

# Lighting



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#### Universal dimmer for LEDs and conventional illuminants

The universal dimmer N 554 in the new design with DIN rail-mounted devices expands the Siemens GAMMA instabus lighting control product range. Its four independent channels enable the product to deliver seamless dimming adjustment for dimmable LED retrofit bulbs and bulbs in all other dimmable categories, with no minimum load. The universal dimmer's front panel makes it easy to check and operate. Channel bundling allows outputs to be combined so the load can be increased up to 1,000 VA.

#### Intuitive front panel

Status LEDs and push-buttons permit convenient operation at the front panel to check the installation. With one click, users can switch and dim the ballasts, configure the channel bundling, and detect faults. Channel bundling can be adjusted directly, without ETS.



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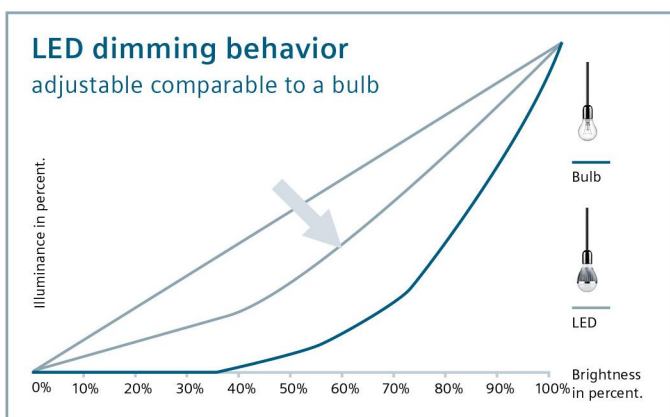


#### Channel bundling of up to four channels for high output

Strong illumination can be realized by bundling channels up to 100 VA. Bundling two channels increases the output to 300 VA and 500 VA. Bundling three channels increases the output to 750 VA and four channels to 1,000 VA. Adjacent channels can be bundled as follows: A+B|C|D, A|B+C|D, A|B|C+D, A +B|C+D, A+B+C|D, A|B+C+D and A+B +C+D.

#### Adjustable dimming curves

For greater comfort and flexibility, the universal dimmer offers the option to adjust the dimming behavior of LEDs so that it resembles that of conventional bulbs. The graph shows the typical dimming behavior of an LED compared with a bulb. In the ETS, users can adjust the setting of the LED dimming curve to parametrize the control of brightness relative to dimness. These bulbs can be dimmed brighter or darker in the mid-dim region.



## Dimmers

|                                                                                                                   |           |           |           |           |           |           |
|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>Type</b>                                                                                                       | N 528D01<br>N 528C01                                                                       | N 554D31                                                                                   | UP 525/03                                                                                   | UP 525/13                                                                                    | RS 525/23                                                                                    | UP 525S32                                                                                    |
| <b>Enclosure data</b>                                                                                             |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| Design                                                                                                            | N                                                                                          | N                                                                                          | UP                                                                                          | UP                                                                                           | RS                                                                                           | UP                                                                                           |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail                                          | ■                                                                                          | ■                                                                                          |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| For installation in flush-mounting switch and socket boxes with Ø = 60 mm                                         |                                                                                            |                                                                                            | ■                                                                                           | ■                                                                                            |                                                                                              | ■                                                                                            |
| 10-pole BTI socket (BTI - Bus Transceiver Interface) for plugging of bus terminal devices with BTI connector      |                                                                                            |                                                                                            | ■                                                                                           |                                                                                              |                                                                                              |                                                                                              |
| Modular installation device for mounting in AP 118 automation module box or AP 641 room control box <sup>1)</sup> |                                                                                            |                                                                                            |                                                                                             |                                                                                              | ■                                                                                            |                                                                                              |
| Built-in device in mounting housing M 592/01 <sup>2)</sup>                                                        |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              | ■                                                                                            |
| <b>Dimensions</b>                                                                                                 |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| • Width/Ø [mm] (1 MW = 18 mm)                                                                                     | 4 MW                                                                                       | 8 MW                                                                                       | 71                                                                                          | 50                                                                                           | 50                                                                                           | 48                                                                                           |
| • Height [mm]                                                                                                     |                                                                                            |                                                                                            | 71                                                                                          | 41.3                                                                                         | 35                                                                                           | 50                                                                                           |
| • Depth [mm]                                                                                                      |                                                                                            |                                                                                            | 41.5                                                                                        | 50.9                                                                                         |                                                                                              | 28                                                                                           |
| <b>Mounting type</b>                                                                                              |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| Screw fixing                                                                                                      |                                                                                            |                                                                                            | ■                                                                                           |                                                                                              |                                                                                              |                                                                                              |
| <b>Power supply</b>                                                                                               |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| Bus-powered electronics                                                                                           | ■                                                                                          | ■                                                                                          | ■                                                                                           | ■                                                                                            | ■                                                                                            | ■                                                                                            |
| <b>Power loss</b>                                                                                                 |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| Max. power loss [W]                                                                                               | 6                                                                                          | 7                                                                                          | 2                                                                                           | 2                                                                                            | 2                                                                                            |                                                                                              |
| <b>Bus connection</b>                                                                                             |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| Integrated bus coupling units                                                                                     | ■                                                                                          | ■                                                                                          | ■                                                                                           | ■                                                                                            | ■                                                                                            | ■                                                                                            |
| Bus connection via bus terminal                                                                                   | ■                                                                                          | ■                                                                                          | ■                                                                                           | ■                                                                                            | ■                                                                                            | ■                                                                                            |
| <b>Outputs</b>                                                                                                    |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| <b>Load output</b>                                                                                                |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| Number of channels                                                                                                | 2                                                                                          | 4                                                                                          | 1                                                                                           | 1                                                                                            | 1                                                                                            | 1                                                                                            |
| Load type                                                                                                         | <br>LED | <br>LED | <br>LED | <br>LED | <br>LED | <br>LED |
| <b>Load</b>                                                                                                       |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| Contact rated voltage, AC [V]                                                                                     | 230<br>or 120                                                                              | 230                                                                                        | 230                                                                                         | 230                                                                                          | 230                                                                                          | 230                                                                                          |
| Dimmer output [VA]                                                                                                | 0... 300 <sup>3)</sup><br>or 0...150                                                       | 0... 300 <sup>4)</sup>                                                                     | 10... 250                                                                                   | 10... 250                                                                                    | 10... 250                                                                                    | 20... 230                                                                                    |
| Connected load                                                                                                    |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              | 1...200                                                                                      |
| <b>Protection</b>                                                                                                 |                                                                                            |                                                                                            |                                                                                             |                                                                                              |                                                                                              |                                                                                              |
| Electronic protection of outputs against overload and short circuit                                               | ■                                                                                          | ■                                                                                          | ■                                                                                           | ■                                                                                            | ■                                                                                            | ■                                                                                            |

<sup>1)</sup> The AP 641 room control box and AP 118 automation module box must be ordered separately, see Chapter Quick-assembly system - Room control box - Module boxes

<sup>2)</sup> The M 592/01 mounting device must be ordered separately, see Chapter Combination devices

<sup>3)</sup> Max. 500 VA or 250 VA one channel only used

<sup>4)</sup> With channel bundling up to 500, 750, 1000 VA

Continuation of the table ...

|                                                                  |  |  |  |  |  |  |
|------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Type                                                             | N 528D01<br>N 528C01                                                              | N 554D31                                                                          | UP 525/03                                                                          | UP 525/13                                                                           | RS 525/23                                                                           | UP 525S32                                                                           |
| Application program <sup>1)</sup>                                | 9839xx <sup>1)</sup>                                                              | 910A01                                                                            | 982C01                                                                             | 982C01                                                                              | 982C01                                                                              | 303122                                                                              |
| <b>Output functions</b>                                          |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Max. number of group addresses                                   | 127                                                                               | 2000                                                                              | 120                                                                                | 120                                                                                 | 120                                                                                 | 1600                                                                                |
| Max. number of assignments                                       | 127                                                                               | 2000                                                                              | 120                                                                                | 120                                                                                 | 120                                                                                 | 1600                                                                                |
| Blocking function                                                | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Configurable behavior in the event of a bus voltage failure      | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Configurable behavior in the event of a bus voltage recovery     | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| <b>Switching</b>                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Switching ON/OFF                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Configurable starting value                                      | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Blocking object per channel                                      | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| <b>Dimming</b>                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| BRIGHTER/DARKER dimming                                          | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Adjustable dimming range                                         | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Minimum dimming value (basic brightness)                         | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Maximum dimming value                                            | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Configurable dimming curves                                      |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | ■                                                                                   |
| Adjustable dimming curves                                        |                                                                                   | 6                                                                                 |                                                                                    |                                                                                     |                                                                                     | ■                                                                                   |
| Dim or startup 8-bit value                                       | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Logic gates per channel                                          |                                                                                   | 2                                                                                 |                                                                                    |                                                                                     |                                                                                     | ■                                                                                   |
| Time functions                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | ■                                                                                   |
| <b>Scenes</b>                                                    |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| 8-bit scene                                                      | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Scenes to be integrated per channel                              | 8                                                                                 | 8                                                                                 | 8                                                                                  | 8                                                                                   | 8                                                                                   | 64                                                                                  |
| Linking functions (AND, OR)                                      |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | ■                                                                                   |
| <b>Status</b>                                                    |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Transmitting switch and dimming status                           | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Fault indications overload/short circuit/ overtemperature on bus |                                                                                   | ■                                                                                 |                                                                                    |                                                                                     |                                                                                     | ■                                                                                   |
| Counting of operating hours                                      |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | ■                                                                                   |

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

## KNX and DALI – a strong team

The Digital Addressable Lighting Interface (DALI) was introduced in 2004 to replace the classic 1...10 V interface on the market. The manufacturer neutral DALI bus is a system control electronic control gear (ballast or ECG) in lighting technology. International standard IEC 62386 specifies the DALI communication interface. In addition to ECGs, the DALI interface also supports selected sensors.



DALI communication allows all DALI devices to be simultaneously controlled with same command (broadcast). When controlled via broadcast, all DALI devices respond as if they were jointly controlled via one 1...10 V interface. A second control method under DALI is to assign a DALI device to one of up to 16 groups (group addressing) or to control each individual DALI device (individual addressing).

DALI is not limited to receiving just switching and dimming commands, but can also report status information on lighting status or fault states, e.g. in the event a luminaire or ECG fails.

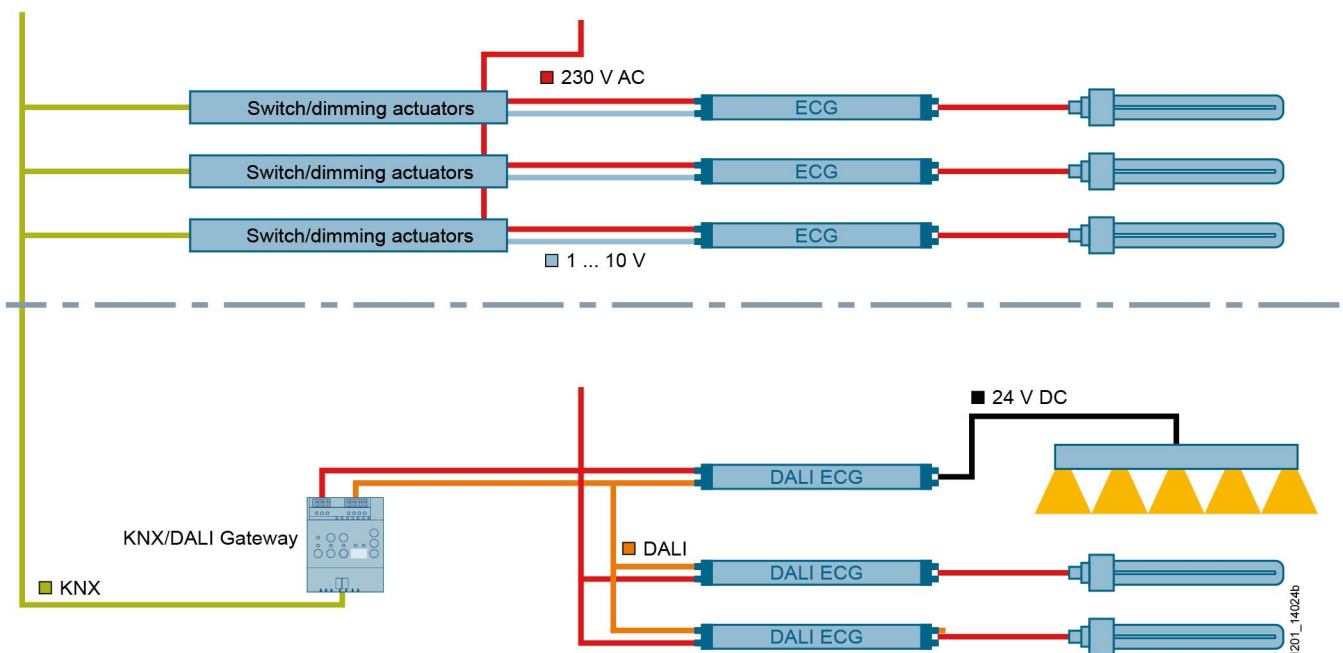
DALI can assign DALI devices to up to 16 scenes. The specific settings for each scene are then stored in the individual DALI devices and can be started with a single command allowing complex scenes or very fast command processing. And yet the expense of dimming with KNX and DALI does not exceed 1...10 V. In fact, if you compare wiring expenses for DALI and 1...10 V as well as the difference in costs for materials and work, you can implement a project with DALI at approximately one third less than with 1...10 V. In the simplest level, a control device for lighting control with DALI can include a brightness sensor, presence detector, or a combination of brightness sensor/presence detector that controls a group of luminaires by occupancy and daylight. For these simple, local applications, where DALI from one sensor is used as the interface to one or more DALI devices, the broadcast is used as a replace for classic control via 1...10 V. In this regard, these applications are not considered networked systems.

In just one DALI line, up to 64 individual DALI ECGs (slaves) can be connected by the connected control device/gateway (master). The ECG receives an address generated automatically during DALI commissioning and in another commissioning step, receives a short address of 0...63 based on the initial address. The device assignment is random since the address assignment is automatic and the individual ECG/luminaires must be initially identified as the commissioning process proceeds. Individual ECG are addressed either based on the short address (individual control) or based on a DALI group address (group addressing). To this end, any number of ECG from one line may be assigned in up to 16 DALI groups. The group addressing in the DALI system ensures that switching and dimming actions are executed by the various luminaires within a system at the same time (i.e. without delay). Individual luminaire values can be compiled in individual DALI ECG, in addition to addressing by short addresses and group addresses and initiated via scene addressing.

With the release of DALI edition 2 all DALI devices will be tested and certified properly. Especially ECGs will be more compatible to KNX/DALI Gateways caused by these standardized tests. The DiiA is responsible for the DALI-2 certification program. The KNX/DALI Gateways from Siemens have successfully completed this DALI-2 certification process.

