

**B.E.G. LUXOMAT®**



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## **B.E.G.** – *The flexible solution*



... for high-bay  
warehouses



... for  
classrooms



... for  
open-plan offices



... for  
sports halls



... for  
corridors etc.



**B.E.G.**

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**B.E.G.** Brück Electronic GmbH, a family company founded in 1975, stands for quality and innovation. Internationally, the company has an excellent reputation and has branches and agencies in many countries worldwide. From the very beginning, our team's focus has been on satisfying customers. And that is why our staff are always there for you:

- Our field staff are all skilled specialists and undergo regular training. So you always have a capable partner with you, even at your site.
- Our in-house staff are highly trained and are happy to help you with advice about your order. And your contact will be happy to help with any questions about our products.
- Our products are available exclusively through electrical wholesalers. Thanks to many years of co-operation, staff there can usually help you with any questions about **B.E.G.** products.
- Our planning department will be pleased to assist you further with planning for large projects. Send us your CAD drawing by email, and you will receive a free proposal from us, with product recommendations.

## Products as individual as your project

We are the market specialists for occupancy and motion detectors. Because of the wide variety of our products, it is easy to lose sight of the big picture, so in this brochure, we have put together the five most common applications and the most suitable products for them.

PD4-M-1C-GH



High-bay warehouse

RC-plus next



Warehouse

PD3N-1C Micro



Wash room

Indoor 140-L



Corridor

PD2-M-1C



Open-plan office

PD4-M-2C



Sports hall

PD4-M-DAA4G



Classroom

**Special requirements? Just contact us!**



## High-bay warehouse

### Large areas and extreme heights

High-bay warehouses have long aisles between the racking – heights of 7 to 9 metres are not uncommon now. Here, conventional sensors have problems, partly because they detect motion tangentially, and partly because of the extreme mounting height. Light levels reflected from the floor can only be measured with difficulty.

#### Products which can also be used:

- PD4-M-DIM
- PD4-M-DALI/DSI

*To provide constant light with corridor hold function.*

#### The solution is the PD4-M-1C-GH:

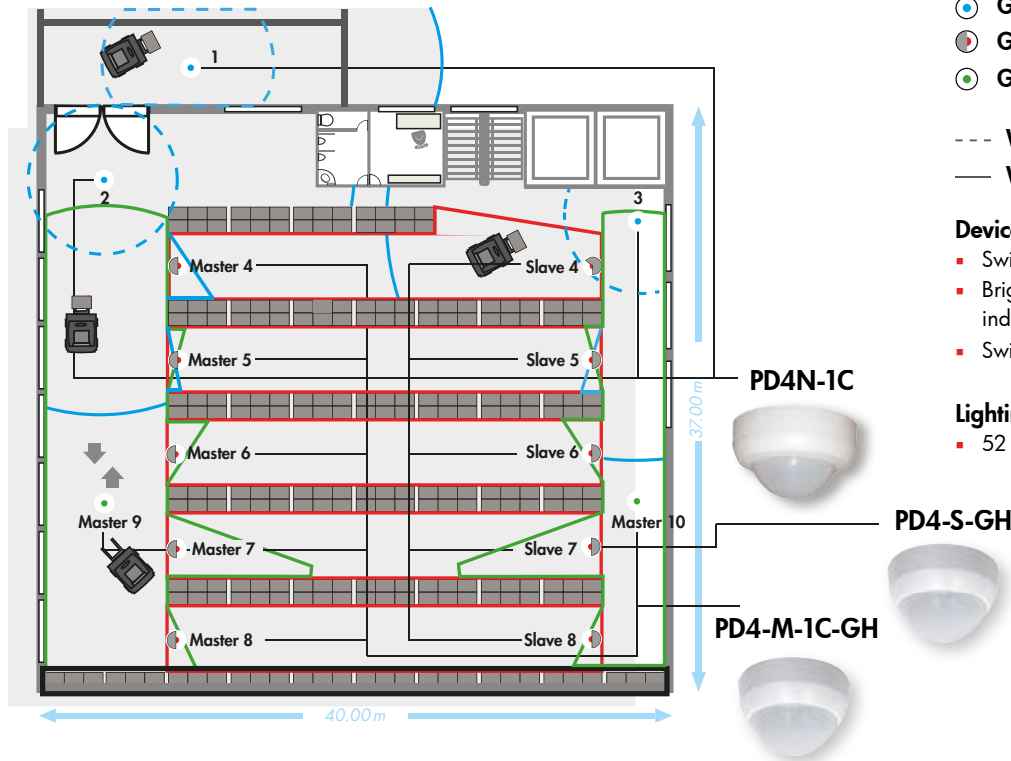
- Occupancy detector with large detection area, specially designed for large heights
- Potential-free contact
- Detection area can be extended with slave units

