

B.E.G.

The lighting control professionals



PD4-M-DAA4G – the specialist

Compact DALI solution for training rooms and classrooms



Clever lighting management



B.E.G. DALI with addressing process

The B.E.G. PD4-M-DAA4G occupancy detector for energy-efficient lighting control based on the DALI standard can address and group lights. This feature lets you plan with confidence: in practical terms, lighting plans can be based on a completely uniform distribution of lights, largely independent of lighting zones in the room. Moreover, the implementation of bus technology significantly minimises the task of wiring, which makes the installation and testing processes more reliable and more economical.

5 in 1

The PD4-M-DAA4G is a compact lighting management system tailored for training rooms and classrooms, offering uniform lighting conditions for concentrated work and learning. Located in the case are:

- a highly-sensitive occupancy detector with daylight-dependent regulation (1),
- a DALI controller which can group DALI devices (e.g. DALI electronic ballasts for LED lighting) (2),
- a DALI power supply (3)
- and a push button controller (4). Up to 64 DALI devices can be connected.
- An integrated relay (5) offers yet more options for individual setup according to local requirements.

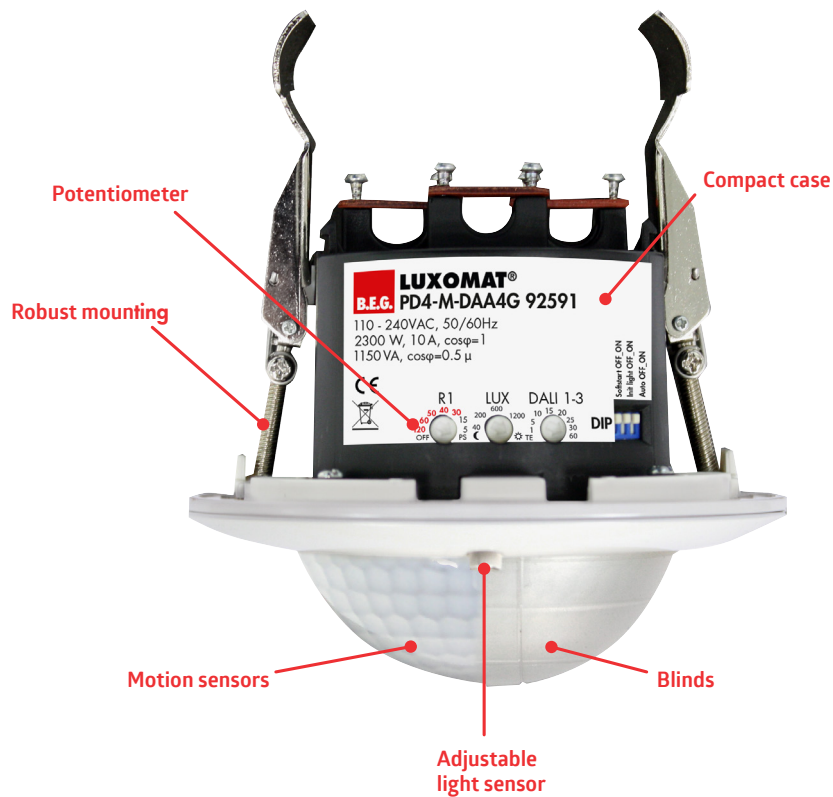
Quick installation and maintenance processes

Using the B.E.G. remote control app (available in the App Store for Android and iOS) and the compatible B.E.G. IR-Adapter, grouping of lights is practically child's play. Factory settings allow the occupancy detector to be taken into service in broadcast mode with no setup required. Installation testing can be carried out in only a few seconds after mounting. In so-called maintenance mode, newly-added or swapped DALI electronic ballasts can be allocated to groups in just a few steps, without a whole new grouping process.

Low investment costs

The wide detection area, and the ability to direct the light sensor to the darkest spot in the room mean that in many cases, only one detector per room has to be installed. However, if it proves necessary to extend the detection area, up to 4 slave devices can be connected, each with the same wide-detection area.





Up to
50%
saving

Energy-saving functions

As well as the options for presence-dependent switching and daylight-dependent regulation, the powerful integrated relay can provide additional functions as required. These include HVAC control actions or the integration of light sources without DALI devices. Alternatively, the relay can also be programmed and set up so as to disconnect the supply from the DALI devices when no-one is present in the room (light is not required). This so-called “cut-off function” reduces standby power consumption by 0.2 to 1 watts (depending on manufacturer and use case).

