

# SIEMENS



The worldwide  
standard for  
home and  
building control



## Presence detectors and brightness sensors for efficient lighting

Presence- and daylight-dependent lighting control for greater energy efficiency and convenience

### Energy efficiency is mandatory

Due to more stringent energy standards, there's a growing need for energy-efficient solutions. That's why the demands placed on energy consumption of lighting and HVAC plants are rising, for non-residential and industrial buildings in particular. Presence detectors for energy-efficient lighting and HVAC controls lower energy consumption in offices, corridors, commercial premises and other spaces through an integrated brightness control.

### Flexibility in mounting

The design of the presence detectors allows discreet ceiling installation: They can be mounted using a customary cavity wall box or with a spring clamp in a suspended ceiling. Housing for surface installation is available as an option.

### Networked with all disciplines

Offering up to three independent output channels, KNX presence detectors control various functions within a room – such as lighting, shading and HVAC plants. Each output channel individually triggers the respective functions at the beginning and end of a motion, whereby the follow-up time can be adjusted separately.

### Consistent brightness level

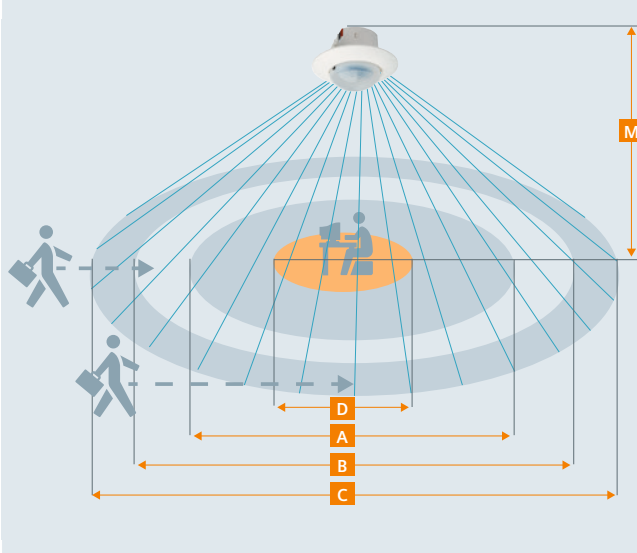
The integrated brightness sensors allow control of up to five lighting groups, either fully or semi automatically, for a consistent brightness level within the work environment. Configuration takes place independently via a predefined measuring procedure.

### Highlights

- Lighting control according to norm EN 15232
- Flexible ceiling installation
- Three independent output channels, each with four switching points
- Integrated constant light level controller for up to five lighting groups
- Programming button operable in mounted condition

# Lighting control

## Detection areas



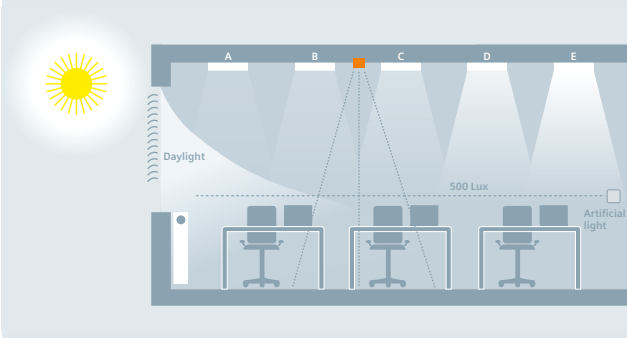
The maximum coverage areas to be achieved are grouped as follows:

- A** Seated persons
- B** Walking persons, directly (radial)
- C** Walking persons, transverse (tangential)
- D** Brightness measurement
- M** Mounting height, calculated from floor

Maximum achievable coverage areas (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

## Constant light level controller for up to five lighting 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 parameters 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




## Function overview

Type		Independent output channels				Integrated light controllers		IR receiver
		Motion Channel 1 (lighting)	Presence Channel 2 (solar protection)	HVAC Channel 3 (HVAC)	Locking functions	2-point light controller (switching) one lighting group	Constant light level controller (dimming) up to five lighting groups A – E	
UP 258E22	Brightness sensor Motion sensor	■	■	■	■	■	■	■
UP 258D12	Brightness sensor Motion sensor	■	■	■	–	■	–	■
UP 255D21	Brightness sensor	–	–	–	–	■	■	■

- Device variants have identical function units
- Shared motion and brightness sensor for motion and presence output channels
- Brightness-independent output channel for HVAC plants with special evaluation logic

- Switching 2-point light controller and dimming constant light level controller can be used independently
- IR receiver for convenient operation of room functions