#### Detection area

- 360°
- Ø 44 m towards the sensor

#### For smaller warehouses with defined detection areas:

- PD9-M-1C-GH
- 360°
- Ø 6 m walking across



- Group 1-3
- Group 4-8 (with blinds)
- Group 9-10

--- Walking towards detection area  
 — Walking across detection area

### Device settings:

- Switch-off delay time R1: > 5 min.
- Brightness switching value: 200 Lux or individual using remote control
- Switch-off delay time R2: optional

### Lighting:

- 52 lights of 165 W (incl. electronic ballast)

## Application details:

For optimum detection in a high-bay warehouse aisle, a PD4-M-1C-GH is positioned centrally in each aisle. Blinds serve to limit the detection area, so that only the aisle between the storage racks is monitored and not the transverse connecting corridor. Thanks to this, the light in the aisle will not be switched by a person walking down the corridor. Two more sensors are installed in the cross aisles at right angles to the racking aisles, and entrance areas can additionally be fitted with PD4N-1C units.

This grouping results on-demand control: when someone enters the warehouse, the light in the entry area is switched on. If a worker steps into a cross aisle, the lights in both cross aisles are switched on. The worker then has light on both sides of the racking aisles. The light in a racking aisle is only activated once a worker enters it.

## Sample calculation

	Without lighting control	With lighting control
Connected load	8.580 W	8.580 W
Average daily lighting duration	16 h	4 h
Annual lighting duration	250 days 4.000 h	250 days 1.000 h
Consumption	34.320 kWh	8.580 kWh
Costs per kWh	15.75 p	15.75 p
Annual electricity costs	£5,405	£1,350

Results can vary according to type of use and amount of daylight available.



## Storage rooms

### Long narrow corridors

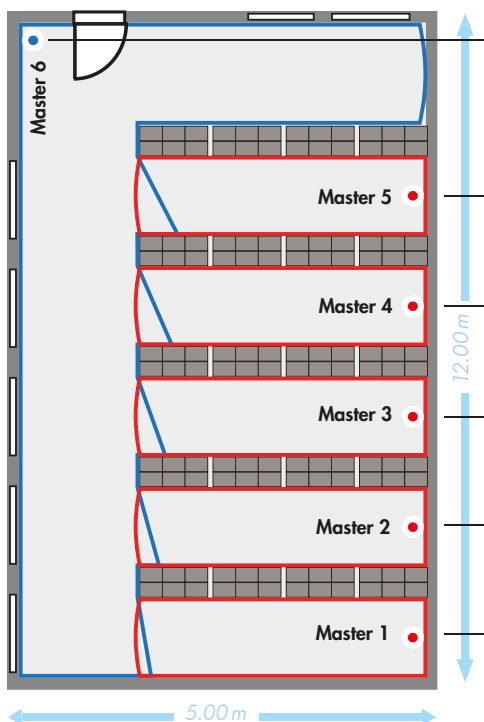
Storage rooms are characterized by long narrow corridors, which are illuminated individually. The direction of motion is in front to the detector, which makes it difficult to capture. Light reflections from the ground can cause difficulties.

### The solution is the RC-plus next:

- Motion detector with a detection area of 230° + 360° anti creep
- Energy saving by included time delay
- Additional cover clips also ensure stepless adjustment of the detection area

### Detection area

- 230° + 360° anti-creep function
- Range 20 m when walking across (tangential)



● 1-6 single switch

--- Walking towards detection area

— Walking across detection area

**Device settings:**

- Switch-off delay time R1: > 5 min.
- Brightness switching value: 200 Lux or individual using remote control
- Switch-off delay time R2: optional

**Lighting:**

- 16 lights of 165 W (incl. electronic ballast)

RC-plus next



**Application details:**

For optimized detection in a storage room a RC-plus next is positioned at the end of each corridor. Blinds serve to limit the detection area, so that only the aisle between the storage racks is monitored. The detection area can be justified very precisely by swivel the ball of the RC-plus next.

