**LIGHTING CONTROLS**

Generally, lighting management will be carried out by presence and brightness detectors. The type, the number, the brightness, and time delay adjustment values ​​will be adapted to the premises and to the controlled lighting sources. Circuits will be properly subdivided so that only dark areas are lit during the day. All detectors must be adjustable by remote control.

**Principles of operation and material requirements**

**1- Circulation, Halls, Stairwells Management:**

Automatic operation by presence and luminosity detector on 2/3 of the lighting, 1/3 on a control system not accessible to the public allowing compliance with EC6.1 regulations

Typical detector **PD4-M-1C-Corridor + Slaves** in ceiling mounting (recessed or surface-mounted depending on the nature of the ceiling) of the **BEG LUXOMAT** brand or technically equivalent and will have the following characteristics:



Degree / protection class: **SM: IP54 with base, FC: IP20/Class II/CE**

Detection area: h=2,50 m: **40 x 5 m across, 20 x 3 m towards, Ø 8 m vertical**

Switching power: **2300W cos φ 1/1150VA cos φ 0.5,** **LED 300W maxi**

Follow-up time: **30 s to 30 min or pulse /** Brightness: **10 to 2000 Lux**

**Permanent control of daylight and artificial light**

Applications: **Circulations**

Typical detector **PD4-M-1C + Slaves** in ceiling mounting (recessed or surface-mounted depending on the nature of the ceiling) of the **BEG LUXOMAT** brand or technically equivalent and will have the following characteristics:



Degree / protection class: **SM: IP54 with base, FC: IP20/Class II/CE**

Detection area: h=2,50 m: **Ø 24 m across, Ø 8 m towards, Ø 6,40 m activity seat**

Switching power: **2300W cos φ 1/1150VA cos φ 0.5,** **LED 300W maxi**

Follow-up time: **30 s to 30 min or pulse /** Brightness: **10 to 2000 Lux**

**Permanent control of daylight and artificial light**

Applications: **Halls / Waiting area**

**LC Plus 280°** wall-mounted detector of the brand **BEG LUXOMAT** or technically equivalent and will have the following characteristics:

Degree / protection class: **IP54/Class II/CE**

Detection area: h=2,50 m: **16 m across, 9 m towards, 2 m vertical**

Switching power: **2000W cos φ 1/1000VA cos φ 0.5,** **LED 250W maxi**

Follow-up time: **15 s to 16 min or pulse /** Brightness: **2 to 2500 Lux**

Applications: **Stair**

**2- Small rooms Management:**

Automatic operation by presence and luminosity detector

Detector type **PD3N-1C** for ceiling mounting (flush-mounted or surface-mounted depending on the nature of the ceiling) of the brand **BEG LUXOMAT** or technically equivalent and will have the following characteristics:

Protection class: **SM: IP44, FC: IP23/Class II/CE**

Detection area h=2.50 m: **Ø 10 m across, Ø 6 m towards, Ø 4 m activity seat**

Switching power: **2300W cos φ 1/1150VA cos φ 0.5, LED 300W max**

Follow-up time: **30 s to 30 min or pulse** / Brightness: **10 to 2000 Lux**

Applications: **Sanitary / Cloakrooms / Technical rooms / Airlocks...**

**3- Office Management:**

Semi-automatic operation by absence detector on DALI dimmable luminaires. The lighting will be switched on manually and voluntarily by pressing a button. Only dimming, considering natural light, and switching off will be automatic. The PB will also allow the user to manually control the lighting, enabling him to temporarily force the lighting to be switched on, off and dimmed.

Detector type **PD4N-M-DACO-DALI 2 + Slaves** for ceiling mounting (recessed or surface mounting depending on the nature of the ceiling) of the brand **BEG LUXOMAT** or technically equivalent and will have the following characteristics:

Protection class: **SM: IP54 with surface-mounted accessory, FC: IP20/Class II/CE**

Detection area h=2.50 m: **Ø 24 m across, Ø 8 m towards, Ø 6,40 m seated**

Interface: **DALI 2 certified, digital driver control in broadcast mode**

Follow-up time: **1 to 150 min or pulse** / Brightness: **10 to 2500 Lux**

**Daylight-dependent constant dimming / 40 digital DALI drivers**

Settings: **Via bi-directional BEG-One smartphone application (read/write)**

Applications: **Offices**

**4- Operating principles of the rooms:**

* Bathroom management

Automatic operation by presence and luminosity detector IP65

* Orientation lighting management

Automatic operation by presence and luminosity detector. The beaconing will allow the nurse carrying out his rounds or the resident to bring an orientation light in case of detection

* Entrance lighting management

Semi-automatic operation by absence and luminosity detector. A push button, integrated in the detector, will allow the entrance lighting to be switched on manually and voluntarily. Only the extinction will be automatic

Detector type **PD9-M-1C-IP65-FC** for flush ceiling mounting, brand **BEG LUXOMAT** or technically equivalent, with the following characteristics:



Protection class: **Detection head: IP65/Class III/CE, Power supply IP20/Class II/CE**

Detection area h=2.50 m: **Ø 10 m across, Ø6 m towards, Ø4 m seated**

Switching power: **2300W cos φ 1/1150VA cos φ 0.5, LED 300W max**

Follow-up time: **15 s to 30 min or pulse** / Brightness: **10 to 2000 Lux**

Application: **Bathrooms / Showers**

Detector type **Indoor 140L** for wall flush mounting, installation height 1.10 m of the brand **BEG LUXOMAT** or technically equivalent and will have the following characteristics:



Protection class: **FM: IP20/Class II/CE,**

Detection zones h=1.10 m: **8 m across, 3 m towards**

Switching power: **2000W cos φ 1/1000VA cos φ 0.5, LED 250W max**

Follow-up time: **15 s to 30 min or pulse** / Brightness: **10 to 2000 Lux**

Functions: **Beaconing / Night light.** Integrated **push button** for manual control of the lighting

Application: **Orientation lighting / Entrance lighting**

**5- Exhibition management**

Semi-automatic operation by absence detector on DALI dimmable luminaires with Tunable White equipped with "DT8" type drivers. The lighting management system will ensure a change in color temperature of the luminaires to reproduce the natural cycle of the sun, "Circadian" biodynamic lighting. The lighting near the windows will be controlled independently of the lighting on the corridor side, allowing for natural light. The lighting will be switched on manually and voluntarily by pressing a button. Only the variation, considering the natural light, the change of color temperature and the extinction will be automatic. The system will also allow users to temporarily control switching on and off and dimming, but not to change the color temperature.

Detector type **PD4-M-HCL2 with "Tunable White" function + Slaves** in ceiling mounting (flush or surface mounted depending on the nature of the ceiling) of the brand **BEG LUXOMAT** or technically equivalent and will have the following characteristics:



Protection class: **SM: IP54 with base, FC: IP20/Class II/CE**

Detection area h=2.50 m: **Ø 24 m across, Ø 8 m towards, Ø 6,40 m seated**

Presence detector with: **Power supply, DALI BUS controller and HCL**

**Real time clock**

DALI zone segmented into 3 groups with constant offset control (Groups 1 to 3)

Follow-up time: **5 to 120 min or pulse** / Brightness: **10 to 2000 Lux**

**Daylight-dependent constant dimming / 64 DALI DT8 digital drivers**

Applications: **Lounges**