B.E.G. LUXOMAT® net

MEMBER KNX

BUILDING AUTOMATION WITH KNX

DALI/KNX-Gateway

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, customer-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.

ENVIRONMENT

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 further 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 extensive 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: +49 (0) 2266.90 121-0

ENERGY SECURITY AND ENERGY

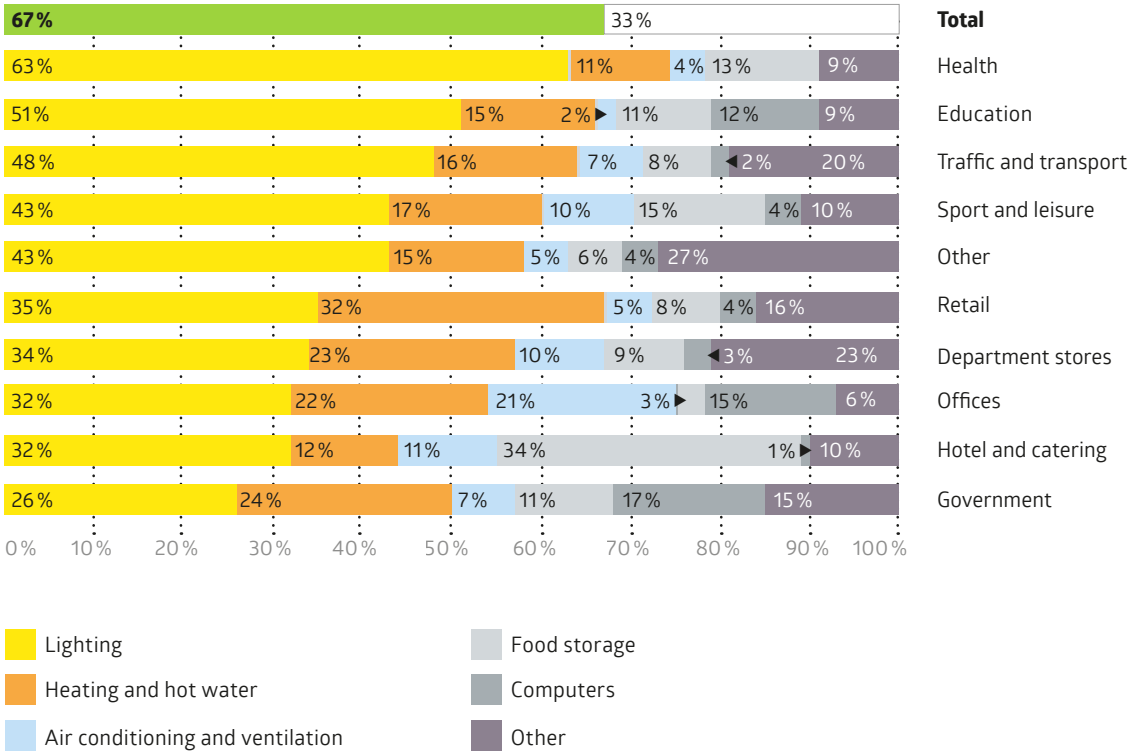
Species extinction, changing climate zones and weather extremes – global warming can no longer be denied. It is time to act: For the global community, but also for each individual. With B.E.G., saving energy means reducing costs and protecting the environment at the same time.

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 also being felt in Germany: 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 also recognised that something has to change: At the UN Climate Change Conference in Paris in 2015, almost all countries on earth agreed to pursue the 1.5-degree target. This means that countries will try to reduce their greenhouse gas emissions in such a way that the global temperature increase by 2100 is significantly less than 2 degrees, preferably 1.5 degrees.

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 German goal is to make Germany less dependent on natural gas imports, but also to minimise the use of fossil fuels such as natural gas. Also in the other countries, this should be on top of the list. Experts consider renewable energies in particular as a possibility for this and agree that a faster expansion of renewable energies is necessary.

B.E.G. has combined 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.

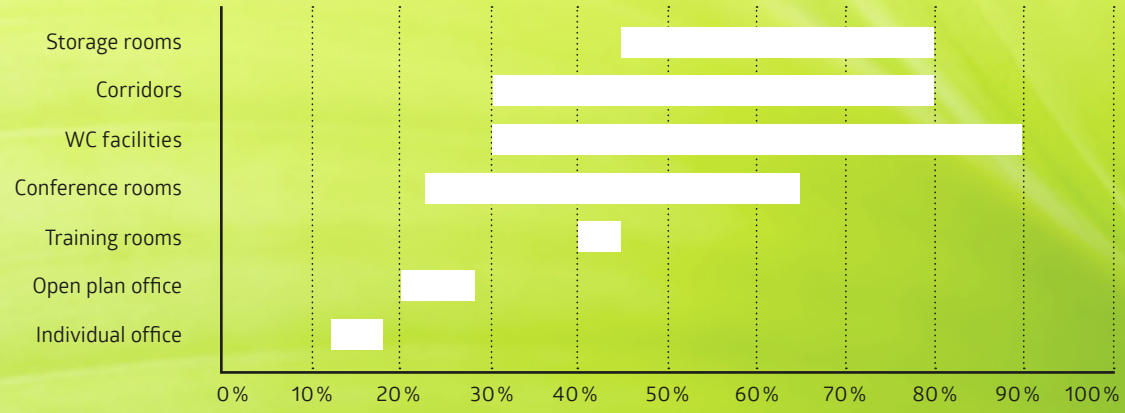
Energy is precious, so saving energy means protecting the climate and conserving the environment's resources so that our living spaces are preserved.

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**

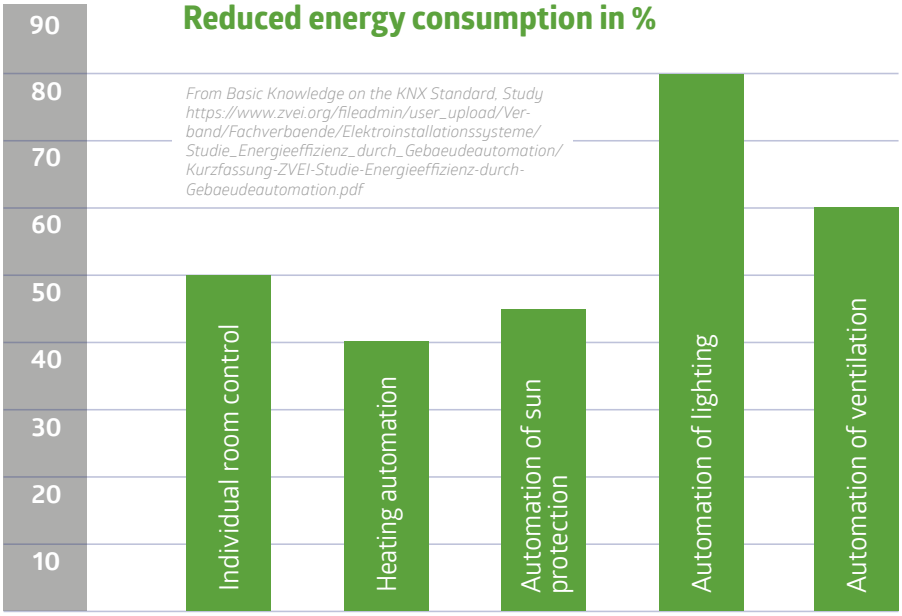
Electricity price 0,35 €

* 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

In an automated building, networked sensors and actuators take over numerous tasks. This leads to a gain in comfort and safety as well as high energy savings during operation.



The study Energy savings potential through modern electrical installation at the Institute for Building and Energy Systems at Biberach University of Applied Sciences shows that energy savings of up to 50 % are possible with networked home and building system technology based on KNX.

- **KNX fulfils a wide range of functional requirements**
- **Easy and cost-efficient installation**
- **Future-proof and flexibly expandable**
- **Permanent energy savings and reduction of operating costs**
- **High comfort gain**
- **A plus in security**

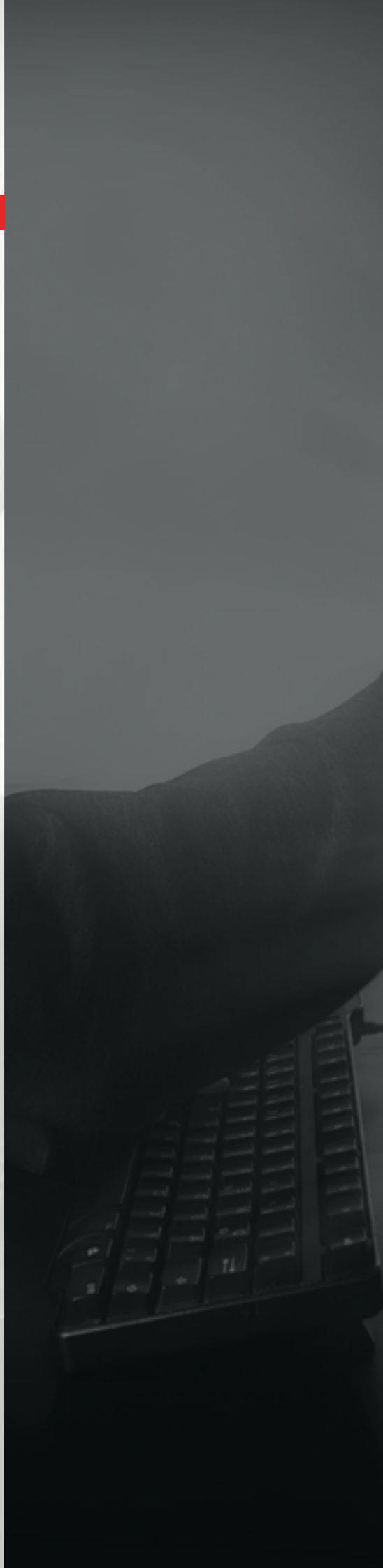
With KNX, you are choosing a globally established bus system that was developed specifically for the requirements of building installation. KNX certified products are compatible with each other across manufacturers. Particularly in functional buildings, bus technology offers cost advantages over conventional electrical installations. High energy savings can be achieved in continuous operation. With networked house and building system technology based on KNX, comfort is increased. Buildings become intelligent and take on numerous tasks.

„What makes KNX so successful worldwide is the standard set by the KNX Association, to which all manufacturers in the association adhere. We at B.E.G. offer occupancy detectors, actuators, panels, power supplies, interfaces and much more for the KNX system. Once integrated into the bus, our KNX devices can be easily connected to devices from other manufacturers. System integrators and installers have a unique choice among a wide range of products for different areas and can select the right products for their project."

(Christoph Börsch, Senior Product Manager KNX)

Discover what B.E.G. has to offer you and rely on our consulting and services!

DATA PROTECTION
KNX SECURE
DATA SECURITY
GEN7



The secure solution for Smart Building

Buildings should not only be smart, but also secure. Thanks to KNX Secure, unauthorised access to the various KNX media is prevented.

Security begins with installation

To ensure that the KNX system is secured in the best possible way, the focus should already be on the correct installation. The basis of every protection concept is the careful partitioning of the system against unauthorised access. In the case of a KNX system, only authorised persons, such as installers, caretakers or users, may have physical access to the KNX system. During planning and installation, critical points for each KNX medium must be protected in the best possible way.

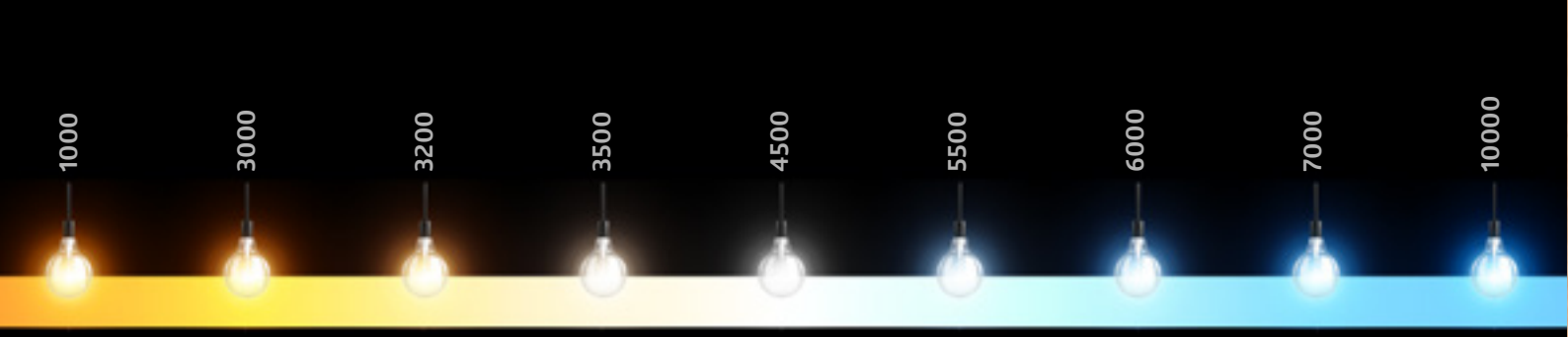
Security during commissioning

KNX Secure is a generic term for the two standards KNX-Data Secure and KNX-IP Secure. While KNX-Data Secure offers increased security on all media (IP, TP, RF), KNX- IP Secure increases security on IP lines.