## Technical data

	<p><b>Presence detector UP 258E22, constant light level controller</b> <b>Presence detector UP 258D12, brightness sensor</b></p> <ul style="list-style-type: none"> <li>passive infrared detector for interior ceiling mounting</li> <li>with horizontal motion coverage area of 360°, vertical coverage area of approx. 105°</li> <li>for motion monitoring of an area with a diameter of 8 m (depending on mounting and room height)</li> <li>with option to shade parts of the coverage area</li> <li>with presence detection for three function blocks (presence detector, motion detector and HVAC detector)</li> <li>with two selectable functions (A, B) per function block when presence detection starts and two selectable functions (C, D) per function block when presence detection ends</li> <li>each function block has an adjustable follow-up time, which can be either a fixed time, switchable between two times via bus, or with a value fixed via bus</li> <li>with parallel operation of several presence detectors (master-slave, master-master) without logic modules</li> </ul>	<p><b>Presence detector UP 258E22, constant light level controller</b> <b>Presence detector UP 258D12, brightness sensor</b> <b>Brightness sensor UP 255D21</b></p> <ul style="list-style-type: none"> <li>with coverage area of mixed light measurement (360° horizontal, approx. 40° vertical)</li> <li>with selection of either fully or semi automatically lighting control</li> <li>with cyclical transmission or transmission when brightness measurement value changes (in Lux)</li> <li>with integrated IR receiver and IR decoder for IR remote control, with six pushbutton pairs</li> <li>with disable function for IR decoder</li> <li>with integrated bus couplers, bus connection via bus clamps, operation of electronics via bus voltage</li> <li>with programming button accessible from the front</li> <li>for ceiling mounting with a flush mounting box that has a diameter of 60 mm and a minimum installation depth of 40 mm</li> <li>dimensions: diameter of installation depth 88 x 31 mm, total height 63 mm</li> </ul>
	<p><b>IR remote control S 255/11</b></p> <ul style="list-style-type: none"> <li>six pushbutton pairs for remote control of lighting, blinds and scenes</li> <li>parameterization via device application with IR receiver</li> <li>range: approx. 10 m</li> <li>power supply: CR2025 lithium button cell (included)</li> <li>dimensions (h x w x d): approx. 87 x 40 x 6 mm</li> </ul>	
	<p><b>Surface mounting enclosures AP 258E01</b></p> <ul style="list-style-type: none"> <li>for installation as a surface mounting device, dimensions (h x Ø) 44 x 88 mm</li> </ul>	

## Ordering and selection data

Type	Version	DT	Order no.	Price per PU	PU (ST, SZ, M)	PS/P unit	PG	Weight per PU (kg)
UP 258E22	<p><b>Presence detector, constant light level controller</b></p> <ul style="list-style-type: none"> <li>with motion detection</li> <li>with mixed light measurement</li> <li>with integrated 2-point light controller</li> <li>with constant light level controller for up to five lighting groups</li> <li>with locking functions for motion detection</li> </ul>	A	5WG1 258-2EB22		1	1	A21	0.062
UP 258D12	<p><b>Presence detector, brightness sensor</b></p> <ul style="list-style-type: none"> <li>with motion detection</li> <li>with mixed light measurement</li> <li>with integrated 2-point light controller</li> </ul>	A	5WG1 258-2DB12		1	1	A21	0.062
UP 255D21	<p><b>Brightness controller</b></p> <ul style="list-style-type: none"> <li>with mixed light measurement</li> <li>with integrated 2-point light controller</li> <li>with constant light level controller for up to five lighting groups</li> </ul>	A	5WG1 255-2DB21		1	1	A21	0.062
S 255/11	<b>IR remote control</b>	A	5WG1 255-7AB11		1	1	A21	0.079
AP 258E01	<b>Surface mounting enclosures</b>	A	5WG1 258-7EB01		1	1	A21	0.072

Siemens Switzerland Ltd  
Building Technologies Division  
International Headquarters  
Gubelstrasse 22  
6301 Zug  
Switzerland  
Tel +41 41 724 24 24

Siemens Building Technologies  
Brunel House  
Sir William Siemens Square, Frimley  
Camberley  
Surrey, GU16 8QD  
United Kingdom  
Tel +44 1276 696000

Siemens Ltd  
Building Technologies Division  
22/F, AIA Kowloon Tower, Landmark East  
100 How Ming Street  
Kwun Tong, Hong Kong  
Tel +852 2870 7888

The information in this document contains general descriptions of technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract. The document contains a general product overview. Availability can vary by country. For detailed product information, please contact the company office or authorized partners.

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Our world is undergoing changes that force us to think in new ways: demographic change, urbanization, global warming and resource shortages. Maximum efficiency has top priority – and not only where energy is concerned. In addition, we need to increase comfort for the well-being of users. Also, our need for safety and security is constantly growing. For our customers, success is defined by how well they manage these challenges. Siemens has the answers.

**“We are the trusted technology partner for energy-efficient, safe and secure buildings and infrastructure.”**