Design examples for electricians and planners

Convenient and safe designs with B.E.G.

Selecting the right occupancy detector or multisensor for each area of the project is not always easy with the diversity and special functions of the detectors. As a specialist, B.E.G. offers detectors for almost every requirement.

We will be happy to assist you with the selection and planning. On the following pages we have compiled tips on the optimum installation location, correct switching and correct setting of our detectors as well as design examples for various projects.

Here you can quickly see which detectors are best suited for which situations. Furthermore, use the experience of B.E.G. for successful planning and smooth operation of B.E.G. detectors.

Our field staff will advise you directly on site. If you wish, our specialists can use your CAD plan to plan the optimum distribution of our motion and occupancy detectors. Simply send us your plans by e-mail. We will take care of the rest, free of charge of course. You can rely on us: Even after the purchase, we are there to advise you until the completion of your project.
Automatic lighting control with occupancy detectors is to be implemented in a corridor on an office floor.

- **Note:**
The detectors should be positioned in such a way that all access zones are safely covered with frontally detection zones. "Dead zones" should be avoided in corridor sections. If it is not possible to avoid gaps in the detection range, the follow-up time should be increased.

Please note that the detection ranges of the detectors depend on the direction of movement of the persons to be detected (frontally to the detector or transverse to the detector).

- **Object data:**
  - Type: Corridor without daylight
  - Corridor dimensions: L 18.00 x W 12.00 m
  - Ceiling height: 2.50 m (clear height)

- **Lighting:**
  - 1 luminaire group with electronic ballasts

- **Product listing:**
  - 1 pc. LUXOMAT® PD4 master device
  - 2 pcs. LUXOMAT® PD4 master device

- **Master device setting:**
  - Follow-up time R1: > 5 min
  - Switch-on threshold R1: 50 - 150 Lux
  - Follow-up time R2: optional
  - If required: Orientation light

- **Operation mode:**
  - Master/slave operation in the corridor area (see wiring diagram PD4-M-1C)
  - The master device must always be mounted in the darkest area of the corridor.

- **Detection range Type “PD4”**

  - across Ø 24 m
  - frontally Ø 8 m
  - seated activity Ø 6.4 m

  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a corridor on an office floor, an optically inconspicuous, automatic lighting control system should be implemented.

- **Note:**
The detectors should be positioned in such a way that all access zones are safely covered with frontally detection zones. “Dead zones” should be avoided in corridor sections. If it is not possible to avoid gaps in the detection range, the follow-up time should be increased.

Please note that the detection ranges of the detectors depend on the direction of movement of the persons to be detected (frontally to the detector or transverse to the detector).

- **Object data:**
  - Type: Corridor without daylight
  - Corridor dimensions: L 18.00 x W 12.00 m
  - Ceiling height: 2.50 m (clear height)

- **Lighting:**
  - 2 luminaire groups with electronic ballasts

- **Product listing:**
  - 2 pcs. LUXOMAT® PD4 master -C device

- **Master device setting:**
  - Follow-up time R1: > 5 min
  - Switch-on threshold R1: 50 - 150 Lux
  - Follow-up time R2: optional

- **Operation mode:**
  - Both detectors in master mode (see wiring diagram PD4-M-2C-C)

**Planning example corridor with PD4-M-C**

Detector for
- Lighting group 1
- Lighting group 2

Mounting height = 2.50 m

- **Detection range Type “PD4-C”**

- across Ø 40 m
- frontally Ø 20 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
Automatic lighting control with design occupancy detectors is to be implemented in a corridor on an office floor.

- **Note:**
The PD11 design occupancy detector blends almost invisibly into the ceiling with only 0.85mm visible height. The detectors should be positioned in such a way that all access zones are safely covered with frontal detection zones. ‘Dead zones’ should be avoided in corridor sections. If it is not possible to avoid gaps in the detection range, the follow-up time should be increased.

Please note that the detection ranges of the detectors depend on the direction of movement of the persons to be detected (frontally to the detector or transverse to the detector).