Linked regulation circuits with offsets

The PD4-M-DAA4G offers the option to link up to three DALI groups: with daylight penetrating from the side, a room can have a brightness gradient. This means that more daylight can be used on the window side than on the side away from the window. To take advantage of this, the lights are segmented into up to 3 DALI groups. Negative offset values for the groups in potentially brighter areas (DALI groups 2 and 3) smooth out the gradient, resulting in additional energy cost savings. The offset process in the PD4-M-DAA4G leads to substantial cost

advantages in the installation, mounting and commissioning process, as the need for wiring, mounting and setting up a second or even third detector with its own lighting regulation circuit is eliminated. The factory settings have group 2 with a 10% offset (10% attenuation versus group 1) and group 3 with a 15% offset (15% attenuation versus group 1).

Convenience and security

Optionally, the detector can switch on the light automatically when someone enters the room (full automatic mode). If this is not required, this can take place manually via a conventional push button (semi-automatic mode). The so-called “Soft Start” function provides a gradual increase in light level when the light is switched on, and thus avoids blinding the user. Tamper protection, the alarm function and an adjustable orientation light (low light when no-one is present) also increase security.

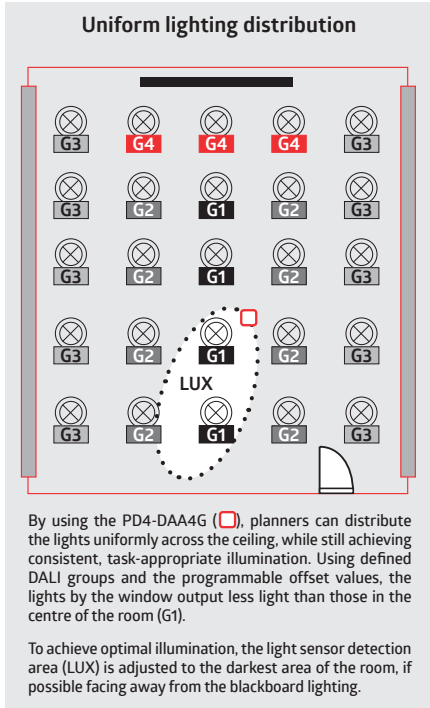
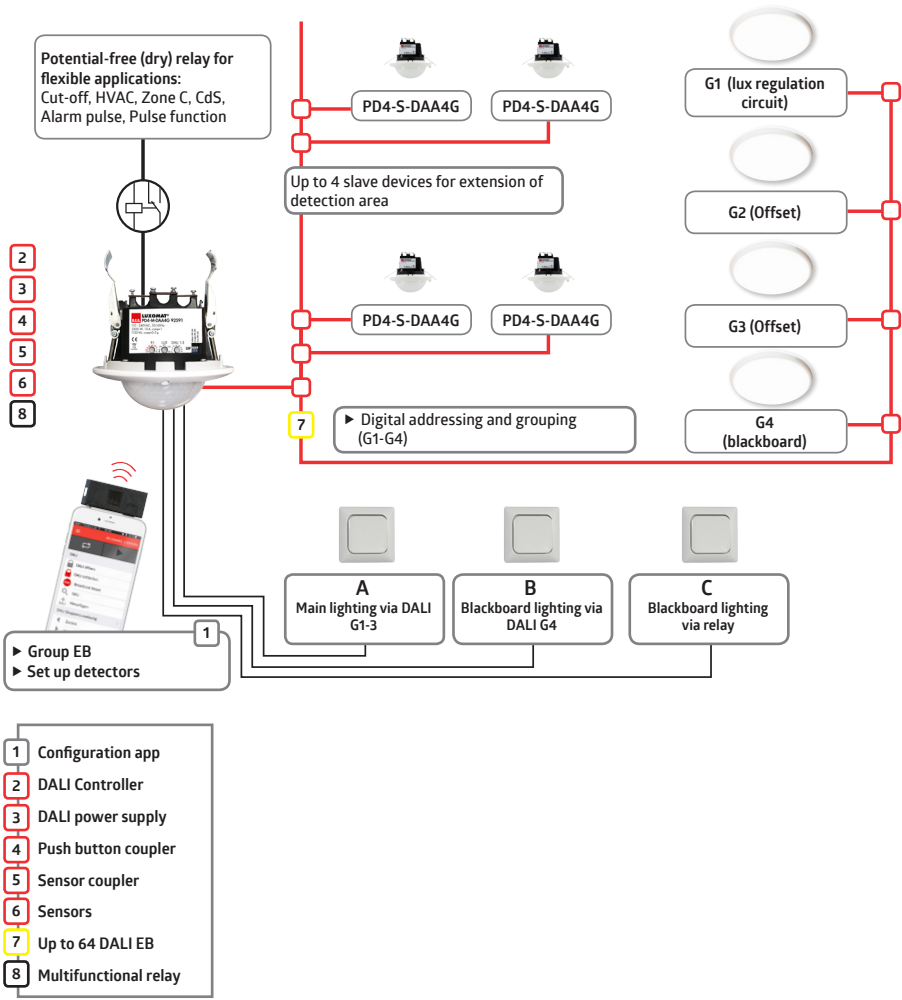
Manual control via push buttons