All devices are entered via their FDSK key (Factory Default Setup Key) by QR code in the ETS. Here, a tool key is created for each device, which is sent via the bus to the device to be configured. Subsequently, runtime keys are generated for communication, which are encrypted with the tool key. This is how the KNX system is protected in the best possible way. Users demand not only reliable use of KNX systems, but also security standards that prevent the intervention of unauthorised persons.

We have five tips for you that will make your KNX system more secure:

- Applications and devices should be permanently installed so that they cannot be easily removed
- Cabinets with KNX devices should be locked or located in rooms to which only authorised persons have access
- Activate the filter table in the line coupler
- Access via VPN connection
- Set a project password



HUMAN CENTRIC LIGHTING

Feeling good in a natural environment

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.

„Nature as the measure of all things“

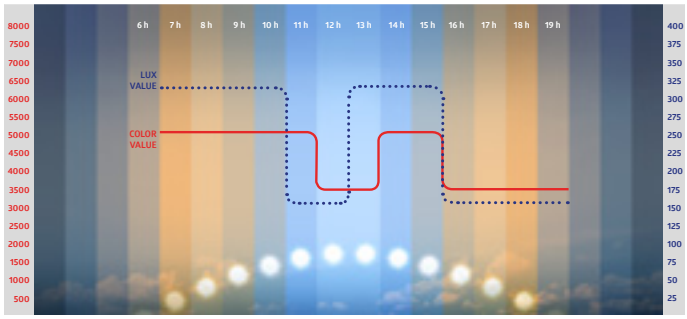
On average, we spend 90 % of our day indoors, which throws our inner clock out of sync. This is because conventional artificial light has a constant intensity, brightness and fixed colour components. Natural daylight, however, varies both in intensity and colour composition. Human Centric Lighting (HCL)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

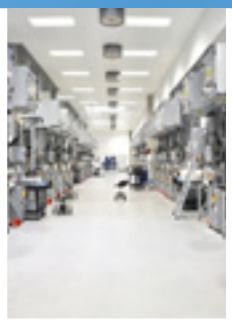
As an established manufacturer on the market, B.E.G. has developed an occupancy detector with „Tunable White function“ that focuses on the natural needs of building users – the Well-being Detector®. It automatically controls the colour temperature and the brightness setpoint with the aim of supporting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

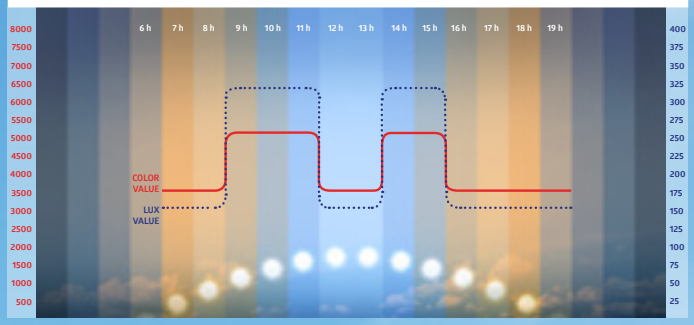
With its wide range of occupancy detectors B.E.G. provides natural lighting scenes in indoor spaces and focuses on the health, well-being and performance of building users.

SCHOOL

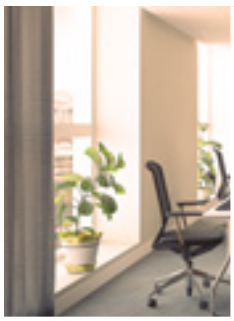


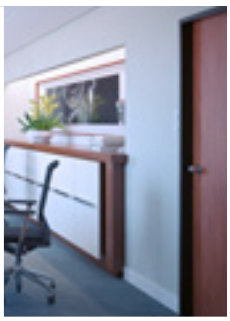
INDUSTRY

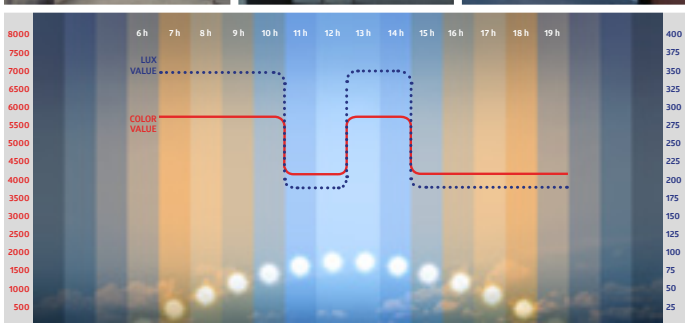




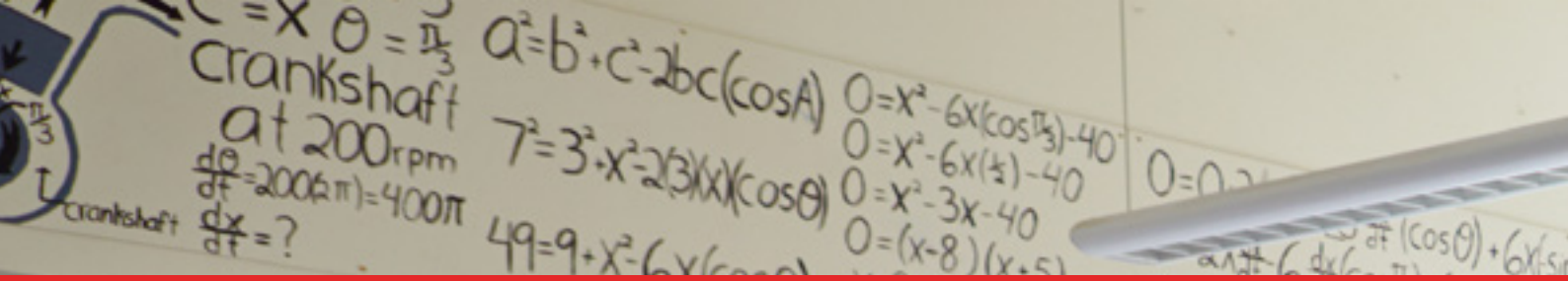
OFFICE







ANIMATION



OCCULOG® VOC-Sensors

The all-round technology for a healthy indoor climate

OCCULOG® VOC Wall sensor

93806

The VOC Wall sensor measures air quality and humidity and is also a temperature controller. The air quality is determined on the basis of the volatile organic compounds (VOC) in the air. One status LED each indicates the current status of the air humidity and quality in traffic light colours, if required. The measured values can be used for subsequent programming in the KNX system. For example, if the air quality is poor, the air conditioning or automatic ventilation can be switched on or a window can be opened automatically. The room user can set the temperature individually with the integrated rotary wheel. Further KNX components enable even more comfort: the user can specify values or additionally link the control to presence by means of a KNX occupancy detector.

Air quality (VOC)

Temperature

Air humidity

Dew point

OCCULOG®-1C

93563

The OCCULOG®-1C is our VOC indicator for good air quality. The remote-controllable 230V sensor measures the proportion of volatile organic compounds (VOC) contained in the air, which is used to calculate a CO_2 value. The air quality – and thus the exceeding of a limit value – can be signalled visually (LED traffic light) with the colours green, yellow and red, acoustically (beeper) or by means of a relay contact. When a value of concern is reached, the sensor warns by changing colour or by an additional acoustic signal. The limit values can be set via the B.E.G. One app / BLE/IR Adapter or the IR remote control IR-OCCULOG-1C.

- Three different settings for air quality
- Buzzer can be deactivated
- Relay deactivatable (temporary)

Our new OCCULOG® VOC sensors monitor the air. This means that they warn as soon as too many volatile organic compounds (VOC) are present in the room air and indicate in stages when it is time to ventilate. With this function, they always ensure a healthy and perfect room climate. They are preferably used in offices, meeting rooms, schools, kindergartens and hospitals.

With the help of an LED traffic light with the colours green, yellow and red, the sensor warns by colour change of the LED as well as by an additional acoustic signal if the room air has reached a critical value. Then it is necessary to ventilate the rooms to protect health. Depending on the model, the threshold values for red and yellow can be adjusted with the IR-OCCULOG-1C remote control or with the BLE/IR Adapter.

ENVIRONMENT

KNX GENERATION 7

Networked systems for building automation

In addition to the proven functions of the previous models, the new generation contains further features. It inspires not only with KNX-Secure, but also with light to feel good, which is created through the use of HCL. Also in the previous generation, the light control was improved and the software control of the individual motion sensors was realised. In this way, areas for motion detection can be hidden via settings in the ETS. This spares the installer the need to climb a ladder and the time-consuming task of attaching lens covers.

GEN7

The hardware is optionally available with an integrated microphone, a temperature sensor and internal LED for orientation and night light function. Thus, in addition to the PIR sensors, acoustic signals can also be used for presence detection. Individual room temperature control can be realised via the temperature sensor.

An integrated offset control enables the setting of different brightness levels within a room. In addition, complex interconnections can be realised via the fully integrated logic module. Maximum possibilities are also offered by the remote-control options, with which keys for special functions can be programmed at will. Communication is bidirectional, which makes it easy to read out the detectors.

- Parameterisation from ETS5 for integration into KNX systems
- Individual sensitivity adjustment of the PIR sensor
- Mixed light measurement using interior, exterior or remote light sensors
- Short presence, self-adjustment of follow-up time, corridor function
- Two logic modules
- HVAC mode (0=automatic, 1=comfort, 2=standby, 3=economy, 4 frost/heat protection)
- Presence simulation
- Calling up of light scenes
- Intelligent central-off function
- Switch-off pre-warning
- Burn-in function for fluorescent lamps (selectable from one to 100 hours)

OUR KNX-MULTISENSOR

for collecting and transmitting nine parameters on the KNX BUS

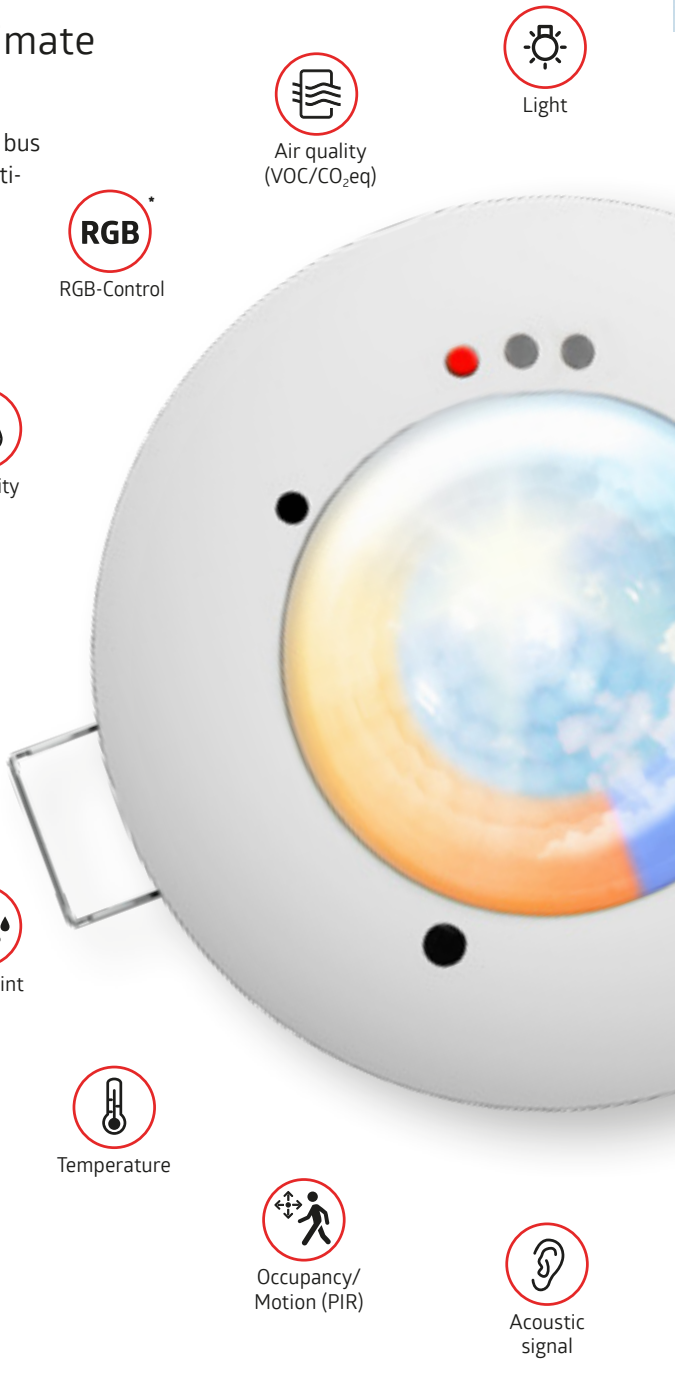
All-round technology for a healthy indoor climate

PD2N-KNXs-OCCULOG®-DX

Especially where many people sit together in rooms, the air quality quickly deteriorates. Fresh air supply promotes concentration, productivity and strengthens the immune system. Imagine how unpleasant it is when fresh air is reduced indoors and no window is opened – that's over now. The PD2N-KNXs-OCCULOG®-DX is our multi-talent for building automation. The ceiling sensor measures air quality and humidity and is also a temperature controller.