- **Object data:**
  Type: Corridor without daylight
  Corridor dimensions: L 18.00 x W 12.00 m
  Ceiling height: 2.50 m (clear height)
- **Lighting:**
  2 luminaire groups with electronic ballasts
- **Product listing:**
  2 pcs. LUXOMAT® PD11 master device
  2 pcs. LUXOMAT® PD11 slave device
- **Master device setting:**
  Follow-up time R1: > 5 min
  Switch-on threshold R1: 300 Lux or individually with remote control
- **Operation mode:**
  Master/slave operation in the corridor area (see wiring diagram PD11-M-1C-FLAT)
  The master device must always be mounted in the darkest area of the corridor.

- **Detection range Type “PD11”**

  - across: Ø 9 m
  - frontally: Ø 6 m
  - seated activity: Ø 3 m
  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
Automatic lighting control is to be implemented in a corridor on an office floor. As this is an old building, wall occupancy detectors are desired.

- **Note:**
The Indoor 180 wall occupancy detectors in combination with intermediate frames are suitable for all common flush-mounted switch brands.

The detectors should be positioned in such a way that all access zones are safely covered with frontally detection zones. “Dead zones” should be avoided in corridor sections. If it is not possible to avoid gaps in the detection range, the follow-up time should be increased.

Please note that the detection ranges of the detectors depend on the direction of movement of the persons to be detected (frontally to the detector or transverse to the detector).

- **Object data:**
  - **Type:** Corridor without daylight
  - **Corridor dimensions:** L 18.00 x W 12.00 m
  - **Ceiling height:** 2.50 m (clear height)

- **Lighting:**
  - 2 luminaire groups with electronic ballasts

- **Product listing:**
  - 2 pcs. LUXOMAT® Indoor 180 master device
  - 3 pcs. LUXOMAT® Indoor 180 slave device

- **Master device setting:**
  - Follow-up time R1: > 5 min
  - Switch-on threshold R1: 300 Lux or individually with remote control
  - Follow-up time R2: optional

- **Operation mode:**
  - Master/slave operation in the corridor area (see wiring diagram Indoor 180-M-2C)
  - The master device must always be mounted in the darkest area of the corridor.

**Detection range Type “Indoor 180”**

- Across Ø 10 m
- Frontally Ø 3 m

for a mounting height of 1.10 m – 2.20 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In an open-plan office with areas separated by partition walls, an optically inconspicuous, automatic lighting control system with occupancy detectors is to be implemented.

- **Note:**

  The PD11 design occupancy detector blends almost invisibly into the ceiling with only 0.85 mm visible height. The detectors should be positioned so that the "seated activity" detection zone covers the desk workstations.

- **Object data:**
  - Type: Open plan office with daylight
  - Room dimensions: L 14.00 x B 14.00 m
  - Ceiling height: 3.00 m (clear height)

- **Lighting:**
  - 3 luminaire groups with electronic ballasts

- **Product listing:**
  - 3 pcs. LUXOMAT® PD11 master device
  - 3 pcs. LUXOMAT® PD11 slave device

- **Master device setting:**
  - Follow-up time R1: > 5 min
  - Switch-on threshold R1: 500 Lux or individually with remote control

- **Operation mode:**
  - Master/slave operation at workstations (see wiring diagram PD11-M-1C-FLAT)
  - The master device must always be mounted at the darkest spot of the area illuminated by the group.

- **Detection range Type “PD11”**

  - across: Ø 9 m
  - frontally: Ø 6 m
  - seated activity: Ø 3 m

  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In an open-plan office with two lighting groups, automatic daylight-dependent lighting control with occupancy detectors is to be implemented.

The sunny side of the office with windows facing south/west and the shaded side with windows facing north should be controlled independently.

**Note:**
The workstations at the south and west windows are combined in a luminaire group, as are the workstations at the north windows.