Additional information on DALI is available in the DALI technical manual at: <https://www.dali-alliance.org/>

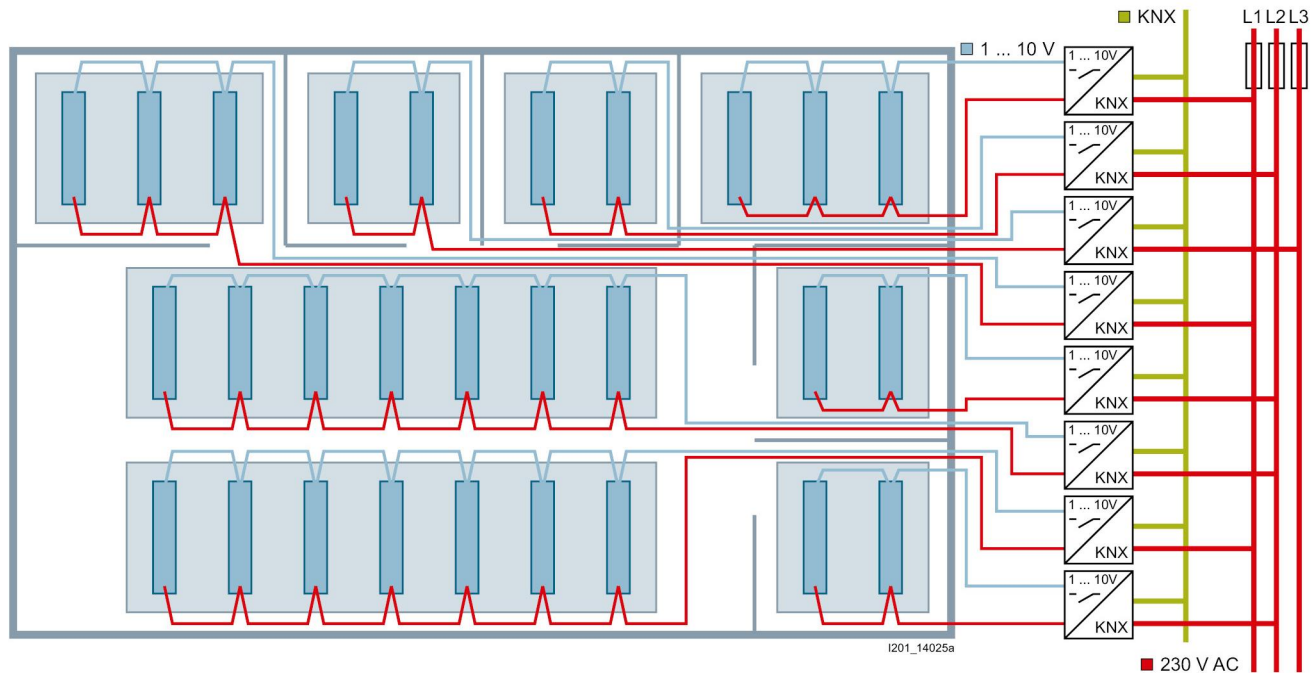
## Compare 1...10 V control system to DALI with KNX



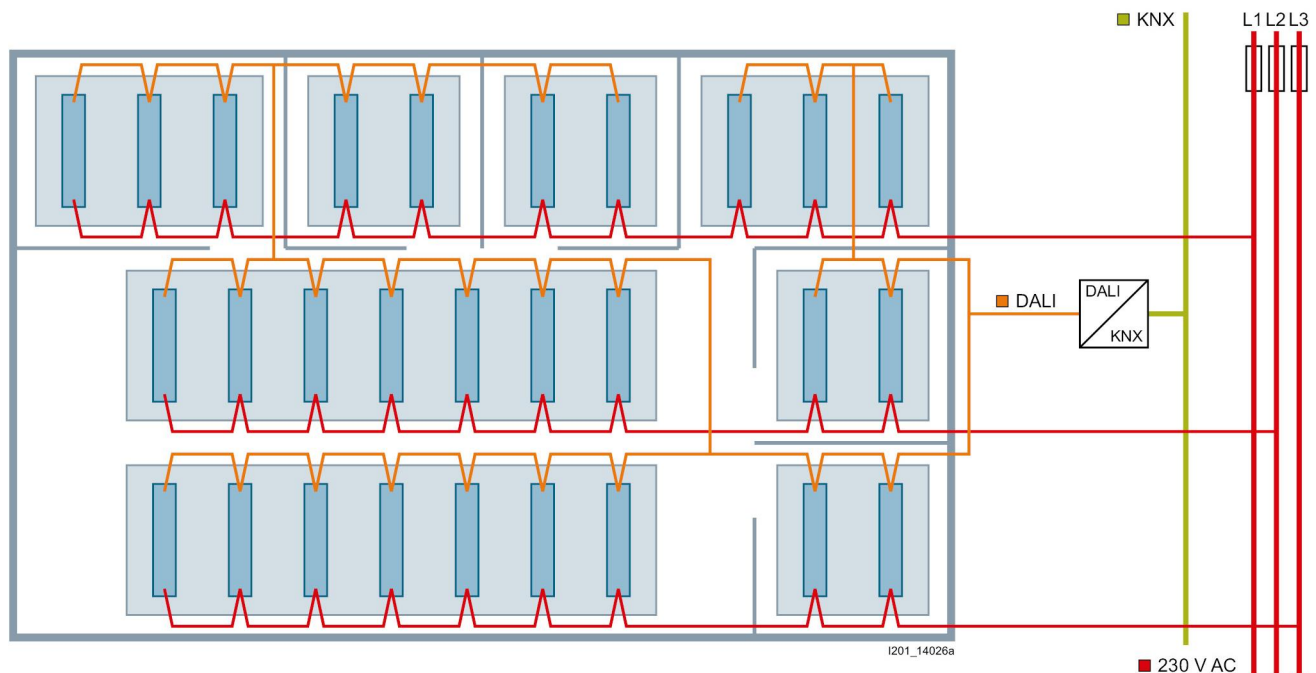
## Lighting

### Overview and selection tools

#### Wiring of lighting groups 1...10 V control with KNX



#### Wiring of lighting groups with DALI with KNX



Modern lighting systems can be controlled efficiently and conveniently with DALI. Their efficiency can be increased even more when combined with the advantages of KNX. That's why KNX/DALI gateways from Siemens offer both standards directly: for DALI digital lighting IEC 62386-101 and 103 and for KNX building control (ISO/IEC 14543-3 or DIN EN 50090). It's possible to integrate DALI lighting into KNX installations quickly and easily.

#### Benefits:

- Lighting groups are not hardwire-connected
- Possible to plan control lines and power supply separately
- Even, uniform load distribution throughout the power supply network
- Lower fire load thanks to fewer cables
- Planning is simpler and faster
- Integration of emergency lighting into the general lighting
- Support for selected sensors with DALI interface
- Switching off standby when lighting is turned off
- Replacement of defective single-channel ballasts without software

## New generation of KNX/DALI Gateways



The new enhanced generation of KNX/DALI Gateways N 141/14 and N 141/32 integrate powerful and intelligent features to meet today's demanding lighting requirements for rooms and buildings: switching and dimming, scene control, color temperature control (tunable white), and color control (RGBW). So, the new KNX/DALI Gateways offer both intelligent room and lighting management as well as energy-efficient functions for end-users. The new generation of KNX/DALI Gateways is future proof: fully prepared for upcoming security requirements such as those outlined in the Cyber Resilience Act (CRA), thanks to KNX Secure readiness.

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### Simplified commissioning

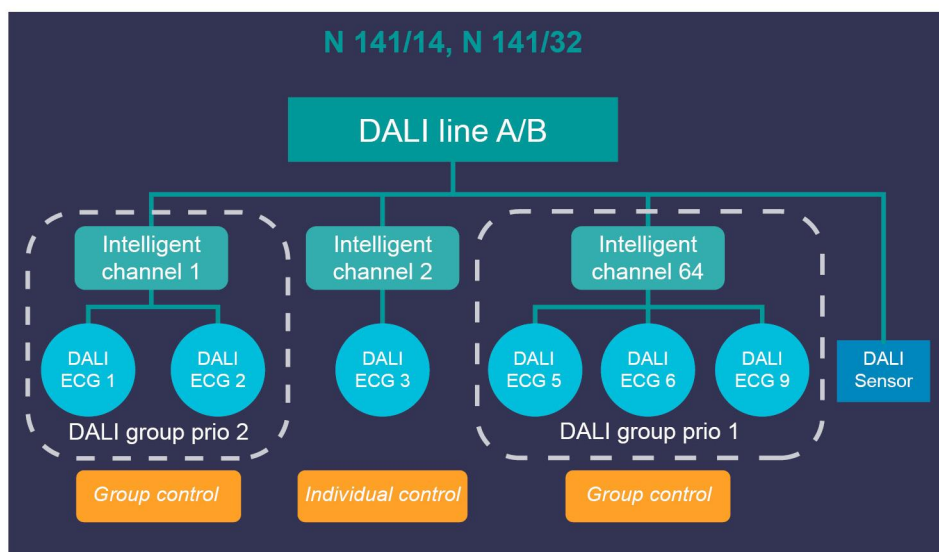
The new KNX/DALI Gateways provide multiple features that simplify the commissioning process. System integrators will experience a more streamlined workflow even for the most complex lighting projects thanks to 64, or 128 fully configurable channels and their inherent automatic group creation and prioritization. Furthermore, the integrated IP interface enables fast downloads and easy access to the KNX or DALI installation.

### Supporting all DALI-2 certified brightness and presence sensors

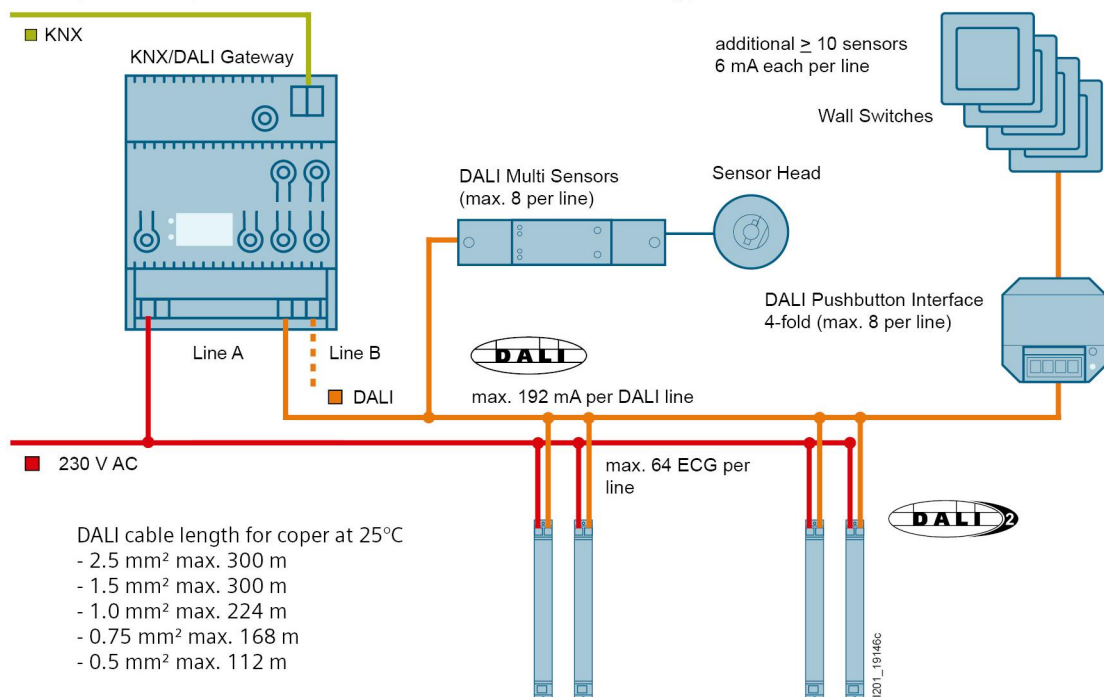
Automated buildings which provide perfect lighting conditions as well as energy efficient lighting solutions need various brightness and presence sensors. The new KNX/DALI Gateways from Siemens now support all DALI-2 certified brightness and presence sensors from all manufacturers, hence providing full flexibility. To serve the most complex applications, a maximum of up to 32 DALI-2 sensors can be connected.

### The intelligent Channel Concept

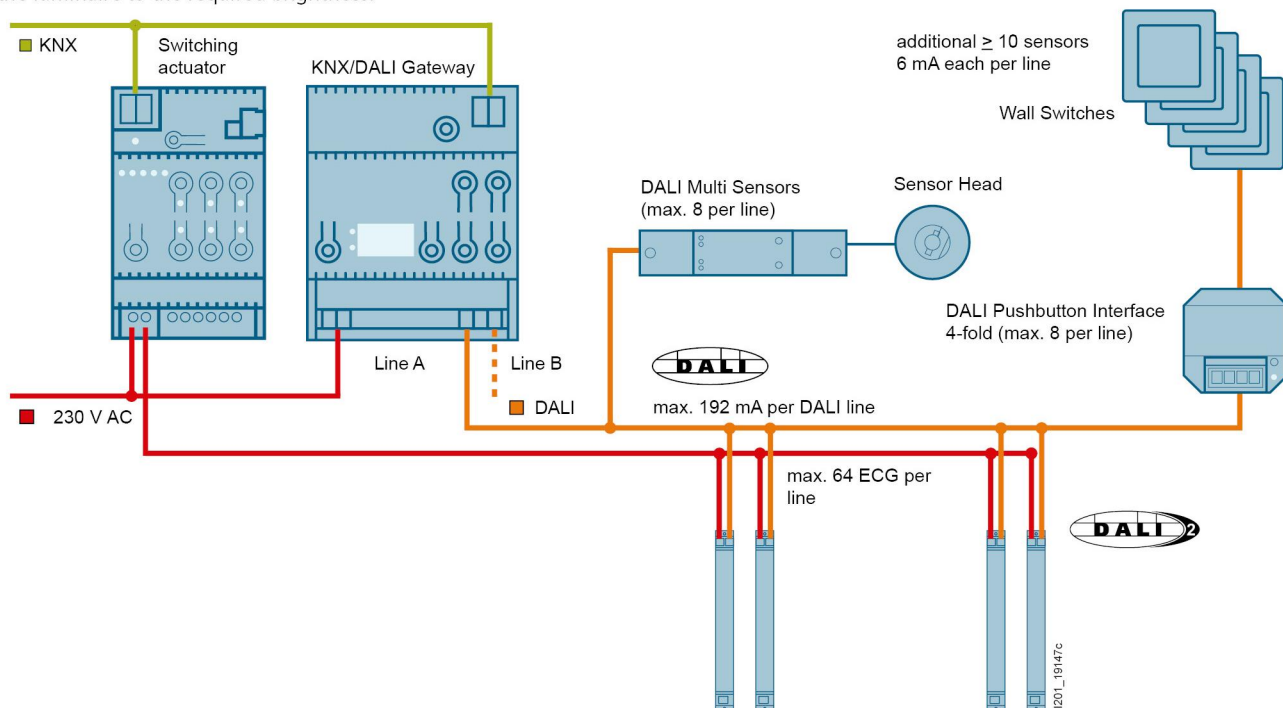
The new generation of DALI-2 certified KNX/DALI gateways N 141/14 and N 141/32 is equipped with up to two separate DALI outputs (A and B), depending on the version. The line (A or B) forms the top-level DALI instance, which can be connected to up to 64 ECGs and additional sensors. Within the DALI line, up to 64 ECGs are assigned to the respective provided smart channels, of which there are also up to 64. Among other things, the intelligence of the channels ensures that, if more than one ECG is assigned per channel, a DALI group is automatically created from the ECGs assigned to the channel. In addition, the channels containing the most ECGs are given preference when groups are created (i.e. group 1 = channel xy with the highest number of ECGs, group 2 = channel yx with the second-highest number of ECGs). The advantage of this functionality especially comes into effect if there are more than 16 channels with more than one ECG and there is thus the need for more than the 16 groups provided by DALI. From group 17 onwards, the ECGs are actuated in the KNX/DALI gateway directly via the channels as if they were a group, even though sequential control runs in the background. Controlling an individual ECG is still easily possible in the new KNX/DALI gateways if only one ECG is assigned to a channel. DALI-2 sensors are incorporated at the line level.



The KNX/DALI gateway can control up to 64 ballasts per channel. In addition, selected DALI sensors that meet specifications from Siemens can be commissioned together with KNX/DALI gateway. The maximum number of DALI devices is limited to the guaranteed rated current of up to 192 mA per DALI output or to the maximum number of the DALI sensor type.



Luminaires with electronic ballasts usually need a closed-circuit current, even when the lighting system is turned off or is in standby mode. This energy consumption adds up, but can be conserved using the KNX/DALI gateway Twin plus as well as the new generation KNX/DALI gateways: by automatically cutting off power to the electronic ballasts. After the lighting is turned off and as soon as all electronic ballasts in the defined area are no longer needed for lighting, the ballasts can be disconnected from the power supply via a command from a switch actuator controlled for this purpose. If one or more luminaires are in operation, the switch actuator first restores power to the electronic ballast, and the gateway dims the luminaire to the required brightness.



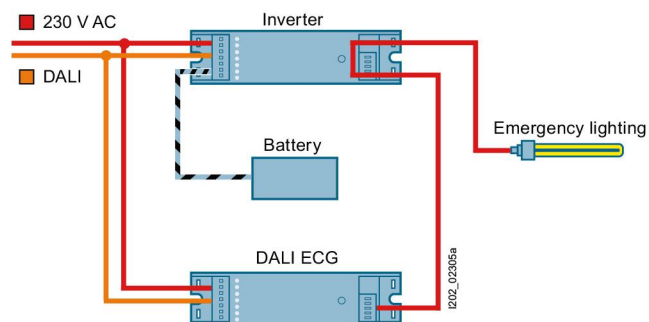


### Emergency lighting with single battery and KNX/DALI gateway

In case of self-contained emergency lighting according to IEC 62386-202 the mandatory self-tests are supported. The test results will be trans-mitted via KNX or stored in the KNX/DALI gateway. The test result memory can be red and saved using ETS.