Whether a person feels comfortable in an indoor space depends on the air quality, because in addition to sufficient light, they need sufficient oxygen. The PD2N-KNXs-OCCULOG®-DX measures the amount of volatile organic compounds (VOC) contained in the air. It detects the presence of vapours, e. g. from people, perfumes, cleaning agents or furniture. In our KNX occupancy detector of Generation 7, an LED traffic light with the colours green, yellow and red was installed. When a critical value is reached, the sensor warns by changing colour. Ventilation of the rooms is then necessary to protect health.

Measured values are sent to the bus and can thus be used e. g. for ventilation control. The PD2N-KNXs-OCCULOG®-DX also has reliable presence detection for efficient lighting control, whereby the light colour is regulated by means of integrated HCL control. The RGB control ensures a sense of wellbeing in the room via colour matched ambient lighting.



93530 PD2N-KNXs-OCCULOG-DX-FC
93531 PD2N-KNXs-OCCULOG-DX-FM

The all-inclusive detector for light and air quality

- KNX occupancy detector of Generation 7
- Reliable presence detection for efficient lighting control
- Integrated Tunable White control for Human Centric Lighting
- RGB control
- Measurement of air quality based on organic volatile substances (VOC), up to four limit values possible
- Humidity measurement, up to four values possible
- Acoustic sensor and temperature sensor integrated
- KNX Secure standard
- Also available as a DALI-BMS variant

PRODUCT HIGHLIGHTS

KNX Generation 7

The KNX occupancy detectors of Generation 7 bring lighting quality to lighting control.
All Generation 7 occupancy detectors have integrated HCL control, allowing a choice of three standard lighting curves: Industry, Office and School.

Occupancy detector for high altitudes

PD4N-KNXs-GH

Multisensor for the ceiling

PD2N-KNXs-OCCULOG

Mini occupancy detector for medium size rooms

PD9-KNXs

Occupancy detector for medium size rooms

PD2N-KNXs

Outdoor motion detector

RC-plus next N 230-KNXs

Mini occupancy detector for high altitudes

PD9-KNXs-GH

Wall occupancy detector

Indoor 180-KNXs

Occupancy detector for medium size rooms

PICO-KNXs

Wall occupancy detector with downlight

Indoor 140-L-KNXs

Super flat occupancy detector

PD11-KNXs-FLAT

Occupancy detector for monitoring large areas

PD4N-KNXs

Your highlights at a glance*:

- Internal and external light sensor PD2N and PD4N
- Sensitivity of sensors individually adjustable
- Concise direction detection thanks to multiple motion sensors
- Temperature sensor
- Acoustic sensor*

* depending on variant

Fast, intuitive and easy programming

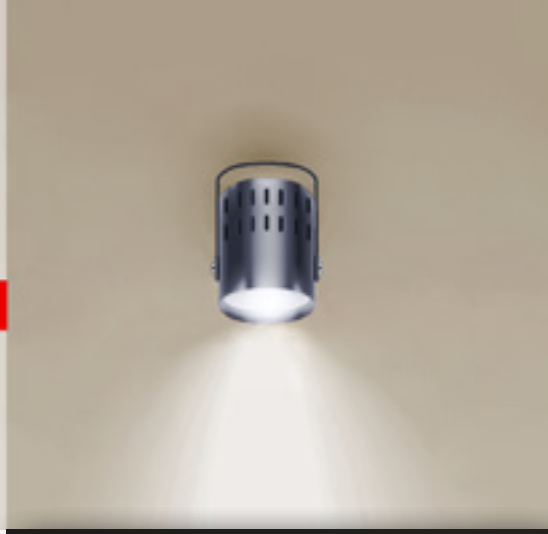
With the B.E.G. One, your smartphone becomes a remote-control for all B.E.G. products. The intuitive design enables quick orientation. The bidirectional B.E.G. products can also be programmed with this app. In addition, a cloud connection now allows the exchange of information and collaboration of several employees on a project. The B.E.G. remote control app „One“ is the easiest way to program all remotely controllable occupancy and motion detectors, twilight switches, luminaires and emergency luminaires from B.E.G..

All products in one app: that‘s B.E.G. One.

B.E.G. One for all

The 5-button remote-control for our end customers

The remote-control can be programmed at will. The customer decides what is to be controlled or switched. Whether roller shutters/blinds or complete lighting scenes – the remote-control can be used with all DX detectors Gen6/Gen7.



PRODUCT HIGHLIGHTS

ViSTATION KNX

Your individual visualisation for KNX

The B.E.G. ViSTATION provides visualisation of the KNX system. Based on plans, graphics, photos or drawings, solutions are created entirely according to the customer's wishes by the KNX system integrator – completely individually and in line with requirements. All luminaires, sensors and other relevant KNX components are positioned via drag-and-drop. The end customer receives a ready-to-use visualisation that enables manual intervention in addition to the informative display.

93335

All values used in the KNX system, such as temperature, brightness, open doors/windows, etc. can be viewed via the visualisation. In addition to ETS programming, time switching values can be given to the system via the ViSTATION. In this way, programming is also easily possible for the end user.

The platform-independent web interface for PCs, tablets and smartphones allows a variety of usage scenarios, including virtual control panels, for example. This means that any commercially available tablet with an appropriate mounting frame can be used as a cost-effective control panel.

The user administration and the finely structured distribution of rights is carried out centrally on the ViSTATION, the end customer can create almost any number of users. The powerful group administration is practical, so that the same authorisations only have to be created once and are then automatically assigned to the users belonging to the group. For example, a caretaker can view all rooms including error messages. A normal user, on the other hand, may only control the lighting groups that have been authorised for him, but he cannot access the complete visualisation. In addition to the security aspect, this keeps operation easy and clear for daily use.

Access to the ViSTATION is also possible by means of the B.E.G. ViSTATION app. It automatically connects to the ViSTATION and enables quick and easy system access with a user name and password. The app is available free of charge in the corresponding app stores for Android, iOS and Huawei.

PRODUCT HIGHLIGHTS

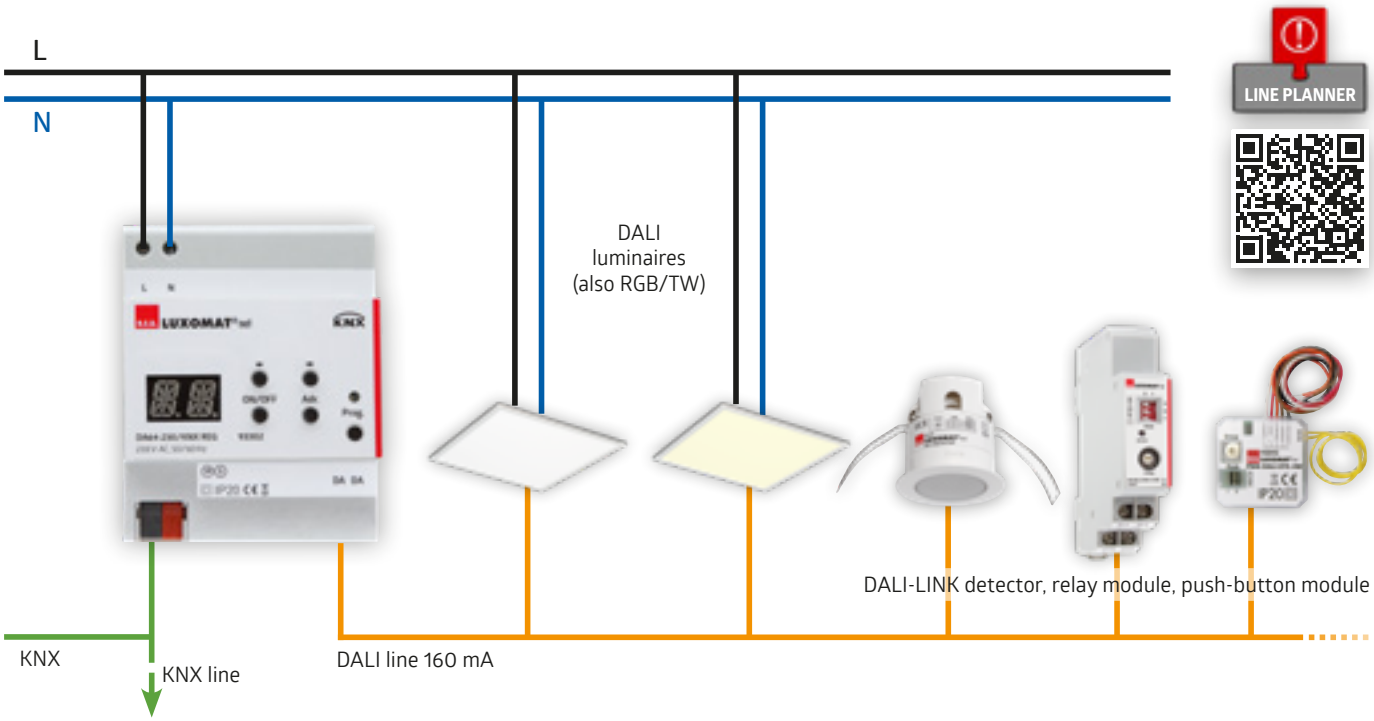
DALI/KNX-Gateway

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

DALI is the widely used professional standard 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. Our 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.'s gateway 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 multisensors can be used in a KNX-controlled building.

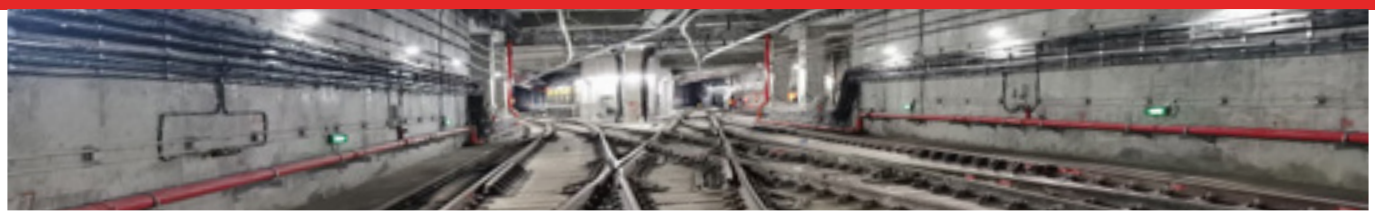
This solution not only reduces installation costs, but also simplifies installation and significantly increases installation flexibility. The integration of DALI-LINK multisensors into the DALI bus simplifies the configuration of the installation and the calibration of the detectors. B.E.G. offers a 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 lighting management solutions in DALI and/or KNX, we will be happy to assist you.



93302

Compatible DALI control gear and control devices devices:

93908	PICO-DALI-LINK
93068	PD11-DALI-LINK-FLAT
93377	PD4N-DALI-LINK
93845	PD4-DALI-LINK-GH
93396	PBM-DALI-LINK-4W
93825	PB2-DALI-LINK
93826	PB4-DALI-LINK
93827	PB6-DALI-LINK
93828	PB8-DALI-LINK
93807	RM-DALI-LINK-1C-REG
93854	RM-DALI-LINK-4C-REG



SWITCHING ACTUATORS

Take your current measurement to a new level with our switching actuators! Knowing exactly what amount of energy is being consumed can reduce and save high costs. Our switching actuators measure the actual effective value per channel and indicate how much energy is being drawn from the energy supplier.

The B.E.G. portfolio convinces with 4-way and 8-way switching atuators with and without current measurement. They are supplied via the KNX bus and require no further operating voltage. The transmission-based current measurement with an accuracy of +/-10 mA makes our switching actuators unique on the market.

The measurement assumes a sinusoidal curve of the voltage. Synchronisation takes place at every zero crossing of the voltage. This means that all current forms can be measured and therefore an exact measurement of the active power up to the kilohertz range is possible.

Threshold values can be set to detect if the current is too high or too low. For example, faulty loads such as defective lamps can be detected. Also, the feedback of the switching channel can optionally be done via the active power and not only via the closed relay contact.

In addition to current measurement, all actuators have an operating hours counter, a switching cycle counter, a staircase and a flashing function as well as an integrated logic module.

SHANGHAI SUBWAY

With our switching actuators, you can take your current measurement to a new level!

