



Intelligent lighting control

Application guide for lighting control solutions with DALI-2 and 230 V detectors

niko



A sense for daylight control

Energy optimization and intelligent lighting control in today's buildings requires skilled people working together in all phases of the project. At Niko, we are specialists in intelligent lighting control and have years of experience in designing future-proof solutions for any type of building.

The purpose of the brochure is to inspire and guide on how to apply the right functionalities into the lighting control project... to make it future-proof, supports a long service life, has low maintenance costs and provides a good overall economy.

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Save energy with daylight control

Benefit from DALI-2 certified detectors

Using DALI-2 master detectors is an easy way for an installer to create energy efficient lighting control. This can be done with a daylight-controlled lighting installation that does not require any advanced programming, BMS-controllers etc.

Use incoming daylight

During the commissioning of your DALI-installation, you define the required lux level in the room. The DALI-2 master detector will automatically measure the incoming daylight from the windows and take this into account, when the detector switches on the luminaires.

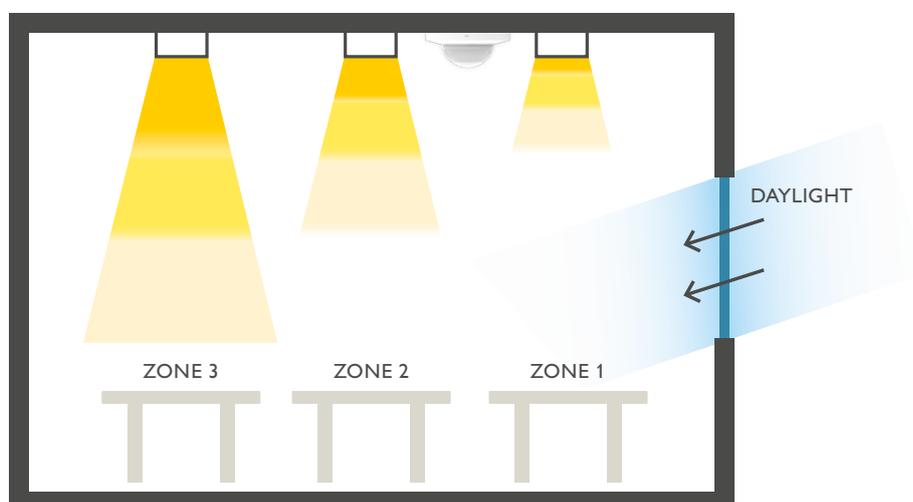
Early in the morning the luminaires will automatically switch to full level to meet the set lux requirement. Later in the day, when the sun rises and shines through the windows, the luminaires are automatically dimmed to a lower light level. The lux level in the room will always be at the required level, but you will save energy by dimming the luminaires as you make use of the daylight coming in through the windows. In the evening, as the sun goes down, the luminaires will again automatically light up to compensate for the reduced daylight from the windows.

Create more daylight zones

It is obvious that the incoming daylight will mainly light up the area next to the windows. For this reason you can create up to 4 daylight zones, and the DALI-2 master detector will continuously calculate the appropriate lighting level in each zone to ensure that the required lux level is maintained throughout the room.

Works out-of-the-box

When the DALI-2 master detector is installed, daylight control works immediately out-of-the-box, without any further configuration. The DALI-2 detector is preset to work in "broadcast mode", i.e. basic daylight-control lighting based on factory settings, which can be easily modified in the Niko detector tool app at a later date.





Easy to upgrade to take full advantage of the DALI protocol

It is easy to change the basic "broadcast mode" into "addressable mode" to take full advantage of the possibilities that DALI-2 protocol offers.

In "addressable mode" you have full control over each luminaire and control gear on the DALI bus. This allows you to create more daylight zones, multi-zones, use external DALI relays, add several control gears, etc. This further increases both user comfort and energy savings.

Human Centric Lighting and tunable white integrated in Niko DALI-2 detectors

A tunable white controller is integrated into the DALI-2 P/M48 detectors, allowing you to control light temperature without any additional components. Tunable white can be implemented in different ways:

- By push button to call a tunable white preset
- By push button dim cooler or warmer
- Human Centric Lighting (max. 24 presets per day)

Intelligent lighting control using DALI-2 detectors

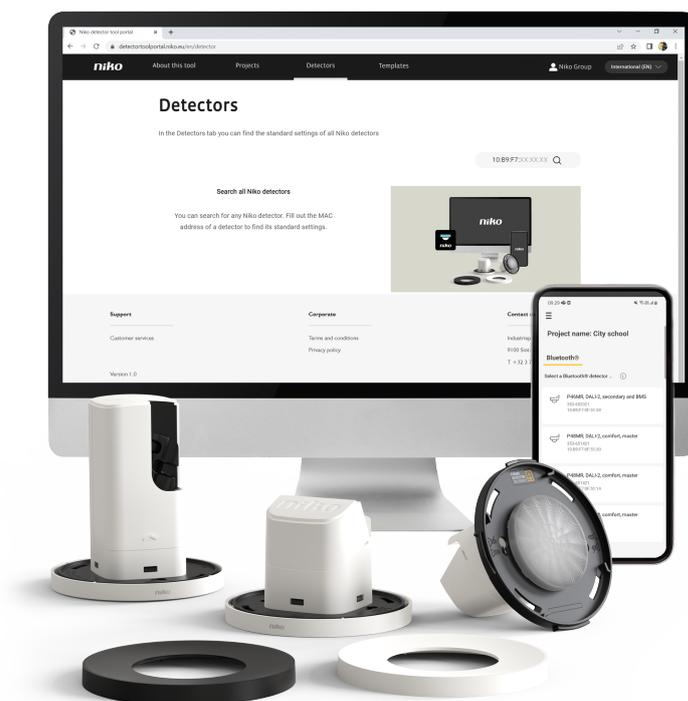
Lighting control is more than just turning your lights on and off for energy savings. It's also about improving user comfort while still optimising the energy efficiency, and using the DALI protocol is an easy way to achieve this.

The DALI-2 certified detectors from Niko fully utilise the DALI protocol, making it easy for installers to install lighting control that is both user friendly and energy efficient. This is a strong alternative to installing light control using building management systems, as the installer can do the installation completely independently of external experts, advanced programming, controllers etc. Functionality is built into the DALI detector and commissioning only requires setup with the Niko detector tool app via wireless Bluetooth® communication to the detectors.

One design line for your entire project

Niko DALI-2 detectors are part of the P40 and M40 series of motion and presence detectors with a discreet, contemporary look and an award-winning design that fits perfectly into any ceiling type in any building. This means you can now use the same design line for all the detectors in your project, including any combination of:

- 230 V detectors
- DALI-2 detectors
- DALI-2 secondary/BMS detectors - for extending the detection area of a DALI-2 master detector or BMS integration



A sense for performance

Best-in-class detection performance with future-proof functionality.

Add genuine value to your projects while making your buildings both versatile and future-proof. The Niko detectors P40 and M40 series fuses award-winning design with independently certified functionality and performance. For new levels of comfort, convenience and control.



Performance and smart commissioning with Niko detector tool

Finally, a futureproof solution that brings lighting control to the standards of today. Enabling everything from full automation to smart flexibility via several enhanced functions. All of which are easy to commission thanks to the Niko detector tool app and cloud-based Niko detector portal. Because lighting control is all about comfort, control, security and energy efficiency.

DALI-2 certified for future-proof functionality



The detectors are DALI-2 certified, and since they are the only ones with 6 GHz immunity so far, you can of best-in-class performance in a future-proof solution. The 6 GHz immunity also eliminates conflict with building's high-speed Wi-Fi.

Reliable PIR detection range

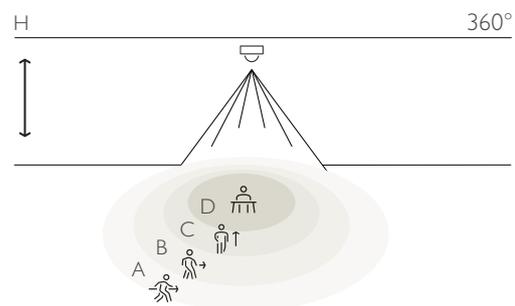


Niko P40 and M40 detector series are tested according to the IEC 63180 standard. Which is your guarantee of trustworthy detection performance, independently tested in a controlled environment via automated repetitive tests. So you can adapt your design and installation with the confidence that you can count on what is being documented.

IEC tested detection range - In short

| H | A | B | C | D |
|-------|---------|--------|---------|----------|
| | Walking | Across | Towards | Presence |
| | | | | |
| 2.5 m | Ø 32 m | Ø 28 m | Ø 10 m | Ø 8 m |
| 3.0 m | Ø 37 m | Ø 30 m | Ø 8 m | Ø 4 m |

Measured according to EN/IEC63180*



Zone A: Idealized boundary tangential major motion, continuing walking major motion

Zone B: Idealized area tangential major motion of 1 m walking

Zone C: Idealized area radial major motion of 1 m walking

Zone D: Idealized minor motion area, moving an arm

*All tests are performed automatically by a robot in a controlled environment

Beneficial features in the DALI-2 detectors

Lighting control means more than just turning your lights on and off. It's also about improving comfort for users and optimising energy efficiency.

Niko's full range of DALI-2-certified detectors have many integrated functions. This makes it easy to adapt to even multiple advanced lighting scenes such as daylight control, multizone for smart board lighting, multiple lighting scenes, night mode, Tunable White preset and dynamic, Human Centric Lighting, and external triggering.

Your choice of detector is based on which application is needed for the specific room. All functions are built in the DALI-2 detectors for total flexibility. This makes them a cost-effective alternative to more complex BMS solutions.

DALI Addressable



DALI-2 detectors communicate with DALI Addressable, which is the optimum utilisation of the DALI standard. A DALI Addressable installation assigns a unique address to each individual unit on the DALI bus. Luminaires, detectors etc. can therefore be connected in any position on the DALI bus, and the subsequent configuration is done independently of installation and wiring.



app

Commissioning using Niko detector tool app

Niko P40 and M40 detectors has build-in 2-way Bluetooth® communication and can be configured in an easy and intuitive way using the Niko detector tool app. You can configure detectors with your smartphone without any other auxiliary tools as computer, remote control or similar.



multizone

Multi zone

It is possible to create a multi zone, which is an additional zone consisting of luminaires that are already part of the daylight zones. From the daylight zones you can integrate a number of luminaires in a multi zone, functioning e.g. as blackboard lighting or be turned off when the smart board is used. This is independent of the daylight control in the room.



scenes

Light scenes

It is possible to pre-define up to 16 different lighting scenes, so you can activate the required light setting by simply pressing a push button. The configuration is easy and is done using Niko detector tool app.



auto configuration

Auto configuration

Auto configuration ensures quick and easy replacement of a luminaire as the detector automatically registers when a luminaire is being replaced. The new luminaire automatically inherits the address and settings from its predecessor. Additional configuration is therefore unnecessary.



4 zones

4 zones

DALI-2 detectors can be configured with up to 4 zones. It can be 2 daylight zones with one lux level and 2 daylight zones with another lux level or a multizone or all zones with the same lux level.



standby
minimization

Standby minimization

The internal relay in the detector or external DALI relays can be used for standby minimization. When the lighting is off the power to the luminaires is cut and the power consumption of luminaires is 0 watts.



HVAC

HVAC

The internal relay in the detector or external DALI relays can be used to control HVAC. The HVAC system will automatically switch on and off depending on the presence in the room. This provides a more comfortable use of the room, while energy consumption for e.g. ventilation is minimized.



override

Overriding with a wired push button

It is possible to override the lighting control in the DALI installation with a push button.



wireless
communication

Overriding with wireless push button

It is possible to override the lighting control in the DALI installation with wireless and battery-free push buttons. The wireless push button makes it very easy to add a control object on a glass or a removable wall.



PERIODIC CHART OF THE ELEMENTS

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
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Handwritten notes on a whiteboard, including chemical structures and text such as "Electrophilic Aromatic Substitution Summary".

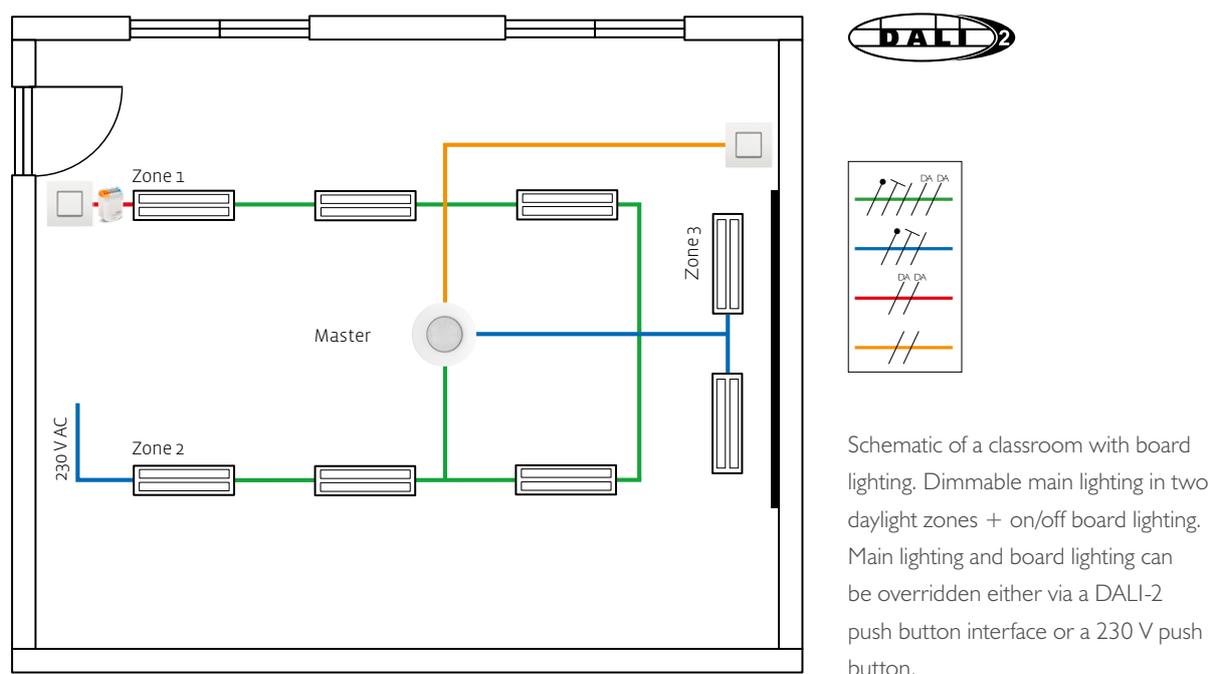




Application examples
for lighting control
solutions.