The light in a racking corridor is only activated once a worker enters it. Corridors are switched independent that light is only switched on, where required.

**Sample calculation**

	Without lighting control	With lighting control
Connected load	8.580 W	8.580 W
Average daily lighting duration	16 h	4 h
Annual lighting duration	250 days 4.000 h	250 days 1.000 h
Consumption	34.320 KWh	8.580 KWh
Costs per kWh	15.75 p	15.75 p
Annual electricity costs	£5,405	£1,350

Results can vary according to type of use and amount of daylight available.



## Wash rooms

### Complete coverage

Combines infrared and acoustic detection for smaller areas which are difficult to protect with infrared only (with corners and dividing walls) like stairwells, private garages, galleries, wash rooms.

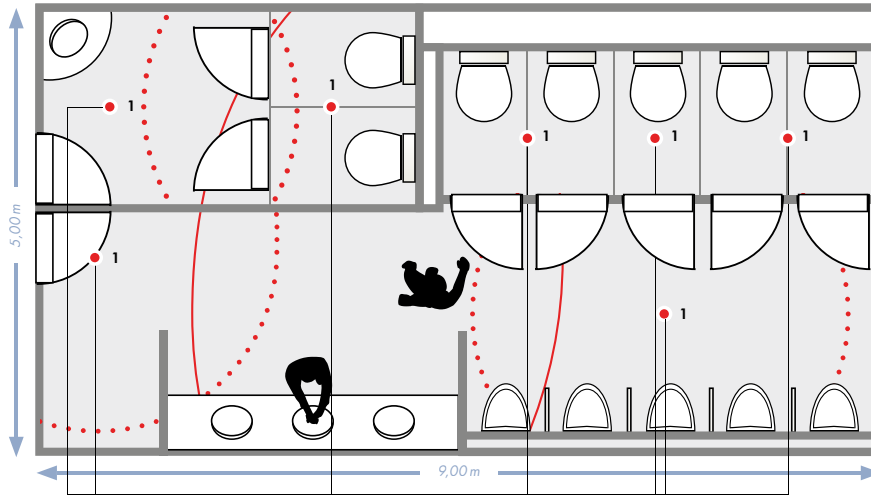
### The solution is the PD3N-1C ACOUSTIC:

- Manually operated ceiling-mounted motion detectors in surface-mount and ceiling-mount version with circular detection area
- One channel to switch the lighting
- With integrated acoustic sensor

### Detection area

- 360°
- Ø 10 m across sensor
- Ø 6 m towards sensor
- Ø 2.5 m sitting





PD3N



## Perfectly lit:

The PD3N-version with integrated acoustic sensor (micro version), can also cover occupancy of persons who would not be detected only by the infrared system of the detector (e.g. in corners or behind walls). Therefore this is the optimized solution for stairwells, private garages, the sensor switch-on if motion is detected by the infrared detector.

To retrigger the sensor an acoustic signal only is necessary. Can used also with serial impulse function (gong).

## Group 1

- Seated detection area
- Walking across detection area

### Device settings:

- Switch-off delay time: 10 min.
- Brightness: day/night ("sun" symbol)

### Lighting:

- One lighting group with electronic ballast per room

## Sample calculation

	Without lighting control	With lighting control
Connected load	600 W	600 W
Average daily lighting duration	8 h	4 h
Annual lighting duration	180 days 1.440 h	180 days 720 h
Consumption	864 KWh	432 KWh
Costs per kWh	15.75 p	15.75 p
Annual electricity costs	£136	£68

Results can vary according to type of use and amount of daylight available.