**Object data:**
- **Type:** Open plan office with daylight
- **Room dimensions:** L 14.00 x B 14.00 m
- **Ceiling height:** 3.00 m (clear height)

**Lighting:**
- 2 luminaire groups with electronic ballasts

**Product listing:**
- 1 pcs. LUXOMAT® PD4Master DUO Device
- 1 pcs. LUXOMAT® PD2 master device
- 3 pcs. LUXOMAT® PD2 slave device

**Master device setting:**
- **Follow-up time R1:** > 5 min
- **Switch-on threshold R1:** 500 Lux or individually with remote control
- **Follow-up time R2:** optional

**Operation mode:**
Master/slave operation at workstations (see wiring diagrams PD2-M-1C and PD4-M-2C-DUO)

The master device must always be mounted at the darkest spot.

**Detection range Type “PD4”**

- across: Ø 24 m
- frontally: Ø 8 m
- seated activity: Ø 6.4 m

for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a conference room, the lighting should be controlled visually inconspicuously depending on presence and daylight. Despite the automatic control, it should be possible to influence the current switching status manually via a button or a remote control. The occupancy detectors are to be mounted on the ceiling.

**Note:**
The PD11 design occupancy detector blends almost invisibly into the ceiling with only 0.85 mm visible height. By installing two occupancy detectors, the entire conference table can be covered with the “seated activity” detection areas. Even small movements are reliably detected.

**Object data:**
- **Type:** Meeting room with daylight
- **Room dimensions:** L 10.00 x B 6.00 m
- **Ceiling height:** 3.00 m (clear height)

**Lighting:**
1 luminaire group with electronic ballasts

**Product listing:**
1 pcs. LUXOMAT® PD11 master device
1 pcs. LUXOMAT® PD11 slave device

**Master device setting:**
- **Follow-up time R1:** mind. 5 min
- **Switch-on threshold R1:** 500 Lux

**Operation mode:**
Master/slave circuit with optional push-button control (see wiring diagram PD11-M-1C-FLAT)
The master device must always be mounted at the darkest spot.

**Detection range Type “PD11”**
- across Ø 9 m
- frontally Ø 6 m
- seated activity Ø 3 m

for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a conference room, the lighting is to be controlled according to presence and daylight. Despite the automatic control, it should be possible to influence the current switching status manually via a button or a remote control. The occupancy detectors are to be mounted on the ceiling.

- **Note:**
  By mounting the PD4, the entire room can be covered with just one device.

- **Object data:**
  - **Type:** Meeting room with daylight
  - **Room dimensions:** L 10.00 x B 6.00 m
  - **Ceiling height:** 3.00 m (clear height)

- **Lighting:**
  1 luminaire group with electronic ballasts

- **Product listing:**
  1 pcs. LUXOMAT® PD4 master device

- **Master device setting:**
  - **Follow-up time R1:** mind. 5 min
  - **Switch-on threshold R1:** 500 Lux
  - **Follow-up time R2:** optional

- **Operation mode:**
  Master circuit with optional push-button control (see wiring diagram PD4-M-2C)

- **Detection range Type “PD4”**
  - across Ø 24 m
  - frontally Ø 8 m
  - seated activity Ø 6.4 m
  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a lavatory with lockable WC cabins with solid walls, the light should be switched reliably and energy-efficiently.

- **Note:**
  To cover all areas, the cabins must each be equipped with an occupancy detector.

- **Object data:**
  - **Type:** Lavatory
  - **Room dimensions:** L 6.00 x B 5.50 m
  - **Ceiling height:** 3.00 m (clear height)

- **Lighting:**
  1 luminaire group with electronic ballasts per room/cabin

- **Product listing:**
  6 pcs. LUXOMAT® PD3N or PD9 device

- **Device setting:**
  - **Follow-up time:** 10 min
  - **Switch-on threshold:** Day (Symbol “Sun”)

- **Operation mode:**
  Standard operation (see wiring diagrams PD3N-1C and PD9-1C)

- **Detection range Type “PD3N” or “PD9”**

<table>
<thead>
<tr>
<th>Detection</th>
<th>Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>across</td>
<td>Ø 10 m</td>
</tr>
<tr>
<td>frontally</td>
<td>Ø 6 m</td>
</tr>
<tr>
<td>seated activity</td>
<td>Ø 4 m</td>
</tr>
</tbody>
</table>

  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a lavatory with lockable cabins open to the top, the lighting is to be switched on and off efficiently.