There are three 12 Volt push button inputs available, which can be controlled with widely-available conventional push buttons: one for the main lighting with daylight-dependent regulation, the second for dimmable blackboard lighting via DALI, and the third for blackboard lighting without DALI lamps via the integrated relay. A short press on all push buttons turns the light in each lighting zone on or off. A long press (>2 seconds) of the first two push buttons leads to manual dimming.

Summary

The PD4-M-DAA4G is perfectly suited to installation in schools (classrooms) and in administrative buildings (conference rooms), with up to 50% energy cost savings, a high level of protection for your investment, and low purchase and commissioning costs. Convenience and safety functions are provided in addition.

All important components in a single case



PD4-M-DAA4G-SM, white	92743
PD4-M-DAA4G-FC, white	92591
PD4-S-DAA4G-SM, white	92759
PD4-S-DAA4G-FC, white	92721

Accessory
 IR-Adapter for smartphones, black 92726

Master and slave device

PD4-M-DAA4G-FC/-SM

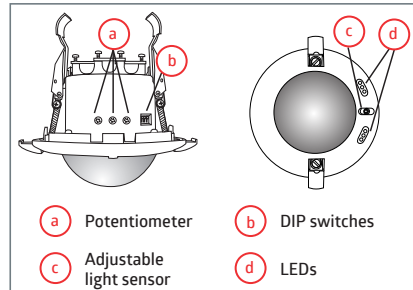
- High-sensitivity occupancy detector with the capability to address up to 64 DALI electronic ballasts automatically, with segmented control via 4 groups
- Complete DALI lighting management for uniform lighting levels
- Rapid commissioning and maintenance processes with smartphone/tablet app (Android, iOS) – PC tool not required

Examples of use:

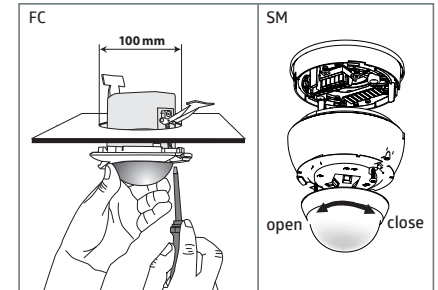
Flexible compact DALI solution designed for conference rooms, training rooms and classrooms

Can also be installed for any application which requires grouping with a “single-line wiring” of the DALI bus. For example, variable dividing walls on an office floor or in rooms where the walkways to be lit run at 90° to the ceiling construction, and running wires lengthwise through ceiling supports would be awkward or would require structural work (drilling through).