## Classroom

### Uniform illumination for all desks

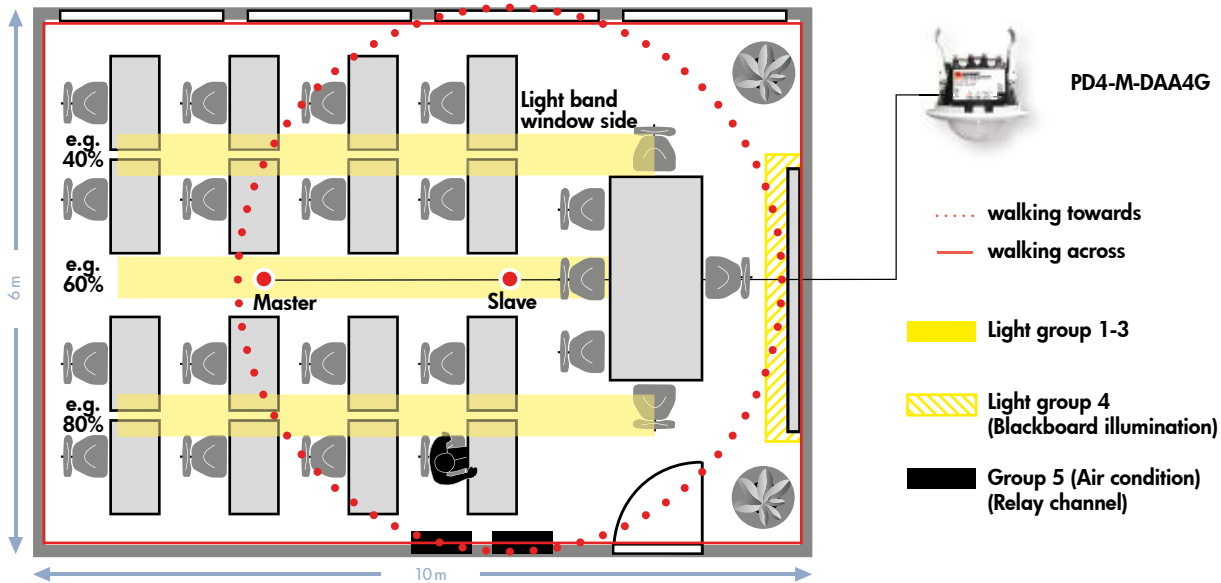
Typical classrooms only have windows on one side of the room, so as a rule, the window side of the room is markedly brighter than the side with no windows. One side of the room therefore needs artificial lighting earlier in the day than the other. The front of the room, around the blackboard, may need to have artificial light continuously, because of the greater requirement for visibility and legibility.

### The solution is the PD4-M-DAA4G:

- Occupancy detector for four lighting groups, for daylight-dependent lighting control
- Additional switch connection (e.g. for separate switching of blackboard lighting)

### Detection area

- 360°
- Ø 24 m across sensor
- Ø 8 m towards sensor
- Ø 6.4 m sitting



## Perfectly lit:

Groups 1-3 control the light depending on the brightness in the room and offer the possibility to realise a mixed light control (DALI). It is possible to define an offset for the individual groups. This way, the three groups can be adapted to the local requirements by means of a light sensor. Furthermore, they can manually be activated by means of a common pushbutton. Group 4 can be used for permanent illumination and is either controlled depending on brightness or using

a pushbutton. Group 5 is connected to a relay channel having a dry NO contact. It offers the possibility to control a further constant light or HVAC devices depending on presence. Another option is to use it for completely switching off the electronic ballast. Thereby, the stand-by consumption of the EB is reduced to zero.

## Sample calculation

	Without lighting control	With lighting control
Connected load	600 W	600 W
Average daily lighting duration	8 h	4 h
Annual lighting duration	180 days 1.440 h	180 days 720 h
Consumption	864 KWh	432 KWh
Costs per kWh	15.75 p	15.75 p
Annual electricity costs	£136	£68

Results can vary according to type of use and amount of daylight available.