System components
DIN Rail-mounted devices

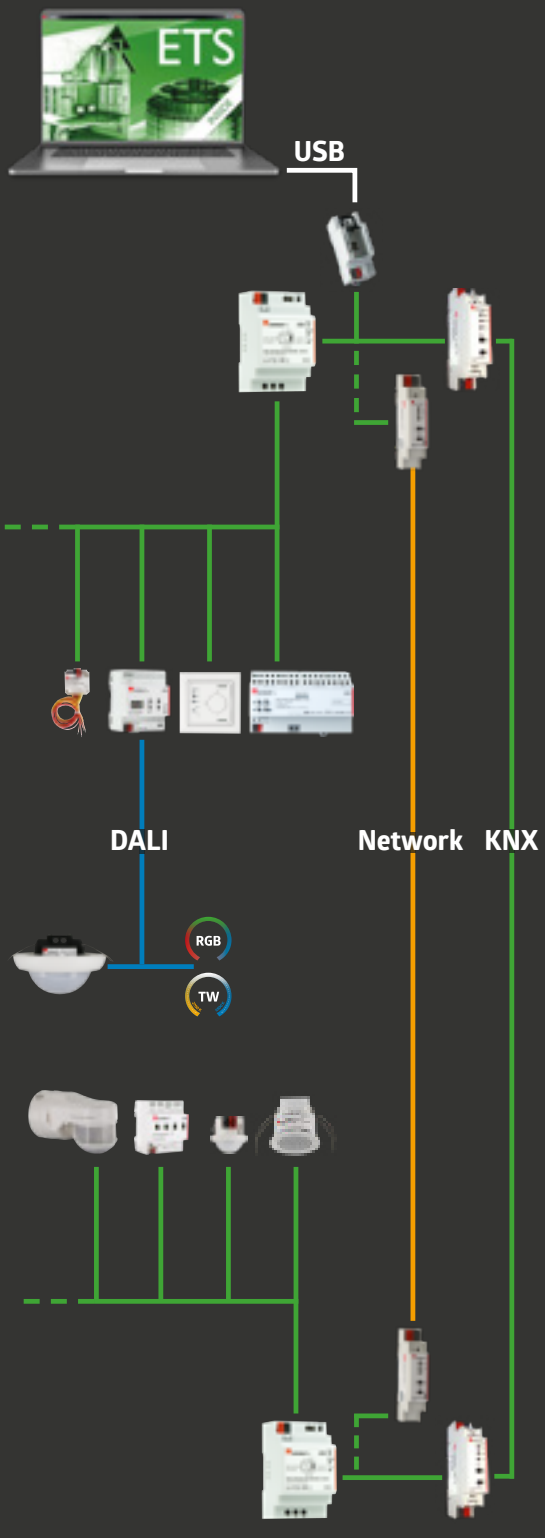
Required for every KNX system!

System devices are required for every KNX system. For example, a power supply (90214) is obligatory for each KNX line.

In larger projects, line couplers are used to interconnect several lines. This can be done by means of the line coupler LK-TP/KNX REG (90401) on the TP level, or via network, i.e. the IP level, using the router LK-IP/KNXs REG 90403.

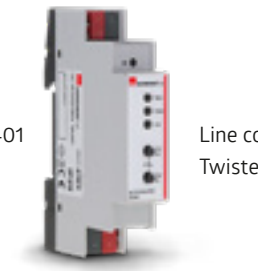
A programming interface is necessary for programming the system. This can be connected to the computer either via USB (90224) or via network (90404).

The programming inteface 90404 can also be used when using visualisations (– and of course also in connection with our ViSTATION KNX).



90214 640 mA power supply for 64 KNX devices

90224 Programming interface as USB data interface



90401 Line coupler Twisted-Pair

90403 Line coupler IP connection

90404 Programming interface as LAN data interface

Example: Classroom with PD4N-KNXs-DX

KNX occupancy detector
PD4N-KNXs-DX-FC

93386

Push-button interface 4-way
PBM-KNX-DX-4W

93365

Switch actuator 8-way
SA8-230/16/H/KNX REG

93336

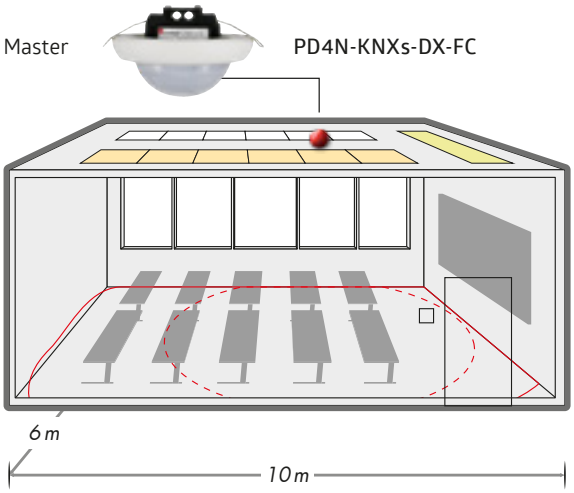
DALI/KNX-Gateway
DA64-230/KNX REG

93302

Blind actuator 4-way
SBA4-230/10/H/KNX REG

93930

Requirement:
A classroom usually has a window front at the side, two light strips and a blackboard lighting. Due to the windows, the room is brighter on one side than on the other, but an optimal lighting situation should prevail at all places during lessons.



Example: Open-plan office with PD11-KNXs-FLAT-DX-FC

KNX occupancy detector
PD11-KNXs-FLAT-DX-FC

93523

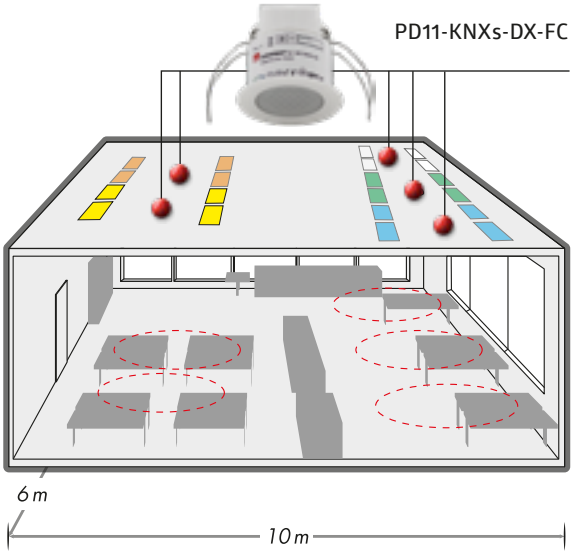
Switch actuator 8-way
SA8-230/16/EM/KNX REG

93339

DALI/KNX-Gateway
DA64-230/KNX REG

93302

Requirement:
Open-plan offices with many workplaces need to be designed flexibly for changes of use. The lighting of the entire area should be controlled efficiently and be flexible in the assignment of scenes.



- Luminaire group 1
- Luminaire group 2
- Blackboard lighting
- Luminaire group 4
- Luminaire group 5
- Seated coverage

Example: Office with PD11-KNXs-FLAT-DX-FC

KNX occupancy detector
PD11-KNXs-FLAT-DX-FC

93523

DALI/KNX-Gateway
DA64-230/KNX REG

93302

KNX wall occupancy detector
Indoor 180-KNXs-ST

93524

Switch actuator 8-way
SA8-230/16/H/KNX REG

93336

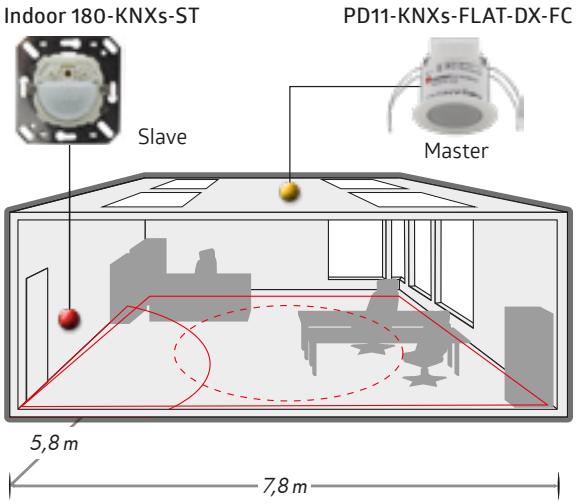
Push-button interface 4-way
PBM-KNX-DX-4W

93365

Blind actuator 4-way
SBA4-230/10/H/KNX REG

93930

Requirement:
In an office room with a window front and two work-places, lighting and air-conditioning are to be controlled as needed. The room users should be able to intervene in the lighting and blind control.



Example: 3-zone sports hall with PD4N-KNXs-DX

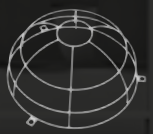
KNX occupancy detector
PD4N-KNXs-DX-FC

93516

SM Mounting set IP54

93307

Wire basket BSK



92199

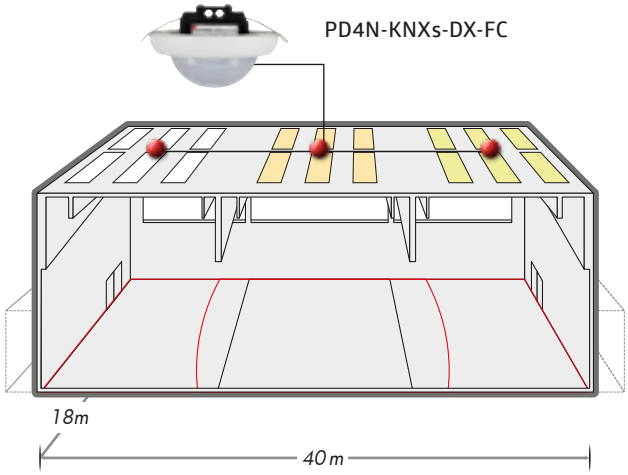
Push-button interface 4-way
PBM-KNX-DX-4W

93365

KNX occupancy detector
DA64-230/KNX REG

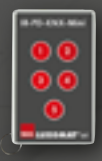
93302

Requirement:
The lighting of a 3-zone sports hall is to be controlled with intelligent building technology. The lighting is to be optimally controlled for the complete hall as well as for the three-section hall.



Luminaire group 1
Luminaire group 2
Luminaire group 3
Across detection zone

Example: Conference room with PD2/4N-KNXs-DX



KNX occupancy detector
PD2N-KNXs-DX

93512

VOC wall sensor
WS-VOC-HVAC-KNX

93806

Blind actuator 4-way
SBA4-230/10/H/KNX REG

93930

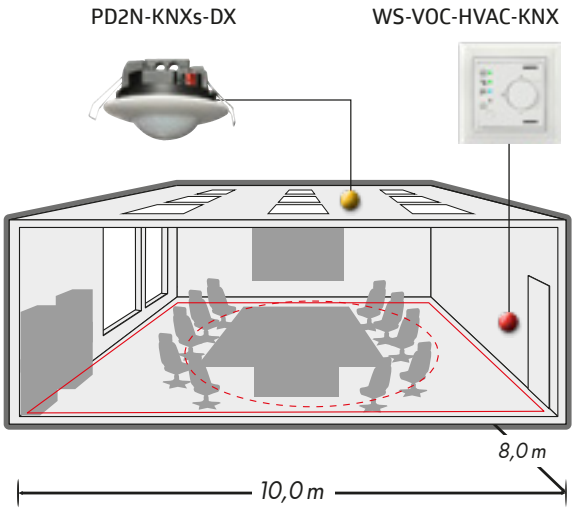
Switch actuator 4-way
SA4-230/16/H/KNX REG

90136

KNX occupancy detector
DA64-230/KNX REG

93302

Requirement:
In conference rooms, lighting needs to be flexible because this is the only way it can cope with different activities such as meetings, lectures or presentations. Therefore, conference rooms need lighting that can be quickly switched from one lighting control scene to another.



Example: Outdoor area with RC-plus next N 230-KNXs-DX

KNX Outdoor occupancy detector
RC-plus next N 230-KNXs-DX

93527

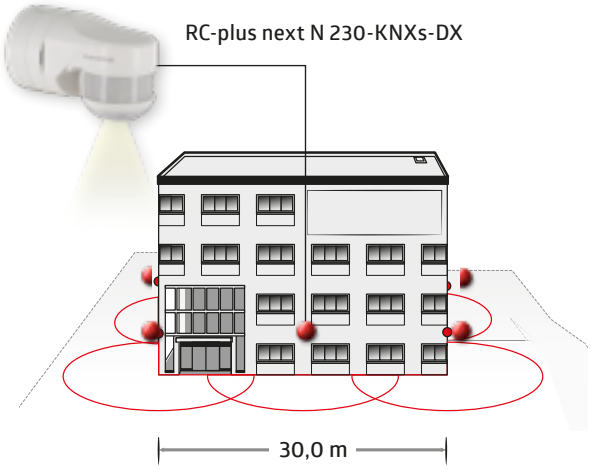
KNX Outdoor occupancy detector
RC-plus next N 230-KNXs-DX

93528

DALI/KNX-Gateway
DA64-230/KNX REG

93302

Requirement:
For their property, the owners not only want security and comfort, but also attach great importance to the highest possible energy efficiency.
The building is to be extended with modern, easy-to-understand technology, whereby functional technology is a prerequisite. Design also plays a major role, because the visual appearance of the building should not be impaired by the installation of the detector.