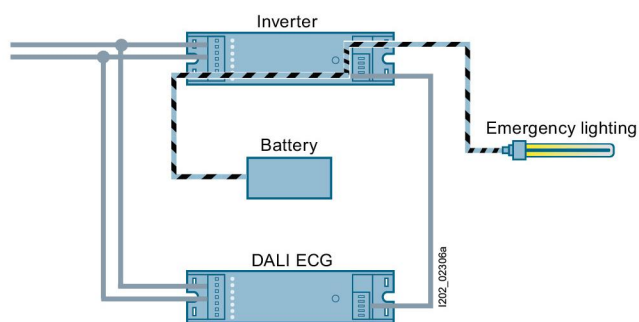
#### Normal mode with two DALI devices

- Lighting control with DALI
- Initiate/record/save tests

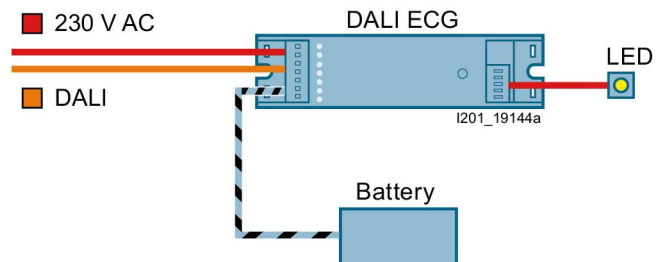


#### Emergency operation with two DALI devices

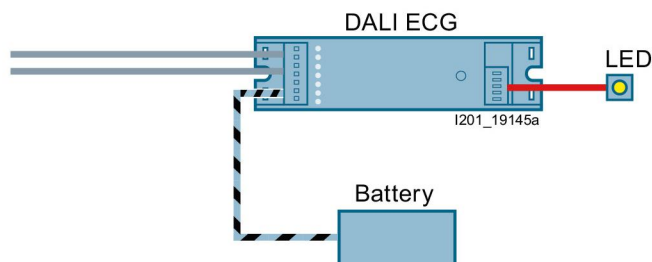
- Automatic emergency lighting acc. to parameterization via KNX/DALI gateway



#### Normal mode with one DALI device



#### Emergency mode with one DALI device



## Tunable White and Human Centric Lighting Applications with DALI

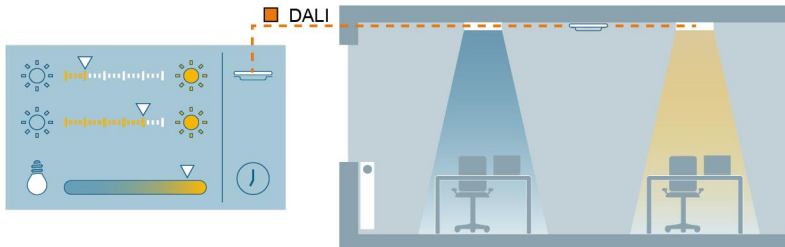
### Lighting control for perfect places

The KNX/DALI gateways N 141 and the Switch/dim actuator 2x DALI Broadcast N 525D11 support tunable white, a variable and seamless color temperature control from warm to cold white light. Dynamic color temperatures not only promote a good room atmosphere but contribute to human well-being. This follows the concept of Human Centric Lighting.

### Human Centric Lighting

It is a way of light planning that responds to human needs. While cold white light promotes concentration, warm white lights has a calming effect. In this way, the light in a room can be positively adjusted to individual requirements and situations..

An adjusted color temperature can ensure perfect seeing and working conditions, which are crucial especially in educational institutions and offices.



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### KNX/DALI Gateway N 141

The color temperature included in scenes, effects\* and schedules\* enables the use of the KNX/DALI gateway in Human Centric Lighting applications without the need for external KNX devices. The plus devices N 141/03 and N 141/21, as well as the new KNX/DALI gateways N 141/14 and N 141/32, can be used for constant light control. This allows for a main lighting group and up to four secondary lighting groups to be controlled for demand-dependent and energy-efficient lighting in rooms.

\*plus versions!



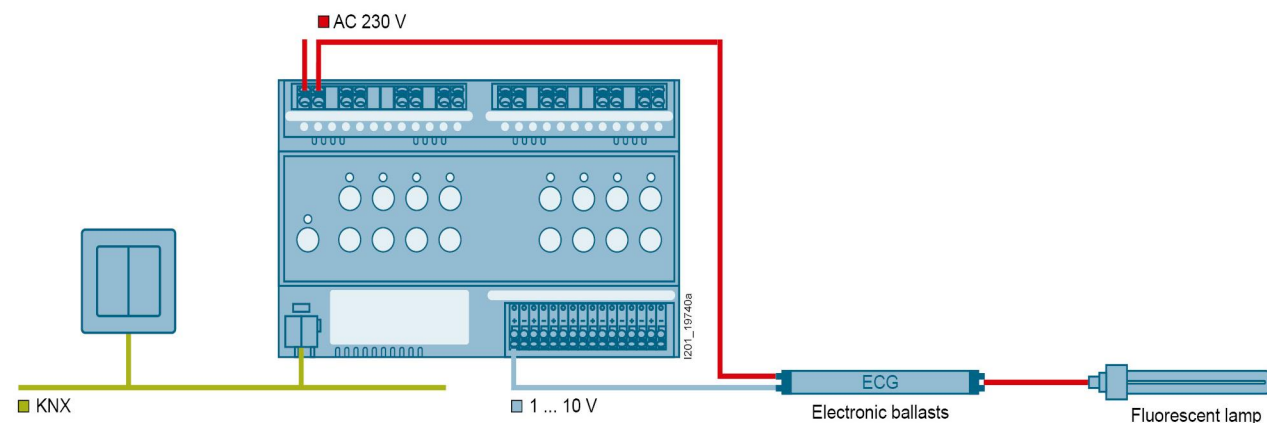
### Switch/dim actuator 2x DALI Broadcast N 525D11

With Tunable White and up to seven adjustable dimming curves, lighting can be adapted to any situation. Moreover, the devices offer the option of saving light scenarios, sending status and error notifications, and counting of switching cycles and operating hours. Especially in combination with presence detectors, which control brightness fully automatically, the new switch/dim actuators offer the best foundation for optimal light conditions in the room.

### 1...10 V control output

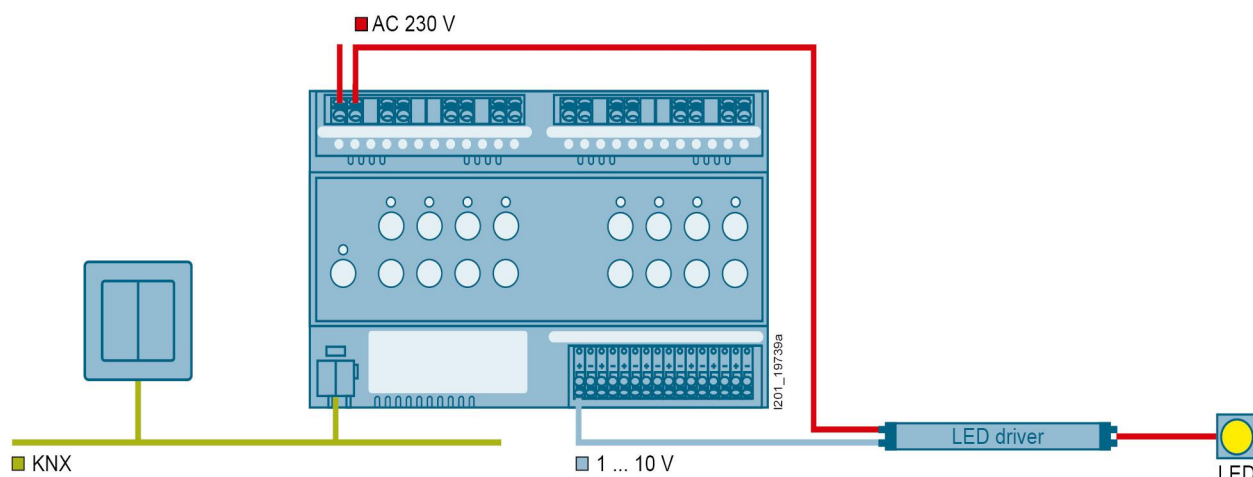
#### High lighting convenience with dimmable ECG

Lighting types that cannot be dimmed directly are controlled by way of electronic ballasts (ECG). For example, fluorescent lamps are dimmed via ECG featuring a 1...10 V control input. The switching/dimming actuators N 536D offer the corresponding control output.



#### Switching and dimming LEDs via LED drivers

The use of switching/dimming actuators N 536D together with the suitable LED driver offers the possibility of creating pleasant lighting moods with LEDs. The control of fluorescent lamps and LEDs via the corresponding ballasts enables optimal workplace lighting in offices and conference rooms.



## Switching/dimming actuators

|                                                                                                                                                                          | DALI control outputs                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | Control outputs 1...10 V                                                            |                                                                                     |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                                                                                                          |  |  |  |  |  |  |  |  |  |
| Type                                                                                                                                                                     | N 141/14                                                                          | N 141/32                                                                          | N 141/21                                                                          | N 141/03                                                                          | N 141/31                                                                           | N 525D11                                                                            | N 536D31                                                                            | N 536D51                                                                            | RL 526D23                                                                           |
| Name                                                                                                                                                                     |                                                                                   | Twin                                                                              | Twin plus                                                                         | plus                                                                              | Twin                                                                               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Enclosure data</b>                                                                                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Design                                                                                                                                                                   | N                                                                                 | N                                                                                 | N                                                                                 | N                                                                                 | N                                                                                  | N                                                                                   | N                                                                                   | N                                                                                   | RL                                                                                  |
| Modular installation devices for mounting on TH35 EN 60715 mounting rail                                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| Modular installation device for mounting in AP 118 <sup>3)</sup> automation module box, AP 641 <sup>3)</sup> room control box or M 590/01 <sup>3)</sup> DIN-rail housing |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | ■                                                                                   |
| <b>Dimensions</b>                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Width [mm] (1 MW = 18 mm)                                                                                                                                                | 4 MW                                                                              | 4 MW                                                                              | 4 MW                                                                              | 4 MW                                                                              | 4 MW                                                                               | 4 MW                                                                                | 6 MW                                                                                | 8 MW                                                                                | 47,8                                                                                |
| Height [mm]                                                                                                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 86,5                                                                                |
| Depth [mm]                                                                                                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     | 36,2                                                                                |
| <b>Display/control elements</b>                                                                                                                                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| LED for status indication per output                                                                                                                                     | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| LEDs for fault indication (lighting failure) per output                                                                                                                  | ■                                                                                 | ■                                                                                 |                                                                                   |                                                                                   |                                                                                    | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Pushbuttons for local operation on the device                                                                                                                            | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| Direct operation (local operation)                                                                                                                                       | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| <b>Power supply</b>                                                                                                                                                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Bus-powered electronics                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Electronics powered via an integrated power supply unit                                                                                                                  | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| DALI outputs powered via an integrated power supply unit                                                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| <b>Power loss</b>                                                                                                                                                        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Maximum power loss [W]                                                                                                                                                   | 6                                                                                 | 11                                                                                | 11                                                                                | 6                                                                                 | 11                                                                                 | 11                                                                                  | 7                                                                                   | 12                                                                                  | 2,4                                                                                 |
| <b>Bus connection</b>                                                                                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Integrated bus coupling units                                                                                                                                            | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Bus connection via bus terminal                                                                                                                                          | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| <b>Outputs</b>                                                                                                                                                           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| <b>Control output</b>                                                                                                                                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 1...10 V DC                                                                                                                                                              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4                                                                                   | 8                                                                                   | 2                                                                                   |
| DALI outputs (lines)                                                                                                                                                     | 1                                                                                 | 2                                                                                 | 2                                                                                 | 1                                                                                 | 2                                                                                  | 2                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| DALI-2 Certification                                                                                                                                                     | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Max. ECG per output (units)                                                                                                                                              | 64                                                                                | 128                                                                               | 64                                                                                | 64                                                                                | 64                                                                                 | 20                                                                                  | 53 <sup>1)</sup>                                                                    | 47 <sup>1)</sup>                                                                    | 23 <sup>1)</sup>                                                                    |
| <b>Load output</b>                                                                                                                                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Floating relay contacts                                                                                                                                                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 4                                                                                   | 8                                                                                   | 2                                                                                   |
| Contact rated voltage, AC [V]                                                                                                                                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 230                                                                                 | 230                                                                                 | 230                                                                                 |
| Contact rated current [A]                                                                                                                                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | 16 <sup>2)</sup>                                                                    | 16 <sup>2)</sup>                                                                    | 6                                                                                   |

<sup>1)</sup> 2 mA per ECG

<sup>2)</sup> 16 A ohmic, in switch actuator operation, dimming current = 0 mA, independent of installation position and temperature

<sup>3)</sup> The AP 641 room control box, AP 118 automation module or DIN-rail housing M 590/01 box must be ordered separately, see Chapter Quick-assembly system - Room control box - Module boxes

## Switching/dimming actuators ...

|                                                                                   | DALI control outputs                                                              |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                   |  |  |  |  |  |  |
| Type                                                                              | N 141/14                                                                          | N 141/32                                                                           | N 141/21                                                                            | N 141/03                                                                            | N 141/31                                                                            | N 525D11                                                                            |
| Application program <sup>1)</sup>                                                 | 9A1B01                                                                            | 9A1C91                                                                             | 9834xx <sup>1)</sup>                                                                | 9837xx <sup>1)</sup>                                                                | 983Dxx <sup>1)</sup>                                                                | 9A1701                                                                              |
| Name                                                                              |                                                                                   | Twin                                                                               | Twin plus                                                                           | plus                                                                                | Twin                                                                                |                                                                                     |
| Functions                                                                         |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Max. number of group addresses                                                    | 2000                                                                              | 2000                                                                               | 3000                                                                                | 3000                                                                                | 3000                                                                                | 3000                                                                                |
| Max. number of assignments                                                        | 2000                                                                              | 2000                                                                               | 3000                                                                                | 3000                                                                                | 3000                                                                                | 3000                                                                                |
| Integrated constant light level control per DALI output                           | 16                                                                                | 32                                                                                 | 16                                                                                  | 16                                                                                  |                                                                                     |                                                                                     |
| Configurable behavior in the event of a bus voltage failure                       |                                                                                   |                                                                                    | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Configurable behavior in the event of a bus voltage recovery                      |                                                                                   |                                                                                    | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Configurable behavior in the event of a system voltage failure                    | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Configurable behavior in the event of a system voltage recovery                   | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Control functions                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Broadcast                                                                         | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Groups                                                                            | 32                                                                                | 64                                                                                 | 32                                                                                  | 16                                                                                  | 32                                                                                  |                                                                                     |
| Individual ECG                                                                    | 64                                                                                | 128                                                                                | 128                                                                                 | 64                                                                                  | 128                                                                                 |                                                                                     |
| Switching                                                                         |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Switching ON/OFF                                                                  | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Configurable starting value                                                       | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Switching ON/OFF possible via BRIGHTER/DARKER dimming                             | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Dimming                                                                           |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| BRIGHTER/DARKER dimming                                                           | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Adjustable dimming time                                                           | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Brightness limitation, adjustable min. dimming value/max. dimming value           | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Value transmission                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Set 8-bit value                                                                   | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Scene control                                                                     |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Integrated 8-bit scene control                                                    | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Scenes to be integrated per DALI output                                           | 16                                                                                | 16                                                                                 | 16                                                                                  | 16                                                                                  | 16                                                                                  | 8                                                                                   |
| Effect control                                                                    |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Integrated effect control (one-off or cyclic chaselight operation, color control) |                                                                                   |                                                                                    | 4                                                                                   | 4                                                                                   |                                                                                     |                                                                                     |
| Emergency lighting                                                                |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Support for prescribed test sequences for emergency lights                        |                                                                                   |                                                                                    | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| Controlling single battery lights                                                 | ■ <sup>2)</sup>                                                                   | ■ <sup>2)</sup>                                                                    | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| Saves test results of emergency lighting                                          |                                                                                   |                                                                                    | ■                                                                                   | ■                                                                                   |                                                                                     |                                                                                     |
| Status                                                                            |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| DALI short circuit                                                                | ■                                                                                 | ■                                                                                  | ■ <sup>3)</sup>                                                                     | ■                                                                                   | ■ <sup>3)</sup>                                                                     | ■ <sup>3)</sup>                                                                     |
| DALI power supply                                                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Status output (ON/OFF, value, lamp fault, ECG fault)                              | ■                                                                                 | ■                                                                                  |                                                                                     |                                                                                     |                                                                                     | ■                                                                                   |
| Status group (ON/OFF, value, lamp fault, ECG fault)                               |                                                                                   |                                                                                    | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| Status ECG (ON/OFF, value, lamp fault, ECG fault)                                 | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| Time functions                                                                    |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| ON/OFF delay                                                                      | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Timer mode, 1-step (stairwell circuits)                                           | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Timer mode, 2-step                                                                | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Night mode (lighting for cleaning)                                                | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Warning of impending OFF                                                          | ■                                                                                 | ■                                                                                  | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Further functions                                                                 |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| DALI sensors <sup>4)</sup> /2-point-control/constant light level control          | ■ <sup>5)</sup>                                                                   | ■ <sup>5)</sup>                                                                    | ■                                                                                   | ■                                                                                   |                                                                                     |                                                                                     |
| Stand-by shut down (areas)                                                        | 16                                                                                | 16                                                                                 | 12                                                                                  | 6                                                                                   | 12                                                                                  |                                                                                     |
| Function burn-in                                                                  |                                                                                   |                                                                                    | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| Color temperature control (Tunable White)                                         | DT8                                                                               | DT8                                                                                | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Renew defective ECG without software                                              |                                                                                   |                                                                                    | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Stand-alone mode                                                                  |                                                                                   |                                                                                    | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| Pre-loaded applications                                                           |                                                                                   |                                                                                    | ■                                                                                   | ■                                                                                   |                                                                                     | ■                                                                                   |