## Open-plan office

### Efficient lighting control at many workstations

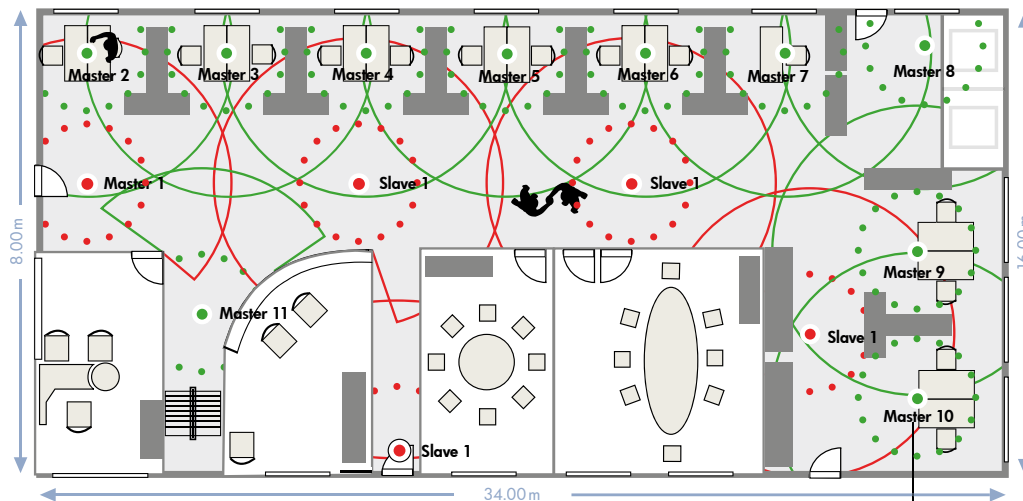
Open-plan offices are characterised by a large surface area and localised lighting requirements – each workstation must have sufficient light available. Workstations often get varying amounts of natural light, so some need artificial light earlier than others. If workstations are not occupied, then of course no energy should be wasted there.

### The solution is the PD2-M-1C:

- Occupancy detector with potential-free contact
- Available as master; detection area can be extended with slave units
- Manual operation with switch available (absence/presence)

### Detection area

- 360°
- Ø 10 m across sensor
- Ø 6 m towards sensor
- Ø 4 m sitting



- Group 1
- Group 2 - 11

- Seated detection area
- Walking across detection area

### Device settings:

- Switch-off delay time R1: > 5 min.
- Brightness switching value: 500 Lux or individual using remote control
- Switch-off delay time R2: optional

### Lighting:

- 75 lights of 45 W (incl. electronic ballast)

PD2



## The right lighting at every workstation:

For optimum demand-driven lighting, every workstation needs its own motion detector: PD2-M-1C type occupancy detectors are installed at double and single workstations, in the reception area, and in front of the lifts. In this situation, each detector is a master, controlling the area that it monitors. Thus each occupied workstation receives sufficient light, without activating lighting for the entire office.

The circulation area is monitored by a master at the entry door and four slave units.

## Sample calculation

	Without lighting control	With lighting control
Connected load	3.375 W	3.375 W
Average daily lighting duration	10 h	4 h
Annual lighting duration	250 days 2500 h	250 days 1500 h
Consumption	8.437.5 KWh	5.062.5 KWh
Costs per kWh	15.75 p	15.75 p
Annual electricity costs	£1,328	£797

Results can vary according to type of use and amount of daylight available.



## Sports hall

### Wide-area detection in a multipurpose hall

Modern sports halls are usually multipurpose halls, which can be subdivided into three smaller halls with mobile partitions. Lighting control must work for the whole hall as well as for the three smaller halls. If required, there should be manual on-demand override of the automatic control. In addition, the HVAC installation should be linked to the control system.

**Please use with:**  
**BSK Ball basket guard**

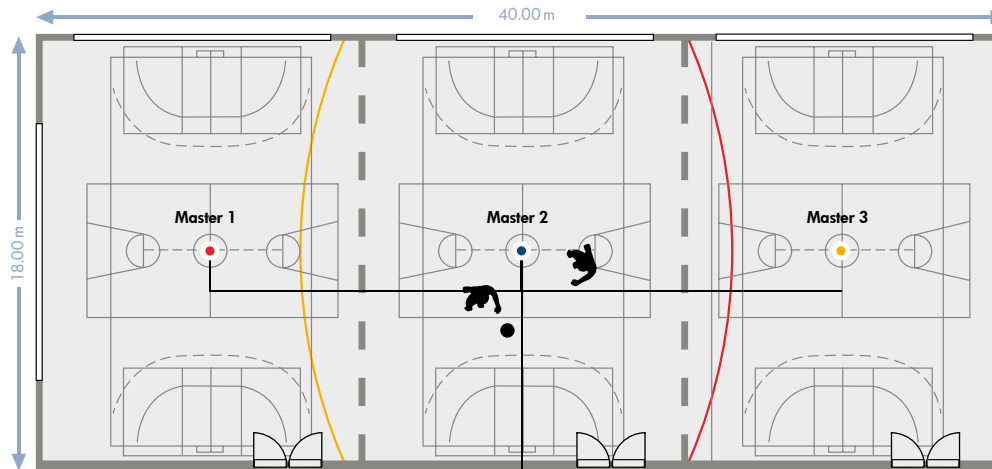


### The solution is the PD4-M-2C:

- Occupancy detector with potential-free contact
- Available as master; detection area can be extended with slave units
- Manual operation with switch available