Classroom with board lighting

Dimmable daylight control in two zones, blackboard lighting in one on/off zone.



Functional description

The installation has two zones for daylight control and one on/off zone for the board lighting. The luminaires in the daylight zones are equipped with DALI-2 drivers designed for dimming. Luminaires for the board lighting are equipped with standard non-dimmable drivers and are controlled by the detectors internal relay.

The lighting can either switch on automatically at presence, manually by the 230 V push button or via DALI-2 push button interface. When everybody has left the room, all lights are switched automatically off after a pre-defined period of time.

Daylight control can be overridden via a 230V push button or alternatively a DALI-2 push button interface. The solution allows wireless communication between the detector and the wireless and battery-free push buttons, eliminating the need for wiring at, for example glass or removable walls.

Change of the colour temperature can be added to the dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2 - 3.4 m



32-37 m



3 zones



override



wireless communication

Installation

The installation can be made with a single three or five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

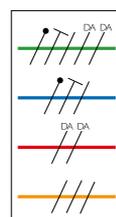
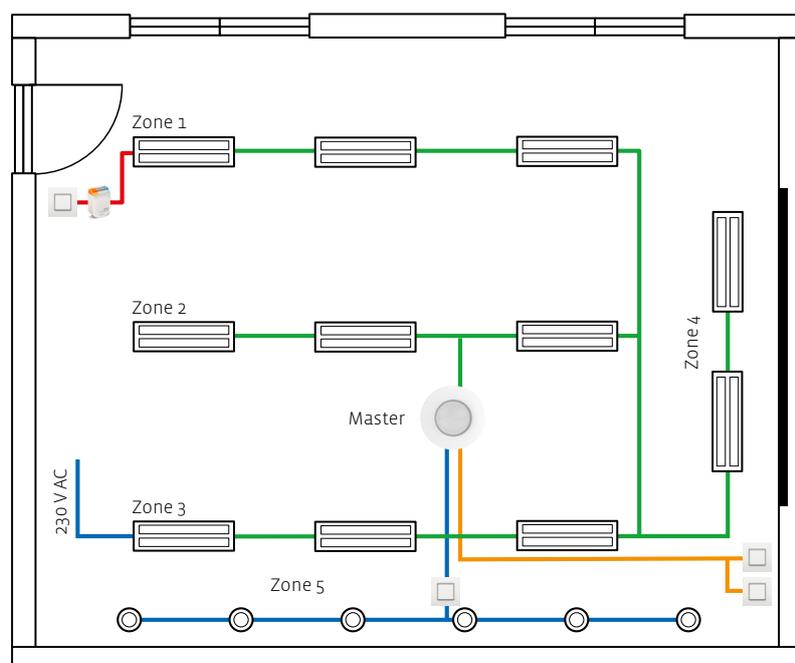
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Classroom with board lighting and desk lighting

Dimmable daylight control in three zones; board lighting and desk lighting



Schematic of a classroom with board lighting and desk lighting. Dimmable main lighting in three daylight zones + dimmable board lighting + option of control of on/off desk lighting. Main lighting and board lighting can be overridden either via a DALI-2 push button interface or a 230 V push button.

Functional description

The installation consists of five zones with the option of two or three zones for daylight control and one or two on/off lighting zones, e.g. board lighting, desk lighting, etc.

All luminaires in the daylight zones and board lighting are equipped with DALI-2 drivers designed for dimming. Luminaires for desk lighting (zone 5) are equipped with standard non-dimmable drivers.

The desk lighting is controlled with a switch. If the switch is on and someone enters the room, the lighting is switched on automatically. Daylight control can be overridden via a 230V push button or alternatively a DALI-2 push button interface.

Wireless communication between the detector and push button is also possible.

Change of the colour temperature can be added to the dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2 - 3.4 m



32-37 m



5 zones



override



wireless communication

Installation

The installation can be made with a single three or five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

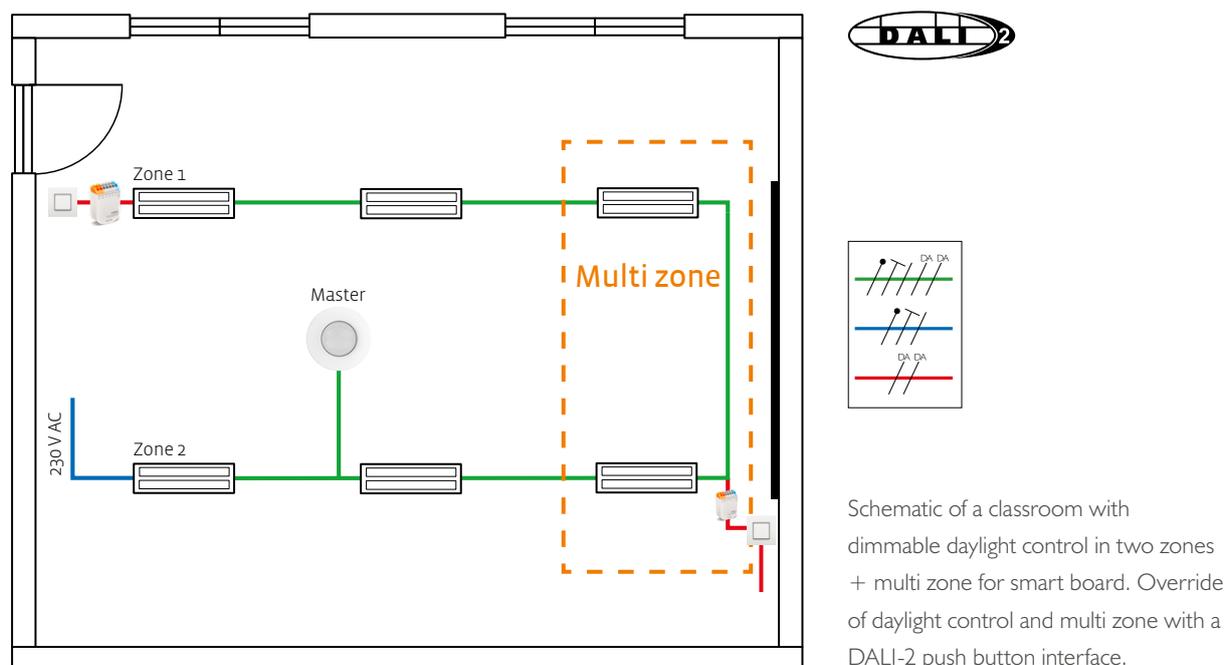
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Classroom with board lighting (multi zone)

Dimmable daylight control in two zones; one multi zone for smart board lighting



Functional description

The installation consists of two zones for daylight control and one multi zone for smart board lighting. The luminaires are equipped with DALI-2 drivers designed for dimming. Luminaires in the multi zone have a double function. They are in the daylight control and when more or less light is required on the board they can manually be controlled to a required level independently of the others luminaires in the daylight zones.

The lighting can either switch on automatically at presence or with a DALI-2 push button interface. When everybody has left the room, all lights are switched automatically off after a pre-defined period of time.

The multi zone light can only be switched on actively.

Daylight control can be overridden via a DALI-2 push button interface. The solution allows wireless communication between the detector and the wireless and battery-free push buttons, eliminating the need for wiring at, for example glass and removable walls.

Change of the colour temperature can be added to the dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2 - 3.4 m



32-37 m



2 zones



override

Installation

The installation can be made with a single five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

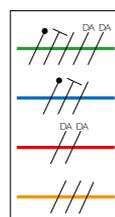
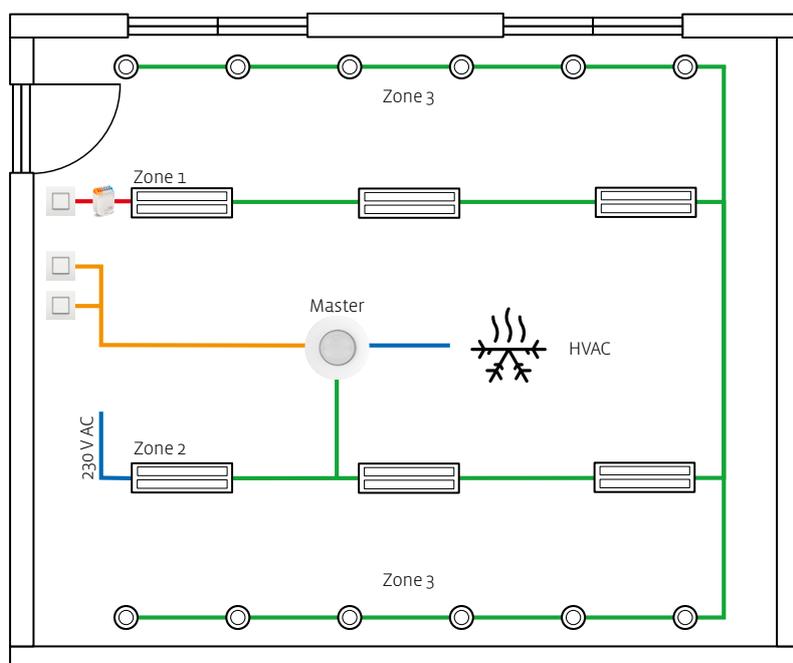
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Office with HVAC control

Dimmable daylight control in two zones; rim lighting in zone 3



Schematic of an office with dimmable daylight in two zones + dimmable rim lighting in zone 3, and HVAC control. Override of lighting control with DALI-2 push button interface or 230V push button.

Functional description

The installation consists of two zones for daylight control and one zone for rim lighting (effect lighting). All luminaires are equipped with DALI-2 drivers designed for dimming.

The detector's internal relay is used to control the HVAC, either as a stand-alone in the room or via BMS systems. The HVAC system starts automatically if the detector has detected activity for the pre-defined time and continues for the specified time after the last person has left the room.

Lighting can either be switched on automatically when someone is present or manually by a 230 V push button or via the DALI-2 push button interface. When everybody has left the room, all lights are switched off after a pre-defined period of time. Daylight control can be overridden either via 230 V push button or 24 V push buttons connected to the DALI-2 push button interface.

The solution allows for wireless communication between the detector and wireless and battery-free push buttons, eliminating the need for wiring at, for example, glass and removable walls.

Change of the colour temperature can be added to dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2 - 3.4 m



32-37 m



3 zones



HVAC



override



wireless communication

Installation

The installation can be made with a single three or five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

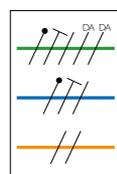
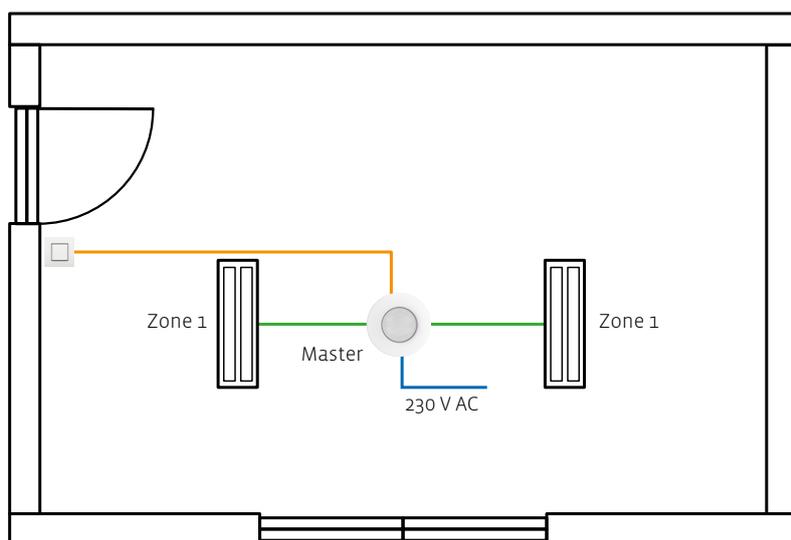
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Office with daylight control

Dimmable daylight control in one zone (or up to 3 zones)



Schematic of an office with dimmable daylight control in one zone, override option via a 230V push button.

Functional description

The installation consists of one zone for daylight control. The luminaires in the daylight zone are equipped with DALI-2 drivers designed for dimming. The solution can be extended up to three daylight zones..