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

<sup>2)</sup> only switching and dimming

<sup>3)</sup> Per channel

<sup>4)</sup> Only selected DALI sensors are supported, see TPI [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

<sup>5)</sup> Support of all DALI-2 brightness and presence sensors

Continuation of the table ...

|                                                             | DALI control outputs                                                              |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
|-------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                             |  |  |  |  |  |  |
| Type                                                        | N 141/14                                                                          | N 141/32                                                                          | N 141/21                                                                           | N 141/03                                                                            | N 141/31                                                                            | N 525D11                                                                            |
| Application program <sup>1)</sup>                           | 9A1B01                                                                            | 9A1C91                                                                            | 9834xx <sup>1)</sup>                                                               | 9837xx <sup>1)</sup>                                                                | 983Dxx <sup>1)</sup>                                                                | 9A1701                                                                              |
| Name                                                        |                                                                                   | Twin                                                                              | Twin plus                                                                          | plus                                                                                | Twin                                                                                |                                                                                     |
| <b>Functions</b>                                            |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Color control (RGB(W))                                      | ■                                                                                 | ■                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Automatic and intelligent group creation                    | ■                                                                                 | ■                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Overrides                                                   | 7 per channel                                                                     | 7 per channel                                                                     |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Operating and switching cycle counter per channel/group/ECG | ■                                                                                 | ■                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| DCA (device control app)                                    | ■                                                                                 | ■                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| IP interface                                                | ■                                                                                 | ■                                                                                 |                                                                                    |                                                                                     |                                                                                     |                                                                                     |

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

Continuation of the table ...

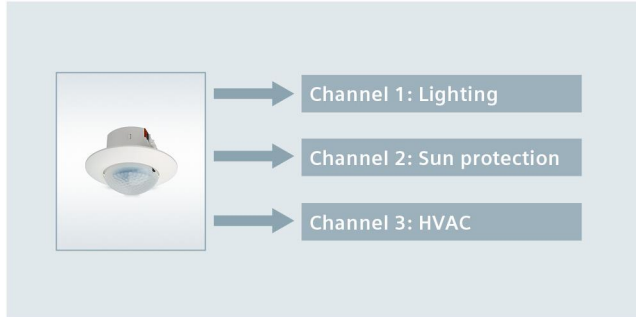
|                                                                         |  | Control outputs 1...10 V                                                          |                                                                                     |                                                                                     |
|-------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                         |  |  |  |  |
| Type                                                                    |  | N 536D31                                                                          | N 536D51                                                                            | RL 526D23                                                                           |
| Functions                                                               |  |                                                                                   |                                                                                     |                                                                                     |
| Max. number of group addresses                                          |  | 2000                                                                              | 2000                                                                                | 2000                                                                                |
| Max. number of assignments                                              |  | 2000                                                                              | 2000                                                                                | 2000                                                                                |
| Configurable behavior in the event of a bus voltage failure             |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Configurable behavior in the event of a bus voltage recovery            |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Switching                                                               |  |                                                                                   |                                                                                     |                                                                                     |
| Switching ON/OFF                                                        |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Configurable starting value                                             |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Switching ON/OFF possible via BRIGHTER/DARKER dimming                   |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Dimming                                                                 |  |                                                                                   |                                                                                     |                                                                                     |
| BRIGHTER/DARKER dimming                                                 |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Adjustable dimming time                                                 |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Brightness limitation, adjustable min. dimming value/max. dimming value |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Value transmission                                                      |  |                                                                                   |                                                                                     |                                                                                     |
| Set 8-bit value                                                         |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Scene control                                                           |  |                                                                                   |                                                                                     |                                                                                     |
| Integrated 8-bit scene control                                          |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Scenes to be integrated per channel                                     |  | 8                                                                                 | 8                                                                                   | 8                                                                                   |
| Status                                                                  |  |                                                                                   |                                                                                     |                                                                                     |
| Status output (ON/OFF, value, lamp fault, ECG fault)                    |  | ■ <sup>2)</sup>                                                                   | ■ <sup>2)</sup>                                                                     | ■ <sup>2)</sup>                                                                     |
| Time functions                                                          |  |                                                                                   |                                                                                     |                                                                                     |
| ON/OFF delay                                                            |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Timer mode, 1-step (stairwell circuits)                                 |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Timer mode, 2-step                                                      |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Night mode (lighting for cleaning)                                      |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |
| Warning of impending OFF                                                |  | ■                                                                                 | ■                                                                                   | ■                                                                                   |

<sup>1)</sup> For current application programs, see [www.siemens.com/gamma-td](http://www.siemens.com/gamma-td)

<sup>2)</sup> Status ON/OFF, value

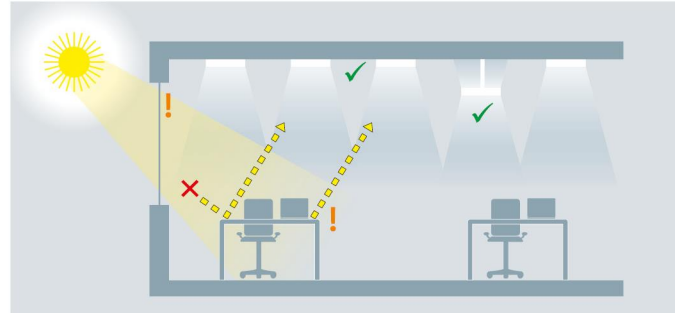
## Light level controls

### Presence- and daylightdependent control



The presence detector with integrated brightness control regulates up to three independent output channels for various functions in the room, such as lighting, sun protection and HVAC systems. The automation serves to optimally adjust the room temperature and brightness to the room's actual use on a presence-dependent basis. That means optimum comfort and always a pleasant room climate, yet with low energy consumption. At the start and end of every movement, each output channel individually actuates the respective functions. The follow-up times and brightness thresholds can be set independently of each other.

### Brightness sensors



#### Mounting guidelines for brightness sensors

- Make sure that the brightness sensor measures only indirect, reflected light; direct sunlight distorts the measurement results
- Avoid shiny surfaces that are highly reflective, as this interferes with measurement
- Avoid surfaces that are too dark with low light reflection properties, as this impedes measurement of the current brightness level
- Keep in mind that thermal protection glass can influence the daylight measurement; the tripping value will be lower

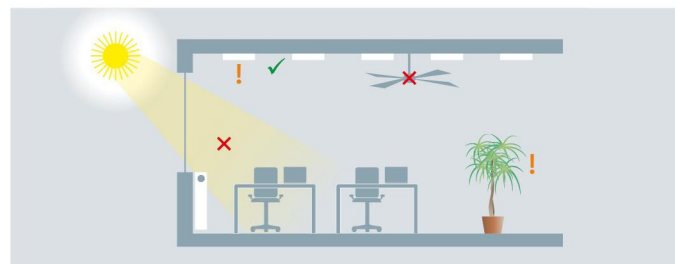
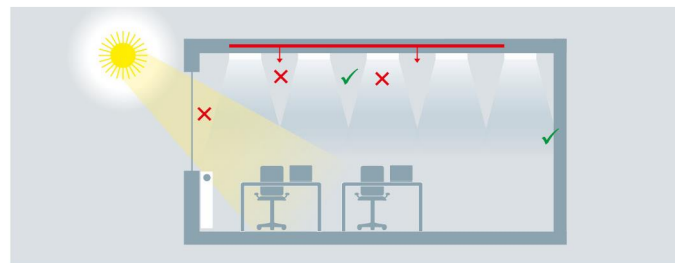
### Motion and presence detectors

#### Mounting guidelines for motion and presence detectors in a room

- Do not expose motion detectors to direct sunlight
- Do not mount any lamps within the detection zone
- Avoid placing any sources of rapid temperature changes within the detection zone, e.g. air vents, fan heaters or incandescent and halogen lamps
- Ensure that the direction of air flows moves laterally to the detection zone
- Detection depends on the temperature difference between the surrounding ambient zone and the object to be detected
- The detection zone of a presence detector should not be impeded or blocked by shelves, plants or glass walls
- Minimum distance of 50 cm from cables and radiators

#### Mounting guidelines for motion detectors on a building

- Do not mount motion detectors on moving supports, such as poles
- In outdoor applications, mount presence detectors on stable walls
- The detection range of a presence detector should be free of interferences



### Physical Sensors with KNX connection

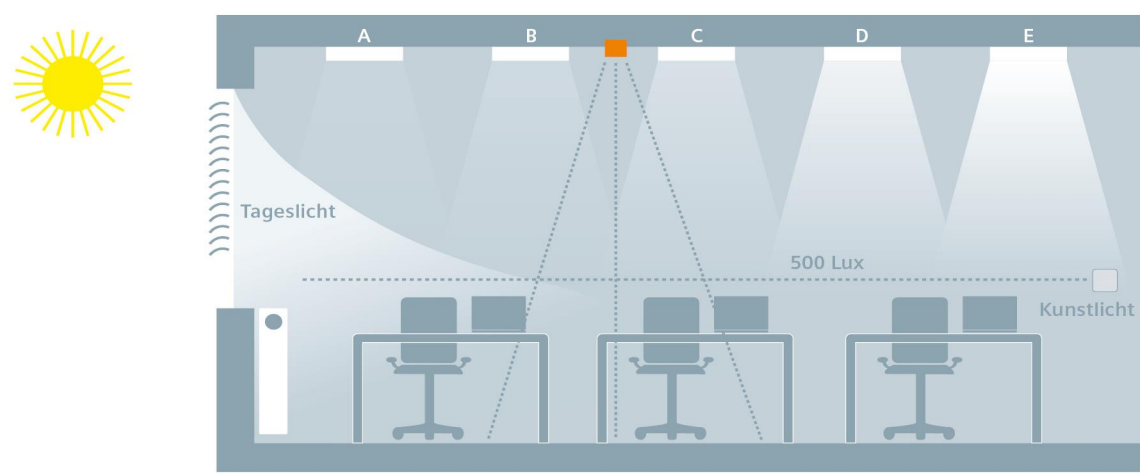
|                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                               |  |  |  |  |  |  |  |  |  |
| Type                                          | UP 251/11<br>UP 251/12                                                            | UP 258D31<br>UP 258D33                                                            | UP 258D41<br>UP 258D43                                                            | UP 258D51<br>UP 258D53                                                            | UP 258D61                                                                           | UP 258E22                                                                           | UP 258D12                                                                           | UP 255D21                                                                           | AP 254/02                                                                           |
| Enclosure data                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Mounting <sup>1)</sup>                        | UP                                                                                | UP/AP                                                                             | UP/AP                                                                             | UP/AP                                                                             | UP/AP                                                                               | UP/AP                                                                               | UP/AP                                                                               | UP                                                                                  | AP                                                                                  |
| Degree of protection                          | IP20                                                                              | IP54                                                                              | IP20                                                                              | IP20                                                                              | IP20                                                                                | IP20                                                                                | IP20                                                                                | IP20                                                                                | IP54                                                                                |
| Dimensions                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| • Width/Ø [mm] (1 MW = 18 mm)                 | 80                                                                                | 120                                                                               | 120                                                                               | 120                                                                               | 120                                                                                 | 88                                                                                  | 88                                                                                  | 88                                                                                  | 72                                                                                  |
| • Height [mm]                                 | 80                                                                                | 41                                                                                | 41                                                                                | 41                                                                                | 41                                                                                  | 63 <sup>2)</sup>                                                                    | 63 <sup>2)</sup>                                                                    | 63 <sup>2)</sup>                                                                    | 110                                                                                 |
| • Depth [mm]                                  | 50                                                                                | 120                                                                               | 120                                                                               | 120                                                                               | 120                                                                                 |                                                                                     |                                                                                     |                                                                                     | 54                                                                                  |
| Power supply                                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Bus-powered electronics                       | KNX                                                                               | KNX                                                                               | KNX                                                                               | KNX                                                                               | KNX                                                                                 | KNX                                                                                 | KNX                                                                                 | KNX                                                                                 | KNX                                                                                 |
| Bus connection                                |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Integrated bus coupling units                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Bus connection via bus terminal               | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Transmission of sensor values via bus         | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |
| Motion/presence                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Detection capability                          | PIR                                                                               | PIR                                                                               | PIR                                                                               | PIR                                                                               | Ultrasound/<br>PIR                                                                  | PIR                                                                                 | PIR                                                                                 |                                                                                     |                                                                                     |
| Motion                                        | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |                                                                                     |
| Presence                                      | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |                                                                                     |
| HVCA message output                           | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |                                                                                     |
| Horizontal sensing angle                      | 180°                                                                              | 360°                                                                              | 360°                                                                              | 360°                                                                              | 360°                                                                                | 360°                                                                                | 360°                                                                                |                                                                                     |                                                                                     |
| Vertical sensing angle                        | 90°                                                                               | 150°                                                                              | 150°                                                                              | 150°                                                                              | 150°                                                                                | 105°                                                                                | 105°                                                                                |                                                                                     |                                                                                     |
| Range on each side, up to [m]                 | 14 <sup>3)</sup>                                                                  | 42 <sup>3)</sup>                                                                  | 42 <sup>3)</sup>                                                                  | 42 <sup>3)</sup>                                                                  | 8,9 <sup>3)</sup>                                                                   | 7 <sup>3)</sup>                                                                     | 7 <sup>3)</sup>                                                                     |                                                                                     |                                                                                     |
| Adjustable range                              |                                                                                   | ■                                                                                 | ■                                                                                 | ■                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Adjustable sensitivity                        | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |                                                                                     |
| Adjustable sectorization                      |                                                                                   | ■                                                                                 | ■                                                                                 | ■                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Brightness                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Measuring range [Lux]                         | 1...1500                                                                          | 1...1000                                                                          | 1...1000                                                                          | 1...1000                                                                          | 1...1000                                                                            | 20...1000                                                                           | 20...1000                                                                           | 20...1000                                                                           | 1...100000                                                                          |
| For measuring outdoor brightness              |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     | ■                                                                                   |
| For measuring indoor brightness (mixed light) | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| HVAC sensors                                  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Temperature measuring range [°C]              | 0...40                                                                            | 0...50                                                                            | 0...50                                                                            | 0...50                                                                            | 0...50                                                                              |                                                                                     |                                                                                     |                                                                                     | -25...+55                                                                           |
| Humidity [% r.F.]                             | 0...100                                                                           |                                                                                   | 0...100                                                                           | 0...100                                                                           |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| CO2 [ppm]                                     |                                                                                   |                                                                                   |                                                                                   | 400...10000                                                                       |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Controller                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 2-point brightness controller                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |
| Constant light level controller               | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   |                                                                                     | ■                                                                                   |                                                                                     |
| Temperature controller                        |                                                                                   | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Relative humidity controller                  |                                                                                   |                                                                                   | ■                                                                                 | ■                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Air quality controller                        |                                                                                   |                                                                                   |                                                                                   | ■                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Functions                                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Comparator                                    |                                                                                   | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Calculator                                    |                                                                                   | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Threshold monitoring                          | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Dew point calculation                         |                                                                                   |                                                                                   | ■                                                                                 | ■                                                                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Infrared (IR) receiver                        |                                                                                   | ■                                                                                 | ■                                                                                 | ■                                                                                 | ■                                                                                   | ■                                                                                   | ■                                                                                   | ■                                                                                   |                                                                                     |

<sup>1)</sup> AP surface mounted, UP flush mounted

<sup>2)</sup> For flush mounting, mounting height approx. 31 mm, for surface mounting with AP 258E surface-mounting enclosure, approx. 73 mm.