Across detection zone

Example: High-bay warehouse with PD4-KNXs-GH-DX

KNX occupancy detector
PD4-KNXs-GH-DX-SM

93518

Switch actuator 4-way
SA4-230/16/H/KNX REG

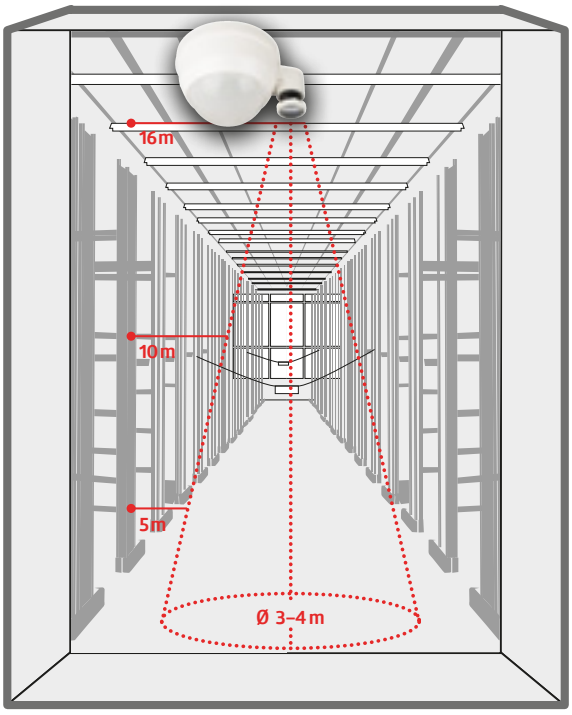
90136

DALI/KNX-Gateway
DA64-230/KNX REG

93302

Requirement:
High-bay warehouses with long aisles and heights of up to 20 m are not uncommon. Despite the extreme mounting height, presence-dependent lighting control should function reliably. This solution is provided by the external light sensor with telescopic function, which ensures lighting control and reliable movement detection at an installation height of up to 20 m.

PD4-KNXs-GH-DX-SM
Reflecting, measuring, controlling light, detecting movement



Example: Private home with Indoor 140L-KNXs-DX

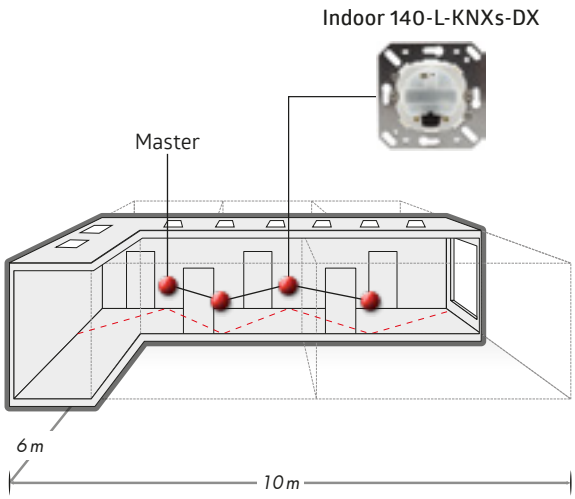
KNX wall occupancy detector with downlight
■ Indoor 140-L-KNXs-DX

93526

DALI/KNX-Gateway
■ DA64-230/KNX REG

93302

Requirement:
For their homes, residents want security and comfort. In times of rising energy costs, energy efficiency is also becoming increasingly important. All necessary components should be controlled as centrally as possible. In the corridor, only an orientation or night light can be used in night mode. If required, this is then automatically replaced by the main lighting by means of a push-button.



◉ Indoor 140-L-KNXs-DX ----- Seated coverage

Example: Staircase with Indoor 180-KNXs-DX

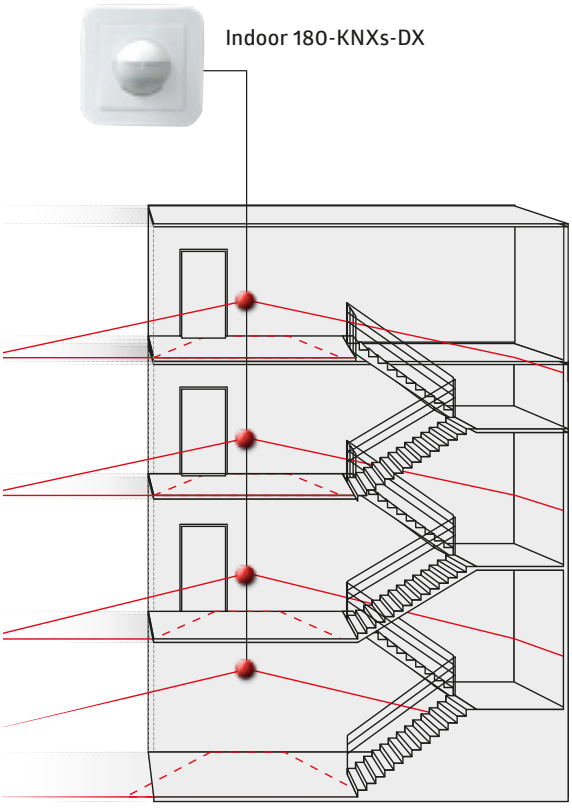
KNX wall occupancy detector
Indoor 180-KNXs-DX

93525

DALI/KNX-Gateway
DA64-230/KNX REG

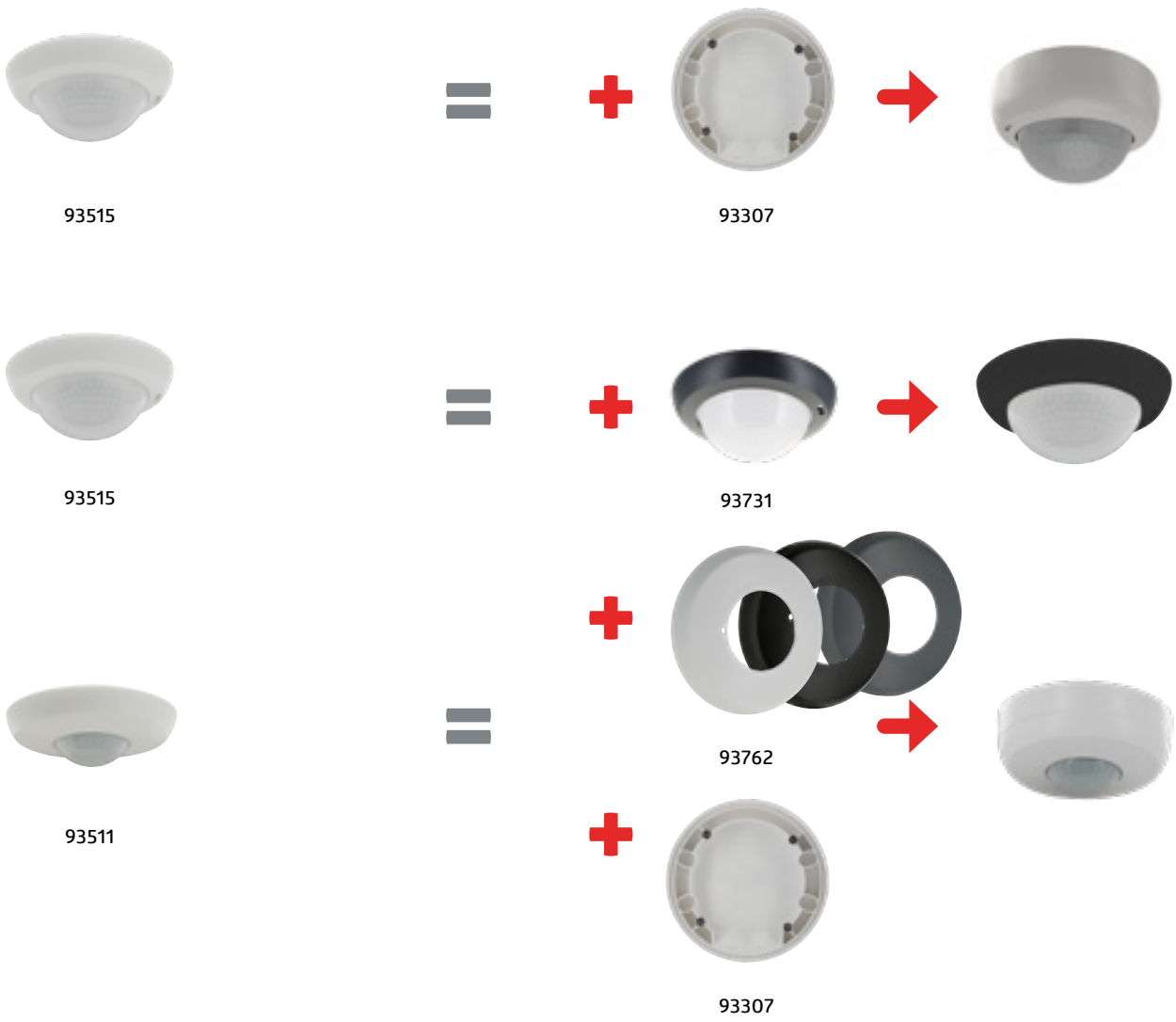
93302

Requirement:
In the staircase, the lighting is to be automatically controlled floor by floor. Reliable lighting of the walkways is a top priority.



SM socle mounting set IP54 PD2N- / PD4N-FM

Functional design, flexible, easy mounting



white, similar RAL7016, Part No.: 93307

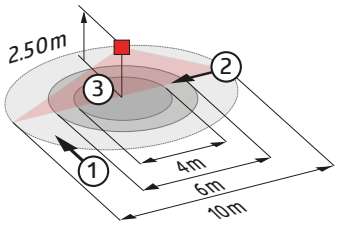
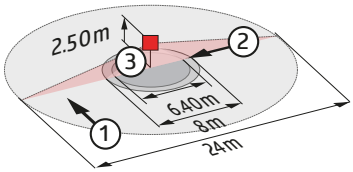
anthracite mat, similar RAL7016, Part No.: 93751

black mat, similar to RAL9005, Part No.: 93753

traffic white mat, similar, ähnlich RAL9016, Part No.: 93752

- Surface mounting set IP54 for PD2N and PD4N flush-mount devices
- For usability/compatibility of the accessories please refer to the descriptions of the main articles
- Suitable for: 93340, 93361, 93368, 93377, 93383, 93385, 93389, 93511, 93513, 93515, 93517, 93531, 93544, 93546, ...

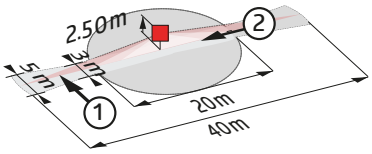
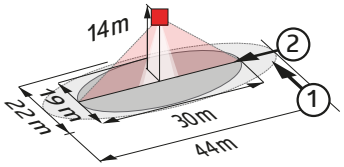
KNXs sensors
Overview

	PD2N-KNX-BA/-ST/-DX	PD4N-KNX-ST/-DX
		
		

*only with ST and DX version **only with DX version

Range (approx.)	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
Mounting height min./max./recommended:	2 m / 5 m / 2.5 m	2 m / 5 m / 2.5 m
Dimensions	FM= Ø 106 x 42 mm FC= Ø 83 x 55 mm	FM= Ø 106 x 55 mm FC= Ø 106 x 74 mm
Sound sensor	50 dB**	50 dB**
Housing	polycarbonate, UV resistant (PC)	polycarbonate, UV resistant (PC)
remote control with	IR-adapter for smartphones* BLE/IR-adapter* IR-PD-KNX* IR-PD-KNX-Mini**	IR-adapter for smartphones BLE/IR-adapter IR-PD-KNX IR-PD-KNX-Mini**
Outputs	1x light (for regulating* or switching) 1x slave* 3x HVAC outputs (separately programmable)*	1x light (for regulating or switching) 1x slave 3x HVAC outputs (separately programmable)

Part number version BA Gen 6	FC - 93380 FM - 93381	–
Part number version ST Gen 6 | Gen 7	FC - 93382 93510 FM - 93383 93511	FC - 93384 93514 FM - 93385 93515
Part number version DX Gen 6 | Gen 7	FC - 93360 93512 FM - 93361 93513	FC - 93386 93516 FM - 93387 93517

PD4N-KNX-K-DX	PD4-KNX-GH-DX
	
	
max. Ø 40 m across max. Ø 20 m towards	oval detection area: 30 m x 19 m
2 m / 5 m / 2.5 m	5 m / 16 m / 14 m
FM= Ø 106 x 55 mm FC= Ø 106 x 68 mm	Ø 101 x 76 mm
50 dB	
polycarbonate, UV resistant (PC)	polycarbonate, UV resistant (PC)
IR-adapter for smartphones BLE/IR-adapter IR-PD-KNX IR-PD-KNX-Mini	IR-adapter for smartphones BLE/IR-adapter IR-PD-KNX IR-PD-KNX-Mini
1x light (for regulating or switching) 1x slave 3x HVAC outputs (separately programmable)	1x light (for regulating or switching) 1x slave 3x HVAC outputs (separately programmable)
–	–
–	–
FC - 93388 FM - 93389	SM - 93399 93518

PRODUCT FEATURES

KNX BUS

12 mA

IP20 / Class of protection III
IP54 with accessories (only SM)