The lighting in the daylight zone can be switched on automatically at presence, or manually by the 230 V push button. When everybody has left the room, all lights are switched off after a pre-defined period of time. The solution allows for wireless communication between the detector and wireless and battery-free push buttons, eliminating the need for wiring to, for example, glass and removable walls



flush-mounted



2 - 3.4 m



12 - 13 m



1 zone



override



wireless communication

Installation

The installation can be made with a single five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

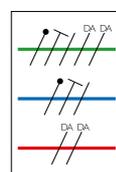
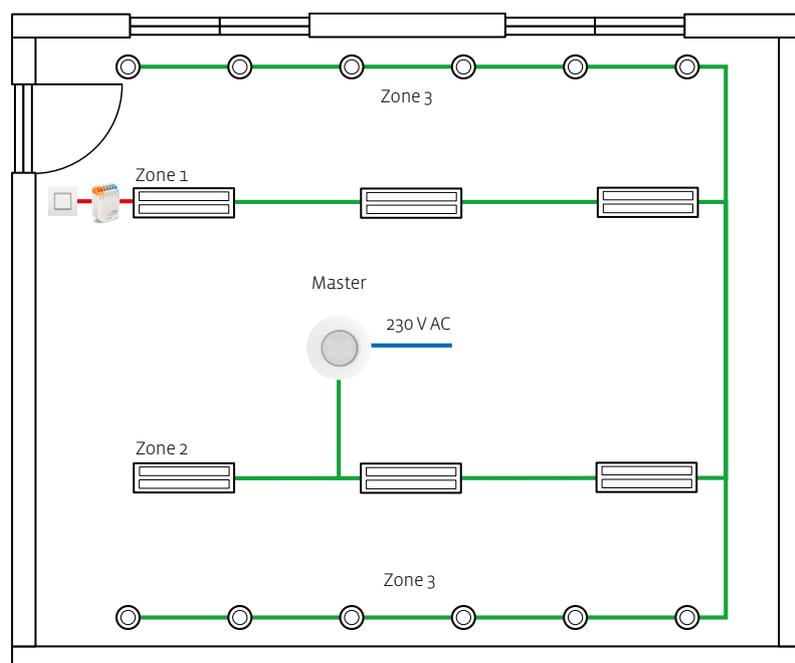
| Type no. | Description |
|------------|---|
| 353-651321 | Presence detector P47MR, DALI-2, master, 12-13 m, 360°, SnapFit, for flush mounting |

Alternative solutions

- Extension of the detection range, 12-13 m: Secondary 353-651021
- Major detection range, 32-37 m: Master 353-751321, secondary 353-751021
- Surface mounted detector, 12-13 m: Master 353-652321, secondary 353-652021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Office with standby minimization

Dimmable daylight control in two zones, rim lighting in zone 3, standby minimisation



Schematic of an office with dimmable daylight in two zones + dimmable rim lighting in one zone (zone 3). Standby minimisation and override with DALI-2 push button interface.

Functional description

The installation consists of two zones for daylight control and one zone for rim lighting (effect lighting). All luminaires are equipped with DALI-2 drivers designed for dimming.

The detector's internal relay is used to switch off power to the luminaires and eliminate the standby consumption for all luminaires, after the last person has left the room and the luminaires are switched off. The solution enables energy savings due to elimination of standby consumption.

Lighting can either be switched on automatically when someone is present or manually by a 230 V push button or via the DALI-2 push button interface. When everybody has left the room, all lights are switched off after a pre-defined period of time.

Change of the colour temperature can be added to dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2 - 3.4 m



32-37 m



3 zones



standby
minimization



override



wireless
communication

Installation

The installation can be made with a single five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

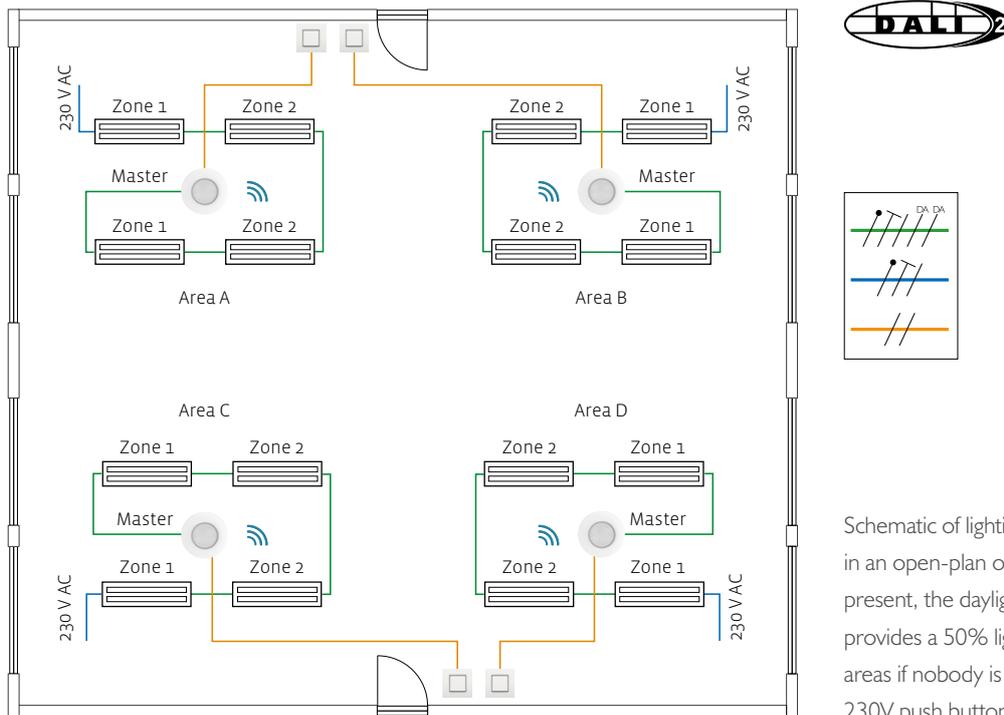
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Open-plan office in 4 areas

Four areas with daylight control in two zones.



Schematic of lighting control in four areas in an open-plan office. If someone is present, the daylight control normally provides a 50% lighting level in adjacent areas if nobody is present. Override with 230V push button.

Functional description

The installation outlines an open-plan office with four areas, each with two zones for daylight control. All luminaires are equipped with DALI-2 drivers designed for dimming. Lighting control in all areas and is interconnected through wireless 2-way Bluetooth® communication. If someone is present, the daylight control normally provides a 50% lighting level in the adjacent area if nobody is present.

Lighting can either be switched on automatically when someone is present or manually by a 230 V push button. When everybody has left the room, all lights are switched off after a pre-defined period of time.

Daylight control can be overridden via 230 V push button.

The solution allows for wireless communication between the detector and wireless and battery-free push buttons, eliminating the need for wiring at, for example, glass and removable walls.

Change of the colour temperature can be added to dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2.5 - 3 m



32 - 37 m



2 zones



override



wireless communication

Installation

The installation can be made with a single three- or five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

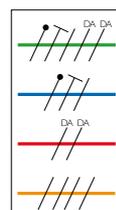
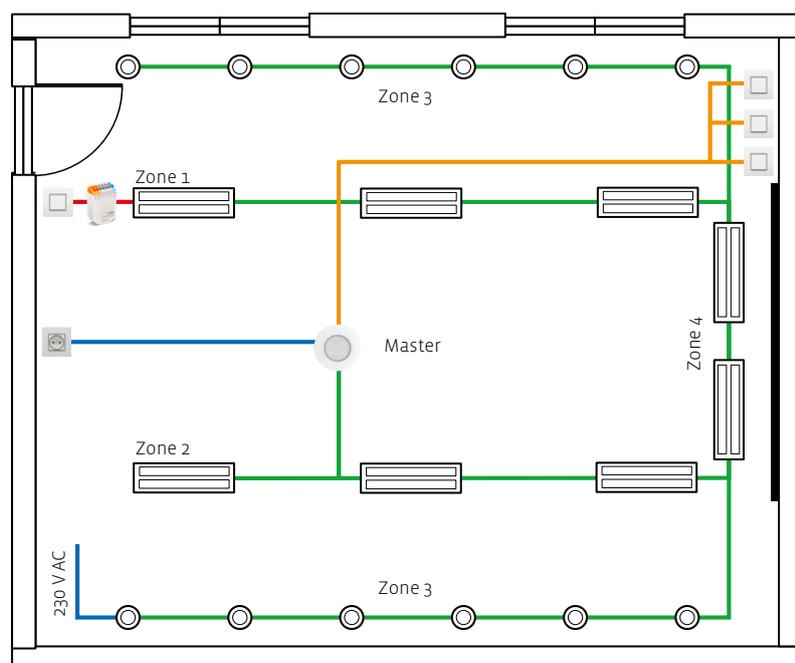
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P47MR, DALI-2, master, 12-13 m, 360°, SnapFit, for flush mounting |

Alternative solutions

- Extension of the detection range, 12-13 m: Secondary 353-651021
- Detection range, 12-13 m: Master 353-651321, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752321, secondary 353-752021
- Surface mounted detector, 12-13 m: Master 353-652321, secondary 353-652021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Conference room with power cut off, socket

Dimmable daylight control in two zones, two zones with rim light and board lighting, power cut-off of wall socket



Schematic of conference rooms with dimmable daylight control in two zones, one zone with dimmable rim lighting and one zone for board lighting as well as power cut-off to a selected wall socket. Override with DALI-2 push button interface and 230V push button.

Functional description

The installation consists of two zones for daylight control, a zone for rim lighting and a zone for board lighting. All luminaires are equipped with DALI-2 drivers designed for dimming.

Lighting can either be switched on automatically when someone is present or manually by a 230 V push button or via the DALI-2 push button interface. When everybody has left the room, all lights are switched off after a pre-defined period of time.

Daylight control can be overridden via a 230V push button or alternatively a DALI-2 push button interface.

The solution allows for wireless communication between the detector and wireless and battery-free push buttons, eliminating the need for wiring at, for example, glass and removable walls.

Change of the colour temperature can be added to dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2 - 3.4 m



32 - 37 m



4 zones



override



wireless communication

Installation

The installation can be made with a single five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

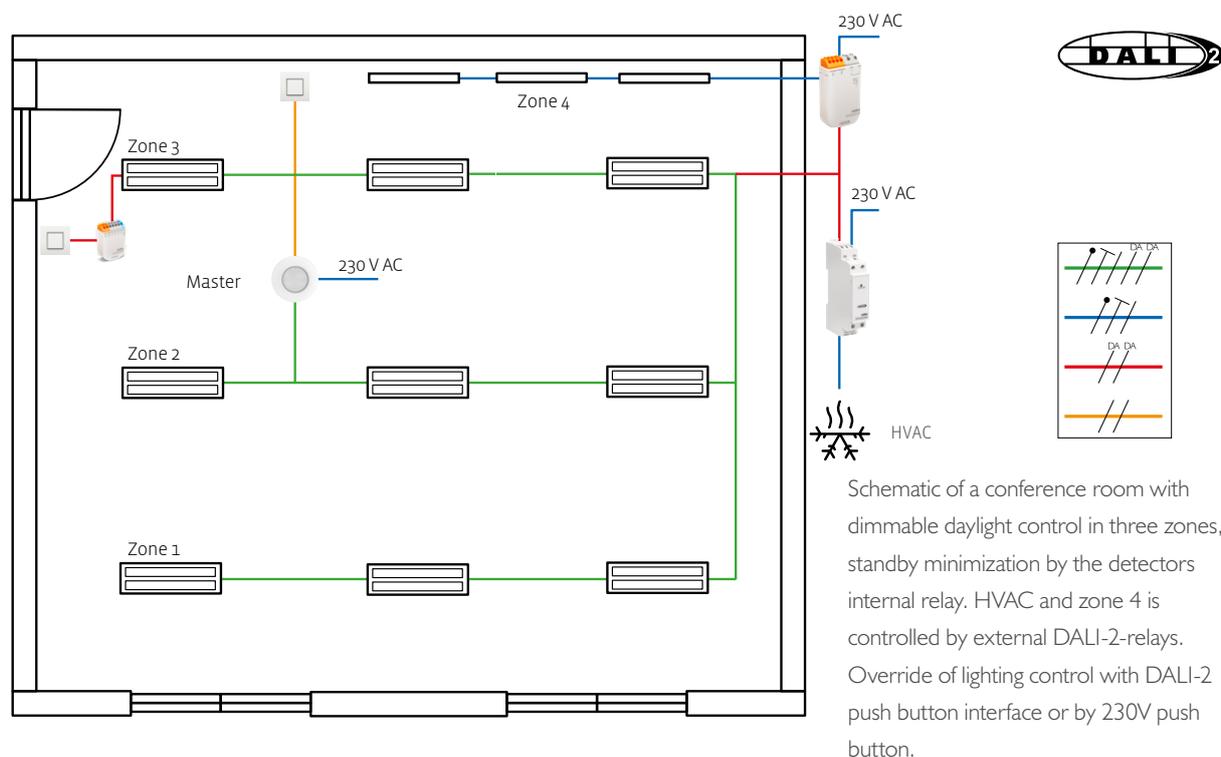
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Conference room with standby minimization

Dimmable daylight control in three zones, standby minimisation and HVAC control



Functional description

The installation consists of three zones for daylight control and one on/off zone (zone 4) via an external DALI-2 relay. All luminaires in the daylight zones are equipped with DALI-2 drivers designed for dimming. All luminaires in zone 4 are equipped with standard non-dimmable drivers.

The detector's internal relay is used to switch off power to the luminaires and eliminate the standby consumption for all luminaires, after the last person has left the room and the luminaries are switched off.

An external DALI-2 relay is used to control the ventilation system (HVAC), either as a stand-alone in the room or via BMS systems. The HVAC system starts automatically if the detector has detected activity for the pre-defined time and continues for the specified time after the last person has left the room.

Lighting can either be switched on automatically when someone is present or manually by a 230 V push button or via the DALI-2 push button interface. When everybody has left the room, all lights are switched off after a pre-defined period of time.

Change of the colour temperature can be added to dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.

The solution allows for wireless communication between the detector and wireless and battery-free push buttons, eliminating the need for wiring at, for example, glass and removable walls.