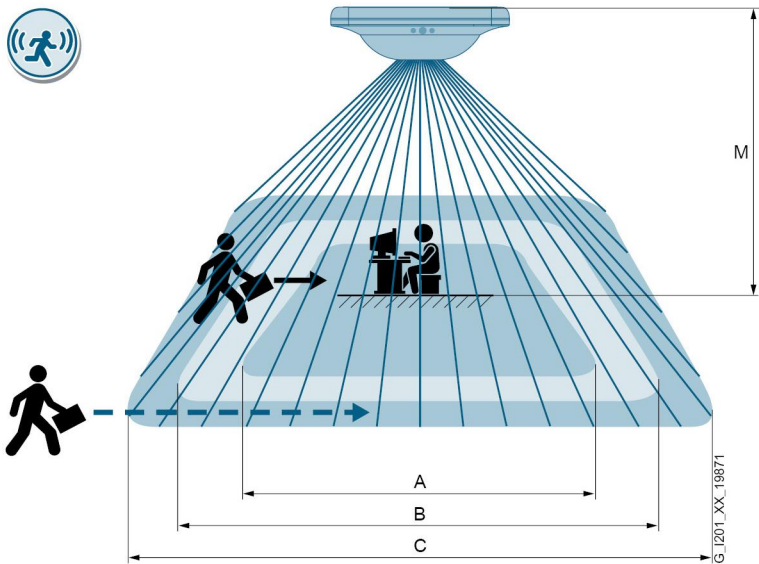
<sup>3)</sup> For complete technical data visit [www.siemens.de/gamma-td](http://www.siemens.de/gamma-td)

Constant light control for up to five light groups



- Integrated constant light level controller with main lighting group and up to four lighting subgroups with one brightness sensor
- Automatic assignment of the artificial light distribution in the room to enable constant light level control of the up to five lighting groups via control characteristics
- Entry of five brightness values, measured under the lights during pure daylight, as a parameter in ETS
- Automatic measurement of artificial lighting in the room when it is dark (without daylight) through targeted on/off switching of the lighting groups and simultaneous measurement at the brightness sensor of the detector

Detection area UP 258D31, UP 258D33, UP 258D41, UP 258D43, UP 258D51, UP 258D53

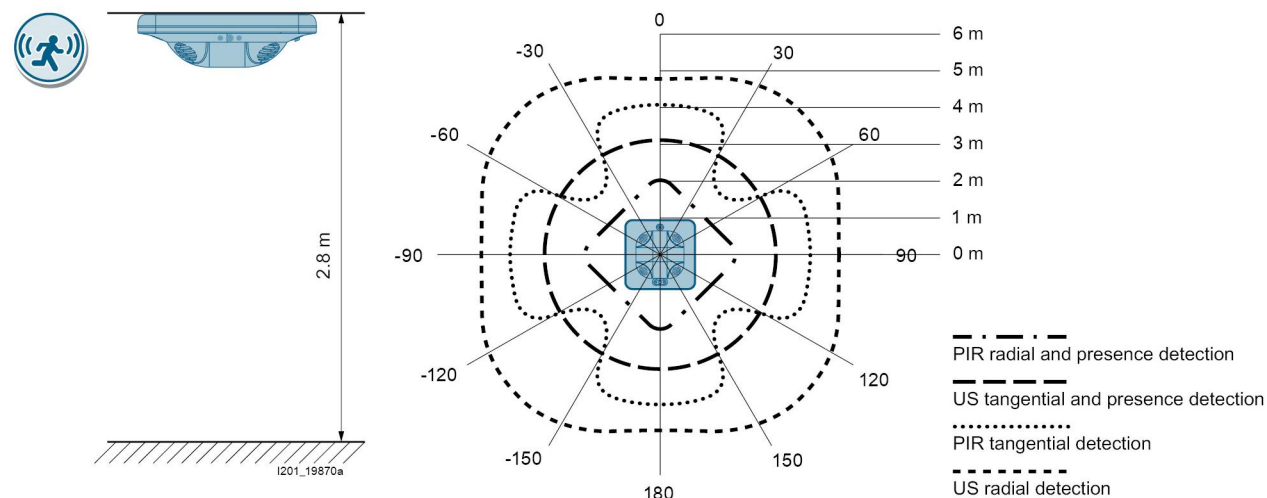


- The detection area has the following zones:
- A) Seated person
  - B) Walking person: step radial in detection of the presence detector on the floor
  - C) Walking person: step tangential in relations to the presence detector on the floor
  - M) Istallation height from floor

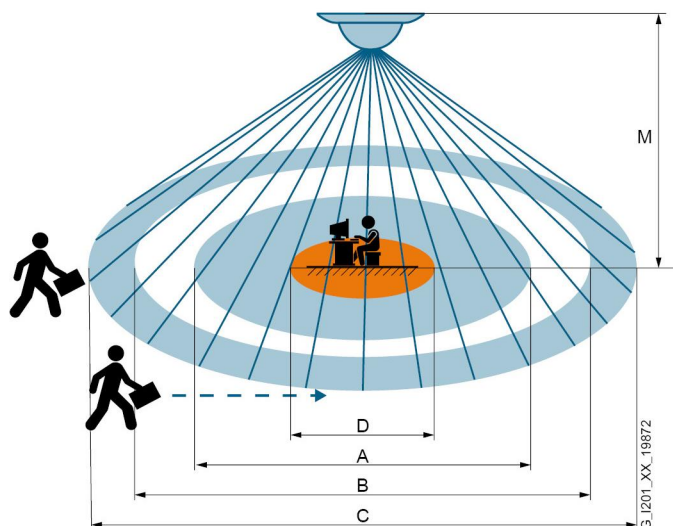
The table shows the maximum possible diameter of the individual zones in meters at different installation heights (M) and with adjustable range.

|   |      | A                                                                                   |                                                                                     |                                                                                     | B                                                                                   |                                                                                     |                                                                                      | C                                                                                     |                                                                                       |                                                                                       |
|---|------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|   |      |  |  |  |  |  |  |  |  |  |
| M | 25 m | 3.6 m x 3.6 m                                                                       | 5.2 m x 5.2 m                                                                       | 7.8 m x 7.8 m                                                                       | 3.6 m x 3.6 m                                                                       | 5.2 m x 5.2 m                                                                       | 7.8 m x 7.8 m                                                                        | 4 m x 4 m                                                                             | 6 m x 6 m                                                                             | 18 m x 18 m                                                                           |
|   | 3 m  | 4 m x 4 m                                                                           | 5.8 m x 5.8 m                                                                       | 8 m x 8 m                                                                           | 4 m x 4 m                                                                           | 5.8 m x 5.8 m                                                                       | 5 m x 5 m                                                                            | 4 m x 4 m                                                                             | 7 m x 7 m                                                                             | 22 m x 22 m                                                                           |
|   | 5 m  | --                                                                                  | --                                                                                  | --                                                                                  | 6 m x 6 m                                                                           | 7 m x 7 m                                                                           | 8.1 m x 8.1 m                                                                        | 8 m x 8 m                                                                             | 17 m x 17 m                                                                           | 27 m x 27 m                                                                           |
|   | 10 m | --                                                                                  | --                                                                                  | --                                                                                  | 7.4 m x 7.4 m                                                                       | 7.5 m x 7.5 m                                                                       | 8 m x 8 m                                                                            | 13 m x 13 m                                                                           | 27 m x 27 m                                                                           | 42 m x 42 m                                                                           |

### Detection area UP 258D61



### Detection area UP 258E22, UP 258D12



The maximum detection ranges to be achieved are as follows divided:

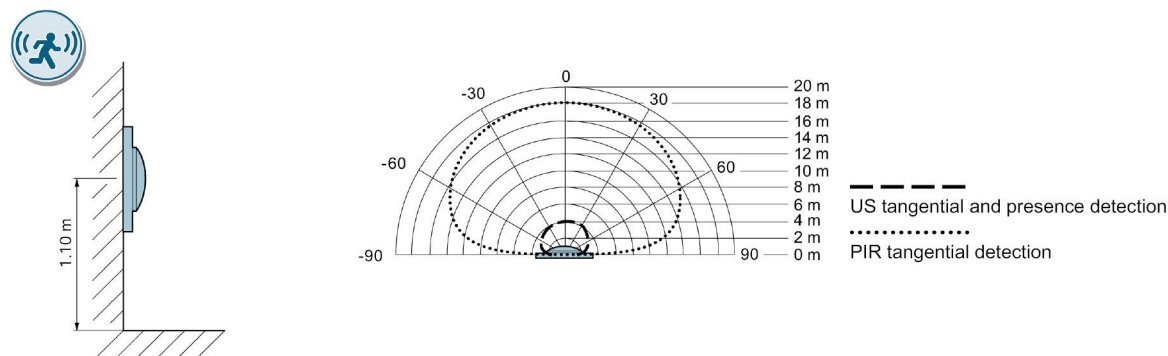
- A) Sitting person
- B) Walking person straight
- C) Walking person crosswise (tangential)
- D) Brightness measurement
- M) Mounting height from floor level

Maximum achievable detection ranges  
for UP 258E22 / UP 258D12 (in meters)

| M   | A     | B     | C    | D     |
|-----|-------|-------|------|-------|
| 5.0 | —     | Ø 8.5 | Ø 14 | Ø 3.0 |
| 4.0 | —     | Ø 7.5 | Ø 12 | Ø 2.3 |
| 3.5 | Ø 5.5 | Ø 6.5 | Ø 10 | Ø 2.0 |
| 3.0 | Ø 5.0 | Ø 6.0 | Ø 8  | Ø 1.6 |
| 2.5 | Ø 4.5 | Ø 5.0 | Ø 7  | Ø 1.2 |

### Detection area UP 251/11, UP 251/12

The motion sensors UP 251/11 and UP 251/12 offers a detection option through PIR technology. The following diagram shows the maximum diameter of the individual zones in meters at an installation height of 1.1 m and has been developed for use in hallways and stairways.



KNX Universal dimmer 2 x 300 VA, AC 230 V

N 528D01



5

- Two outputs for switching and dimming resistive, inductive or capacitive loads
  - Automatic adjustment to leading edge or trailing edge control, depending on the type of load
  - Rated operational voltage AC 230 V
  - Rated frequency 50 / 60 Hz
  - Rated power at +35°C ambient temperature: 300 VA per output or 500 VA for single output usage, without any minimal load per output
  - Electronic protection of each output against overload, short circuit and temperature rise
  - Screw terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - Bicolor LED for indicating the switch status (red = on, green = off) or an error (orange, blinking) per output
  - Bus-powered electronics
  - Integrated bus coupling unit, bus connection via bus terminal block
  - Device for DIN-rail mounting on a TH35 mounting rail according to DIN EN 60715
- 
- Per output with selectable mode (normal mode, one- or two-level timer mode, blinking)
  - Adjustable ON- and OFF-delay
  - Separately adjustable dimming time from 0% to 100% for switching on/off and dimming brighter/darker
  - The ability to switch an output on or off by dimming brighter/darker
  - Adjustable dimming value when switching on
  - Immediate activation (jumping) or dimming to a new dimming value
  - Selectable additional status object switching and/or status object dimming value for each output
  - Additional object for each output for blocking/releasing the output
  - Sending of status objects on request and/or automatically after a change
  - Adjustable blocking time for sending status objects after restart and bus voltage recovery
  - Adjustable dimming value for each output in the event of bus voltage failure and recovery
  - Additional night mode object for time-limited switching on the output (and hence illumination) at night
  - Adjustable ON period at night or with timer mode
  - Selectable warning of imminent switching off the illumination by dimming to 50% of the previous dimming value during night mode or timer mode
  - Integrated 8-bit scene control and integration of each output in up to 8 scenes
  - Separately adjustable dimming time for scene control
  - Selectable counting of operating hours and with threshold monitoring of the operating hours
  - Selectable counting of load cycles and with threshold monitoring of the load cycles
  - Optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations
  - Building site function for switching the building site lighting on and off even if the bus devices have not yet been commissioned with ETS

|                                |                 |
|--------------------------------|-----------------|
| Data sheet                     | A6V10892651     |
| Dimensions (W x H x D)         | 72 x 90 x 60 mm |
| Dimension width (1 MW = 18 mm) | 4 MW            |
| Warranty                       | 24 Months       |

|               |             |
|---------------|-------------|
| Stock no.     | Product no. |
| 5WG1528-1DB01 | N 528D01    |

N 528C01



5

KNX Universal dimmer 2 x 150 VA, AC 120 V

- Two outputs for switching and dimming resistive, inductive or capacitive loads
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Rated operational voltage AC 120 V
- Rated frequency 50 / 60 Hz
- Rated power at +35°C ambient temperature: 150 VA per output or 250 VA for single output usage, without any minimal load per output
- Electronic protection of each output against overload, short circuit and temperature rise
- Screw terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm², AWG 20-13
- Bicolor LED for indicating the switch status (red = on, green = off) or an error (orange, blinking) per output
- Bus-powered electronics
- Integrated bus coupling unit
- Bus connection via bus terminal block
- As a device for DIN-rail mounting on a TH35 mounting rail according to DIN EN 60715
- Per output with selectable mode (normal mode, one- or two-level timer mode, blinking)
- Adjustable ON- and OFF-delay
- Separately adjustable dimming time from 0% to 100% for switching on / off and dimming brighter / darker
- The ability to switch an output on or off by dimming brighter / darker
- Adjustable dimming value when switching on
- Immediate activation (jumping) or dimming to a new dimming value
- Selectable additional status object switching and / or status object dimming value for each output
- Additional object for each output for blocking / releasing the output
- Sending of status objects on request and / or automatically after a change
- Adjustable blocking time for sending status objects after restart and bus voltage recovery
- Adjustable dimming value for each output in the event of bus voltage failure and recovery
- Additional night mode object for time-limited switching on the output (and hence illumination) at night
- Adjustable ON period at night or with timer mode
- Selectable warning of imminent switching off the illumination by dimming to 50% of the previous dimming value during night mode or timer mode
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Separately adjustable dimming time for scene control
- Selectable counting of operating hours and with threshold monitoring of the operating hours
- Selectable counting of load cycles and with threshold monitoring of the load cycles
- Optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations
- Building site function for switching the building site lighting on and off even if the bus devices have not yet been commissioned with ETS

|                                |             |
|--------------------------------|-------------|
| Data sheet                     | A6V11642308 |
| Dimension width (1 MW = 18 mm) | 4 MW        |
| Warranty                       | 24 Months   |

| Stock no.     |  | Product no. |
|---------------|--|-------------|
| 5WG1528-1CB01 |  | N 528C01    |