- **Note:**
  In addition to the motion sensor, the Indoor 180 Micro has a sound sensor so that the lighting remains switched on not only during movement, but also when there are noises.

- **Object data:**
  **Type:** public lavatory without daylight
  **Room dimensions:**
  L 6.00 x B 5.50 m
  **Ceiling height:** 3.00 m (clear height)

- **Lighting:**
  1 luminaire group with electronic ballasts per room

- **Product listing:**
  3 pcs. LUXOMAT® Indoor 180-R device

- **Device setting:**
  Follow-up time: 10 min
  Switch-on threshold: Day (Symbol “Sun”)

- **Noise sensitivity:**
  The optimum sensitivity must be determined in a test.

- **Operation mode:**
  Standard operation (with noise sensitivity); (see wiring diagram Indoor 180-R)

**Detection range Type “Indoor 180”**

- across Ø 10 m
- frontally Ø 3 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
Planning example lavatory with PD3N Micro (semi-high walls)

In a lavatory with lockable cabins open to the top, the lighting is to be switched on and off efficiently. The motion detectors should be mounted on the ceiling.

- **Note:**
The PD3N Micro has a sound sensor in addition to the motion sensor, so the lighting stays on not only when you move, but also when you make noise.

- **Object data:**
  - **Type:** public lavatory without daylight
  - **Room dimensions:** L 6.00 x B 5.50 m
  - **Ceiling height:** 3.00 m (clear height)

- **Lighting:**
  - 1 luminaire group with electronic ballasts per room

- **Product listing:**
  - 3 pcs. LUXOMAT® PD3N Micro devices

- **Device setting:**
  - **Follow-up time R1:** > 5 min
  - **Switch-on threshold R1:** 300 Lux or individually with remote control

- **Noise sensitivity:**
The optimum sensitivity must be determined in a test.

- **Operation mode:**
  - Standard mode (with noise sensitivity)
  (see wiring diagram PD3N-1C Micro)

- **Detection range Type “PD3N”**
  - across Ø 10 m
  - frontally Ø 6 m
  - seated activity Ø 4 m

  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In the stairwell of a multi-family house, four lighting groups (3 floors/1 basement floor) are to be controlled automatically by occupancy detectors. The devices should be mounted on the ceiling.

- **Object data:**
  - **Type:** Staircase with 3 floors with daylight and one basement floor without daylight
  - **Staircase dimensions:** L 6.50 x B 2.50 m
  - **Ceiling height:** 3.00 m (clear height)

- **Lighting:**
  1 luminaire group with electronic ballasts per floor

- **Product listing:**
  4 pcs. LUXOMAT® PD2 master device

- **Master device setting:**
  Group 1:
  - Follow-up time R1: 5 min
  - Switch-on threshold R1: Day (Symbol “Sun”)
  - Follow-up time R2: optional
  Group 2:
  - Follow-up time R1: 5 min
  - Switch-on threshold R1: 300 Lux

- **Follow-up time R2:** optional

- **Operation mode:**
  Master operation with optional push-button control on the basement floor (see wiring diagram PD2-M-2C)

- **Detection range Type “PD2”**
  - across: Ø 10 m
  - frontally: Ø 6 m
  - seated activity: Ø 4 m
  
Please note that the detection range changes depending on the mounting height (p. 189-190)!
The lighting of an office building is to be controlled automatically by motion detectors in the stairwell with central elevator and in the corridor in front. The devices should be mounted on the ceiling.

- **Note:**
  A second detector should be installed on the rear side of the elevator to avoid a dead zone. Two motion detectors control the lighting group (master/slave) on each floor in the stairwell.