- 
 flush-mounted
- 
 2 - 3.4 m
- 
 32 - 37 m
- 
 4 zones
- 
 HVAC
- 
 standby minimization
- 
 override
- 
 wireless communication

Installation

The installation can be made with a single three- and five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

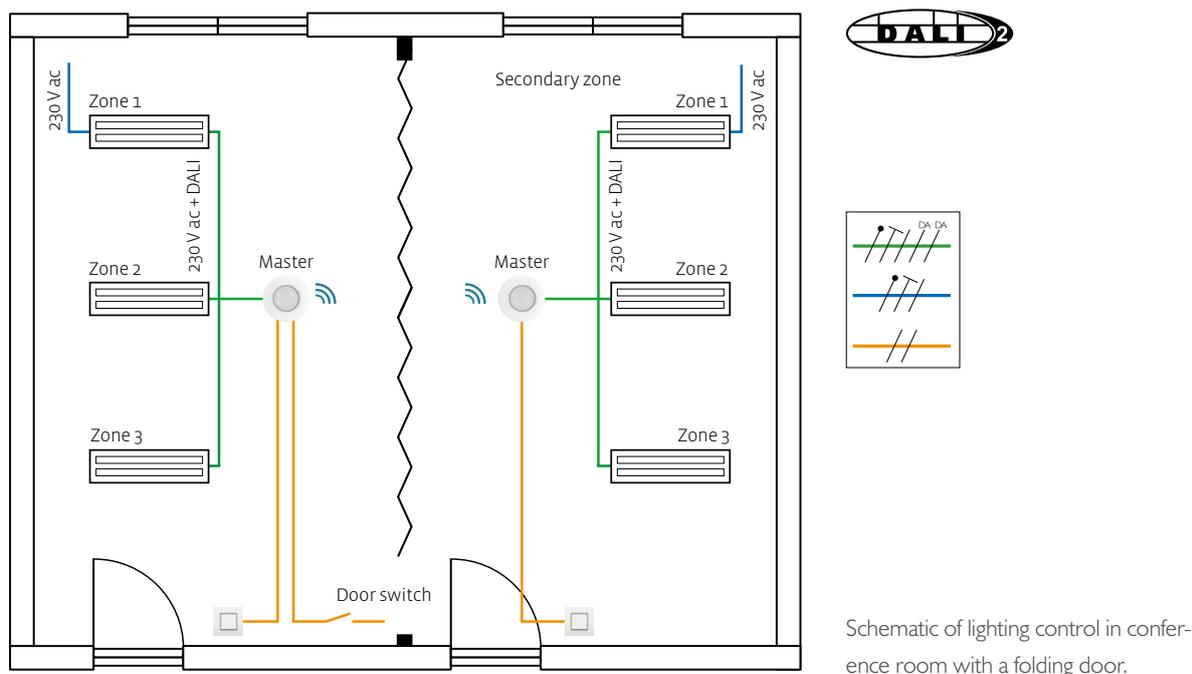
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |
| 310-02310 | DALI-2 relay module for flush mounting |
| 310-23320 | DALI-2 relay modular relay module |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Conference room with folding door

Daylight control in three zones, lighting control in conference room with a folding door



Functional description

The installation in both rooms consists of three zones for daylight control. All luminaires are equipped with DALI-2 drivers designed for dimming. In the divided room the master detectors are connected and controlling the lighting via wireless Bluetooth® communication. When the folding door is open the lighting is overridden uniformly in the joined room. When the folding door is closed the daylight control operates independently of one another in the two rooms. A door switch connected to one of the master detectors is registering whether the folding door is open or closed.

Lighting can either be switched on automatically when someone is present or manually by a 230 V push button. When everybody has left the room, all lights are switched off after a pre-defined period of time. The daylight control can be overridden by the 230V push button. The solution allows for wireless communication between the detector and wireless and battery-free push buttons, eliminating the need for wiring at, for example, glass and removable walls.



flush-mounted



2.5 - 3 m



32 - 37 m



3 zones



override



wireless communication

Installation

The installation can be made with a single three and five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

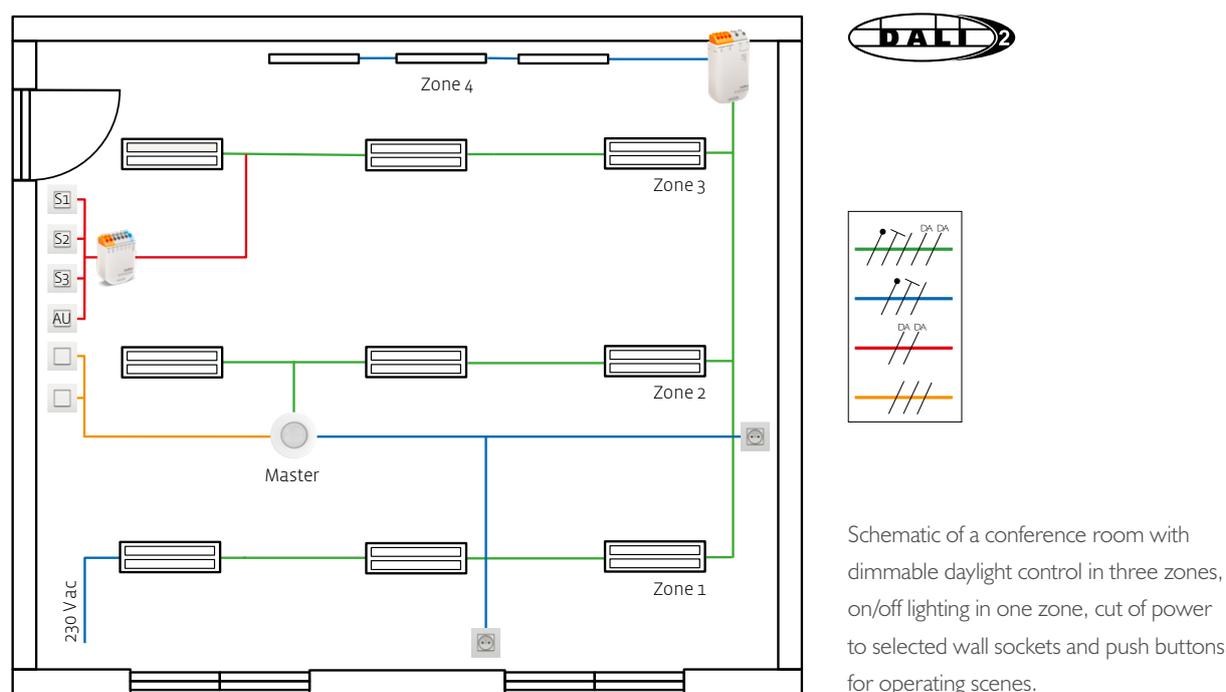
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Conference room with scenes

Daylight control in three zones, on/off lighting control in one zone, scenes, power cut-off to selected wall sockets.



Functional description

The installation consists of three zones for daylight control and an on/off zone controlled by an external DALI-2 relay. The luminaires in the daylight zones are equipped with DALI-2 drivers designed for dimming. The luminaires in zone 4 are equipped with standard non-dimmable DALI drivers.

The detector's internal relay is used to switch off power to selected sockets and eliminate the standby consumption to the connected devices, after the last person has left the room. An external DALI-2 relay is used to control the on/off zone 4.

Lighting can either be switched on automatically when someone is present or manually by a 230 V push button. When everybody has left the room, all lights are switched off after a pre-defined period of time. Daylight control can be overridden via push button. Various lighting scenes can be programmed, up to 16 and activated by operating a push button. Daylight control can be resumed by operating a push button.

The solution allows for wireless communication between the detector and wireless and battery-free push buttons, eliminating the need for wiring at, for example, glass and removable walls.

Change of the colour temperature can be added to dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



Installation

The installation can be made with a single three and five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

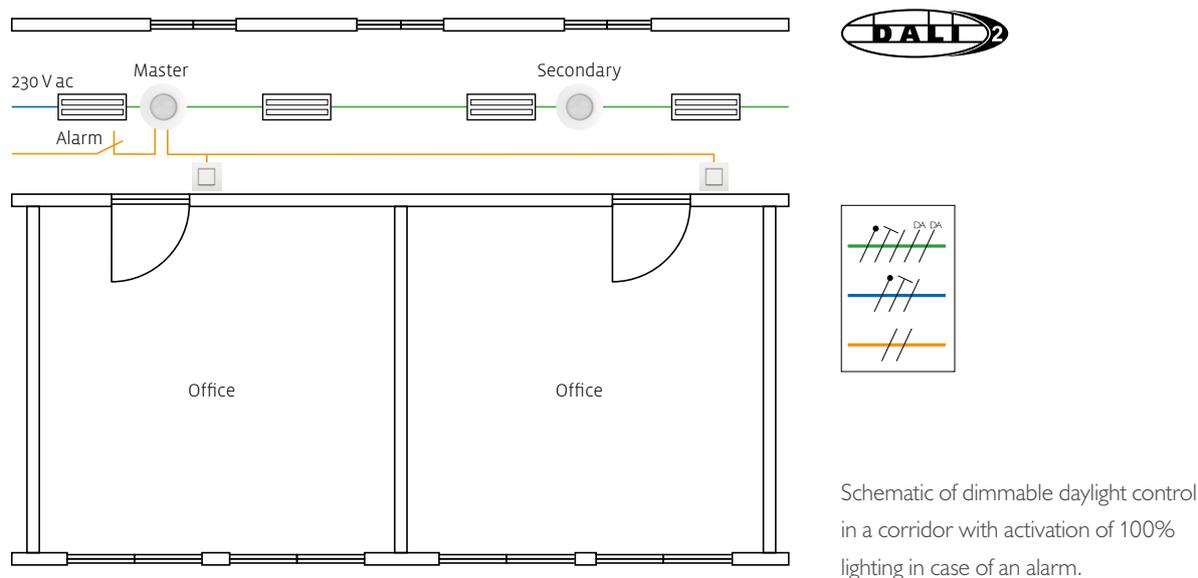
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |
| 310-02310 | DALI-2 relay module for flush mounting |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Surface mounted detector, 12-13 m: Master 353-652421, secondary 353-652021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Corridor with alarm function

Daylight control in one zone in the corridor with alarm function.



Functional description

The installation consists of one zone for daylight control. For example, in case of fire alarm, all luminaires will light at 100 % illumination.

All luminaires are equipped with DALI-2 drivers designed for dimming.

The lighting automatically switches on at presence in the detection area. The lighting is controlled according to incoming daylight. A 230 V push button can be used to manually override the daylight control (by dimming or switching it off).

The solution allows for wireless communication between the detector and wireless and battery-free push buttons, eliminating the need for wiring at, for example, glass and removable walls.

Change of the colour temperature can be added to dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2 - 3.4 m



32 - 37 m



1 zone



override



wireless communication

Installation

The installation can be made with a single three and five wired cable.

Simple wiring without defining lighting zones and configuration during installation.

All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

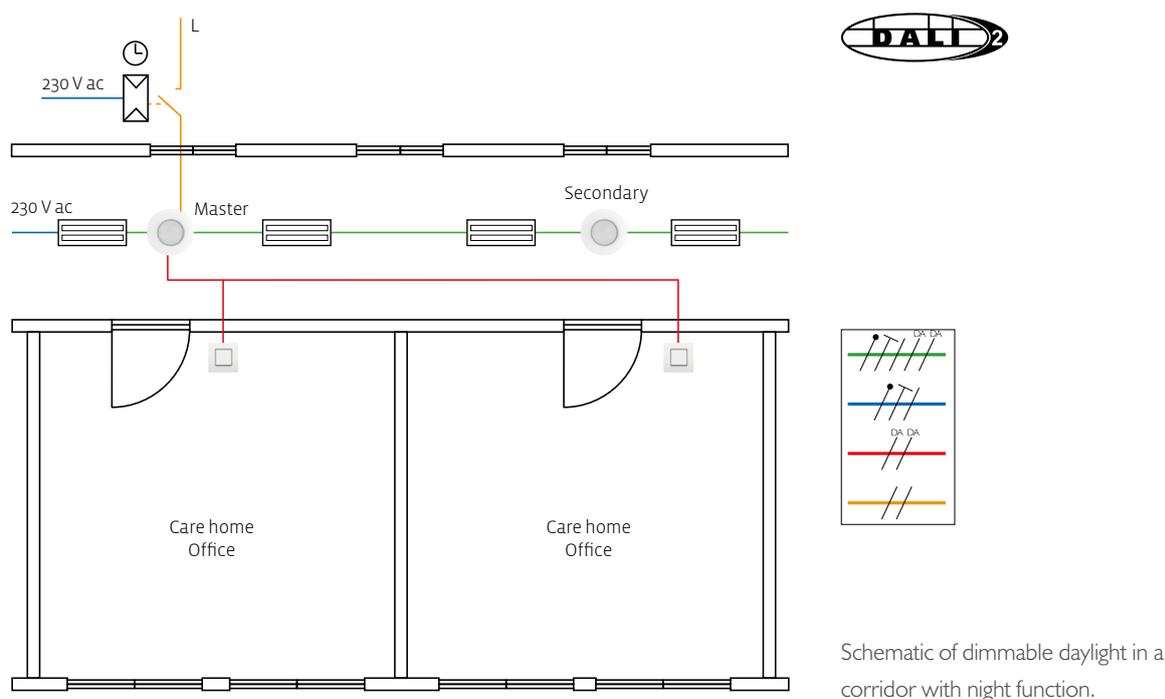
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Surface mounted detector, 12-13 m: Master 353-652421, secondary 353-652021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Corridor with night function

Daylight control in one zone in the corridor with orientation light.



Functional description

The installation consists of one zone for daylight control. All luminaires are equipped with DALI-2 drivers designed for dimming. In every room it is possible to switch the light only on.

The solution changes between day and night mode. A twilight switch, a time switch or a 1-pole switch can make changes.

Day mode: The lighting automatically switches on at presence. The lighting is controlled by daylight control.

Night mode: Daylight control is disconnected. The luminaires have a lighting level at presence for example at 70% and another at non-presence e.g. at 10% or the light can switch off, if nobody is present.

Both levels can be controlled between 1 and 100 % lighting.

The solution allows for wireless communication between the detector and wireless and battery-free push buttons, eliminating the need for wiring at, for example, glass and removable walls.

Change of the colour temperature can be added to dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2 - 3.4 m



32 - 37 m



1 zone



override



wireless communication

Installation

The installation can be made with a single three and five wired cable.