## KNX Universal dimmer 4 x 300 VA / 1 x 1000 VA, AC 230 V

N 554D31



5

- Four outputs for switching and dimming of resistive, inductive and capacitive loads
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Rated operational voltage AC 230 V
- Rated frequency 50 and 60 Hz
- Rated power at +45°C ambient temperature: up to 300 VA per output, up to 1000 VA with bundling of adjacent outputs, without minimum load per output
- Electronic protection per output against overload, short circuit and temperature rise
- Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- Manual operation buttons on the device for switching, dimming and activation of direct mode operation
- Bus-powered electronics
- DIN-rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Building site function for bundling the outputs and switching the building site lighting without prior configuration of the device via ETS
- Object for surveillance of device function
- Object for retrieval of status values
- Per output with selectable operation mode (normal mode, one- or two-level timer mode, blinking)
- Adjustable ON/OFF-delay
- Object Central Switching with separately configurable on/off delay selectable
- Separately adjustable dimming time from 0% to 100% for switching on/off and dimming brighter/darker
- Switch an output on or off by dimming brighter/darker
- Configurable dimming curves for optimization of the dimming operation of lights
- Additional status object switching and/or status object dimming value
- Additional object for dimming with individually adjustable dimming time
- Configurable maximum and minimum dimming value via parameter and object
- Selectable object for limiting the maximum dimming value
- Selectable object for reporting of overload, short circuit and temperature rise
- Adjustable blocking time for sending status objects after restart and bus voltage recovery
- Integrated 8-bit scene control, linking of the output in up to 8 scenes
- Additional night mode object for time-limited switching on the output at night
- Post-triggering of the On period (On period extension) in time switch mode up to a selectable maximum On period extension via repeated (2x, 3x, 4x, 5x) post-triggering
- Selectable warning signal prior to imminent switching-off by brief off and on switching (flashing) or by cutting the current dimming value in half at night or in time switch mode
- Selectable counting with threshold monitoring: operating hours, load cycles

|                                |                  |
|--------------------------------|------------------|
| Data sheet                     | A6V11418996      |
| Rated voltage                  | AC 230 V         |
| Rated current                  | 1.3 A            |
| Number of channels             | 4                |
| Dimensions (W x H x D)         | 144 x 90 x 60 mm |
| Dimension width (1 MW = 18 mm) | 8 MW             |
| Warranty                       | 24 Months        |

|               |             |
|---------------|-------------|
| Stock no.     | Product no. |
| 5WG1554-1DB31 | N 554D31    |

UP 525S32



5

Universal dimmer, 1-fold

- One output for switching and dimming resistive, inductive and capacitive loads
- Automatic or manual adjustment to leading edge or trailing edge control, depending on the type of load
- Electronic protection against open-circuit, short circuit and temperature rise
- Rated contact operating voltage: AC 230 V
- Rated contact frequency: 50/60 Hz
- Power rating: 1...200 W LEDs, 20...230 W conventional lamps
- Screw terminals for connection of untreated single-core conductors, stranded without conductor sleeve 0.5 to 4 mm<sup>2</sup>, stranded with conductor sleeve 0.5 to 2.5 mm<sup>2</sup>
- 3 binary inputs for potential-free contacts, determination of switching status via voltage generated in the device
- Poll voltage of the inputs: approx. 5 V
- Max. 10 m length of connecting cables, preferably J-Y(St)Y, pre-assembled YY6x0.6
- Bus-powered electronics
- Integrated bus coupling unit
- Mounting in appliance boxes according to DIN 49073 or in mounting case M 592/01 (accessories)
- KNX Data Secure compatible
- Updateable with Siemens Firmware Download Tool
- Dimming output optionally directly operable via input 1 or input 1 and 2
- Adjustable functions of dimming output: status feedback, adjustable brightness limit values, adjustable dimming curves for optimising the dimming behaviour of lamps, adjustable switch-on and dimming behaviour, adjustable switch-on and switch-off delay, staircase function, scene control, logic operations, operating hours counting, disabling function or forced control, central function
- Message in case of short-circuit, overload/mains voltage failure and type of load
- Adjustable preferred behaviour after download, in case of bus voltage failure and recovery
- Adjustable functions of each input: switching, dimming, colour temperature control, solar protection control, sending values, scene control, pair of inputs operation, controller extension (operating mode switchover, presence function, setpoint shift)
- Adjustable debounce time per input
- Adjustable locking of each input via locking object
- 8 logic functions (logic gate, value converter, disabling element, comparator, limit value switch)

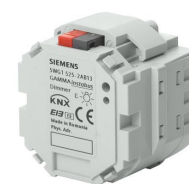
|                        |                 |
|------------------------|-----------------|
| Data sheet             | A6V12632898     |
| Dimensions (W x H x D) | 48 x 50 x 28 mm |
| Warranty               | 24 Months       |

|  |               |             |
|--|---------------|-------------|
|  | Stock no.     | Product no. |
|  | 5WG1525-2SB32 | UP 525S32   |

## Universal dimmer 1 x AC 230 V, 10 ... 250 VA

UP 525/..3

- One output for switching and dimming resistive, inductive or capacitive loads
- Automatic adjustment to leading edge or trailing edge control, depending on the type of load
- Rated operational voltage AC 230 V
- Rated frequency 50...60 Hz
- Rated power at +35°C ambient temperature: 10...250 VA
- Electronic protection of the output against overload, short circuit and temperature rise
- Screwless terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5...2.5 mm<sup>2</sup>
- Bus-powered electronics
- Integrated bus coupling units, bus connection via bus terminal
- For insertion in flush-mounting switch and socket boxes 60 mm in diameter and 60 mm deep
- Reporting of overload, short circuit and temperature rise via the bus
- Selectable mode for each output (normal mode, one- or two-level timer mode, blinking)
- Adjustable on- and off-delay
- Separately adjustable dimming time from 0% to 100% for switching on / off and dimming brighter / darker
- Two dimming value objects, each with individually adjustable dimming time from 0...100%
- The ability to switch an output on or off by dimming brighter / darker
- Adjustable dimming value when switching on
- Immediate activation (jumping) or dimming to a new dimming value
- Selectable additional status object switching and / or status object dimming value for each output
- Additional object for each output for blocking / releasing the output
- Sending of status objects on request and / or automatically after a change
- Adjustable blocking time for sending status objects after restart and bus voltage recovery
- Adjustable dimming value for each output in the event of bus voltage failure and recovery, as well as for mains voltage recovery
- Additional night mode object for time-limited switching on the output (and hence illumination) at night
- Adjustable on period at night or with timer mode
- Selectable warning of imminent switching off the illumination by dimming to 50% of the previous dimming value during night mode or timer mode
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Separately adjustable dimming time for scene control
- Selectable counting of operating hours and with threshold monitoring of the operating hours
- Selectable counting of load cycles and with threshold monitoring of the load cycles



5

## Range overview UP 525/..3

| Product Title                                                                           | Dimensions<br>(WxHxD)<br>[mm] | Stock no.     | Product no. |
|-----------------------------------------------------------------------------------------|-------------------------------|---------------|-------------|
| KNX Universal dimmer 1 x AC 230 V, 10 ... 250 VA, with mounting frame and BTI interface | 71 x 71 x 42                  | 5WG1525-2AB03 | UP 525/03   |
| KNX Universal dimmer 1 x AC 230 V, 10...250 VA                                          | 50 x 50.9 x 41.3              | 5WG1525-2AB13 | UP 525/13   |

Accessories for UP 5..S32

M 592/01



Mounting case

- One mounting location for a flush-mounted actuator type UP 511S32, UP 562S32 or UP 525S32
- Separate wiring space and strain relief for function wiring
- Housing for mounting on DIN rail TH35 DIN EN 60715
- Housing with screw fastening for installation in cable ducts, under raised floors or for surface mounting under a ceiling
- Housing: plastic
- Type of protection: IP 20

Dimensions (W x H x D)  
Warranty

97 x 53 x 36 mm  
24 Months

|  |  | Stock no.     | Product no.     |
|--|--|---------------|-----------------|
|  |  | 5WG1592-8AB01 | <b>M 592/01</b> |

KNX Universal dimmer 1 x AC 230 V, 10...250 VA, (R,L,C load)

RS 525/23



- Output for switching and dimming resistive, inductive or capacitive loads
  - Automatic adjustment to leading edge or trailing edge control, depending on the type of load
  - Rated frequency 50...60 Hz
  - Electronic protection of the output against overload, short circuit and temperature rise
  - Bus-powered electronics
  - Integrated bus coupling unit, Bus connection via bus terminal block
  - Type of protection: IP 20
  - Rated operational voltage AC 230 V
  - Rated power at +35°C ambient temperature: 10...250 VA
  - Screw-less terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - With bus connection module
  - Modular installation device for mounting in AP 118 automation module box or AP 641 room control box
- 
- Selectable mode for each output (normal mode, one- or two-level timer mode, blinking)
  - Adjustable on- and off-delay
  - Separately adjustable dimming time from 0...100 % for switching on / off and dimming brighter / darker
  - Two dimming value objects, each with individually adjustable dimming time from 0...100 %
  - The ability to switch an output on or off by dimming brighter/darker
  - Adjustable dimming value when switching on
  - Immediate activation (jumping) or dimming to a new dimming value
  - Selectable additional status object switching and / or status object dimming value for each output
  - Additional object for each output for blocking / releasing the output
  - Sending of status objects on request and / or automatically after a change
  - Adjustable blocking time for sending status objects after restart and bus voltage recovery
  - Adjustable dimming value for each output in the event of bus voltage failure and recovery, as well as for mains voltage recovery
  - Additional night mode object for time-limited switching on the output (and hence illumination) at night
  - Adjustable on period at night or with timer mode
  - Selectable warning of imminent switching off the illumination by dimming to 50 % of the previous dimming value during night mode or timer mode
  - Integrated 8-bit scene control and integration of each output in up to 8 scenes
  - Separately adjustable dimming time for scene control
  - Selectable counting of operating hours and with threshold monitoring of the operating hours
  - Selectable counting of load cycles and with threshold monitoring of the load cycles

The AP 641 room control box and AP 118 automation module box must be ordered separately.  
See chapter Modular Installation System - Room control box - Module boxes.

|                        |                       |
|------------------------|-----------------------|
| Data sheet             | A6V10416181           |
| Rated voltage          | AC 230 V              |
| Rated current          | 1 A                   |
| Number of channels     | 1                     |
| Dimensions (W x H x D) | 50.2 x 48.8 x 35.5 mm |
| Warranty               | 24 Months             |

|               |             |
|---------------|-------------|
| Stock no.     | Product no. |
| 5WG1525-2AB23 | RS 525/23   |

## Lighting

### Switching/dimming actuators

#### DALI control output

N 141/03, N 141/  
21



5



#### KNX/DALI Gateway plus/Twin plus

- With emergency lighting, with sensors
  - For communication via KNX with electronic ballasts (ECG) with a DALI interface
  - Integrated power supply with input voltage AC 110-240 V, 50-60 Hz or DC 120-240 V for powering the gateway electronics and DALI output
  - Maximum DALI output voltage of 19 V, short circuit resistant
  - Incorrect voltage detection during commissioning if incorrect power line is connected to a DALI output
  - LED display for displaying operation mode and error messages
  - Pushbutton for switching between bus and direct operating mode
  - One pair of pushbuttons for switching On/Off of all connected DALI ECG
  - One LED per DALI output for status signal of all connected luminaires in direct mode
  - Configurable behaviour for bus failure (stand-alone mode)
  - Configurable pre-loaded applications without ETS
  - Scheduler for day, week, date with astro function
  - Control of all connected luminaires together in broadcast mode
  - Status signal and display of lamp and ECG failure per group and per DALI device
  - Transformation of dimming commands into a temporary setpoint adjustment for ECG with integrated constant light level control and directly connected light level sensor
  - One or two level timer
  - Up to 4 integrated one time or cyclical control of repeatable sequences or color effects
  - Starting the self-conducted testing of each individual inverter and reporting the test result via bus or save in a persistent memory with memory space monitoring over object
  - Distinction between function test, short duration test, and long duration test
  - Per channel up to 6 stand-by-area analysis for activation of switch actuators
  - Scene control for up to 16 scenes per channel
  - 16 integrated 2-level-controller for brightness control and 16 constant light level controller for main luminaires group and up to four additional luminaires groups
  - Assignment of a CIN to a DALI ECG
  - Reintegration defective DALI ECG without ETS
  - Assignment of DALI ECG to groups and test option for ECG, groups, scenes and effects via ETS
  - Assignment of DALI sensors and test option of sensors via ETS
  - Integrated bus coupling unit with only half a standard bus load, bus connection via bus terminal
  - Mounting on DIN rail EN 60715-TH35-7.5
- 
- Configurable assignment of max. 64 DALI ECG per channel to max. 16 DALI groups per channel, exclusive controlled in groups or single (switching, dimming, set dimming value and color temperature) and feedback for group status and lamp failure
  - Support of DALI DT8 ECG for colour temperature control (Tunable White). Individual, group, scene, effect and schedule control for Human Centric Lighting
  - Configurable function burn-in for all ECG via pushbutton or single via object
  - Distinction between self-contained emergency luminaires with one or two DALI devices
  - Optional configuration of any DALI ECG to dim to a preset dimming value in emergency mode
  - Locking of switching and dimming commands as well as configuration while emergency mode is activated
  - Activation of emergency mode based on a configurable number of failed DALI ECG
  - Lock object to elimination of failure messages interruption of ECG during emergency lighting testing
  - Inhibit mode for disabling battery mode of self-contained emergency luminaires over pushbutton

Data sheet

A6V10466086

#### Range overview N 141/03, N 141/21

| Product Title                          | Dimensions<br>(WxHxD)<br>[mm] | Dimension width (1 MW<br>= 18 mm) | Stock no.     | Product no.     |
|----------------------------------------|-------------------------------|-----------------------------------|---------------|-----------------|
| KNX/DALI Gateway Twin plus, 2 channels | 72 x 90 x 60                  | 4 MW                              | 5WG1141-1AB21 | <b>N 141/21</b> |
| KNX/DALI Gateway plus, 1 channel       | 72 x 90 x 60                  | 4 MW                              | 5WG1141-1AB03 | <b>N 141/03</b> |

KNX/DALI Gateway Twin

N 141/31

- Communication via KNX EIB with electronic ballasts (ECG) with a DALI interface
- Two DALI outputs with DALI-2 certification acc. to IEC 62386-101 and 103, each for communication with up to 64 DALI ballasts
- Integrated power supply with input voltage AC 110...240 V, 50...60 Hz or DC 120...240 V for powering the gateway electronics and DALI output
- Support of ECGs Type 0, 1, 2, 3, 4, 5, 6, 7 and 8 according to EN 62386 edition 1 as well as edition 2 (DALI-2)
- Maximum DALI output voltage of 19 V, short circuit resistant
- Incorrect voltage detection during commissioning, whether incorrect power line is connected to a DALI output
- LED display for displaying operation mode and error messages
- Pushbutton for switching between bus and direct operating mode
- One pair of pushbuttons for switching On/Off of all connected DALI ballasts
- One LED per DALI output for status signal of all connected luminaries in direct mode
- Configurable behaviour for bus failure (stand-alone mode)
- Control (switching, dimming, set dimming value) of all connected luminaries together in broad-cast mode
- Status signal and display of lamp and ECG failure per group and per DALI device
- One or two level timer
- Integrated scene control for up to 32 scenes
- Assignment of DALI ECG to groups and test option for ECG, groups and scenes via ETS during commissioning
- Possibility to reintegrate defective DALI ECG without software
- Integrated bus coupling unit with only half a standard bus load
- Bus connection via bus terminal
- Mounting on DIN rail EN 60715-TH35-7.5

The following options are selectable, depending on the application program:

- Configurable assignment of max. 128 DALI ECG to max. 32 DALI groups, exclusive controlled in groups or single (switching, dimming, set dimming value and color temperature) and feedback for group status and lamp failure
- Support of DALI DT8 ECGs for colour temperature control Tc, Tunable White according to EN 62386 part 209. individual, group, scene, effect and schedule control for Human Centric Lighting (HCL)
- Configurable function burn-in for all ECG via pushbutton or single via object
- Up to twelve stand-by-area analysis for activation of switch actuators
- Distinction between self-contained emergency luminaries with one or two DALI devices
- Optional configuration of any DALI ECG to dim to a preset dimming value in case of emergency mode
- Locking of switching and dimming commands as well as configuration while emergency mode is activated
- Activation of emergency mode based on a configurable number of failed DALI ECG
- Lock object to elimination of failure messages interruption of ECG during emergency lighting testing
- Inhibit mode for disabling battery mode of self-contained emergency luminaries over pushbutton

|                                |                 |
|--------------------------------|-----------------|
| Data sheet                     | A6V10466084     |
| Dimensions (W x H x D)         | 72 x 90 x 60 mm |
| Dimension width (1 MW = 18 mm) | 4 MW            |
| Warranty                       | 24 Months       |



|  |               |             |
|--|---------------|-------------|
|  | Stock no.     | Product no. |
|  | 5WG1141-1AB31 | N 141/31    |