360°

-5 °C to +45 °C

-25 °C to +55 °C

Polycarbonate, UV resistant (PC)

5 % - 100 % / OFF / 1 min-255 min

5 % - 100 % / OFF

5-2000 Lux

SYMBOLS

- Operating voltage
- Power consumption
- Degree / class of protection
- Range (approx.)
- Temperature measurement range
- Ambient temperature
- Housing
- Orientation light
- Night light
- Brightness set value

KNXs sensors
Overview

	PD2N-KNX-BA/-ST/-DX	PD4N-KNX-ST/-DX
		
◯+HCL and RGB, +Secure (exclusive features of Generation 7)		
KNX occupancy detector with integrated KNX bus coupler	◯◯ BA, ST, DX	◯◯ ST, DX
Individual adaption of the motion detector sensitivity	◯◯ BA, ST, DX	
Individual adaption of the PIR sensor sensitivity		◯◯ ST, DX
Deactivation of individual PIR sensors		◯◯ ST, DX
Sound and/or temperature sensor	◯◯ DX	◯◯ ST, DX
Direction detection		◯◯ ST, DX
Detection area can be extended thanks to master-slave-mode	◯◯ ST, DX	◯◯ ST, DX
Extensive optimisation options for light measurement	◯◯ ST, DX	◯◯ ST, DX
Measured light value is communicated to the bus	◯◯ ST, DX	◯◯ ST, DX
Programming button (phys. address) can be operated via remote control	◯◯ ST, DX	◯◯ ST, DX
Adaption of dimming curve	◯◯ ST, DX	◯◯ ST, DX
Mixed light measurement with internal and external light sensor	◯◯ ST, DX	◯◯ ST, DX
Manual influence via external KNX push-buttons possible	◯◯ ST, DX	◯◯ ST, DX
Determination of the reflection factor, e.g. on a desk, with the optional BLE/IR-Adapter	◯◯ ST, DX	◯◯ ST, DX
Regulation/switching of three light groups via offset (external influence possible)	◯◯ ST, DX	◯◯ ST, DX
1x light (for switching), 1 separate HVAC block (independent)	◯ BA	
1 x light output (for regulating or switching), 1 x slave output, 3 x HVAC outputs (separately programmable)	◯◯ ST, DX	◯◯ ST, DX
Function control (heartbeat, cyclical sending)	◯◯ ST, DX	◯◯ ST, DX
Short presence, self-adjusting follow-up time, corridor function	◯◯ ST, DX	◯◯ ST, DX
Occupancy simulation	◯◯ DX	◯◯ DX
Forced switch-off	◯◯ ST, DX	◯◯ ST, DX
Two logic modules	◯◯ DX	◯◯ DX
Recall of light scenes	◯◯ BA, ST, DX	◯◯ ST, DX
Intelligent central-off function	◯◯ ST, DX	◯◯ ST, DX
Behaviour upon bus voltage return definable at choice	◯◯ BA, ST, DX	◯◯ ST, DX
Variable safety pause after switching off the lights	◯◯ ST, DX	◯◯ ST, DX
Status LED can be activated / deactivated	◯◯ BA, ST, DX	◯◯ ST, DX
Various locking functions	◯◯ BA, ST, DX	◯◯ ST, DX
Softstart	◯◯ ST, DX	◯◯ ST, DX

PD4N-KNX-K-DX	PD4-KNX-GH-DX
	
○ DX	DX ○○ DX
○ DX	DX ○○ DX
○ DX	DX ○○ DX
○ DX	DX Temp. DX
○ DX	DX ○○ DX
○ DX	DX ○○ DX
○ DX	DX ○○ DX
○ DX	DX ○○ DX
○ DX	DX ○○ DX
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○ DX	DX ○○ DX

SUITABLE FOR

PD2N/PD4N

Entrance hall

Conference room

Open plan office

Classroom

PD4N-C

Corridor

Staircase

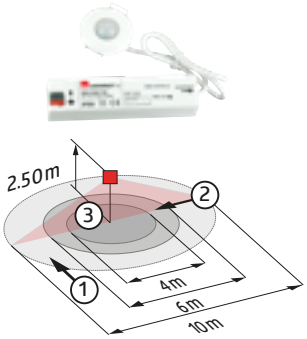
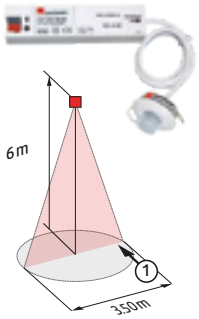
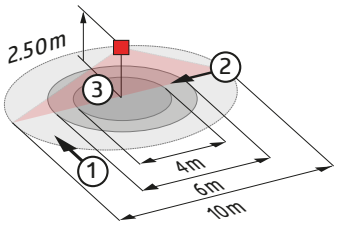
PD4-GH

Parking garage

Sports hall

Great height

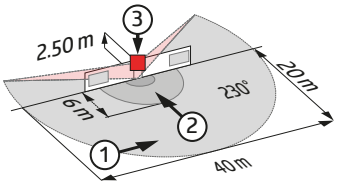
KNXs sensors
Overview

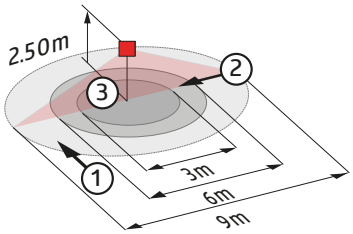
	PD9-KNX-DX/GH-DX	PICO-KNX-ST/-DX
		
		

*only with ST and DX version **only with DX version

Range (approx.)	max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated max. Ø 3,5 m across (Version GH)	max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated
Mounting height min./max./recommended:	2 m / 5 m / 2.5 m	2 m / 5 m / 2.5 m
Dimensions	Sensor head: Ø 45 x 28 mm Ø 45 x 40 mm (Version GH) Power supply: 129 x 29 x 22 mm	Ø 33 x 32 mm
Degree / class of protection	IP20 / Class of protection III	IP20 / Class of protection III
Sound sensor	–	–
Housing	polycarbonate, UV resistant (PC)	polycarbonate, UV resistant (PC)
remote control with	IR-adapter for smartphones BLE/IR-adapter IR-PD-KNX IR-PD-KNX-Mini	IR-adapter for smartphones BLE/IR-adapter IR-PD-KNX IR-PD-KNX-Mini**
Outputs	1x light (for regulating or switching) 1x slave 3x HVAC outputs (separately programmable)	1x light (for regulating or switching) 1x slave 3x HVAC outputs (separately programmable)
Part number version BA Gen 6	–	–
Part number version ST Gen 6 | Gen 7	–	93539
Part number version DX Gen 6 | Gen 7	FC - 93390 93520 GH-FC - 93391 93521	DE - 92719 93529

RC-plus next N 230 KNX-DX	PD11-KNX-FLAT-BA/-ST/-DX





max. Ø 40 m across max. Ø 20 m towards	max. Ø 9 m across max. Ø 6 m towards max. Ø 3 m seated
2 m / 5 m / 2.5 m	2 m / 5 m / 2.5 m
121 x 71 x 85 mm	Ø 52 x 48 mm
IP54 / Class of protection III	IP54 / Class of protection III
–	50 dB**
polycarbonate, UV resistant (PC)	polycarbonate, UV resistant (PC)
IR-adapter for smartphones BLE/IR-adapter IR-PD-KNX IR-PD-KNX-Mini	IR-adapter for smartphones* BLE/IR-adapter* IR-PD-KNX* IR-PD-KNX-Mini**
1x light (for regulating or switching) 1x slave 3x HVAC outputs (separately programmable)	1x light (for regulating* or switching) 1x slave* 3x HVAC outputs (separately programmable)*
–	FC - 93803
–	FC - 93802 93522
white - 93394 93527 black - 93395 93528	FC - 93392 93523

PRODUCT FEATURES

KNX BUS

12 mA

5-2000 Lux

360°

-5 °C to +45 °C

-25 °C to +55 °C

Polycarbonate, UV resistant (PC)

5 % - 100 % / OFF / 1 min-255 min

5 % - 100 % / OFF

5-2000 Lux

SYMBOLS

- Operating voltage
- Power consumption
- Brightness set value
- Range (approx.)
- Temperature measurement range
- Ambient temperature
- Housing
- Orientation light
- Night light

KNXs sensors
Overview

	PD9-KNX-DX/GH-DX	PICO-KNX-ST/-DX
		
◯◯ +HCL and RGB, +Secure (exclusive features of Generation 7)		
KNX occupancy detector with integrated KNX bus coupler	◯◯ DX	◯◯ ST, DX
Individual adaption of the motion detector sensitivity	◯◯ DX	
Individual adaption of the PIR sensor sensitivity	◯◯ DX	◯◯ ST, DX
Deactivation of individual PIR sensors		◯◯ ST, DX
Sound and/or temperature sensor	Temp.	◯◯ ST, DX
Direction detection		◯◯ ST, DX
Detection area can be extended thanks to master-slave-mode	◯◯ DX	◯◯ ST, DX
Extensive optimization options for light measurement	◯◯ DX	◯◯ ST, DX
Measured light value is communicated to the bus	◯◯ DX	◯◯ ST, DX
Programming button (phys. address) can be operated via remote control	◯◯ DX	◯◯ ST, DX
Adaption of dimming curve	◯◯ DX	◯◯ ST, DX
Mixed light measurement with internal light sensor	◯◯ DX	
Manual influence via external KNX push-buttons possible	◯◯ DX	◯◯ ST, DX
Determination of the reflection factor, e.g. on a desk, with the optional BLE-IR-Adapter	◯◯ DX	◯◯ ST, DX
Regulation/switching of three light groups via offset (external influence possible)	◯◯ DX	◯◯ ST, DX
1x light (for switching), 1 separate HVAC block (independent)		
1 x light output (for regulating or switching), 1 x slave output, 3 x HVAC outputs (separately programmable)	◯◯ DX	◯◯ ST, DX
Function control (heartbeat, cyclical sending)	◯◯ DX	◯◯ ST, DX
Short presence, self-adjusting follow-up time, corridor function	◯◯ DX	◯◯ ST, DX
Occupancy simulation	◯◯ DX	◯◯ ST, DX
Forced switch-off	◯◯ DX	◯◯ ST, DX
Two logic modules	◯◯ DX	◯◯ ST, DX
Recall of light scenes	◯◯ DX	◯◯ ST, DX
Intelligent central-off function	◯◯ DX	◯◯ ST, DX
Behaviour upon bus voltage return definable at choice	◯◯ DX	◯◯ ST, DX
Variable safety pause after switching off the lights	◯◯ DX	◯◯ ST, DX
Status LED can be activated / deactivated	◯◯ DX	◯◯ ST, DX
Various locking functions	◯◯ DX	◯◯ ST, DX
Soft-start	◯◯ DX	◯◯ ST, DX

RC-plus next N 230 KNX-DX	PD11-KNX-FLAT-BA/-ST/-DX
	
○○ DX	○○ BA, ST, DX
	○○ BA, ST, DX
○○ DX	
○○ DX	
Temp.	○○ DX
○○ DX	
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ BA, ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ BA, ST, DX
○○ DX	○○ ST, DX
○○ DX	○○ BA, ST, DX
○○ DX	○○ BA, ST, DX
○○ DX	○○ ST, DX

SUITABLE FOR

PD9

- Office (small)
- Staircase

PD9-GH

- Parking lot
- Entrance hall
- Corridor
- Great height

PICO/PD11

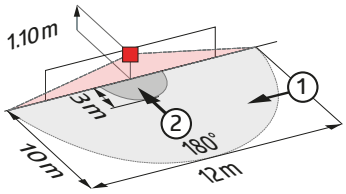
- Office (small)
- Conference room
- Open plan office
- Staircase

RC-plus next N

- Outdoor areas
- Parking lot
- Great height

KNXs sensors
Overview

Indoor 180-KNX-BA/-ST/-DX

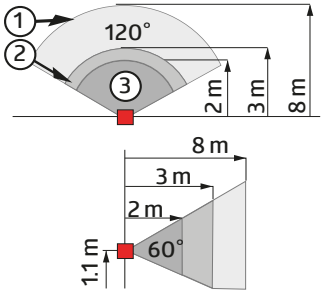


*only with ST and DX version **only with DX version

Range (approx.)	max. 10 m across max. 3 m towards
Mounting height min./max./recommended:	1 m / 2.2 m / 1.1 m
Dimensions	(covering not included) 70 x 70 x 61 mm
Detection area	180°
Sound sensor	50 dB**
Housing	polycarbonate, UV resistant (PC)
remote control with	IR-adapter for smartphones* BLE/IR-adapter* IR-PD-KNX* IR-PD-KNX-Mini**
Outputs	1x light (for regulating* or switching) 1x slave* 3x HVAC outputs (separately programmable)*
Night light	5 %-100 % / OFF*

Part number version BA Gen 6	**93362**
Part number version ST Gen 6 | Gen 7	**93363 93524**
Part number version DX Gen 6 | Gen 7	**93364 93525**