Simple wiring without defining lighting zones and configuration during installation. All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

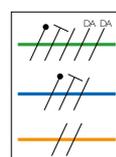
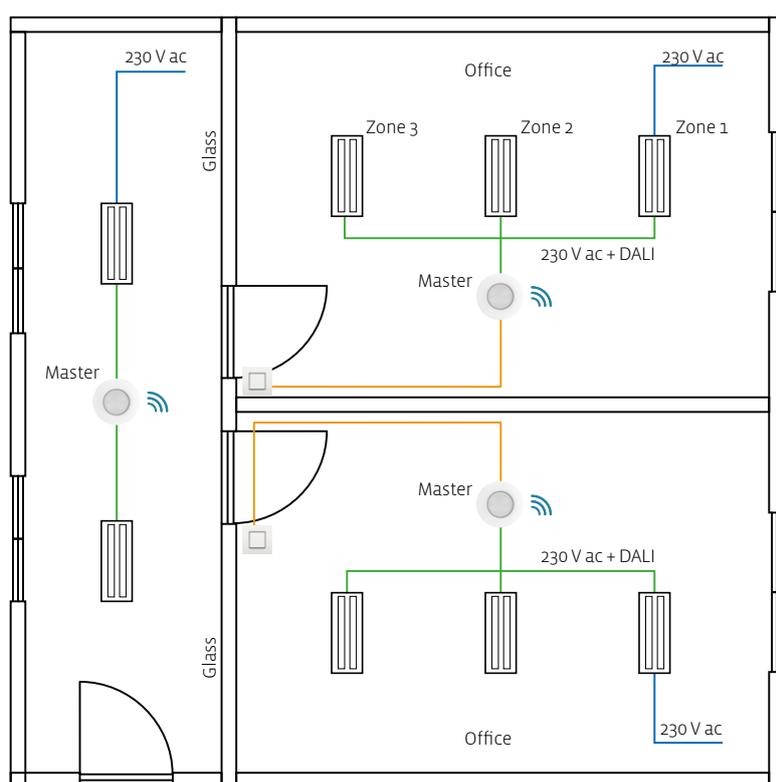
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Surface mounted detector, 12-13 m: Master 353-652421, secondary 353-652021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Corridor with adjacent area

Dimmable daylight control, lighting control in adjacent area.



Schematic of dimmable daylight control in a corridor with lighting controls in adjacent areas.

Functional description

The installation consists of a corridor with one zone for daylight control. All luminaires are equipped with DALI-2 drivers designed for dimming.

If there is presence in one or more offices, the lighting in the corridor is kept at the pre-set level. If there is no presence in any of the offices, the lighting is switched off after a pre-defined period. Communication between the master detectors is done via wireless Bluetooth® communication.

The lighting in the offices can either turn on automatically at presence or manually by the 230 V push button. When there is nobody in the room, all lighting is switched off after a fixed period of time. A 230 V push button can be used to dim or switch off the light manually. The lighting in the corridor is switched on and off automatically.

Change of the colour temperature can be added to dimmable zones, manually change, presets or automatically (HCL), DALI-2 DT8 luminaires are required.



flush-mounted



2 - 3.4 m



32 - 37 m



1 zone



override



wireless communication

Installation

The installation can be made with a single three and five wired cable.

Simple wiring without defining lighting zones and configuration during installation. All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

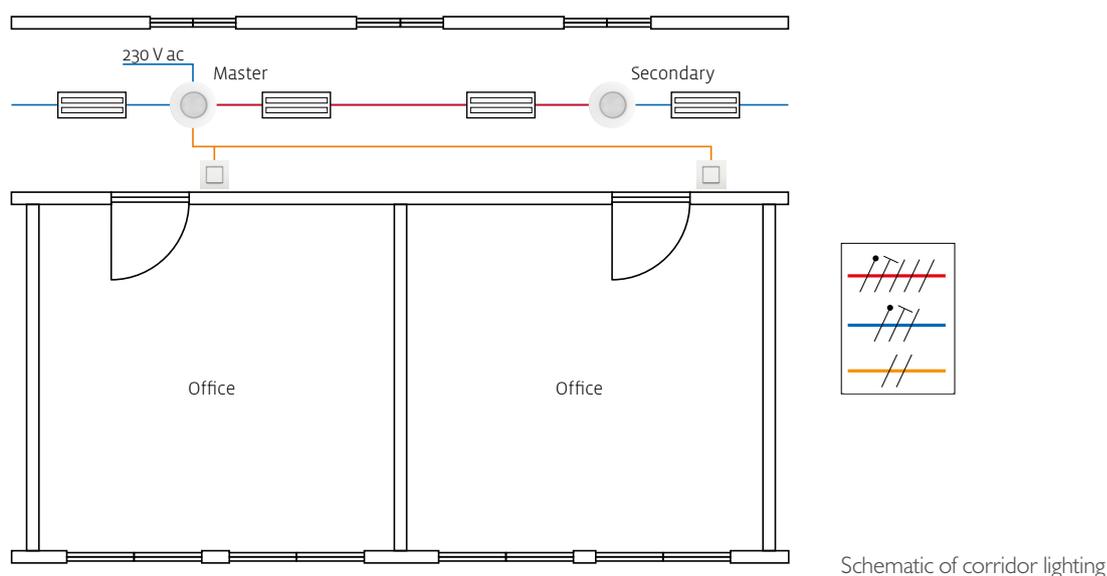
| Type no. | Description |
|------------|---|
| 353-751421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, SnapFit, for flush mounting |

Alternative solutions

- Extension of the detection range, 32-37 m: Secondary 353-751021
- Minor detection range, 12-13 m: Master 353-651421, secondary 353-651021
- Surface mounted detector, 32-37 m: Master 353-752421, secondary 353-752021
- Surface mounted detector, 12-13 m: Master 353-652421, secondary 353-652021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Corridor lighting with 230 V push button operation

On/off lighting control.



Functional description

The installation consists of one zone for on/off daylight control. The luminaires are equipped with standard non-dimmable drivers. For registration of activity throughout the length of the corridor, a secondary detector has been added to the master detector.

Lighting is switched on automatically when a person enters the corridor and the lux level is below set value. It switches off automatically after a pre-defined period of time.

A 230 V push button can be used to switch on the light manually. The master detector will automatically switch off the lighting after a pre-defined period of time.



flush-mounted



2 - 3.4 m



32 - 37 m



1 zone



override



wireless communication

Installation

Communication between the master and secondary takes place in a three and five wired cable.

The secondary detector only detects movement.

For longer detection range the required number of secondary detectors can be installed, however 10 pcs. as a max.

Push button for manually switch on is connected to the master detector.

Products

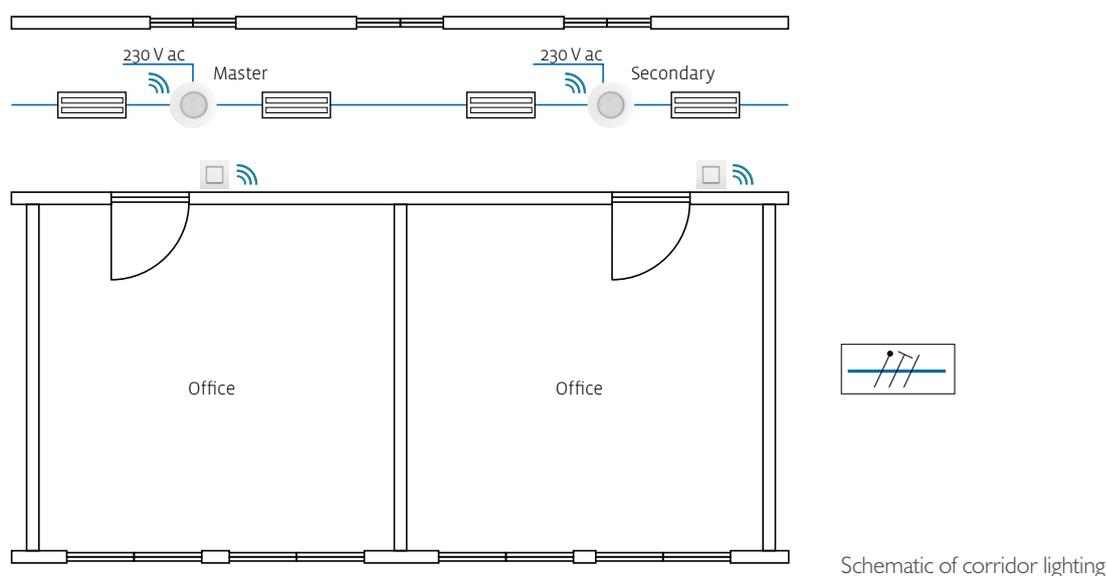
| Type no. | Description |
|------------|---|
| 353-701121 | Presence detector P42LR, 230 V, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 353-701021 | Presence detector P41LR, 230 V, secondary, 32-37 m, 360°, SnapFit, for flush mounting |

Alternative solutions

- Minor detection range, 12-13 m: Master 353-601121, secondary 353-601021
- Surface mounted detector, 32-37 m: Master 353-702121, secondary 353-702021
- Surface mounted detector, 12-13 m: Master 353-602121, secondary 353-602021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Corridor lighting with wireless communication

On/off lighting wirelessly controlled.



Functional description

The installation consists of one zone for on/off daylight control. The luminaires are equipped with standard non-dimmable drivers. For registration of activity throughout the length of the corridor, a secondary detector has been added to the master detector. The master and secondary communication is done wirelessly via Bluetooth®. The lighting switches on automatically when a person enters the corridor and the lux level is below set value. It switches off automatically after a pre-defined period of time when the corridor is empty.

The solution has a wireless and battery-free Bluetooth® push button for switching the light on manually. The master detector will automatically switch off the lighting after a pre-defined period of time.

-  flush-mounted
-  2 - 3.4 m
-  32 - 37 m
-  1 zone
-  override
-  wireless communication

Installation

The communication between the secondary and the master detector is Bluetooth® wireless.

The secondary detector only detects motion.

For longer detection range the required number of secondary detectors can be installed, however 10 pcs. as a max. in a repeater network.

Products

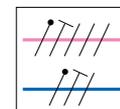
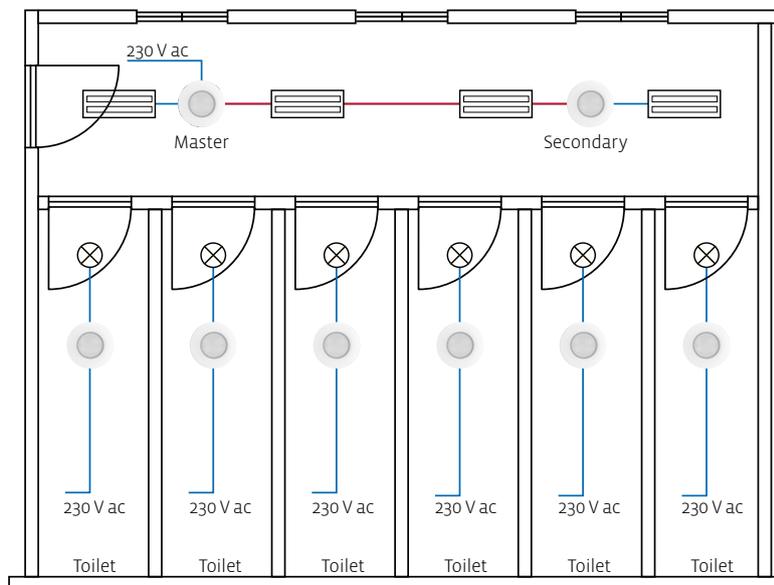
| Type no. | Description |
|------------|---|
| 353-701121 | Presence detector P42LR, 230 V, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 353-701021 | Presence detector P41LR, 230 V, secondary, 32-37 m, 360°, SnapFit, for flush mounting |
| 360-21001 | Niko dimmer switch, Bluetooth® |

Alternative solutions

- Minor detection range, 12-13 m: Master 353-601121, secondary 353-601021
- Surface mounted detector, 32-37 m: Master 353-702121, secondary 353-702021
- Surface mounted detector, 12-13 m: Master 353-602121, secondary 353-602021

Rest room

On/off lighting control.



Schematic of lighting control in a rest room

Functional description

The installation consists of one zone for on/off daylight control. The luminaires are equipped with standard non-dimmable drivers. For registration of activity throughout the length of the rest room, a secondary detector has been added to the master detector.

The lighting switches on automatically when a person enters the rest room and it switches off automatically after a set time when nobody is present. In the cabins, a mini PIR detector is installed and light in the cabins automatically switches on, when someone enters. The light automatically switches off after a pre-defined period of time, when the person has left the cabin.

A wireless and battery-free Bluetooth® push button can be used for actively turning on the light, and with automatic switch off.



flush-mounted



2 - 3.4 m



32 - 37 m



1 zone



wireless communication

Installation

Communication between the master and secondary detector takes place in a three and five wired cable.

The secondary detector only detects motion.

For more detection the required number of secondary detectors can be installed, however 10 pcs. as a max.