# Lighting

## Switching/dimming actuators

### DALI control output

N 141/14, N 141/  
32



#### KNX/DALI Gateway/Twin

- DALI Multi-Master Controller with DALI-2 certification acc. to IEC 62386-101 -103 that communicates with up to 64 DALI ECG Ed.1 and DALI-2 and at least 8 DALI-2 presence and 8 brightness sensors per DALI output
- For communication via KNX with electronic ballasts (ECG) with a DALI interface
- Support of ECG type 0, 1, 2, 3, 4, 5, 6, 7, and 8 acc. to IEC 62386 edition 1 and edition 2 (DALI-2)
- Supports presence (part 303) and brightness (part 304) DALI-2 sensors
- Support of DALI DT8 ECG for color temperature Tc Tunable White and color control RGB, RGB(W)
- IP-interface and Ethernet connection via RJ45 port
- KNX Data Secure ready
- Integrated power supply with input voltage AC 220-240 V, 50-60 Hz or DC 220-240 V for powering the gateway electronics and DALI output
- Maximum DALI output voltage of 19 V, short circuit resistant
- Incorrect voltage detection during commissioning if incorrect power line is connected to a DALI output
- Configurable 7 segment display for displaying operation mode and error messages
- Pushbutton for switching between bus and direct operating mode
- LED indicate status of direct operation, IP connection and error for each DALI output
- One pair of pushbuttons for switching On/Off and dimming of all connected DALI ECG
- Configurable assignment of max. 64 DALI ECG to max. 64 intelligent channels with automatic group creation per DALI output
- Each intelligent channel is independently controlled (switching, dimming, set dimming value, color and color temperature), offering 2 logic functions, multiple overrides, night mode, feedback for channel status and lamp failure
- Control of all connected luminaries together in broadcast mode
- Status signal and display of lamp and ECG failure per group and per DALI device
- Object to monitor device function
- Works function for switching and dimming
- One or two level timer
- Counter for switching cycles and operation hours including threshold monitoring
- Energy saving function with max. 16 stand-by-area analysis for activation of switch actuators per DALI output
- Scene control for up to 16 DALI scenes per DALI output
- 16 integrated independent 2-level-controllers for brightness control and 16 independent constant light level controllers for 1 main luminaries group and up to 4 additional luminaries groups per DALI output
- 16 integrated calculators for brightness (internal and external) values per DALI output
- Assignment of DALI ECG to channels/groups and with test options of channels/groups and scenes via DCA in ETS during commissioning of gateway
- Assignment of DALI sensors and test option of sensors via DCA in ETS
- Integrated bus coupling unit
- Bus connection via bus terminal
- Maintenance-free push-in terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
- Mounting on DIN rail EN 60715-TH35-7.5

#### Range overview N 141/14, N 141/32

| Product Title                  | Dimensions<br>(WxHxD)<br>[mm] | Dimension width (1 MW<br>= 18 mm) | Stock no.     | Product no. |
|--------------------------------|-------------------------------|-----------------------------------|---------------|-------------|
| KNX/DALI Gateway, 1 line       | 72 x 55 x 90                  | 4                                 | 5WG1141-1AB14 | N 141/14    |
| KNX/DALI Gateway Twin, 2 lines | 72 x 55 x 90                  | 4                                 | 5WG1141-1AB32 | N 141/32    |

KNX Switch/dim actuator, 2x DALI Broadcast

N 525D11

- 2 DALI outputs with DALI-2 certification
- Control capacity for up to 20 DALI-ECGs per DALI output
- DALI output voltage of 19 V, short circuit resistant
- Integrated power supply with input voltage AC 110-240 V, 50-60 Hz or DC 120-240 V for powering the gateway electronics and DALI output
- LED display for displaying operation mode and the following failure messages: Illuminant defective, DALI incorrect voltage, DALI short circuit, no ECG found
- One pair of push buttons for switching On/Off and dimming of all connected DALI ECG
- Button on the device front for deactivation of the direct mode operation and LED to indicate activation direct mode operation
- Building site function that provides ex-factory enables switching the building site lighting on and off via bus wall switches and actuators, even if these devices have not yet been commissioned with the Engineering Tool Software (ETS)
- Housing: plastic, N-system
- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- Type of protection: IP 20
- Max. width 4 TE (1 TE = 18 mm)
- Control of color temperature (Tunable White)
- One switching, dimming and color temperature value and status object per output
- Selectable operation mode (normal mode, time switch mode, blinking)
- Adjustable ON- and OFF-delay, control value input object, central switching
- Two logic operation (AND/OR/NAND/NOR/EXOR/FILTER/TRIGGER)
- Adjustable dimming time for switching, dimming and color temperature
- Switch an output on or off by dimming
- Seven configurable dimming curves
- Maximum and minimum dimming and color temperature value
- Configurable sending of status objects on request, cyclically, and / or automatically after a change
- Configurable state on voltage failure and on voltage recovery
- Night mode for time-limited switching the output, i.e. the lighting, at night
- Variable On period at night or time switch mode, time limit in timer switch mode, warning signal prior to imminent switching-off
- Manual override, permanent OFF switching, forced control, locking mode
- Counting of operating hours and counting of load cycles with threshold monitoring
- Integrated 8-bit scene control and linking of each output into up to 8 scenes
- Failure status objects



5

|                                |                 |
|--------------------------------|-----------------|
| Data sheet                     | A6V11914230     |
| Number of channels             | 2               |
| Dimensions (W x H x D)         | 72 x 90 x 60 mm |
| Dimension width (1 MW = 18 mm) | 4 MW            |
| Warranty                       | 24 Months       |

|               |             |
|---------------|-------------|
| Stock no.     | Product no. |
| 5WG1525-1DB11 | N 525D11    |

Accessories for KNX/DALI Gateway

UP 141/71

DALI Push button interface 4fold

- Binary input device
- 4 inputs to connect installation buttons
- Supported actions per input
  - Short button press
  - Long button press
- Integrated DALI bus coupling unit for communicating with a central DALI controller/gateway
- Power supply through DALI line with 6 mA DALI bus load
- For flush-mounting wall or ceiling outlet installations with a 60 mm diameter and depth of 60 mm
- Plug-in terminals for connecting the DALI line
- Cable set for connecting pushbuttons

Data sheet  
Warranty

A6V11786002  
24 Months



| Stock no.     | Product no. |
|---------------|-------------|
| 5WG1141-2AB71 | UP 141/71   |

Switch/dim actuator

N 536D..1

- One relay contact per output as switching element
  - Rated contact operating voltage AC 230 V
  - Rated contact frequency: 50/60 Hz
  - Rated contact current: 16 A
  - Control voltage output DC 1-10 V per channel for controlling dimmable electronic ballasts
  - Per output direct operation function on the device for switching and dimming and indication of the switching status via LED
  - Button on the device front for deactivation of the direct mode operation and LED to indicate activation direct mode operation
  - Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - With one phase terminal per output
  - Bus-powered electronics
  - Housing: plastic, color RAL 7035 (light grey), N-system
  - DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
  - Type of protection: IP 20
- 
- One switching and status object per output
  - One dimming and status object per output
  - Selectable operation mode (normal mode, time switch mode, blinking)
  - Adjustable ON- and OFF-delay, control value input object, central switching
  - Two logic operation (AND/OR/NAND/NOR/EXOR/FILTER/TRIGGER)
  - Adjustable dimming time for switching and dimming
  - Switch an output on or off by dimming
  - Configurable dimming curves
  - Maximum and minimum dimming value
  - Configurable sending of status objects on request, cyclically, and / or automatically after a change
  - Configurable state on bus voltage failure and dimming value on bus voltage recovery
  - Night mode for time-limited switching the output, i.e. the lighting, at night
  - Night mode for time-limited switching the output, i.e. the lighting, at night
  - Variable On period at night or time switch mode, time limit in timer switch mode, warning signal prior to imminent switching-off
  - Manual override, permanent OFF switching, forced control, locking mode
  - Counting of operating hours and counting of load cycles with threshold monitoring
  - Integrated 8-bit scene control and linking of each output into up to 8 scenes
  - Surveillance of device function

Rated current 10 A

KNX Switch/dim actuator, 4 x AC 230 V, 10 AX, 1...10 V

- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- all functions as N 536D..1

Data sheet A6V11632775  
Dimensions (W x H x D) 108 x 90 x 60 mm  
Dimension width (1 MW = 18 mm) 6 MW



N 536D31



| Stock no.     | Product no. |
|---------------|-------------|
| 5WG1536-1DB31 | N 536D31    |

## Lighting

### Switching/dimming actuators

#### Control output 1...10 V DC

##### N 536D51



##### KNX Switch/dim actuator, 8 x AC 230 V, 10 AX, 1...10 V

- DIN rail mounted device for mounting on rail TH35 according to DIN EN 60715
- all functions as N 536D..1

Data sheet

Dimensions (W x H x D)

Dimension width (1 MW = 18 mm)

A6V11632775

144 x 90 x 60 mm

8 MW

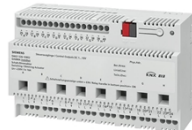
Stock no.

Product no.

5WG1536-1DB51

**N 536D51**

##### N 526E02



##### KNX Switch/dimming actuator 8 x AC 230 V, 16 A, 1...10 V, UL standard

- For switching and dimming of eight mutually independent groups (channels) of fluorescent lamps with dimmable electronic control gear (ECG)
- 8 control voltage outputs 1...10 V DC
- Control power min. 60 OSRAM ECG dynamic each
- 8 switching outputs (relay contacts) for 230 V AC, 50/60 Hz, 16 A at p.f. = 1
- Each of them for connection of min. 30 OSRAM ECG dynamic for 58 W fluorescent lamps
- Slide switch per relay output for manual operation and switch position indication
- Selection between identical or individual configuration of all channels
- Command objects for each actuator channel for switching on/off, dimming brighter/darker and set/value
- One 1-bit and one 8-bit-status object (switching state and dimming value) per output
- Per channel configurable time-limited activation of the lighting during night mode (base lighting)
- Warning 30 seconds prior to imminent switch off by dimming to 50 % of the previous dimming value for each channel with time-limited operation
- Switching on or off of a channel by dimming brighter/darker
- Configurable dimming value upon switching on
- Jumping or dimming to a new dimming value
- Configurable dimming time from 0...100%
- Integrated 8 bit scene control and assignment of each output to up to 8 scenes
- Transmission of status objects on request, cyclically and/or automatically after changes
- Configurable behaviour on bus voltage failure and recovery
- Bus-powered electronics
- Integrated bus coupling unit, bus connection via bus terminal or contact system to data rail
- Modular installation devices for mounting on TH35 EN 60715 mounting rail

Data sheet

Rated voltage

Rated current

Number of channels

Dimension width (1 MW = 18 mm)

Warranty

A6V10416184

AC 230 V

16 A

8

8 MW

24 Months

Stock no.

Product no.

5WG1526-1EB02

**N 526E02**

KNX Switch/dim actuator, 2 x AC 230 V, 6 A, 1...10 V

RL 526D23



- One relay contact per output as switching element
  - Rated contact operating voltage AC 230 V
  - Rated contact frequency: 50/60 Hz
  - Rated contact current: 6 A
  - Control voltage output DC 1-10 V (passive) per channel for controlling dimmable electronic ballasts
  - Maintenance-free terminals for connection and through-wiring of untreated single-core, stranded or multi-core conductors, 0.5 ... 2.5 mm<sup>2</sup>
  - Bus-powered electronics
  - Housing: plastic
  - Dimensions (L x W x H): 86,5 x 47,8 x 36,2 mm
  - As built-in device for mounting in a separately to be ordered Control Module Box AP 118 or Room Control Box AP 641
  - Type of protection: IP 20
- 
- One switching, one dimming and status object per output
  - Selectable operation mode (normal mode, time switch mode, blinking)
  - Adjustable ON- and OFF-delay, control value input object, central switching
  - Two logic operation (AND/OR/NAND/NOR/EXOR/FILTER/TRIGGER)
  - Adjustable dimming time for switching and dimming
  - Switch an output on or off by dimming
  - Configurable dimming curves
  - Maximum and minimum dimming value
  - Configurable sending of status objects on request, cyclically, and / or automatically after a change
  - Configurable state on bus voltage failure and dimming value on bus voltage recovery
  - Night mode for time-limited switching the output, i.e. the lighting, at night,
  - Variable On period at night or time switch mode, time limit in timer switch mode, warning signal prior to imminent switching-off
  - Manual override, permanent OFF switching, forced control, locking mode
  - Counting of operating hours and counting of load cycles with threshold monitoring
  - Integrated 8-bit scene control and linking of each output into up to 8 scenes
  - Surveillance of device function

|                        |                 |
|------------------------|-----------------|
| Data sheet             | A6V12021343     |
| Rated current          | 6 A             |
| Number of channels     | 2               |
| Dimensions (W x H x D) | 48 x 87 x 36 mm |
| Warranty               | 24 Months       |

|  |               |             |
|--|---------------|-------------|
|  | Stock no.     | Product no. |
|  | 5WG1526-4DB23 | RL 526D23   |

## Lighting

### Switching/dimming actuators

#### Control output 1...10 V DC

JB 526C23



**KNX Switch/dim actuator, 2 x AC 277 V, 20 A, 1...10 V**

- Protruding wires stranded AWG 12
- A phase connection for an output that is equipped with a relay contact per output as a switching element
- Contact rated operational voltage AC 120 V, AC 230 V, AC 277 V, AC 347 V
- Contact rated operational voltage AC/DC 24 V
- Contact rated current according to DIN EN 60669-1: 16 A / 20 A (resistive load)
- Fluorescent lamp load according to DIN EN 60669-1: 16 AX / 20 AX (200 µF) at AC 230 V
- Bus-powered electronics
- Integrated bus coupling unit
- Bus connection via bus terminal
- Red LED for display of the activation of the addressing mode as well as the operational readiness
- Housing: plastics
- For installation in 4" x 4" Junction box (UL/NEMA)
- Degree of protection IP 20
- For switching and dimming of fluorescent lamps with dimmable electronic ballasts
- Independent control voltage DC 0/1...10 V per output

#### Per output

- command objects for switching on/off, dimming brighter/darker and setting dimming value
- adjustable ON- and OFF-delay
- switching status object and/or dimming value status object as an optional addition
- adjustable sending of status objects on demand, cyclically and/or automatically after modification
- adjustable ON period during night and/or time switch operation
- selectable counting of operating hours and threshold monitoring of the operating hours
- selectable counting of load cycles and threshold monitoring of the load cycles
- selectable function blocking of the output
- selectable mode (normal mode, night mode, one- or two-level timer mode, flashing)
- separately adjustable dimming time from minimum to 100% for switching on/off, brighter/darker dimming and dimming value setting
- selectable sending of status objects on request, cyclically and / or automatically after a change or bus voltage recovery
- selectable warning of impending OFF by dimming to 50% of the previous dimming value during night mode or timer mode
- separately adjustable dimming time for scene control
- adjustable dimming curve correction
- construction site function for switching the construction site lighting on and off even if the bus devices have not yet been commissioned with ETS
- Integrated 8-bit scene control and integration of each output in up to 8 scenes
- Optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations

Data sheet

A6V11786012

Dimensions (W x H x D)

70 x 90 x 44.6 mm

Warranty

24 Months

Stock no.

Product no.