- **Object data:**
  Type: Staircase with 3 floors without daylight
  Staircase dimensions: L 6.50 x B 5.50 m
  Ceiling height: 3.00 m (clear height)

- **Lighting:**
  2 luminaire groups with ECG per floor

- **Product listing:**
  3 pcs. LUXOMAT® PD3N devices per floor

- **Device setting:**
  Follow-up time: 5 min
  Switch-on threshold:
  Group 1: Switch-on threshold 300 Lux (with L’ monitoring)
  Group 2: Switch-on threshold Day (Symbol “Sun”)

- **Operation mode:**
  Parallel operation (see wiring diagram PD3N-1C)

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**Detection range Type “PD3N”**

- across: Ø 10 m
- frontally: Ø 6 m
- seated activity: Ø 4 m

for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In the stairwell of an office building, the lighting on each floor is to be controlled visually inconspicuously.

- **Note:**
The HF-MD3 detects movement even through thin materials (glass, partition walls, etc.). It is therefore suitable for unobtrusive installation in luminaires.

- **Object data:**
  - Type: Staircase with 3 floors without daylight
  - Staircase dimensions: L 6.50 m x B 5.50 m
  - Ceiling height: 3.00 m (clear height)

- **Lighting:**
  - 1 Luminaire group per floor

- **Product listing:**
  - 4 pcs. LUXOMAT® HF-MD3 devices (for installation in luminaires)

- **Device setting:**
  - Follow-up time R1: 5 min
  - Switch-on threshold R1: 300 Lux

- **Detection range Type “HF-MD3”**

  max. Ø 0.2 – 7 m
  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In the stairwell of an apartment building, the lighting is to be automatically controlled floor by floor with motion detectors. The motion detectors are to be mounted as wall switches.

- **Object data:**
  - **Type:** Staircase with four floors with daylight
  - **Staircase dimensions:** L 6.50 x B 2.50 m
  - **Ceiling height:** 3.00 m (clear height)

- **Lighting:**
  - 1 luminaire group with electronic ballasts per floor

- **Product listing:**
  - 4 pcs. LUXOMAT® Indoor 180-R devices

- **Device setting:**
  - **Group 1:**
    - **Follow-up time R1:** 5 min
    - **Switch-on threshold R1:** Day (Symbol “Sun”)
  - **Group 2:**
    - **Follow-up time R1:** 5 min
    - **Switch-on threshold R1:** 300 Lux

- **Operation mode:**
  - Standard operation (floor by floor, optional push-button control) (see wiring diagram Indoor 180-R)

- **Detection range Type “Indoor 180”**
  - Across: Ø 10 m
  - Frontally: Ø 3 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
Automatic lighting control with occupancy detectors is to be implemented in a three-field gymnasium with variable partitions. In each of the three hall areas, a luminaire group is formed and individually switched. Despite the automatic control, it should be possible to influence the current switching status manually using a push-button as well as a remote control.

- Note:
Scenarios can be stored in the lighting control system so that lighting is optimally controlled depending on use (with partitions in the small halls or without partitions in the large hall). Special circuits are available for use with partition walls and various lighting scenes.

- Object data:
  Type: Three-field gymnasium
  Hall dimensions: L 46.00 x B 28.00 m
  Ceiling height: 6.00 – 8.00 m, reflective floor

- Lighting:
  1 luminaire group with ECG per hall area

- Product listing:
  3 pcs. LUXOMAT® PD4 master device
  3 pcs. LUXOMAT® PD4 slave device

- Master device setting:
  Follow-up time R1: mind. 5 min
  Switch-on threshold R1: 300 - 500 Lux
  Follow-up time R2: optional

- Operation mode:
  Master operation with all three luminaire groups (see wiring diagram PD4-M-2C);
  Master/slave operation is also possible.
  The master device must always be mounted at the darkest spot.

- Detection range Type "PD4"

  across Ø 24 m
  frontally Ø 8 m
  seated activity Ø 6.4 m

  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
A gymnasium is to be equipped with a presence-dependent lighting control system. The devices should be mounted on the ceiling.