Products

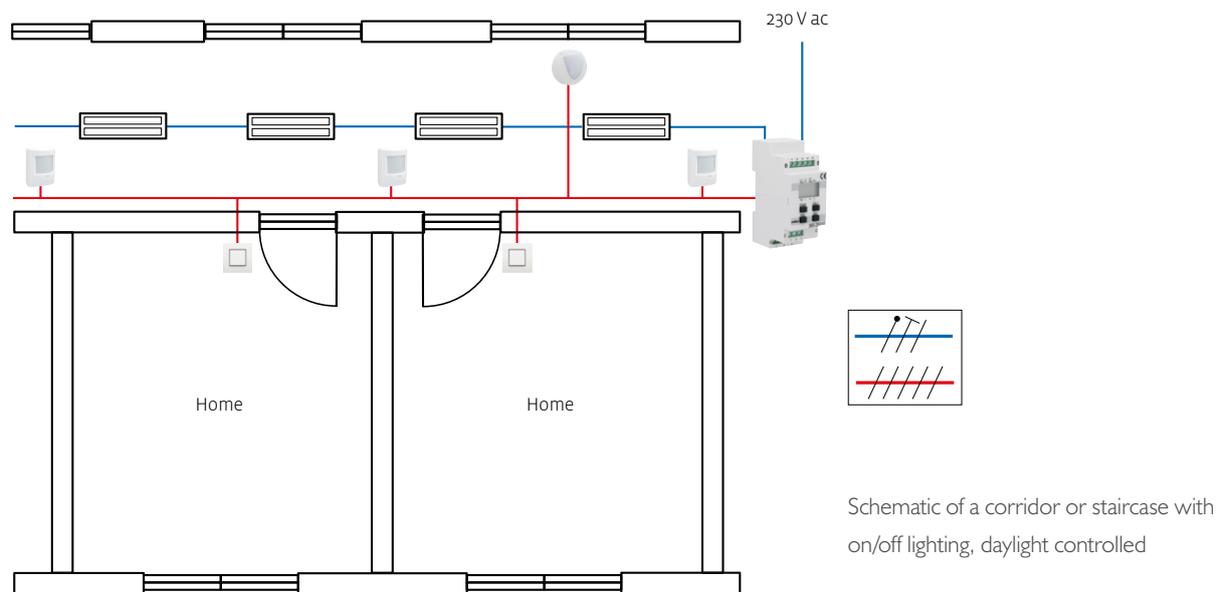
| Type no. | Description |
|------------|---|
| 353-701121 | Presence detector P42LR, 230 V, master, 32-37 m, 360°, SnapFit, for flush mounting |
| 353-701021 | Presence detector P41LR, 230 V, secondary, 32-37 m, 360°, SnapFit, for flush mounting |
| 350-20085 | Presence detector, 230 V, 9.5 m, mini |

Alternative solutions

- Minor detection range, 12-13 m: Master 353-601121, secondary 353-601021
- Surface mounted detector, 32-37 m: Master 353-702121, secondary 353-702021
- Surface mounted detector, 12-13 m: Master 353-602121, secondary 353-602021
- Dual tech surface mounted detector, 230 V: Master 351-25475 secondary 351-25459, 351-25469

Corridor/Staircase

On/off lighting, daylight controlled with 24 V detectors.



Functional description

The installation consists of one zone for on/off daylight control. All luminaires are equipped with non-dimmable drivers. For optimum detection several motion detectors have been installed.

The detectors automatically switch on the lighting when one of the detectors detects activity in the detection area and the lux level is below the set-point. The light automatically switch off after a set period of time. A push button in each home for only switching on the light can be added to the solution.



wall mounted



2 - 3.4 m



max 15 m



override

Installation

The installation to luminaires can be made with a single three wired cable.

Low voltage conductors between push buttons and detectors for the control unit.

Light sensor must be installed where it can only "see" daylight.

Products

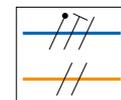
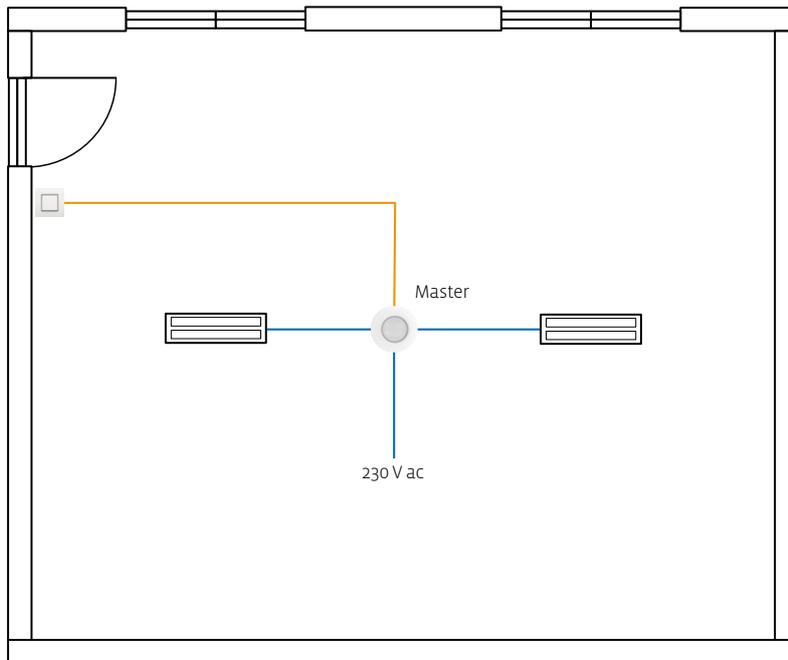
| Type no. | Description |
|-----------|---|
| 350-30010 | Motion detector, 24 V, wall mounted, 15 m, 90° |
| 360-35010 | Control unit with display, DIN mounted, 30-30,000 lux, 230 Vac/24 Vdc |
| 350-10011 | Light sensor, 3-60,000 lux, 0-10 V, 24 Vdc |

Alternative solutions

- Ceiling mounted detector, 7-12 m: 350-41549

Secondary room

On/off lighting, daylight controlled.



Schematic of a secondary room with on/off daylight control. Override of lighting control with 230 V push button.

Functional description

The installation consists of one zone for on/off daylight control. All luminaires are equipped with standard non-dimmable drivers.

Various options:

- Automatic on/off via the detector or manually on/off by 230 V push button with automatic off function by the detector.
- Automatic on/off: The lighting will switch on automatically when someone enters the room and the lux level is below the set-point and it will switch off automatically after a pre-defined period of time.

A wireless and battery-free Bluetooth® push button can be used for actively turning on the light, and with automatic turn off.



flush-mounted



2.5 - 3 m



12 - 13 m



1 zone



override



wireless
communication

Installation

The installation is made with a single three wired cable.

Connect a push button for manually on/off to the master detector.

Configuration via the Niko detector tool app.

Products

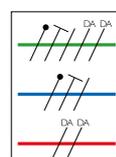
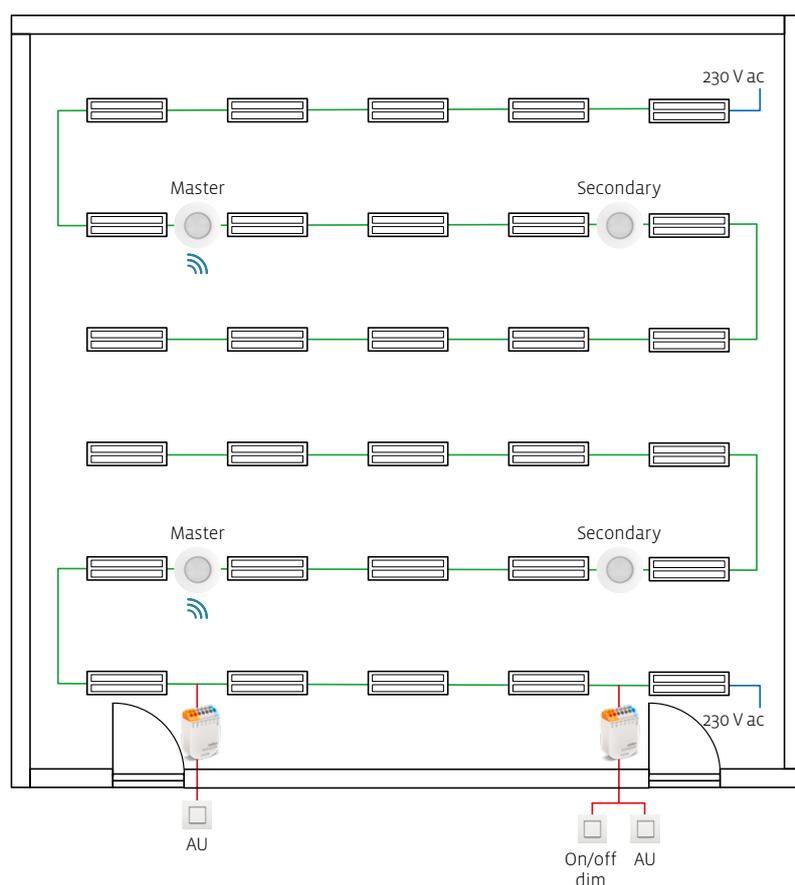
| Type no. | Description |
|------------|--|
| 353-601121 | Presence detector, 230 V, master, 12-13 m, 360°, SnapFit, for flush mounting |

Alternative solutions

- Larger detection range, 32-37 m: Master 353-701121, secondary 353-701021
- Surface mounted detector, 12-13 m: Master 353-602121, secondary 353-602021
- Flush box mounting detector, 12-13 m: Master 353-600121, secondary 353-600021
- Flush box mounting detector, 32-37 m: Master 353-700121, secondary 353-700021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Sports hall

Lighting control in one zone, dimmable override



Schematic of lighting control in one zone, as well as extension of DALI segment with > 64 DALI units.

Functional description

The installation consists of one zone with manual dimming. All luminaires are equipped with DALI-2 drivers designed for dimming.

The lighting is switched on automatically when one of the detectors registers activity in the detection area, or manually by the push button. When everybody has left the sports hall, all lights are switched off after a pre-defined period of time.

A wireless and battery-free Bluetooth® push button can be used for actively turning on the light, and with automatic turn off.



surface mounted



4 - 12 m



max 53 m



1 zone



override



wireless communication

Installation

The installation can be made with a single three and five wired cable.

Simple wiring without defining lighting zones and configuration during installation. All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

The secondary detector only detects motion.

For more detection the required number of secondary detectors can be installed.

24 V push buttons for operating the light is connected to a DALI-2 push button interface connected to the DALI bus.

Products

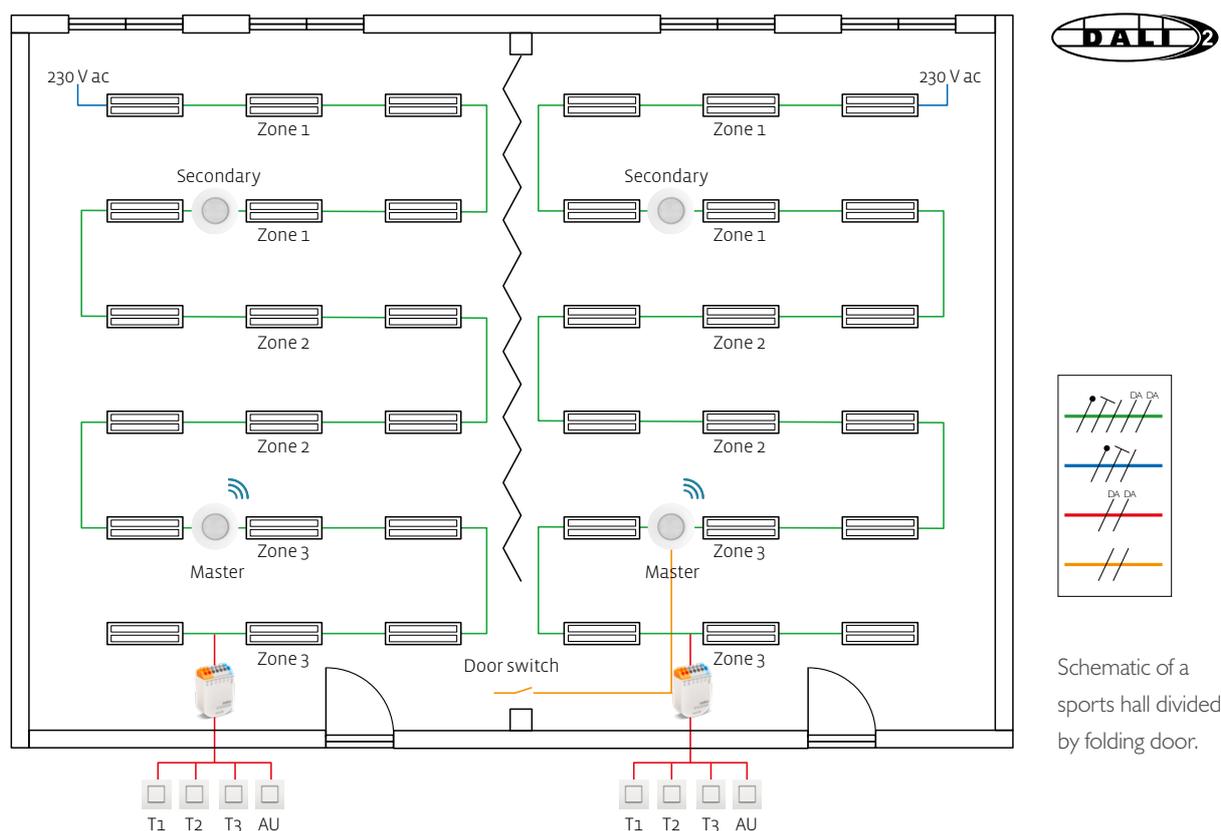
| Type no. | Description |
|------------|---|
| 353-852411 | Motion detector M48HC, DALI-2, master, High ceiling, 18-53 m, 360°, for surface mounting |
| 353-852011 | Motion detector M46HC, DALI-2, secondary and BMS, High ceiling, 18-53 m, 360°, for surface mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |

Alternative solutions

- Surface mounted detector, 32-37 m: Master 353-752121, secondary 353-752021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Sports hall with folding door

Dimmable daylight control in three zone, dimmable override and folding door.



Functional description

Lighting control in a sports hall for multipurpose use divided using folding door is interconnected via Bluetooth® communication between the two master detectors. When the folding door is open, the daylight zones are manually overridden in both rooms synchronously. When the folding door is closed, the daylight zones are manually overridden independently of each other. A 230 V door switch or a standard 1-pole switch informs one of the DALI-2 master detectors whether the folding door is open or closed. Daylight control operates separately for each room, regardless of whether the folding door is open or closed. Switching on/off or dimming is active for both parts of the sports hall.

The installation in both parts of the sports hall has three zones for daylight control. All luminaires have are equipped with DALI-2 drivers designed for dimming. The lighting can either be switched on automatically when someone is present or switched on manually by the DALI-2 push button interface connected directly to the DALI bus. When everyone has left the sports hall, all lighting is switched off after a pre-defined period of time. If required, daylight control can be overridden via the push button.