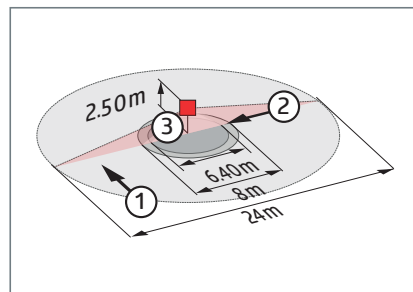
Control of settings



Mounting



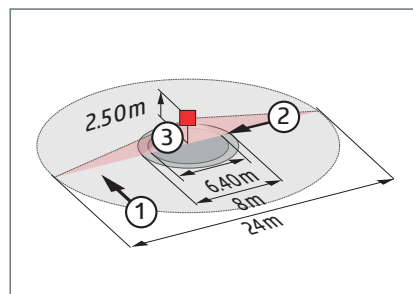
Detection area



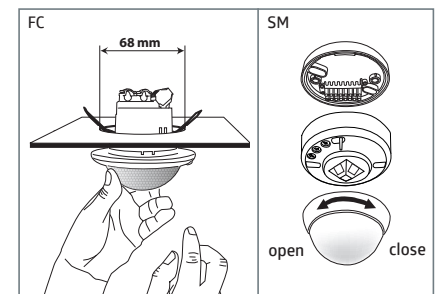
PD4-S-DAA4G-FC/-SM

- Extension of coverage by the master device with a maximum of 4 PD4-S-DAA4G slave devices possible
- Commissioning is carried out using the plug & play principle: No settings are required before installation.
- Rapid commissioning and maintenance processes with smartphone/tablet app (Android, iOS) – PC tool not required

Detection area



Mounting



Project examples

CLASSROOM
with two windows and laboratory area

Lighting zone A (Group 1-3):

- Main lighting, full automatic, 500Lux, 10 minutes follow-up time
- DALI Group 1: Dark areas 100%
- DALI Group 2: Neutral areas 90%
- DALI Group 3: Light areas 75%

Lighting zone B (Group 4):

- Accent lighting for laboratory desk, dimmable via DALI Group 4, semi-automatic

Lighting zone C:

- Blackboard lighting (via relay), semi-automatic

CLASSROOM
with one window and HVAC

Lighting zone A (Group 1-3):

- Main lighting, full automatic, 500Lux, 10 minutes follow-up time
- DALI Group 1: Dark areas 100%
- DALI Group 2: Neutral areas 90%
- DALI Group 3: Light areas 75%

Lighting zone B (Group 4):

- Blackboard lighting via DALI Group 4

HVAC:

- Regulation of ventilation via relay with separately adjustable follow-up time and optional switch-on delay

CLASSROOM
with two windows and cut-off

Lighting zone A (Group 1-3):

- Main lighting, full automatic, 500Lux, 10 minutes follow-up time
- DALI Group 1: Dark areas 100%
- DALI Group 2: Neutral areas 90%
- DALI Group 3: Light areas 75%

Lighting zone B (Group 4):

- Blackboard lighting via DALI Group 4

Cut-off function:

- Using relay, saving of standby energy consumption of all DALI electronic ballasts (0.2 to 0.8 watts per electronic ballast, depending on manufacturer)

B.E.G. DALI products compared

Quick commissioning and maintenance with B.E.G. smartphone/tablet app



Product	PD2	PD4	PD9	DALI interfaces	Telegram	Relay	Push button control	Light sensors	Segmented daylight-dependent regulation	HVAC	Cut-off	Mains voltage push buttons
M-DALI/DSI	SM FC	SM FC	FC	1	Broadcast	-	1	1	-	-	-	110 - 240 V AC
M-DALI/DSI-1C	FC	FC	-	1	Broadcast	1	1	1	-	□	□	110 - 240 V AC
M-DALI/DSI-HVAC	FC	FC	-	1	Broadcast	1*	1+1	1	-	□	□	110 - 240 V AC
M-DALI/DSI-C	-	SM FC	-	1	Broadcast	-	1	1	-	-	-	110 - 240 V AC
M-DALI/DSI-GH	-	-	FC	1	Broadcast	-	1	1	-	-	-	110 - 240 V AC
M-DUO-DALI/DSI	-	FC	-	2	Broadcast	-	1	2	X	-	-	110 - 240 V AC
M-TRIO-DALI/DSI	-	SM FC	-	3	Broadcast	-	2	2	X	-	-	110 - 240 V AC
M-TRIO-2DALI/DSI-1C	-	SM FC	-	2	Broadcast	1*	1+1	2	X	□	-	110 - 240 V AC
M-DAA4G	-	SM FC	-	1 / (4G adr)	Group	1*	2+1	1	X (with offsets)	□	□	12V DC

□ optional | *potential-free (dry) | SM = surface mount | FC = false ceiling



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