**Object data:**
- **Type:** Gymnasium with small playing field
- **Hall dimensions:** L 46.00 x B 28.00 m
- **Ceiling height:** 6.00 – 8.00 m, reflective floor

**Lighting:**
1 luminaire group with electronic ballasts

**Product listing:**
- 1 pc. LUXOMAT® PD4 master device
- 1 pc. LUXOMAT® PD4 slave device

**Master device setting:**
- **Follow-up time R1:** mind. 5 min
- **Switch-on threshold R1:** 300 - 500 Lux
- **Follow-up time R2:** optional

**Operation mode:**
- Master operation (see wiring diagram PD4-M-1C);
- Master/slave operation is also possible.
  The master device must always be mounted at the darkest spot.

**Detection range Type “PD4”**

- across Ø 24 m
- frontally Ø 8 m
- seated activity Ø 6.4 m

for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a warehouse, the light is to be switched on automatically by occupancy detectors. Each aisle is to be monitored and switched individually so as not to waste energy unnecessarily.

- **Note:**
  For optimum detection, a PD4-GH detector is mounted at each end of the aisle, when this is open on both sides. One PD4-GH detector is placed at the open end of the one-sided open aisles and a second one in the middle. The lenses at the head ends are covered with blinds towards the main aisle to prevent unwanted switching.

  The luminaire group in the corridor is controlled by PD9 detectors.

- **Object data:**
  Type: High bay warehouse with daylight Warehouse dimensions: L 66.00 x B 30.00 m Ceiling height: 10.00 m

- **Lighting:**
  12 luminaire groups with electronic ballasts

- **Product listing:**
  11 pcs. LUXOMAT® PD4 master GH devices
  10 pcs. LUXOMAT® PD4 slave GH devices
  1 pc. LUXOMAT® PD9 slave GH device
  5 pcs. LUXOMAT® PD9 slave GH devices

- **Master device setting:**
  Follow-up time \(R_1 > 5\) min
  Switch-on threshold \(R_1\): 500 Lux or individually with remote control

- **Operation mode:**
  Master/slave operation for luminaire groups in the individual aisles and passageways (see wiring diagrams PD4-M-1C-GH and PD9-M-1C-GH)

  The master device must always be mounted at the darkest spot of the area of its luminaire group.

- **Detection range Type “PD9-GH”**
  - across Ø 6 m for a mounting height of 2.50 m

- **Detection range Type “PD4-GH”**
  - across / frontally Ø 30 m for a mounting height of 14.00 m – 16.00 m

The detection range can be optimally adapted by means of blinds.

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a warehouse, all areas are to be monitored with occupancy detectors and the light switched on automatically. Each aisle is to be individually monitored and switched in sections, the main aisles are to be switched in their entirety. The detectors must be mounted on the ceiling.

**Note:**
In order to avoid unwanted switching in the aisles when using the main aisle, the detectors at the head ends of the aisles on this side should be restricted with blinds.

**Object data:**
- **Type:** High bay warehouse with daylight
- **Warehouse dimensions:** L 66.00 x B 30.00 m
- **Ceiling height:** 10.00 m
- **Lighting:** 7 luminaire groups with electronic ballasts

**Product listing:**
- 22 pcs. LUXOMAT® PD4 master GH devices
- 1 pcs. LUXOMAT® PD9 master GH devices

**Master device setting:**
- Follow-up time R1: > 5 min
- Switch-on threshold R1: 500 Lux or individually with remote control

**Operation mode:**
Master operation for all luminaire groups (see wiring diagrams PD4-M-1C-GH and PD9-M-1C-GH)

**Detection range Type “PD9-GH”**
- across Ø 6 m for a mounting height of 2.50 m

**Detection range Type “PD4-GH”**
- across / frontally Ø 30 m for a mounting height of 14.00 m – 16.00 m

The detection range can be optimally adapted by means of blinds.

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In an underground car park, the best possible monitoring of the entrance areas to the underground car park and the main passageways should be achieved with as few motion detectors as possible. “Dead spots” in certain parts of the garage are to be compensated with an adjusted follow-up time.

**Note:**
The transit areas are equipped with two detectors, the detection area of which is limited to the doors by means of blinds. The detectors belong to the lighting group on the other side of the respective door. In this way, the light is switched in advance in the direction of movement.