A wireless and battery-free Bluetooth® push button can be used for manually turning on the light, and with automatic switch off.



surface
mounted



4 - 12 m



max 53 m



3 zones



override



wireless
communication

Installation

The installation can be made with a single three and five wired cable.

Simple wiring without defining lighting zones and configuration during installation. All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

Products

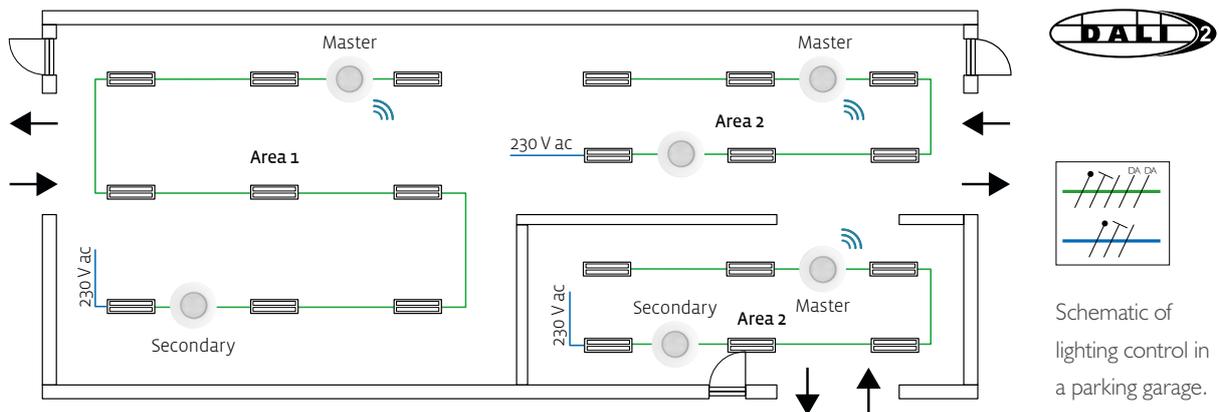
| Type no. | Description |
|------------|---|
| 353-852411 | Motion detector M48HC, DALI-2, master, High ceiling, 18-53 m, 360°, for surface mounting |
| 353-852011 | Motion detector M46HC, DALI-2, secondary and BMS, High ceiling, 18-53 m, 360°, for surface mounting |
| 310-02200 | DALI-2 push button interface with four potential-free inputs |

Alternative solutions

- Surface mounted detector, 32-37 m: Master 353-752121, secondary 353-752021
- Surface mounted detector, 12-13 m: Master 353-652421, secondary 353-652021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

Parking garage

Turns on lighting in adjacent area in advance



Functional description

The installation consists of one zone for the parking area. All luminaires are equipped with DALI-2 drivers designed for dimming. Control in all parking areas is interconnected with Bluetooth® communication.

If there is presence in one area, the lighting in adjacent areas without presence will be e.g. 50 % of the adjacent area. In the Niko detector tool app, it is possible to set required light level between 1% and 100% light. in the adjacent areas without activity.

The lighting switches on automatically at presence in the detection area.



Installation

The installation can be made with a single three and five wired cable.

Simple wiring without defining lighting zones and configuration during installation. All DALI units can be connected to any point on the DALI bus independently of lighting zones and configuration.

For additional detection the required number of secondary detectors can be installed. Secondary detectors communicate with the master detector via the DALI bus. They can be connected to any point on the DALI bus independently of lighting zones and configuration.

The secondary detector only detects motion.

Configuration via the Niko detector tool app.

Products

| Type no. | Description |
|------------|---|
| 353-752421 | Presence detector P48LR, DALI-2, master, 32-37 m, 360°, for surface mounting |
| 353-752021 | Presence detector P46LR, DALI-2, secondary and BMS, 32-37 m, 360°, for surface mounting |

Alternative solutions

- Surface mounted detector, 12-13 m: Master 353-652421, secondary 353-652021
- Wireless override option: Niko dimmer switch, Bluetooth®: 360-21001

A sense for versatility

One powerful line-up that meets the needs of your entire project

The Niko P40 and M40 detector series are designed to fit every situation. This means any ceiling type, in any building, with a choice of detection ranges for all possible combinations of 230 V or DALI-2-certified detectors. And all within one, award-winning contemporary design.

13 m detection range*

A unique flat lens that integrates seamlessly into the ceiling

37 m detection range*

An effective dome lens with a long detection range

53 m detection range**

For high ceiling use. An effective dome lens with a long detection range

Flush-mounting with SnapFit

230 V – 1 channel (P42)
DALI-2 (P47)
DALI-2 secondary/BMS (P46)
Secondary (230 V P41, DALI-2 P46)



230 V – 2 channel (P42)
DALI-2 (P48)



Flush-mounting box

230 V – 1 channel (P42)
DALI-2 (P47)
Secondary (230 V P41, DALI-2 P46)



Surface mounting

230 V – 1 and 2 channel (P42)
DALI-2 (P47)
DALI-2 (P48)
Secondary (230 V P41, DALI-2 P46,
DALI-2 M48)
High ceiling (detection range Ø18-53 m)



* At 3 m mounting height

** At 12 m mounting height

A sense for functionality

Explore endless possibilities via one simple solution

| | | DETECTORS | | | | | |
|-----------|---|---|---|--|--|--|--|
| Type | | 1 channel M42 230 V motion detectors | 1 channel P42 230 V presence detectors | 2 channels P42 230 V presence detectors | DALI-2 P47 presence detectors | DALI-2 P48 presence detectors | DALI-2 P46 Secondary/ BMS presence detectors |
| INPUT | Inputs or push buttons | 1 | 1 | 2 | 1 | 4 | |
| | Free assignment of push buttons | | | • | | • | |
| | Wireless push button for override of lighting control | | • | • | • | • | |
| | External trigger (activation via external systems) | | | | | | • |
| | Wired secondary | | • | • | • | • | |
| | Wireless secondary | | • | • | | | |
| | External input devices via DALI bus | | | | | | • |
| FUNCTIONS | Automatic on/off | • | • | • | • | • | |
| | Semi-automatic on/off (manual on/off + auto off) | • | • | • | • | • | |
| | Daylight control (dimming - based on daylight) | | | | 3 zones | 4 zones | |
| | DALI Broadcast + DALI Addressable | | | | • | • | |
| | Wireless master-to-master link via Bluetooth® | | | | | | • |
| | Wireless secondary-to-master link via Bluetooth® | | • | • | | | |
| | Multi-zone - smart board lighting | | | | | | • |
| | Night mode - perfect for corridors | | | | | | • |
| | Turn-on level | | | | | | • |
| | Orientation light | | | | • | • | |
| | Light scenes - define and control scenes | | | | | | • |
| | Folding door function- Wireless sync of lighting control | | | | | | • |
| | Control light in adjacent areas / corridors | | | | | | • |
| | Tunable white dynamic and presets | | | | | | • |
| | Human Centric Lighting (HCL) | | | | | | • |
| | Output relay - control HVAC / standby minimisation / light (on/off) | | | | | | • |
| | External DALI relay for HVAC / standby minimisation | | | | | | • |
| | Event log | • | • | • | • | • | • |
| | Portal solution for documentation, backup and distribution of configuration files | • | • | • | • | • | • |
| | Settings and configuration can be locked with a PIN-code | • | • | • | • | • | • |
| APP | Software update of detector via app | • | • | • | • | • | • |
| | 2-way Bluetooth® communication | • | • | • | • | • | • |

Niko P40 and M40 detector series

One powerful line-up that meets the needs of your entire project

230 V detectors

| Type | Mounting height | Output | Input for 230 V push button | Secondary detector max. |  Bluetooth secondary-master link |  Bluetooth push button |
|---------------|--|--|-----------------------------|-------------------------|---|---|
| M42MR / M42LR | Motion detector, Master 1 channel | 2 - 3.5 m μ 10 A, NO (potential free relay) | 1 input | | | |
| P42MR / P42LR | Presence detector, Master 1 channel | 2 - 3.5 m μ 10 A, NO, (potential free relay) | 1 input | 10 secondary detectors | Yes | Yes |
| P42MR / P42LR | Presence detector, Master 2 channels | 2 - 3.5 m $2 \times \mu$ 10 A, NO, (potential free relay) | 2 inputs | 10 secondary detectors | Yes | Yes |
| M42HC | Motion detector, Master, High ceiling | 4 - 12 m μ 10 A, NO, (potential free relay) | 1 input | 10 secondary detectors | Yes | Yes |
| P41MR / P41LR | Presence detector, Secondary | 2 - 3.5 m - | - | - | Yes | |
| M41HC | Motion detector, Secondary, High ceiling | 4 - 12 m - | - | - | Yes | |

DALI-2 detectors

| Type | Mounting height | Output | Max. zones | Secondary detector max. |  Bluetooth push button |
|---------------|--|--|------------|-------------------------|---|
| P47MR / P47LR | Presence detector, Master | 2 - 3.5 m  | 3 zones | 2 secondary detectors * | Yes |
| P48MR / P48LR | Presence detector, Master | 2 - 3.5 m  μ 10 A, NO, (potential free relay) | 4 zones | 5 secondary detectors * | Yes |
| M48HC | Motion detector, Master, High ceiling | 4 - 12 m  μ 10 A, NO, (potential free relay) | 4 zones | 5 secondary detectors * | Yes |
| P46MR / P46LR | Presence detector, Secondary and BMS | 2 - 3.5 m  | - | - | - |
| M46HC | Motion detector, Secondary and BMS, High ceiling | 4 - 12 m  | - | - | - |

*Be aware of the number of components and the maximum guaranteed current on the DALI bus

Navigate quickly and easily through our new product range

All our detectors have been named with a:

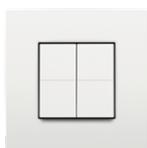
| Type of detector | Detector family | Functionality | Detection range |
|--|---|--|---|
| P or M P = presence detector M = motion detector | P4 or M4 4 = Bluetooth® generation of detectors | P46 or M41 1 = 230 V secondary 2 = 230 V master 1-channel and 2-channel 6 = DALI-2 BMS / secondary 7 = DALI-2 master default 8 = DALI-2 master advanced | P46MR or M41LR MR = medium range LR = long range HC = high ceiling |

| Medium detection range Ø12-13 m (MR) | | | | Long detection range Ø32-37 m (LR) | | | | High ceiling detection range Ø18-53 m (HC) |
|--|---|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |  |  |
| Flush-mounting box | Flush mounting SnapFit | Flush mounting SnapFit | Surface mounting | Flush-mounting box | Flush mounting SnapFit | Flush mounting SnapFit | Surface mounting | Surface mounting |
| 353-600111 M42MR | 353-601111 M42MR | - | 353-602111 M42MR | 353-700111 M42LR | 353-701111 M42LR | - | 353-702111 M42LR | - |
| 353-600121 P42MR | 353-601121 P42MR | - | 353-602121 P42MR | 353-700121 P42LR | 353-701121 P42LR | - | 353-702121 P42LR | - |
| - | - | 353-601221 P42MR | 353-602221 P42MR | - | - | 353-701221 P42LR | 353-702221 P42LR | - |
| - | - | - | - | - | - | - | - | 353-802111 M42HC |
| 353-600021 P41MR | 353-601021 P41MR | - | 353-602021 P41MR | 353-700021 P41LR | 353-701021 P41LR | - | 353-702021 P41LR | - |
| - | - | - | - | - | - | - | - | 353-802011 M41 HC |

| Medium detection range Ø12-13 m (MR) | | | | Long detection range Ø32-37 m (LR) | | | | High ceiling detection range Ø18-53 m (HC) |
|--|---|---|---|---|---|--|---|---|
|  |  |  |  |  |  |  |  |  |
| Flush-mounting box | Flush mounting SnapFit | Flush mounting SnapFit | Surface mounting | Flush-mounting box | Flush mounting SnapFit | Flush mounting SnapFit | Surface mounting | Surface mounting |
| 353-650321 P47MR | 353-651321 P47MR | - | 353-652321 P47MR | 353-750321 P47LR | 353-751321 P47LR | - | 353-752321 P47LR | - |
| - | - | 353-651421 P48MR | 353-652421 P48MR | - | - | 353-751421 P48LR | 353-752421 P48LR | - |
| - | - | - | - | - | - | - | - | 353-852411 M48HC |
| 353-650021 P46MR | 353-651021 P46MR | - | 353-652021 P46MR | 353-750021 P46LR | 353-751021 P46LR | - | 353-752021 P46LR | - |
| - | - | - | - | - | - | - | - | 353-852011 M46HC |

Components for your solution

Push button - override of detectors



Niko dimmer switch
Type no. 360-21001
XXX-76X00
4-fold

DALI-2 components



DALI-2 push button interface
with four potential-free inputs
Type no. 310-02200



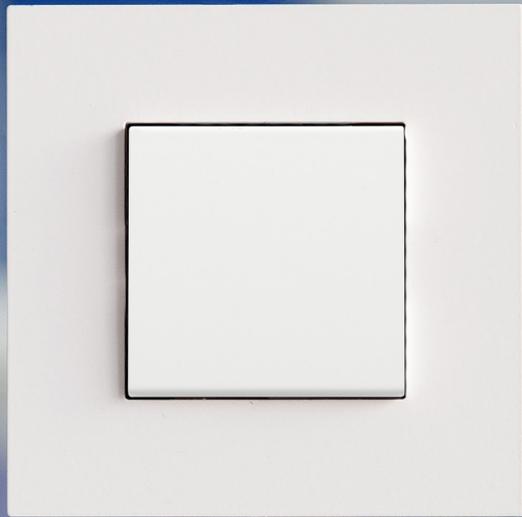
DALI-2 line power supply
Type no. 310-02400



DALI-2 relay module
for flush mounting
Type no. 310-02310



DALI-2 modular relay module
Type no. 310-02320



Smart commissioning

Connect via Bluetooth® with the user-friendly Niko detector tool app

Even the commissioning of your detectors is designed to be effortless and as automatic as possible. And it all happens wirelessly with the help of the free Niko detector tool app. When you open the app it immediately detects and displays the full list of detectors installed nearby, starting with the one nearest to you. Select the specific detector you wish to configure and the app will guide you through the commissioning. You can either choose one of the templates, the last used configuration or a new customised configuration. And the app even works without an internet connection; your settings will automatically upload when you have access to the internet again.



