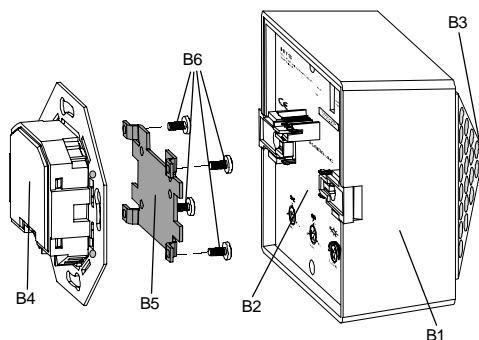


Presence detector

5WG1 258-2AB11



- B1. Presence detector 360° *)
- B2. Rear view
- B3. Front view
- B4. Bus coupler UP 110 or UP 114
- B5. Mounting plate *)
- B6. Fixing screws *)

*) Supplied with device
(5WG1 258-2AB11)

Diagram 1: Installation of the presence detector

Product and Applications Description

The presence detector with a detection area of 360° makes it possible to carry out control functions in the electrical installation automatically on detection of movement. Energy loads can be switched on for example if people move in the detection area of the presence detector 360°. The energy costs for lighting, heating, cooling etc. can be reduced.

The functional principle of the presence detector basically corresponds to that of a movement detector.

When the optimum installation site is selected, the presence detector can also reliably detect people who are seated.

The front of the presence detector, which is designed like a pyramid, consists of a number of small individual lenses. The movements are routed via these lenses, in

the same way as a magnifying glass, to the electronics in the presence detector and then evaluated. The presence detector also has an intelligent signal processing function available as well as a device for measuring the true level of daylight so that the lighting is only switched on for example at the set threshold [DARK].

Prerequisites for the error-free detection of people by the presence detector are as follows:

- The presence detector requires a clear view of the people it should record.
- People moving behind walls, even glass walls, are not recorded/detected.

When selecting the installation site, the receiving characteristics of the detector should be noted.

Presence detector	5WG1 258-2AB11
--------------------------	-----------------------

Application programs

12 S1 Light, cycl. HVAC, pushb. ON only 212201

- Switching behavior is controlled by presence and daylight
- Test mode is possible
- Overshoot time can be set

12 S1 Light, HVAC, bright/dark, pushb. ON/OFF 212202

- Switching behavior is controlled by presence and daylight
- Test mode is possible
- Overshoot time can be set

Ceiling installation

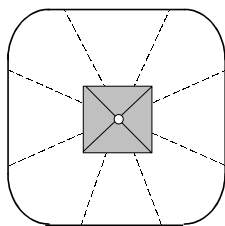


Diagram 2a: 360° detection area, plan view

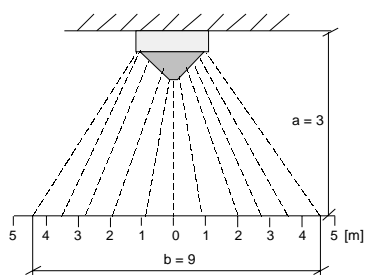


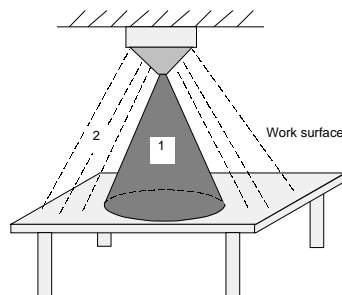
Diagram 2b: 360° detection area, side view

Table for detection area

a Room height [m]	b Detection area [m]
2.0	approx. 6 x 6
2.5	approx. 8 x 8
3.0	approx. 9 x 9
3.5	approx. 10 x 10
4.0	approx. 11 x 11

The integrated brightness sensor measures the true proportion of daylight and can therefore send commands in the *instabus* EIB installation to switch the artificial light on or off. The brightness thresholds can be set using ETS software.

Functional representation of the combined detector



- 1 Brightness measuring range
- 2 Receiving range of presence detector

Diagram 2e: *Brightness sensor - receiving characteristics*

⚠ WARNING

- The device may only be installed and commissioned by an authorised electrician.
- The device may not be used in the same box as 230 V devices and/or 230 V cables.
- The prevailing safety and accident regulations must be observed.

Note:

- Any faulty devices should be returned to the local Siemens office.