Indoor 140-L-KNX-DX



	max. 8 m across max. 3 m towards
	1 m / 1.2 m / 1.1 m
	(covering not included) 70 x 70 x 51 mm
	120°
	–
	polycarbonate, UV resistant (PC)
	IR-adapter for smartphones BLE/IR-adapter IR-PD-KNX IR-PD-KNX-Mini
	1x light (for regulating or switching) 1x slave 3x HVAC outputs (separately programmable)
	5 %-100 % / OFF
	–
	–
	93393 93526

PRODUCT FEATURES

KNX BUS

12 mA

IP20 / Class of protection III
IP54 with accessories (only SM)

1 h-100 h selectable

-5 °C to +45 °C

-25 °C to +55 °C

Polycarbonate, UV resistant (PC)

5 %-100 % / OFF / 1 min-255 min

5-2000 Lux

SYMBOLS

- Operating voltage
- Power consumption
- Degree / class of protection
- Burn-in function
- Temperature measurement range
- Ambient temperature
- Housing
- Orientation light
- Brightness set value

KNXs sensors
Overview

	Indoor 180-KNX-BA/-ST/-DX	Indoor 140-L-KNX-DX
		
◯ +HCL and RGB, +Secure (exclusive features of Generation 7)		
KNX occupancy detector with integrated KNX bus coupler	◯◯ BA, ST, DX	◯◯ DX
Individual adaption of the motion detector sensitivity	◯◯ ST, DX	◯◯ DX
Detection area can be extended thanks to master-slave-mode	◯◯ ST, DX	◯◯ DX
Extensive optimisation options for light measurement	◯◯ ST, DX	◯◯ DX
Measured light value is communicated to the bus	◯◯ ST, DX	◯◯ DX
Programming button (phys. address) can be operated via remote control	◯◯ ST, DX	◯◯ DX
Adaption of dimming curve	◯◯ ST, DX	◯◯ DX
Mixed light measurement with internal light sensor	◯◯ BA, ST, DX	◯◯ DX
Manual influence via external KNX push-buttons possible	◯◯ ST, DX	◯◯ DX
Determination of the reflection factor, e.g. on a desk, with the optional BLE-IR-Adapter	◯◯ ST, DX	◯◯ DX
Regulation/switching of three light groups via offset (external influence possible)	◯◯ ST, DX	◯◯ DX
1 x light (for switching), 1 separate HVAC bloc	◯ BA	
Function control (heartbeat, cyclical sending)	◯◯ ST, DX	◯◯ DX
Short presence, self-adjusting follow-up time	◯◯ ST, DX	◯◯ DX
Occupancy simulation	◯◯ DX	◯◯ DX
Forced switch-off	◯◯ ST, DX	◯◯ DX
Two logic modules	◯◯ DX	◯◯ DX
Recall of light scenes	◯◯ ST, DX	◯◯ DX
Intelligent central-off function	◯◯ ST, DX	◯◯ DX
Behaviour upon bus voltage return definable at choice	◯◯ BA, ST, DX	◯◯ DX
Variable safety pause after switching off the lights	◯◯ ST, DX	◯◯ DX
For use with covering (interior cover dimensions 50 x 50 mm) in 5 different colours	◯◯ BA, ST, DX	
In combination with centre plates usable with current frame systems of various manufacturers	◯◯ BA, ST, DX	◯◯ DX
Please order cover frame separately, available in various colours	◯◯ BA, ST, DX	◯◯ DX
Premonition of switch-off	◯◯ ST, DX	◯◯ DX
Integrated downlight with the function of an orientation or a night light		◯◯ DX
Integrated pushbutton (two functions programmable)		◯◯ DX

SUITABLE FOR

Indoor

Entrance hall

Corridor

Staircase

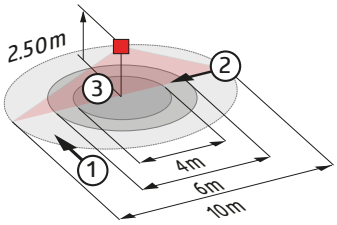
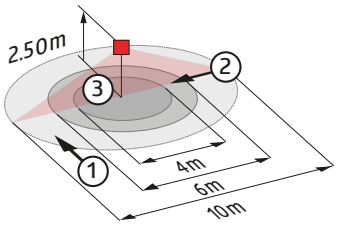
Sanitary room

The world‘s smallest KNX occupancy detector

PICO-KNX

With dimensions of only 33 mm x 34 mm (height), B.E.G.'s PICO-KNX occupancy detector fits into many installation situations. The detector can be easily integrated into luminaires in particular. Despite its small size, the detector has an amazingly large detection range of 10 m (diameter) at a mounting height of 2.5 m, and even up to 12 m at a mounting height of 3 m. Small but powerful!

KNXs sensors
Overview

	PD2N-KNXs-OCCULOG-DX	PD2N-KNXs-OCCULOG-DX
		
		
Range (approx.)	max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated	max. Ø 10 m across max. Ø 6 m towards max. Ø 4 m seated
Mounting height min./max./recommended:	2 m / 5 m / 2.5 m	2 m / 5 m / 2.5 m
Dimensions	FM= Ø 106 x 42 mm FC= Ø 83 x 55 mm	FM= Ø 106 x 42 mm FC= Ø 83 x 55 mm
Detection area	horizontal 360° (Ceiling mounting)	horizontal 360° (Ceiling mounting)
Degree / class of protection	FM= IP20 / Class of protection III FC= IP20 / Class of protection III	FM= IP20 / Class of protection III FC= IP20 / Class of protection III
Housing	polycarbonate, UV resistant (PC)	polycarbonate, UV resistant (PC)
remote control with	IR-adapter for smartphones BLE/IR-adapter IR-PD-KNX IR-PD-KNX-Mini	IR-adapter for smartphones BLE/IR-adapter IR-PD-KNX IR-PD-KNX-Mini
Outputs	1x light (for regulating or switching) 1x slave 3x HVAC outputs (separately programmable) Temperature, air quality, humidity	1x light (for regulating* or switching) 1x slave 3x HVAC outputs (separately programmable) Temperature, air quality, humidity
Part number	**93530**	**93531**

WS-VOC-HVAC-KNX

Voltage	KNX Bus
Dimensions	55 x 55 x 25 mm
Ambient temperature	-5 °C bis +45 °C
Degree / class of protection	IP20 / Class of protection III
Housing	polycarbonat
Display elements	1 x Programming LED, red 2 x Traffic lightLED, red/yellow/green 1 x LED, red/blue 1 x LED, green
	93806

PRODUCT FEATURES

KNX BUS

12 mA

IP20 / Class of protection III
IP54 with accessories
(only SM)

5-2000 Lux

-5 °C to +45 °C

-25 °C to +55 °C

Polycarbonate,
UV resistant (PC)

5 % -100 % / OFF /
1 min-255 min

SYMBOLS

- Operating voltage
- Power consumption
- Degree / class of protection
- Brightness set value
- Temperature measurement range
- Ambient temperature
- Housing
- Orientation light
- Measurement of air quality (VOC / CO_2)
- Humidity measurement
- Temperature control
- Control via KNX

KNXs sensors
Overview

	PD2N-KNXs-OCCULOG-DX	PD2N-KNXs-OCCULOG-DX
		
◯ +HCL und RGB, +Secure (exklusive Ausstattung der Generation 7)		
KNX occupancy detector with integrated KNX bus connector	◯	◯
Low installation depth	◯	◯
1 x light output (for regulating or switching), 1 x slave output, 3 x HVAC outputs (separately programmable)	◯	◯
Two logic modules	◯	◯
Individual adaption of the PIR sensor sensitivity	◯	◯
Mixed light measurement with internal and external light sensor	◯	◯
Various locking functions	◯	◯
Status LEDs can be activated / deactivated	◯	◯
Programming button (phys. address) can be operated via remote control	◯	◯
Regulation of up to three lighting groups using offset (external influence possible)	◯	◯
Short presence, self-adjusting follow-up time, corridor function	◯	◯
Recall of light scenes	◯	◯
Temperature- and noise sensor	◯	◯
Measurement of air quality based on volatile organic compounds (VOC)	◯	◯
Four limit values each for humidity and air quality	◯	◯
Up to 4 limit values possible	◯	◯
All values can be sent to the bus and used for HVAC applications	◯	◯
Controller for temperature, air quality and humidity	◯	◯
5 button remote control, programmable at choice (accessory)	◯	◯
Occupancy simulation	◯	◯
Detection area can be extended thanks to master-slave-mode	◯	◯
Extensive optimization options for light measurement	◯	◯
Measured light value is communicated to the bus	◯	◯
IR remote control-capable via IR remote control (optionally)	◯	◯
Manual influence via external KNX push buttons possible	◯	◯
Function control (heartbeat, cyclical sending)	◯	◯
Forced switch-off	◯	◯
Intelligent central-off function	◯	◯
Premonition of switch-off	◯	◯
Behaviour upon bus voltage return definable at choice	◯	◯
Variable safety pause after switching off the lights	◯	◯
Parameterisation from ETS 5 for integration into KNX systems	◯	◯
Adaption of dimming curve	◯	◯
Determination of the reflection factor, e.g. on a desk, with the optional BLE-IR-Adapter	◯	◯
Soft-start	◯	◯
Integrated Tunable White controller for human-centric lighting	◯	◯
RGB control	◯	◯
Spring-clamps	◯	
Blinds	◯	◯

WS-VOC-HVAC-KNX

With integrated bus coupler	○
Temperature controller and VOC (volatile organic compounds) sensor for KNX bus	○
Temperature control: PI controller (continuous), 2-step controller % , 2-step switching, PWM	○
Preset temperature curves for different heating/cooling systems	○
Additional heating/cooling stage can be activated	○
Various prioritised operating modes (Comfort, Standby, Eco, frost/heat protection)	○
Extension of the duration for the comfort temperature via button (green indicator)	○
Setpoint limitation (temperature) via outdoor temperature possible	○
Dew point determination	○
Feedback as bit, byte or RHCC format	○
Indicator heating /cooling (red/blue)	○
Air quality control: PI controller (continuous), 2-step controller % , 2-step switching	○
Air quality Measuring method VOC, output VOC or CO_2	○
Regulation or stage mode	○
Air humidity control: PI controller (continuous), 2-step controller % , 2-step switching	○
Adjustment of control values via rotary knob or object	○
Output of temperature (°C), air quality (ppm) and relative humidity (%) to the bus	○
Indicator (traffic light) for air quality and humidity (green, yellow, red)	○
Four limit values each for air humidity and quality	○
Suitable for switch ranges 55x55	○
Adapter for switch ranges 63x63 included	○

SUITABLE FOR

- Office
- Conference room
- Schools
- Kindergarden
- Hospitals

KNX Actuators
Overview

	SA4-230/16/H/KNX REG SA8-230/16/H/KNX REG	SA4-230/16/H/EM KNX REG SA8-230/16/H/EM KNX REG
		
Voltage	KNX Bus	KNX Bus
Housing	PC + PA66	PC + PA66
Dimensions	90136= (4 TE) 90 x 72 x 64 mm 93336= (8 TE) 90 x 144 x 64 mm	90139= (4 TE) 90 x 72 x 64 mm 93339= (8 TE) 90 x 144 x 64 mm
Display elements	Red LED: Programming LED	Red LED: Programming LED
The blind actuators receive KNX telegrams and control several blind motors with limit switches independently of one another		
Each output is individually programmable from RTS3 onwards. A choice can be made between logical links, status reports, block functions, central switch functions and comprehensive time functions, such as activation/deactivation of delays and staircase lighting timer functions. Scenario functions are also available.	○	○
The device is planned for permanent installation on a DIN-rail (top-hat) in high voltage current distributors	○	○
Installation must take place in dry interiors	○	○
Each outlet is controlled by way of a totable relay and can also be manually activated with the buttons	○	○
4-channel 1-10V dimming module		
640mA, 30V power supply module		
In the event of a mains failure, all relays maintain their current switch position. In the event of bus voltage failure or resumption, the switch positions of the relay can be individually programmed for each channel.	○	○
Measures the current consumption of the connected consumers as of a current of 20mA		○
The following values can be determined: mA, A, kW		○
Determination of consumption per channel and sum of all channels		○
Surveillance of service intervals	○	○
Suitable for loads with up to 200µF at 16A	○	○
Resettable operating hour counter	○	○
Part number	SA4 - 90136 SA8 - 93336	SA4 - 90139 SA8 - 93339

DIM4-230/1-10V/16/H/ KNX REG	SBA4-230/10/H/ KNX REG
	
KNX Bus	Supply voltage: 230 V AC / 50 Hz Output voltage: 230 V AC / 50 Hz
PC + PA 66	PC + PA 66
(4 TE) 86 x 72 x 60 mm	(4 TE) 86 x 72 x 60 mm
Red LED: Programming LED Green LED: Channel status	Red LED: Programming LED Green LED: Channel status
	○
○	○
○	○
○	○
○	
○	
93980	93930