### Detection area

- 360°
- Ø 24 m across sensor
- Ø 8 m towards sensor
- Ø 6.4 m sitting



PD4



- Group 1
- Group 2
- Group 3

— Walking across detection area

#### Device settings:

- Switch-off delay time R1: > 5 min.
- Brightness switching value: 300 Lux or individual using remote control
- Switch-off delay time R2: optional

#### Lighting:

- 35 lights of 109 W (incl. electronic ballast)

### Perfect detection in all areas:

The PD4-M-2C covers a large ( $\varnothing$  24 m) detection area. A master unit is installed centrally in each of the three parts of the hall. Because of the increased risk of breakage from stray balls, the occupancy detectors are protected by a mesh. When the hall is being used as one large hall, the detection areas of the outer occupancy detectors overlap in the middle. When the whole hall is in use, the overall lighting is controlled. For three smaller halls, each detector cov-

ers one hall and controls just the lighting in each. The HVAC installation can also be divided into three zones, with each zone connected to the relevant occupancy detector. If only part of the hall is in use, then only the required part is heated.

### Sample calculation

	Without lighting control	With lighting control
Connected load	3.815 W	3.815 W
Average daily lighting duration	10 h	6 h
Annual lighting duration	180 days 1.800 h	180 days 1.080 h
Consumption	6.867 KWh	4.120.2 KWh
Costs per kWh	15.75 p	15.75 p
Annual electricity costs	£1081	£648

Results can vary according to type of use and amount of daylight available.



## Corridor

### Long routes used for short periods

Corridors are transit areas which usually have little or no natural daylight. To guarantee their safe use, they are often fully illuminated at all times. In hotels, where full-brightness lighting at night could disturb guests, orientation lighting is used, which only goes to full brightness when motion is detected or when activated by a switch.

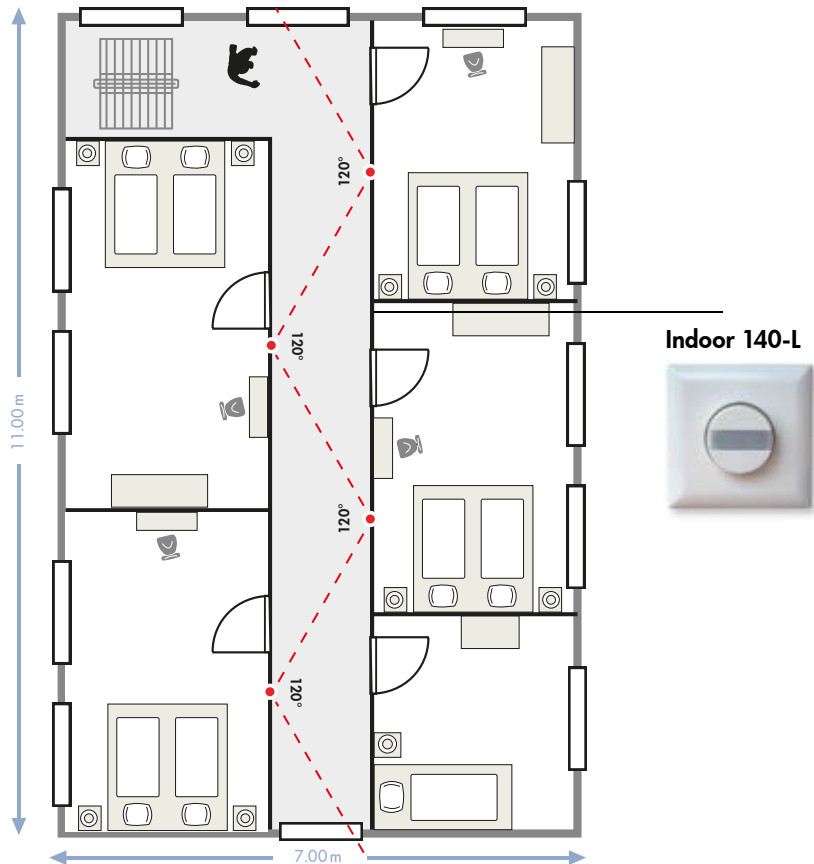
### The solution is the Indoor 140-L:

- Wall-mounted occupancy detector with integrated push button
- Integrated downlight with orientation and night light function
- Detection area can be extended with an additional Indoor 140-L unit

### Detection area

- 120°
- Range across sensor maximum 8 m
- Recommended mounting height: 1.1 - 1.20 m





--- Walking across detection area

#### Device settings:

- Switch-off delay time R1: > 5 min.
- Brightness switching value: 100Lux or individual using remote control
- Switch-off delay time R2: optional

#### Lighting:

- 12 Downlights of 27 W (incl. electronic ballast)

### Safety on every floor:

The Indoor 140-L expertly combines the safety of a night light and orientation light with the intelligent switching of an occupancy detector, and also includes an integrated manual switch. The powerful LEDs of the occupancy detector work as a night light to softly illuminate the corridor after dark. The integrated brightness meter activates the night light function automatically at dusk, and when it gets light enough at dawn, the night light is deactivated.



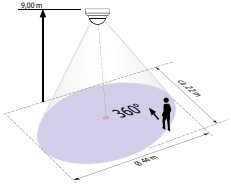

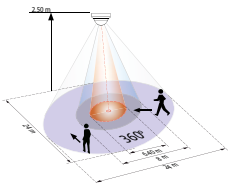


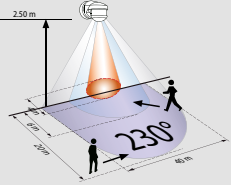


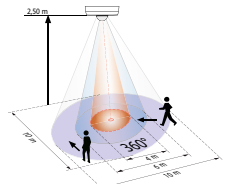
The orientation light is set to be brighter than the night light, and is activated when motion is detected. Guests can therefore find their way safely to their rooms. The main light can be manually activated via the integrated switch, and it switches itself off again automatically at the end of the light-on time. Additionally, the switch acts as a manual off when the main light is activated.

### Sample calculation








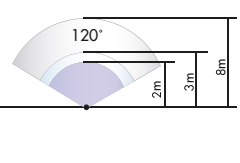
	Without lighting control	With lighting control
Connected load	324 W	324 W
Average daily lighting duration	12 h++	5 h
Annual lighting duration	250 days 2.500 h	250 days 1.250 h
Consumption	810 KWh	405 KWh
Costs per kWh	15.75 p	15.75 p
Annual electricity costs	£127	£64

Results can vary according to type of use and amount of daylight available.

***Our solutions for your requirements:***

Application example	Occupancy detector		Part number	Typical applications	Range detection
		PD4-M-1C-GH-SM	92245	monitoring of warehouses, high-bay storages, wherever a great mounting height is necessary	
		PD4-S-GH-SM	92265		
		PD4N-1C-SM	92144	monitoring of large areas like underground garages, gyms, warehouses, loading ramps, halls	
		PD4N-1C-FC	92149		
		RC-plus next 130°	97001, 97011, 97021	monitoring of premises, walkways, gateways and also warehouses	
		RC-plus next 230°	97002, 97012, 97022, 97042		
		RC-plus next 280°	97003, 97013, 97023		
		PD3N-1C-SM Micro	92219	monitoring of smaller areas like stair-wells, private garages, galleries, wash rooms	
		PD3N-1C-FC Micro	92184		

## Our solutions for your requirements:

Application example	Occupancy detector		Part number	Typical applications	Range detection
		PD4-M-DAA4G-SM	92743	classrooms, offices, conference rooms, schools, nursery schools, hospitals	
		PD4-M-DAA4G-FC	92591		
		PD2-M-1C-SM	92550	offices, conference rooms, schools, nursery schools, hospitals	
		PD2-M-1C-FC	92565		
		PD4-M-2C-SM	92140	monitoring of large areas like underground garages, gyms, warehouses, loading ramps, halls	
		PD4-M-2C-FC	92148		
		Indoor 140-L	94327	control of stairways, corridors – simple switch replacement	



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ISO 14001



Environmental  
management

ISO 9001



Quality  
management