5WG1526-4CB23

JB 526C23

## KNX Switch/dim actuator, 1 x AC 277 V, 20 A, 1...10 V

JB 527C23



5

- Protruding wires stranded AWG 12
  - A phase connection for an output that is equipped with a relay contact per output as a switching element
  - Contact rated operational voltage AC120 V, AC 230 V, AC 277 V, AC 347 V
  - Contact rated operational voltage AC / DC 24 V
  - Contact rated current according to DIN EN 60669-1: 16 A / 20 A (resistive load)
  - Fluorescent lamp load according to DIN EN 60669-1: 16 AX / 20 AX (200 µF) at AC 230 V
  - Bus-powered electronics
  - Integrated bus coupling unit
  - Bus connection via bus terminal
  - Red LED for display of the activation of the addressing mode as well as the operational readiness
  - Housing: plastics
  - For installation in 4" x 4" Junction box (UL/NEMA)
  - Degree of protection IP 20
- For switching and dimming of fluorescent lamps with dimmable electronic ballasts
  - Independent control voltage DC 0/1...10 V per output

### Per output

- command objects for switching on/off, dimming brighter/darker and setting dimming value
- adjustable ON- and OFF-delay
- switching status object and/or dimming value status object as an optional addition
- adjustable sending of status objects on demand, cyclically and/or automatically after modification
- adjustable ON period during night and/or time switch operation
- selectable counting of operating hours and threshold monitoring of the operating hours
- selectable counting of load cycles and threshold monitoring of the load cycles
- selectable function blocking of the output
- selectable mode (normal mode, night mode, one- or two-level timer mode, flashing)
- separately adjustable dimming time from minimum to 100% for switching on/off, brighter/darker dimming and dimming value setting
- selectable sending of status objects on request, cyclically and / or automatically after a change or bus voltage recovery
- selectable warning of impending OFF by dimming to 50% of the previous dimming value during night mode or timer mode
- separately adjustable dimming time for scene control
- adjustable dimming curve correction
- construction site function for switching the construction site lighting on and off even if the bus devices have not yet been commissioned with ETS
- integrated 8-bit scene control and integration of each output in up to 8 scenes
- optional disabling of the ripple control compensation in an electrical grid with frequency fluctuations

|                        |                   |
|------------------------|-------------------|
| Data sheet             | A6V11786013       |
| Dimensions (W x H x D) | 70 x 90 x 44.6 mm |
| Warranty               | 24 Months         |

Stock no. Product no.

5WG1527-4CB23 JB 527C23

### UP 258D..



### Presence detector

- Passive infrared detector for ceiling installation
- Horizontal 360° motion detection area
- Presence/motion detection up to 64 m² / 400 m² (depending on mounting or room height)
- A 7-level setting to adjust the presence detection range
- Brightness and temperature measurement
- Integrated IR receiver and IR decoder for IR remote control with six pairs of buttons
- LED for display of detected motions in the delivery state for easy commissioning
- Programming button operable from the front
- Integrated bus coupler, bus connection via bus terminal, operation of electronics with bus voltage
- Mounting on the ceiling on a flush-mounting box with diameter of 60 mm, in a separately ordered housing for surface mounting or mounting plate for 4 x 4 boxes
- Lighting control configurable as fully automatic or semi-automatic
- Cyclical sending or sending on change of value of the measured brightness value (Lux)
- Presence detection for three function blocks (presence detector, motion detector, and HVAC detector)
- Two per function block selectable functions (A, B) on start of the presence detection and two per function block selectable functions (C, D) on expiration of the presence detection
- Configurable delay of 0...255 seconds between sending of function A and B respectively C and D
- Selection per function (A, B, C, D) switching On/Off, 8-bit value, 16-bit value, temperature value, brightness value, 8-bit scene control
- Per function block configurable overshoot time, in each case configurable as a fixed time, as switchable between two times via the bus, or settable to a value via the bus
- Parallel operation of several presence detectors (master-slave, master-master) without additional logic module
- Functions of the IR remote control selectable per pair of pushbuttons or per each single pushbutton of a button pair
- Per pushbutton selectable function toggle, switching on, switching off, 8-bit scene recall, 8-bit value, 16-bit value, temperature value, brightness value
- For each pair of pushbuttons selectable function switching On/Off, 2-button dimming with stop telegram, 2-button solar protection control, variable 8-bit value, 8-bit scene control
- Blocking object for IR decoder
- Test mode for easy start-up
- LED for display of detected movements in test mode
- To be configured using ETS

### Range overview UP 258.B..1

| Product Title                                                                     | Color | Dimensions (WxHxD) [mm] | Stock no.     | Product no. |
|-----------------------------------------------------------------------------------|-------|-------------------------|---------------|-------------|
| KNX Presence Detector WIDE with temperature measurement                           |       | 120 x 41 x 120          | 5WG1258-2DB31 | UP 258D31   |
| KNX Presence Detector WIDE black with temperature measurement                     | Black | 120 x 120 x 41          | 5WG1258-2DB33 | UP 258D33   |
| KNX Presence Detector WIDE pro with temperature and relative humidity measurement |       | 120 x 120 x 41          | 5WG1258-2DB41 | UP 258D41   |
| KNX Presence detector WIDE pro with temperature and relative humidity measurement | Black | 120 x 41 x 120          | 5WG1258-2DB43 | UP 258D43   |
| KNX Presence Detector WIDE multi with temperature, humidity and CO2 measurement   |       | 120 x 120 x 41          | 5WG1258-2DB51 | UP 258D51   |
| KNX Presence Detector WIDE multi with temperature, humidity and CO2 measurement   | Black | 120 x 41 x 120          | 5WG1258-2DB53 | UP 258D53   |

## KNX Presence Detector WIDE DualTech with temperature measurement

UP 258D61



5

- Ultrasound for reliable detection for ceiling installation indoors even behind objects
  - Additional detection options through PIR technology
  - Horizontal 360° motion detection area
  - Presence/motion detection up to 28 m² / 79 m² (depending on mounting or room height)
  - Brightness and temperature measurement
  - Integrated IR receiver and IR decoder for IR remote control with six pairs of buttons
  - LED for display of detected motions in the delivery state for easy commissioning
  - Programming button operable from the front
  - Integrated bus coupler, bus connection via bus terminal, operation of electronics with bus voltage
  - Mounting on the ceiling on a flush-mounting box with diameter of 60 mm, in a separately ordered housing for surface mounting or mounting plate for 4 x 4 boxes
  - Color white (similar to RAL 9016)
- Presence detection for three function blocks (presence, HVAC, slave)
  - Two selectable functions per function block at the start and two further functions at expiration of presence detection
  - Parallel operation of more presence detectors (master-slave, master-master) possible
  - Locking and output object for each function block
  - Extension inputs for semi-automatic mode
  - Adjustable sensitivity of detection
  - Calibration of brightness measurement with correction factor/offset, via object mixed light-artificial light and two objects artificial light-daylight
  - Constant light control for one main row of lamps and up to four additional rows of lamps
  - 2-point light control
  - Adjustable temperature control as 2-point and/or steady control, heating/cooling operation
  - Sequence control for PI temperature control
  - Adjustable ventilator speed level
  - Object for dew point alarm
  - Comparator for analog values
  - Min., max. and composite calculator for brightness, temperature, humidity and CO2
  - Threshold monitoring for brightness, temperature, humidity and CO2

|                        |                   |
|------------------------|-------------------|
| Data sheet             | A6V11895378       |
| Color                  | White             |
| Dimensions (W x H x D) | 120 x 41 x 120 mm |
| Warranty               | 24 Months         |

Stock no. Product no.

5WG1258-2DB61 UP 258D61

UP 258E22



5

KNX Presence Detector / Motion detector with constant light level control

- Passive infrared detector for ceiling mounting indoors
- Optional blinding of parts of the detection area
- Adjustable sensitivity of detection
- Mixed light measurement
- Cyclical sending or sending on change of value of the measured brightness value (Lux)
- Integrated two-position controller
- Constant light level control for a main group of luminaries and up to four additional groups of luminaries
- Lighting control configurable as fully automatic or semi-automatic
- Motion detection for three function blocks (presence detector, motion detector, and HVAC detector)
- 2 per function block selectable functions (A, B) on start of the presence detection and two per function block selectable functions (C, D) on expiration of the presence detection
- Configurable delay of 0...255 seconds between sending of function A and B respectively C and D
- Selection per function (A, B, C, D) switching On/Off, 8-bit value, selectable 8-bit value, 16-bit value, temperature value, brightness value, 8-bit scene control
- Blocking object per function block
- Per function block configurable overshoot time, in each case configurable as a fixed time, as switchable between two times via the bus, or settable to a value via the bus
- Parallel operation of several presence detectors without additional logic module
- Integrated IR receiver and IR decoder for IR remote controls with six pairs of pushbuttons
- Functions of the IR remote control selectable per pair of pushbuttons or per each single pushbutton of a button pair
- Per pushbutton selectable function toggle, switching on, switching off, 8-bit scene recall, 8-bit value, 16-bit value, temperature value, brightness value
- For each pair of pushbuttons selectable function switching On/Off, 2-button dimming with stop telegram, 2-button solar protection control, variable 8-bit value, 8-bit scene control
- Blocking object for IR decoder
- Test mode for easy start-up
- LED for display of detected movements in test mode, to be configured using ETS
- Integrated bus coupling unit, bus connection via bus terminal, Power supply over the bus line
- Ceiling mounting on a flush-mounting box with 60 mm diameter and min. 40 mm depth or in a housing for surface-mounting AP 258E01 (to be ordered separately)
- Monitoring motion range horizontal 360°, vertical approx. 105°
- Monitoring motion of an area of diameter 8 m (depending on mounting/room height)
- Programming button reachable from front

|                        |                 |
|------------------------|-----------------|
| Data sheet             | A6V10489482     |
| Dimensions (W x H x D) | 88 x 63 x 88 mm |
| Warranty               | 24 Months       |

|  |               |             |
|--|---------------|-------------|
|  | Stock no.     | Product no. |
|  | 5WG1258-2EB22 | UP 258E22   |

## KNX Presence Detector with brightness sensor

- Passive infrared detector for ceiling mounting indoors
- Adjustable sensitivity of detection
- Mixed light measurement
- Ceiling mounting on a flush-mounting box with 60 mm diameter and min. 40 mm depth or in a housing for surface-mounting AP 258E01 (to be ordered separately)
- Integrated IR decoder for S 255/11
- Programming button reachable from front
- Monitoring range horizontal 360°, vertical approx. 105°
- Monitoring motion of an area of diameter 8 m (depending on mounting/room height)
- Optional blinding of parts of the detection area
- Power supply via KNX bus
- Integrated bus coupling unit, bus connection via bus terminal

Data sheet A6V10489482  
Dimensions (W x H x D) 88 x 63 x 88 mm  
Warranty 24 Months

UP 258D12



5

| Stock no.     | Product no. |
|---------------|-------------|
| 5WG1258-2DB12 | UP 258D12   |

## KNX Brightness Sensor with constant light level controller

- Mixed light measurement
- Ceiling mounting on a flush-mounting box with 60 mm diameter and min. 40 mm depth or in a housing for surface-mounting (to be ordered separately)
- Programming button reachable from front
- Integrated IR decoder for S 255/11
- Integrated 2-point control (switching)
- Constant light level control for main group of luminaires and up to 4 additional groups of luminaires incl. automatic calibrating

Data sheet A6V10489482  
Dimensions (W x H x D) 88 x 63 x 88 mm  
Warranty 24 Months

UP 255D21



| Stock no.     | Product no. |
|---------------|-------------|
| 5WG1255-2DB21 | UP 255D21   |

## Accessories for UP 258.. and UP 258D..

### Surface Mounting Enclosure (white)

- For fixing the presence detectors UP 258D12 and UP 258E22 and the brightness sensor UP 255D21 as a surface mounting device

Data sheet A6V10416111  
Warranty 24 Months

AP 258E01



| Stock no.     | Product no. |
|---------------|-------------|
| 5WG1258-7EB01 | AP 258E01   |

AP 258E11



AP 258E11 Surface Mounting Box Type B (white)

- Mounting presence detector UP 258D... as a surface-mounted device
- Color white (similar to RAL 9016)

Dimensions (W x H x D)  
Warranty

109 x 109 x 30 mm  
24 Months

5

| Stock no.     | Product no. |
|---------------|-------------|
| 5WG1258-7EB11 | AP 258E11   |

AP 258E13



Surface Mounting Box Type B (black)

- Mounting presence detector UP 258D... as a surface-mounted device
- Color black (similar to RAL 9005)

Dimensions (W x H x D)  
Warranty

109 x 109 x 30 mm  
24 Months

| Stock no.     | Product no. |
|---------------|-------------|
| 5WG1258-7EB13 | AP 258E13   |

S 255/11



IR remote control

- 6 pushbutton pairs for the remote control of lighting, shutter/blinds and scenes
- Parameterization via ETS in the presence detectors UP 258E22, UP 258D12 and UP 258D.. and in the brightness sensor UP 255D21
- Range: up to 10 m
- Power supply: CR2025 lithium button cell
- Degree of protection (acc. to EN 60529): IP40

Data sheet  
Dimensions (W x H x D)  
Warranty

A6V11786011  
40 x 87 x 6 mm  
24 Months

| Stock no.     | Product no. |
|---------------|-------------|
| 5WG1255-7AB11 | S 255/11    |

## Mounting plate (white)

S 258/12

- Mounting presence detector UP 258D... with 4x4 boxes
- Color white (similar to RAL 9016)

Warranty

24 Months



5

Stock no.

Product no.

5WG1258-8AB12

S 258/12

## Mounting plate (black)

S 258/13

- Mounting presence detector UP 258D... with 4x4 boxes
- Color black (similar to RAL 9005)

Dimensions (W x H x D)

109 x 109 x 11 mm

Warranty

24 Months



Stock no.

Product no.

5WG1258-8AB13

S 258/13

AP 254/02



5



**KNX Dual sensor for brightness measurement, temperature measurement, sun protection control, lighting control**

- Brightness measurement, temperature measurement, sun protection control, lighting control
- For the detection and transmission of brightness and temperature
  - Temperature measuring range -25 °C...+55 °C
  - Brightness measuring range 1 Lux...100 kLux
  - Horizontal sensing angle -60°...+60°, vertical -35°...+66.5°
- For the control of switch, dimming and shutter/blind actuators, depending on the ambient luminosity and/or ambient temperature
- One sun protection channel for the automatic control of sun protection equipment, with
  - Starting and stopping of automation by means of an object or a dusk threshold
  - Up to three brightness thresholds for determining the height and position of the shutters/blinds or roller shutters
  - Optional teach-in of dusk thresholds and brightness thresholds by means of a teach-in facility
  - Blocking object for the temporary deactivation of the sun protection channel function
- Up to four universal channels for the control of switch, dimming and shutter/blind actuators, depending on ambient luminosity and/or temperature. Optionally available with:
  - Threshold switches for brightness
  - Threshold switches for temperature
  - Threshold switches with logical combination of brightness and temperature
  - Optional teach-in of brightness threshold for each universal channel by means of an associated teach-in facility
  - Deactivation option for each universal channel by means of an associated blocking object (1 bit)
  - Optional second object for transmission of a second telegram on fulfillment of threshold conditions
- Bus-powered electronics
- Integrated bus coupling units
- Bus connection via bus terminal
- Surface mounting
- Degree of protection: IP54

|                        |                  |
|------------------------|------------------|
| Data sheet             | A6V10416100      |
| Dimensions (W x H x D) | 72 x 110 x 54 mm |
| Warranty               | 24 Months        |

|  | Stock no.     | Product no. |
|--|---------------|-------------|
|  | 5WG1254-3EY02 | AP 254/02   |

## Motion detector WALL

UP 251/1..

Passive infrared detector for wall mounting for stairwells and corridors

180° angle motion detection area

Motion detection up to 18 m frontal and 4-14 m (depending on the angle of detection) laterally

Its own frame included in the packaging

Brightness, temperature and humidity measurement

Integrated pushbutton for overriding the controlled light or for sending commands for lights, blinds and scenes

Integrated bus coupler, bus connection via bus terminal, operation of electronics with bus voltage

LED for display of detected motions in the delivery state for easy testing

Mounting on the wall in flush-mounting box at 1,10 height, valid for conduit boxes type CEE/VDE, China and Switzerland

Protection type: IP 20

- 4 light (movement detector) channels
- Selectable outputs per channel (on/off, dimming level, scene)
- Automatic or semiautomatic mode
- Parallel operation of more movement detectors possible
- Brightness function with configurable threshold and offset
- Basic illumination with dimming, so that at the end of the detection the sensor can set the light to a defined dimming level for a configurable time
- Day/night function, allowing the outputs and trigger times of the light channel to be different for day or night
- Locking object for each channel
- Adjustable range for movement detection
- 2 independent thresholds for temperature and humidity
- Constant light control
- Presence and absence functions, brightness independent
- HVAC function to send room operating modes, brightness independent
- Twilight threshold, movement independent
- Sabotage (device function)
- Object for dew point alarm
- Comfort field for a thermal comfort output
- Two logic operation (AND/OR/EXOR)



5

| Product Title                  | Color | Dimensions<br>(WxHxD)<br>[mm] | Stock no.     | Product no. |
|--------------------------------|-------|-------------------------------|---------------|-------------|
| KNX Motion detector WALL       | White | 80 x 80 x 50                  | 5WG1251-2AB11 | UP 251/11   |
| KNX Motion detector WALL black | Black | 80 x 80 x 50                  | 5WG1251-2AB12 | UP 251/12   |