**Object data:**
- **Type:** Underground car park without daylight
- **Garage dimensions:** L 66.00 x B 32.00 m
- **Ceiling height:** 3.00 m

**Lighting:**
2 separate luminaire groups with electronic ballasts

**Product listing:**
- 2 pcs. LUXOMAT® PD2 master device
- 5 pcs. LUXOMAT® PD2 slave device
- 1 pcs. LUXOMAT® PD4 master device
- 9 pcs. LUXOMAT® PD4 slave device

**Master device setting:**
- Follow-up time R1: mind. 5 min
- Switch-on threshold R1: 300 - 500 Lux
- Follow-up time R2: optional

**Operation mode:**
Parallel connection pro Lighting group (see wiring diagrams PD2-M-2C and PD4-M-2C)

**Detection range Type “PD4”**
- across Ø 24 m
- frontally Ø 8 m
- seated activity Ø 6.4 m

for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a private garage, the lighting is to be controlled automatically by motion detectors. The motion detectors should be mounted on the ceiling.

- **Object data:**
  - **Type:** Private garage without daylight
  - **Garagenabmessungen:** L 6.00 x B 6.50 m
  - **Ceiling height:** 2.50 m

- **Lighting:**
  - 2 separate luminaire groups with electronic ballasts

- **Product listing:**
  - 1 pcs. LUXOMAT® PD4N device
  - 2 pcs. LUXOMAT® PD3N devices

- **Master device setting:**
  - **Follow-up time:** 4 min
  - **Switch-on threshold:** Day (Symbol “Sun”)

- **Operation mode:**
  - Standard operation (see wiring diagrams PD3N-1C and PD4N-1C)

- **Detection range Type “PD3N”**
  - across Ø 10 m
  - frontally Ø 6 m
  - seated activity Ø 4 m

  for a mounting height of 2.50 m

- **Detection range Type “PD4N”**
  - across Ø 24 m
  - frontally Ø 8 m
  - seated activity Ø 6.4 m

  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a classroom, the lighting is to be controlled according to presence and daylight. Despite the automatic control, it should be possible to influence the current switching status manually by means of a push-button or remote control. The occupancy detector is to be mounted on the ceiling.

- **Object data:**
  - Type: Classroom with daylight
  - Room dimensions: L 10.00 x B 8.00 m
  - Ceiling height: 3.00 m

- **Lighting:**
  - 1 luminaire group with electronic ballasts

- **Product listing:**
  - 1 pcs. LUXOMAT® PD4 master device

- **Master device setting:**
  - Follow-up time: mind. 5 min
  - Switch-on threshold: 500 Lux or individually with remote control

- **Operation mode:**
  - Master operation (see wiring diagram PD4-M-1C)

- **Detection range Type “PD4”**

  - across: Ø 24 m
  - frontally: Ø 8 m
  - seated activity: Ø 6.4 m

  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a classroom, the lighting is to be controlled according to presence and daylight. The difference in brightness between the room side towards the wall and the room side towards the window should be compensated. Despite the automatic control, it should be possible to influence the current switching status manually by means of a push-button or remote control. The occupancy detector is to be mounted on the ceiling.

- **Note:**
  Each light band in the classroom is a luminaire group. The PD4-DUO has two independent light sensors. It can thus control two lighting groups with different brightness values and thus compensate for differences in brightness in the room.

- **Object data:**
  Type: Classroom with one window side
  Room dimensions: L 11.50 x B 7.50 m
  Ceiling height: 3.00 m

- **Lighting:**
  2 luminaire groups with electronic ballasts

- **Product listing:**
  1 pcs. LUXOMAT® PD4 master DUO Device
  1 pcs. LUXOMAT® PD4 slave device

- **Detection range Type “PD4-DUO”**
  - across: Ø 24 m
  - frontally: Ø 8 m
  - seated activity: Ø 6.4 m
  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a classroom with a window front, three light bands and separate blackboard lighting, the lighting is to be controlled according to presence and daylight. The difference in brightness between the wall and window sides is to be compensated so that the same brightness prevails at each pupil’s desk. In addition, the air conditioning system is to be activated according to presence.