PRODUCT FEATURES

IP20 / Class of protection II

-25 °C to +55 °C

Plastic LEXAN UL-94-V0

Manual operation of the channels directly on the device

SYMBOLS

Degree / class of protection

Ambient temperature

Housing

Manual operation

KNX Actuators
Overview

	LK-IP/KNXs REG LAN-IF/KNXs REG	LK-TP/KNX REG	BIA-4-KNX REG BIP-4-KNX REG
			
Voltage	KNX Bus	KNX Bus	KNX Bus
Housing	PC + PA 66	PC + PA 66	PC + PA 66
Dimensions	(1 TE) 90 x 18 x 60 mm	(1 TE) 90 x 18 x 60 mm	(1 TE) 60 x 18 x 90 mm
Ambient temperature	-5 °C to +45 °C	-5 °C to +45 °C	-5 °C to +45 °C
Display elements	The LEDs indicate operating conditions as well as communication errors on the KNX bus	The LEDs indicate operating conditions as well as communication errors on the KNX bus	
The blind actuators receive KNX/EIB telegrams and control several blind motors with limit switches independently of one another			
Each output is individually programmable from RTS3 onwards. A choice can be made between logical links, status reports, block functions, central switch functions and comprehensive time functions, such as activation/deactivation of delays and staircase lighting timer functions. Scenario functions are also available.	○		
Binary input or output device (push button interface) for pattress boxes (60 mm)			
There are four channels available. Each can either be used as input for a potential-free push-button or switch contact or as binary output for switching a control lamp.			
User-friendly ETS interface. The following functions are possible: Switching, Forced operation, Percentage, Temperature, HVAC mode, Dimming, Blinds control, Scene, Edge function, Counter			
The device is planned for permanent installation on a DIN-rail (top-hat) in high voltage current distributors	○	○	○
Compact binary input with 4 channels for controlling luminaires, blinds, etc			○
The inputs can be controlled via conventional switches with an external voltage of 12 to 230 V			○ (90405)
Two push-buttons and three LEDs enable local operation and visualisation of the unit´s status			○
In addition to the input channels, the unit contains 16 independent logic or time functions			○
Installation must take place in dry interiors	○	○	○
Cost-efficient programming of a KNX system via LAN	○		
Inputs are designed for dry contacts			○ (90406)
Use as a pulse counter is possible			○
Part number	LK-IP - 90403 LAN-IF - 90404	90401	BIA - 90405 BIP - 90406

PBM-KNX-DX-4W

KNX Bus
38 x 41 x 12 mm
-5 °C to +45 °C
○
○
○
93365

PRODUCT FEATURES

IP20 / Class of protection II

Manual operation of the channels directly on the device

SYMBOLS

Degree / class of protection

Manual operation

KNX Actuators
Overview

	PSN-230/640/30/ KNX REG	DALI/KNX-Gateway DA64-230/KNX REG
		
Voltage	200 - 240 V AC 50/60 Hz	230 V AC -15/+10% 50/60 Hz
Housing	PC + PA 66	PC + PA 66
Dimensions	(3 TE) 90 x 52.5 x 58 mm	(4 TE) 90 x 72 x 64 mm
Ambient temperature	-5 °C to +45 °C	0 °C to +45 °C
Display elements	Red and green LEDs indicate the operating status	Red LED: Programming LED Yellow LED: LAN, Red LED: ERROR
Manual operation		Manual operation of the channels directly on the device
The device is planned for permanent installation on a DIN-rail (top-hat) in high voltage current distributors	○	○
Installation must take place in dry interiors	○	○
Each gateway is for controlling and dimming up to 64 electronic ballasts in 16 groups		○
Commissioning and assignment of the electronic ballasts (DALI) via operating keys, ETS		○
Scenes module for controlling individual electronic ballasts		○
Individual error detection (forwarding to KNX or Ethernet)		○
The gateway connects the KNX BUS with the DALI BUS (DALI BUS for controlling the illumination)		○
Supports DT8 colour temperature drivers		○
Support of B.E.G. DALI-LINK multisensors, push-button modules, push-buttons and DALI relay modules		○
Commissioning via DCA		○
Broadcast command via integrated operating buttons		○
Support for DALI emergency luminaires		○
Part number	**90214**	**93302**

PRODUCT FEATURES

IP20 / Class of protection II

SYMBOLS

Degree / class of protection

One Interface, four options

With our 4-way push-button module, you take KNX control into your own hands. No matter whether you want to adjust the temperature, dim the lights or control your blinds.
By the way: There are even more functions waiting to be discovered by you.

B.E.G. building system technology
Solution with Netx Automation

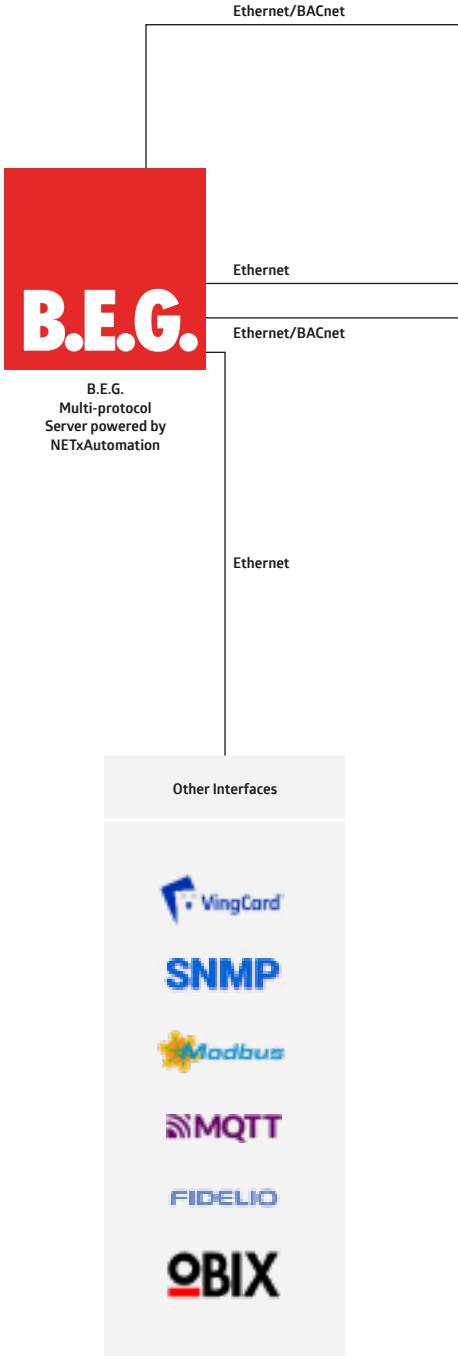
Would you like to use the full potential of your automated building? Then our multi-protocol gateway is perfect for you. The server solution connects different building system technology protocols.

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 platform, 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.).



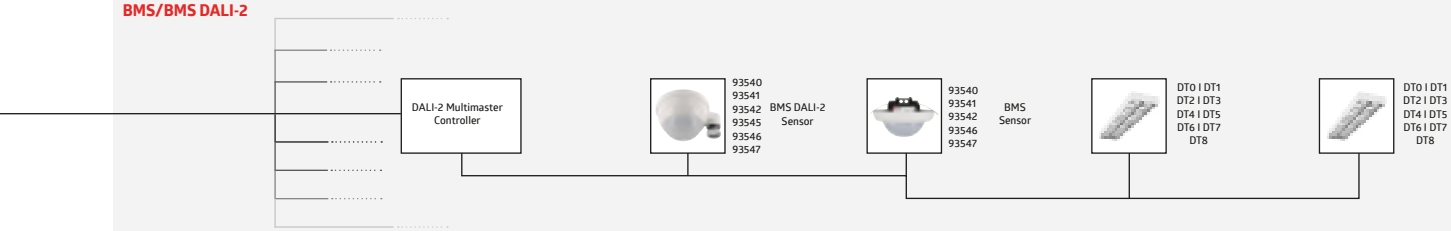
Currently available software interfaces are:

- 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

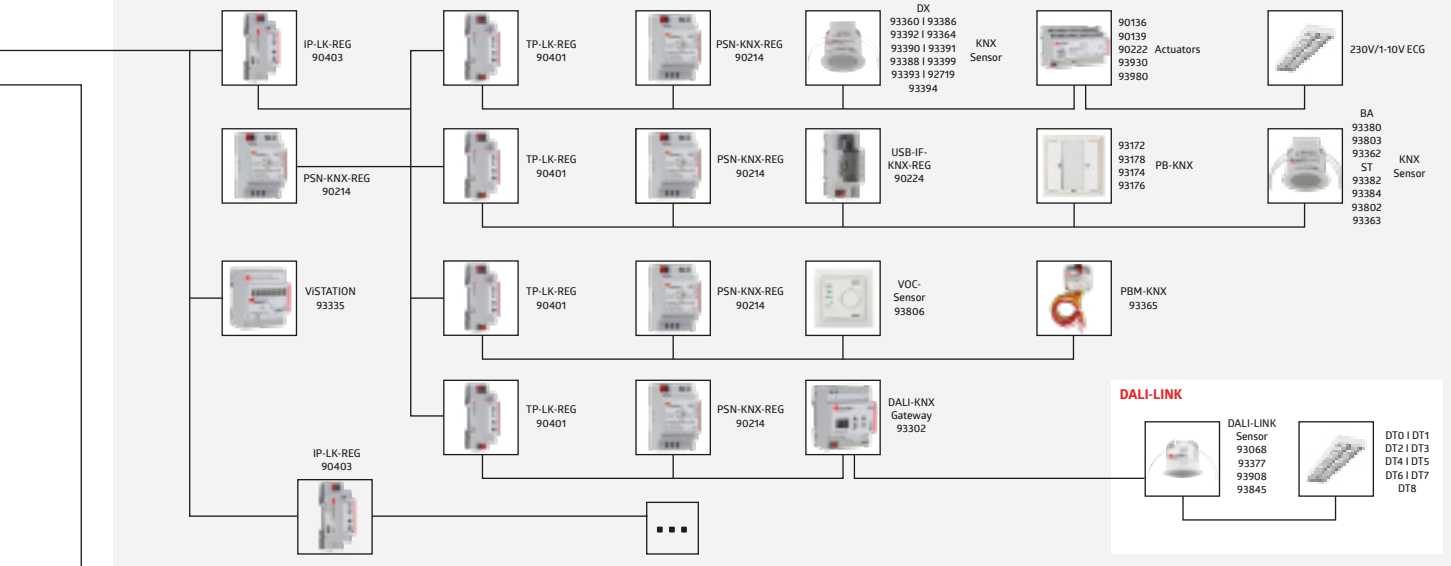
Supported hardware gateways:

· DALI · EnOcean · M-Bus · DMX

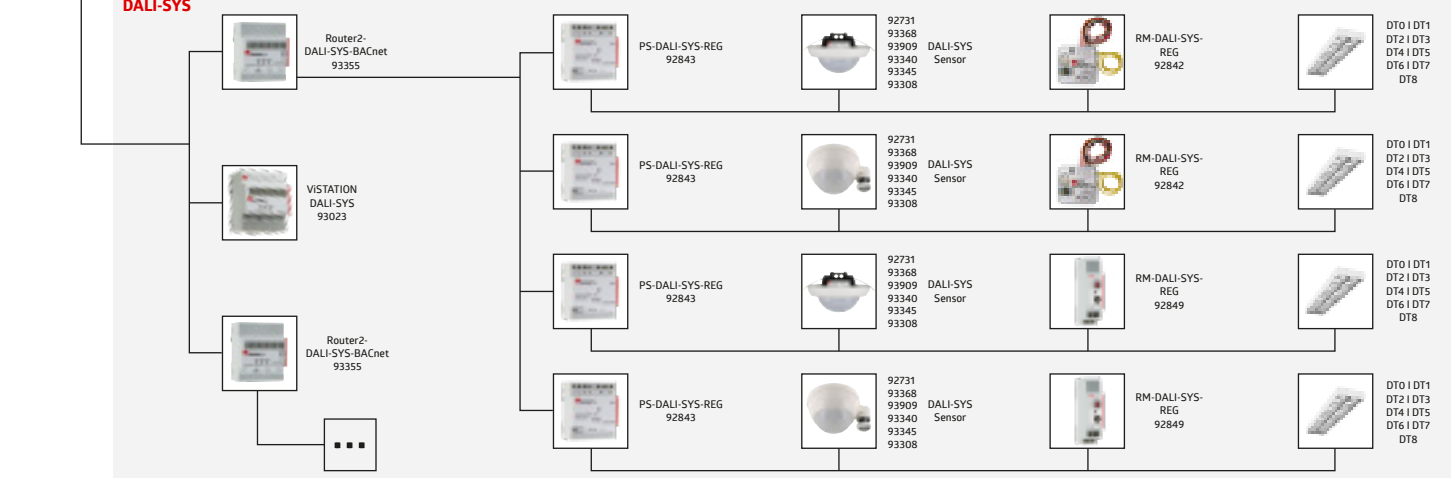
BMS/BMS DALI-2



KNX



DALI-SYS



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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