Niko detector tool app

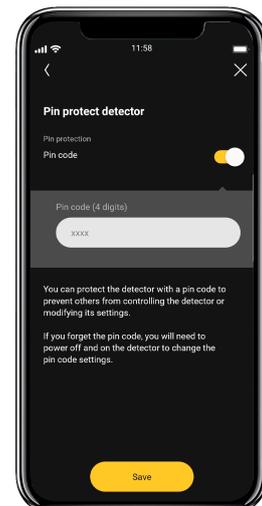


The Niko detector tool app is available for free on the App Store (iOS) or Google Play (Android).

2-way Bluetooth® communication ensures faster configuration

The app and detector communicate with each other wirelessly using 2-way Bluetooth® communication. This means you do not need any other tools or adaptors during the configuration process.

The 2-way Bluetooth® communication gives you instant, detailed information on the current detector settings, so you always have a complete overview in the app. This also saves time during subsequent installation service and maintenance.



Utilize the cloud solution

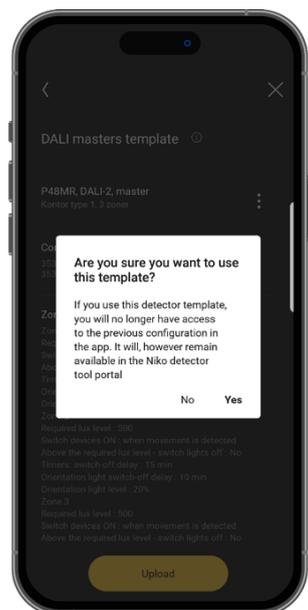
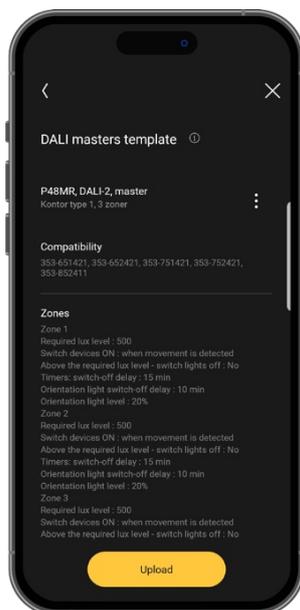
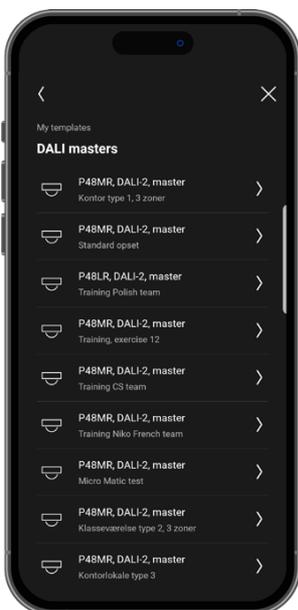
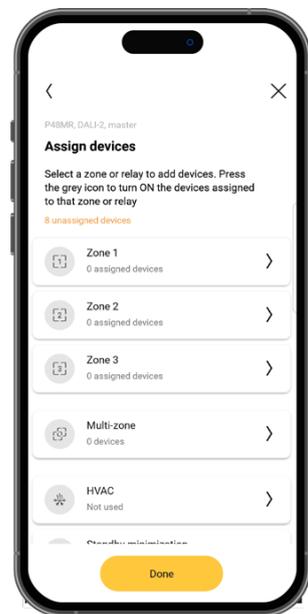
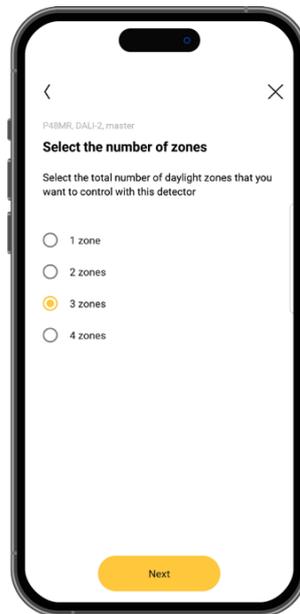
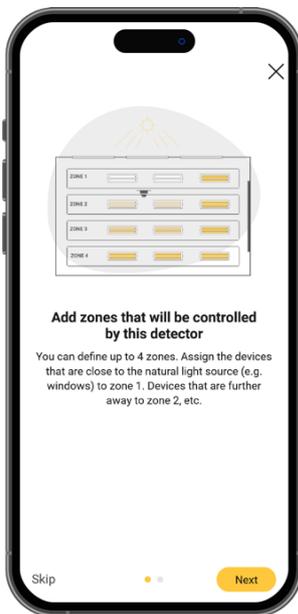
All data are stored in the cloud and the detector tool portal, which you can use for documentation, backup and distribution of configuration files.

Lock detector

For security reasons it is possible to lock the detector with a PIN code.



Interface and configuration with the Niko detector tool app



Manage your detectors with the Niko detector tool portal

The Niko detector portal is the online tool that makes managing projects with the P40 and M40 detectors series easier and more efficient. In the portal you can organise detectors and commissioning information in project folders for easy re-use, sharing with colleagues or documentation for your customer. You don't need to register to use the Niko detector tool application. However, by registering for the portal and logging in to the app, you will gain several benefits.



A complete overview of your detector settings

The portal allows you to efficiently find the detector configurations used in a project. And to prepare the detector configuration to upload to the detectors later while you or one of your colleagues is handling the commissioning.



Save time with templates

You can mark a detector's configuration as a template so that you can easily find it again. The configuration of this detector, created by you or your colleagues, can also be reused to commission similar detectors.



Document and organise multiple projects

You can document and organise one or multiple detector configurations into a project for easy documentation, re-use or sharing.



Share with your team

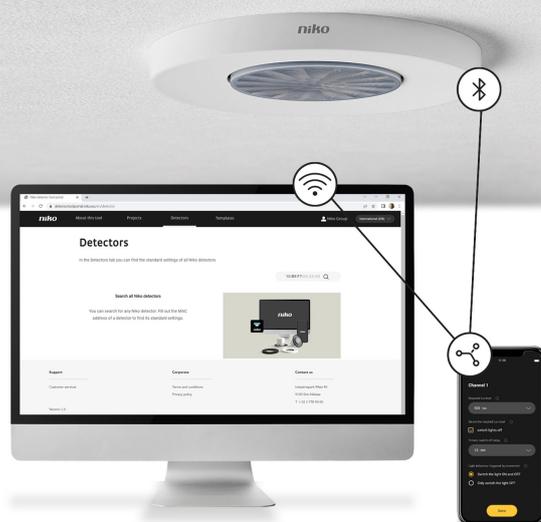
Detector configurations can be shared with colleagues, so you can collaborate when commissioning large installations or with the building owner for quality assurance purposes.



Secure data in the cloud

The information about each detector's configuration and relevant information about your installation project is automatically shared between the app and portal. This means that the configurations are accessible even if the smartphone is replaced or if access to the configurations is needed in the portal.

Enjoy the benefits of the Niko detector tool app and portal



| Features in Niko detector tool | No account | With an account |
|--|------------|-----------------|
| Commissioning detectors | • | • |
| Project overview in Niko detector tool app | • | • |
| Lock/Unlock detectors with a PIN code - protect configurations with a 4-digit code | | • |
| Save configurations in the Niko detector tool portal - ensuring backup of configurations | | • |
| Overview of all projects/configurations in Niko detector tool portal | | • |
| Automatically save configurations in the Niko detector tool portal - ensuring backup | | • |
| Share configuration templates with other Niko detector tool portal users | | • |
| Automatic creation of documentation of the settings in Niko detector tool portal - PDF- or Excel | | • |
| Search for the settings of a detector using the MAC-address | | • |



You register to the Niko detector tool portal via the link in the Niko detector tool app - or via the website: detectortoolportal.niko.eu

Project consultancy and support, every step of the way

Need a well-thought-out solution with energy optimisation and intelligent lighting control? Are you looking for technical and/or commissioning advice?

Niko offers you collaboration, based on their expertise and experience to help you deliver the optimum solution to your customers, efficiently before, during and after your project. It pays off in many ways – both in terms of money and time consumption.



Competent partner



Technical support and hotline



Consultancy



Installation



Preparation of project proposals



Configuration and commissioning



Supports BIM and availability in 3rd party project and quotation platforms



Functions and technical terms

Manually on/off – Auto off

The light is always switched on and off via push button. If the light is not switched off, when leaving the room, it will switch off automatically after a predefined period of time.

Auto on/off

The light is switched on and off automatically by the detector. The dimmable light is controlled according to the incoming daylight. At on/off controls the light is blocked if there is sufficient daylight.

Constant on

The light can be switched on and will stay turned on for 2 hours plus the off switch off delay time. When the time expires, the light automatically returns to automatic operation.

Constant off

The light can be switched off and will stay turned off for 2 hours plus delay time. When the time expires, the light automatically returns to automatic operation.

Standby minimization

Eliminates the standby consumption by cutting the power to the luminaires.

Tunable white

The light color can be changed via a 230 V push button or via a 24 V low-voltage push button connected to the DALI-bus via DALI-2 input module, type no. 310-02200. Requires DALI-2 DT8 luminaires or light fixtures.

Human centric lighting (HCL)

Can be used if the light color automatically must change during the day or night. Requires DALI-2 DT8 luminaires or light fixtures.

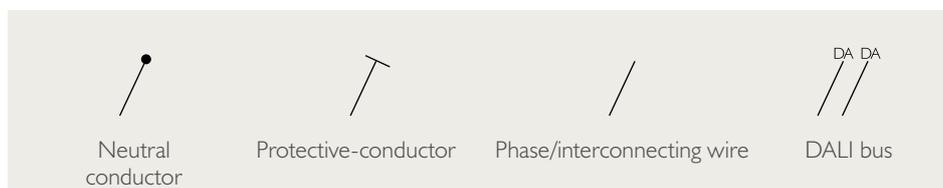
Manual dim

Dimmable luminaires can be dimmed to a required level – via push button.

Light scenes

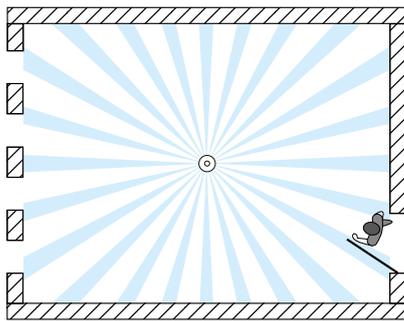
Up to 16 light scenes can be programmed in the DALI-2 detectors. They can be activated either via 230 V push button or on a 24 V low-voltage push button connected to the DALI bus via DALI-2 input module, type no. 310-02200.

Wiring

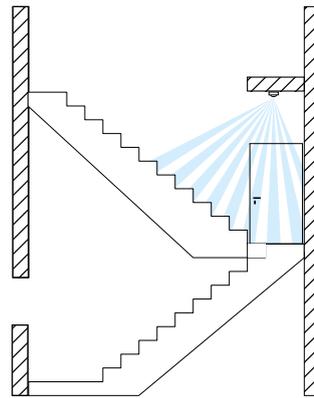


Correct positioning of PIR detectors

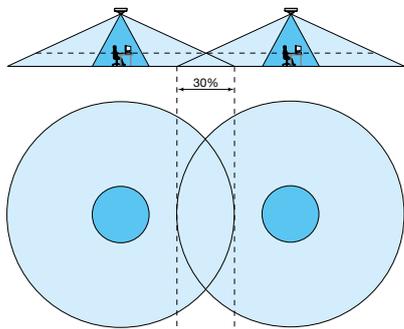
It is essential to find the right place for mounting the detector. Even the best PIR detector cannot detect reliable if it is not positioned correctly in the room. Find recommendations on how best to place different types of ceiling and wall-mounted detectors.



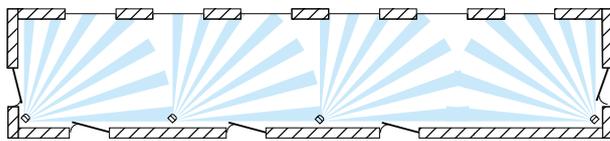
360° detection - ceiling mounted detector



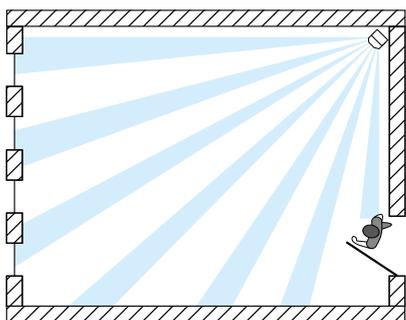
360° detection in stair case - ceiling mounted detector



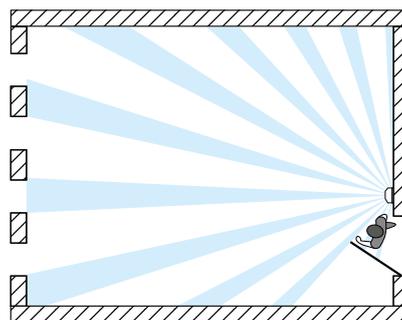
Motion and presence detectors should be mounted with overlapping detection of 30 % as a minimum



90° detection in corridor/hall way



90° detection - wall mounted detector in the corner



180° detection - wall mounted detector in the door

Niko designs electr(on)ic solutions to enhance buildings to better suit the needs of the people who live and work in them. By using less energy, by improving light comfort and safety and by making sure all applications work together seamlessly. Buildings with Niko are more efficient, are controllable from a distance and interact within bigger ecosystems. Niko is a Belgian family business from Sint-Niklaas with 700 employees and 10 European branches.

At Niko, there is one question that keeps us busy every day: “How can we enhance buildings to better suit your needs?”

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niko