Note:
With the PD4-DAA4G, the three light bands in the room can be operated as individual DALI groups. Offset values are used to compensate for brightness differences. The panel lighting can be switched as the fourth DALI group. In addition, the air-conditioning system is automatically controlled via a relay channel.

Object data:
Type: Classroom with one window side
Room dimensions: L 12.50 x B 8.00 m
Ceiling height: 3.00 m

Lighting:
4 DALI groups with electronic ballasts
1 Relay channel for air conditioning

Product listing:
1 pcs. LUXOMAT® PD4 master DAA4G device
1 pcs. LUXOMAT® PD4 slave DAA4G device

Master device setting:
Follow-up time DALI-Group 1-4: > 5 min
Switch-on threshold: DA1 - DA4: 500 Lux
Main lighting: full automatic (DALI group 1-3)
Panel lighting: semi-automatic (DALI group 4)
Follow-up time HVAC: 15 min

Operation mode:
Standard mode (see wiring diagram PD4-M-DAA4G)

Detection range Type “PD4-DAA4G”
- across Ø 24 m
- frontally Ø 8 m
- seated activity Ø 6.4 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!

Planning example classroom with PD4-DAA4G
In the outdoor area of an office building, the lighting should be reliably switched by motion detectors. As few detectors as possible should be required to cover the entire area.

- **Note:**
  It must be ensured that the motion detectors are always mounted laterally to the walking or driving direction of persons or vehicles. If you approach the detector directly, the range is considerably reduced.

The RC-plus next N is available with 130°, 180° or 280° detection range.

- **Object data:**
  - **Type:** Exterior office building
  - **Building dimensions:** L 44.00 x B 28.00 m
  - **Storey height:** 3.00 m

- **Lighting:**
  - 1 Lighting group

- **Product listing:**
  - 4 pcs. LUXOMAT® RC-plus next N 280-devices
  - 1 pcs. LUXOMAT® RC-plus next N 230-device

- **Device setting:**
  - **Follow-up time:** 4 min
  - **Switch-on threshold:** advanced twilight (symbol “moon dark”)

- **Operation mode:**
  - Standard operation (see circuit diagram RC-plus next N) or parallel connection with L’ monitoring

![Diagram of the building and motion detectors](image)

**Detection range Type “RC-plus next N 230”**
- across max. 20 m
- frontally max. 6 m
- Anti-creep zone max. 4 m
  for a mounting height of 2.50 m

**Detection range Type “RC-plus next N 280”**
- across max. 20 m
- frontally max. 6 m
- Anti-creep zone max. 4 m
  for a mounting height of 2.50 m

Please note that the detection range changes depending on the mounting height (p. 189-190)!
In a town hall, the entrances to the car park and the building entrances are to be monitored by motion detectors in order to switch on the outdoor lighting at the entrances.

**Note:**
It must be ensured that the motion detectors are always mounted laterally to the walking or driving direction of persons or vehicles. If you approach the detector directly, the range is considerably reduced.

**Object data:**
- **Type:** Exterior administration building
- **Building dimensions:** L 70.00 x B 46.00 m
- **Storey height:** 3.00 m

**Lighting:**
- 1 Lighting group

**Product listing:**
- 2 pcs. LUXOMAT® RC-plus next N 280-devices
- 3 pcs. LUXOMAT® LC-Click-N 200-devices

**Device setting:**
- **Follow-up time:** 4 min
- **Switch-on threshold:** advanced twilight (symbol ‘moon dark’)

**Operation mode:**
- Standard operation (see circuit diagram RC-plus next N) or parallel connection with L’ monitoring

**Detection range Type "RC-plus next N 280"**
- across max. 20 m
- frontally max. 6 m
- Anti-creep zone max. 4 m
  for a mounting height of 2.50 m

**Detection range Type "LC-Click-N 200"**
- across max. 12 m
- frontally max. 4 m
- Anti-creep zone max. 2 m
  for a mounting height of 2.50 m