Technical data

Presence detector **5WG1 258-2AB11**

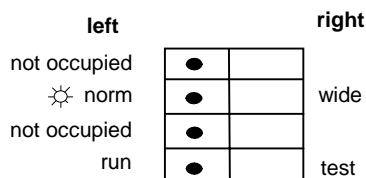
Power supply

Via the bus coupler

Operating elements

- DIP switch: (Diagram 3)

Position of the switch (Diagram 4)

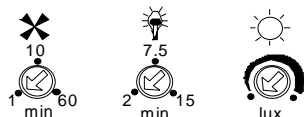


- norm: limited lux scale value
- wide: extension of the lower lux threshold
- run: active, in operating state
- test: walk test to check the detection area

Diagram 3: Default setting is displayed

- Potentiometer: (Diagram 3a)

Position of the potentiometer [see Diagram 4)



The values of the three potentiometers are set with the application program. The potentiometers must remain at the left/left/right stop.

Diagram 3a: Default setting is displayed

Display elements

- Red LED under the receiving lens B3 indicates detection in test mode.

Connections

- 10-pole plug connector

Mechanical data

- Housing: plastic ABS
- Dimensions (L x W x D): 87 x 87 x 60 mm
- Weight: approx. 140 g
- Fire load: approx. 4940 kJ

Electrical safety

- Type of protection (according to EN 60529): IP 20

- Bus: safety extra-low voltage SELV DC 24 V
- Device complies with EN 50090-2-2

Reliability

- Failure rate: 1100 fit

EMC requirements

Complies with EN 50081-1 and EN 50090-2-2

Environmental conditions

- Climatic withstand capability EN 50090-2-2
- Ambient operating temperature: - 0 ... + 30 °C
- Storage temperature: - 25 ... + 70 °C
- Relative humidity (not condensing): 5 % to 93 %

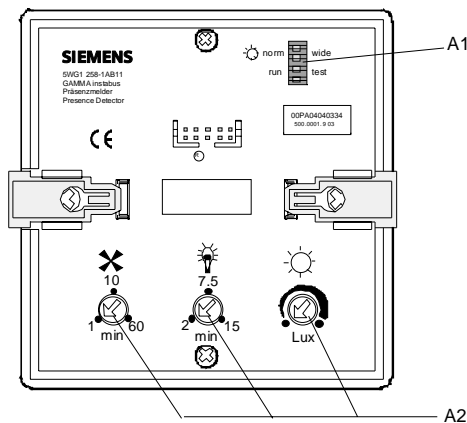
Approval

EIB certified

CE mark

In accordance with EMC low voltage guideline

Location and function of the operating elements



- A1 DIP switch (see technical data under operating elements for functions).
- A2 Potentiometers (see technical data under operating elements for functions).

Diagram 4: Location and function of the operating elements

Type of installation

Presence detector **5WG1 258-2AB11**

Ceiling installation

- See diagram and table for ceiling installation (Diagram 2b)
- Range is dependent on the mounting height
- High reception sensitivity, complete coverage of the entire area
- Arm and hand movements are sufficient for movement detection.

Installation of the presence detector

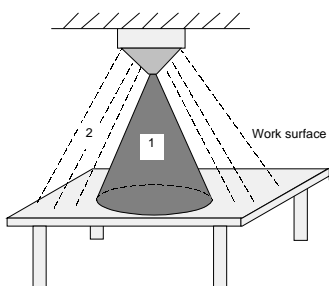
General description

The presence detector is placed on the flush-mounted bus coupler. The electrical connection between the UP 258/11 and the bus coupler is created via the physical external interface (PEI). The bus coupler UP is not included with the device and must be ordered separately.

Installation of the bus coupler:

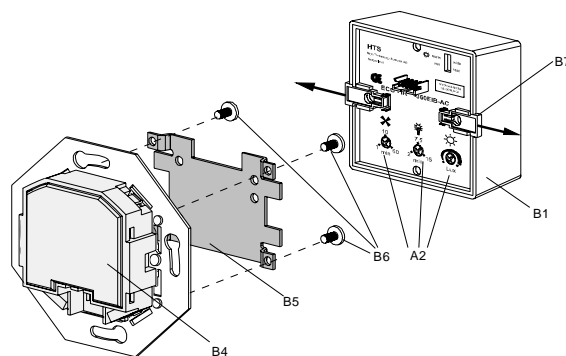
The bus coupler is connected and fixed in the flush-type box (see the installation instructions for the bus coupler).

