 240
E-Mail: info@beg-nederland.nl

B.E.G. Polska Sp. z o.o.
Ul. Bakalarska 34 · PL-02-212 Warszawa
Tel. +48 60 26 90 661
E-Mail: info@beg-luxomat.pl

B.E.G. Brück Electronic Portugal
Alameda dos Oceanos, 142, Escritório 0A
PT 1990-502 Lisboa
Tel. +351 21 58 70 060
E-Mail: info@luxomat-beg.pt

B.E.G. MENA
DAFZA Building 4A, GA02 · Dubai,
United Arab Emirates
Lijo Jacob
Tel. mobile: +971 56 20 88 488
E-Mail: lijo.jacob@beg.ae

The lighting control professionals

Headquater
B.E.G. Brück Electronic GmbH
Gerberstraße 33, 51789 Lindlar

T +49 (0) 2266 90121-0
F +49 (0) 2266 90121-50

info@beg.de
beg-luxomat.com

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