Ceiling installation



- 1 Brightness measuring range
- 2 Receiving range of presence detector

Diagram 5: *Brightness sensor: receiving characteristics*



- A2 Potentiometer
- B1 Presence detector
- B4 Bus coupler
- B5 Mounting plate
- B6 Fixing screws
- B7 Locking devices

Diagram 6: *Installation of the presence detector*

- Screw the mounting plate B5 onto the bus coupler B4 using the screws B6.
- Rotate the potentiometers A2 on the presence detector B1 until they reach the left/left/right stop.
- Open the two locking devices B7 and fix in place.
- Place the presence detector B1 on the bus coupler B4 so that the 10-pole plug connector of B1 fits in the bus coupler B4.
- Release the two locking devices B7 and latch into the mounting plate B5.

Notes:

Installation site of the presence detector:

The switching behaviour is normally determined by people in the detection area of the sensor. However, in exceptional cases, unintentional switching may occur due to "external influences". Possible "sources of error" should therefore be rectified during the project design or prior to the installation.

Limited view of the detector:

- Suspended lamps cause shadows in the detection area if they are installed in the immediate vicinity of the presence detector.
- Partition walls, bookshelves, large plants etc. can limit the detection area.

Simulated movement:

Presence detector

Presence detector**5WG1 258-2AB11**

- Rapid temperature variations in the vicinity of the detector caused by fans, ventilators etc. switching on or off, simulate movement if the air currents are directed at the lenses or at objects in the detection area of the detector.
- Luminaires which are switched on and off in the detection area [particularly incandescent and halogen lamps] simulate movement.
- Moving objects such as machines, robots, posters flapping in draughts, petals dropping, animals etc.

Objects that heat up slowly do not have a disruptive influence and do not effect the switching behaviour of the detector:

- Heating radiators (lateral distance between the cables and radiators > 0.5 m), underfloor heating
- EDP installations (computer, printer, monitors]
- Room ventilation systems, provided that warm air is not directed at the detector
- Surfaces with sunlight
- Fish in the aquarium

Installation site of the presence detector with simultaneous change in brightness level

The measurement of daylight is determined by an average brightness value in the room which can deviate from the brightness on the work surface. Installation sites with extreme lighting conditions should be avoided.

- If the detector is attached near lamps with a high level of indirect light, the intensity of the artificial lighting at the installation site of the detector may not exceed the required nominal luminance in the room. This can be compensated by increasing the distance between the cone of light and the detector.

Caution:

- Heat absorbing glass can influence the spectral measurement of the daylight level; the setting of the switching threshold is lowered accordingly.
- Light sources with a high proportion of infrared, particularly incandescent and halogen lamps falsify the daylight measurement and disturb the function.
- Paper ejected from the printer.

Commissioning and testing

DIP switch on "run" (Diagram 3)

- Regular operation

Starting phase lasts approx. 90 seconds

- LED flashes once per second = OK
- LED flashes approx. 4 times per second = incorrect or no application

Commissioning phase lasts approx. 10 minutes

- LED is ON, if level falls below set brightness value
- LED is OFF, if set brightness value is exceeded

Operational phase = continuous operation

- LED OFF = OK

DIP switch on "test", only if required (Diagram 3)

- Used to check the detection area

Starting phase lasts approx. 90 seconds

- LED flashes twice briefly within approx. 3 seconds = OK
- LED flashes approx. 4 times per second = incorrect or no application

Walk test = continuous operation

- LED ON = movement detected
- Brightness sensor deactivated

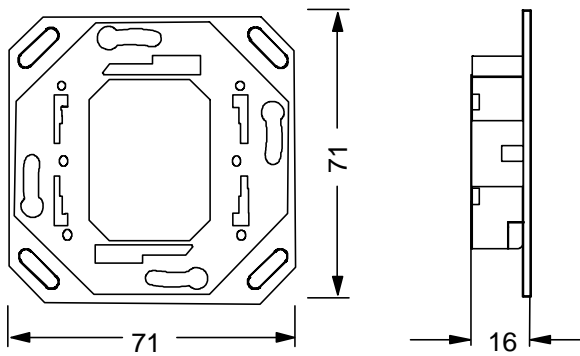
Caution: When changing the operating mode (run, test), the sequence should always be noted with the given periods.

Dismantling the presence detector

- Release the locking device B7 using the screwdriver.
- Remove the presence detector B1 from the bus coupler B4.
- Dismantle the mounting plate B5 by loosening the screws B6.

Dimensions bus coupling unit

Dimensions in mm



Dimensions presence detector

Dimensions in mm

