

## Ceiling PIR Detector (311)

The 311 Ceiling PIR Detector is a compact unit containing sensors to provide energy-saving functions when used in a DALI system.

Functioning as a presence detector, the unit can turn the lights on when a room is occupied, and off when unoccupied. It is fully compatible with Helvar's lighting system design and control software: Designer, and Toolbox.

### Features and Connections



#### PIR Sensor

Detects movement within the detection range, allowing load control in response to changes in room occupancy.

#### Status LED

The red LED flashes to indicate:

- **Valid setting received** (single flash of LED)
- **Identify active** (LED flashes repeatedly)

#### DALI Connection

The DALI connection is made via DA+ and DA- terminals. The device is not polarity-sensitive.

### Sensitivity, Time-Outs, Identify

#### Sensitivity

Adjust the sensitivity using Designer or Toolbox – Helvar's lighting system design and control software.

The factory default setting is 9 (maximum).

**Note:** On maximum sensitivity, the detector unit is **extremely sensitive** to movement and may detect through glass, thin walls or partitions. If this causes a problem, reduce its sensitivity.

The temperature difference between the detection target and the background must be at least 4 °C.

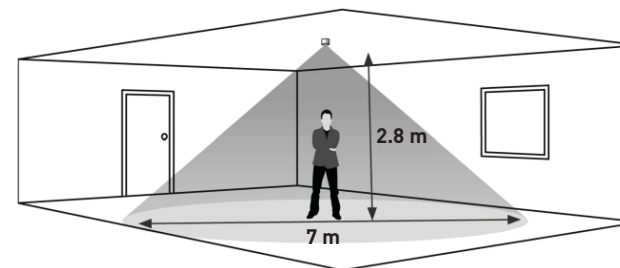
#### Adjusting On, Exit and Transition Time-Outs

The default time-outs for On, Exit and Transition can be altered using Designer or Toolbox.

#### Identify: Check Connection to DALI Network

To make sure that the sensor is correctly connected to the DALI network, use the *Identify* function in Designer or Toolbox. The sensor's status LED flashes repeatedly until *Identify* is cancelled.

### Detection Pattern



A lower mounting height will decrease the overall size of the detection zone.



Sensitivity set to maximum

### Installation

All versions of the Ceiling PIR Detector can be mounted into a ceiling or wall void or onto a back box. The standard version (311) can be mounted onto the SBB-A surface back box, whereas the 311P and 311M versions need to be mounted onto Helvar's fully sealed, IP65-rated SBB-P back box. When mounting the 311P and 311M versions, the supplied silicone gasket must always be used.

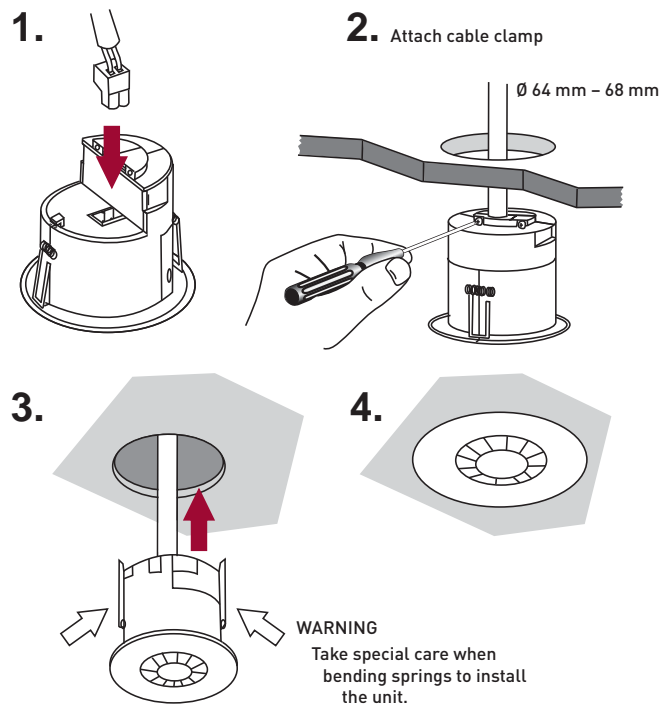
The following steps are required for all versions and installations of the unit.

1. Connect the DALI connector to the socket located at the rear of the sensor.
2. **Flush fixing:** Insert the unit into the ceiling or wall (see 'Connection and Fixing: Flush Fixing' on page 3); or **Surface mounting:** Install the unit using the SBB-A or the SBB-P surface back boxes, as appropriate (see 'Connection and Fixing: Surface Mounting' on page 4).
3. Power the unit up.
4. Configure the unit using Designer or Toolbox.
5. If the load triggered by the sensor comes on, by default it will take 20 minutes (if no movement detected) for the load to switch off.

### Installation Notes

- Position the sensor so that the occupants of the room are normally inside the detection zone.
- Do not fix the sensor to an unstable or vibrating surface.
- Do not install the sensor within 1 m of any lighting, forced air heating, or ventilation equipment.

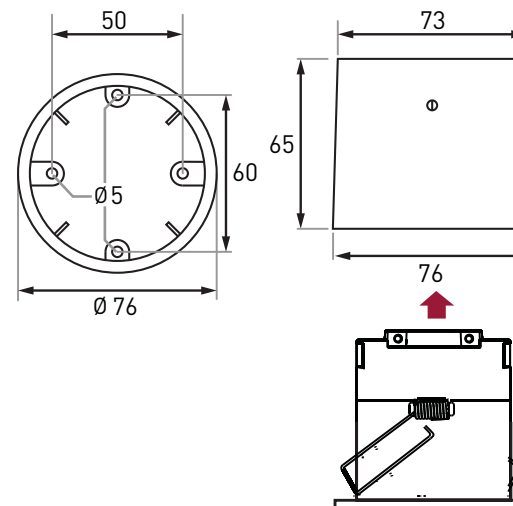
### Connection and Fixing: Flush Fixing



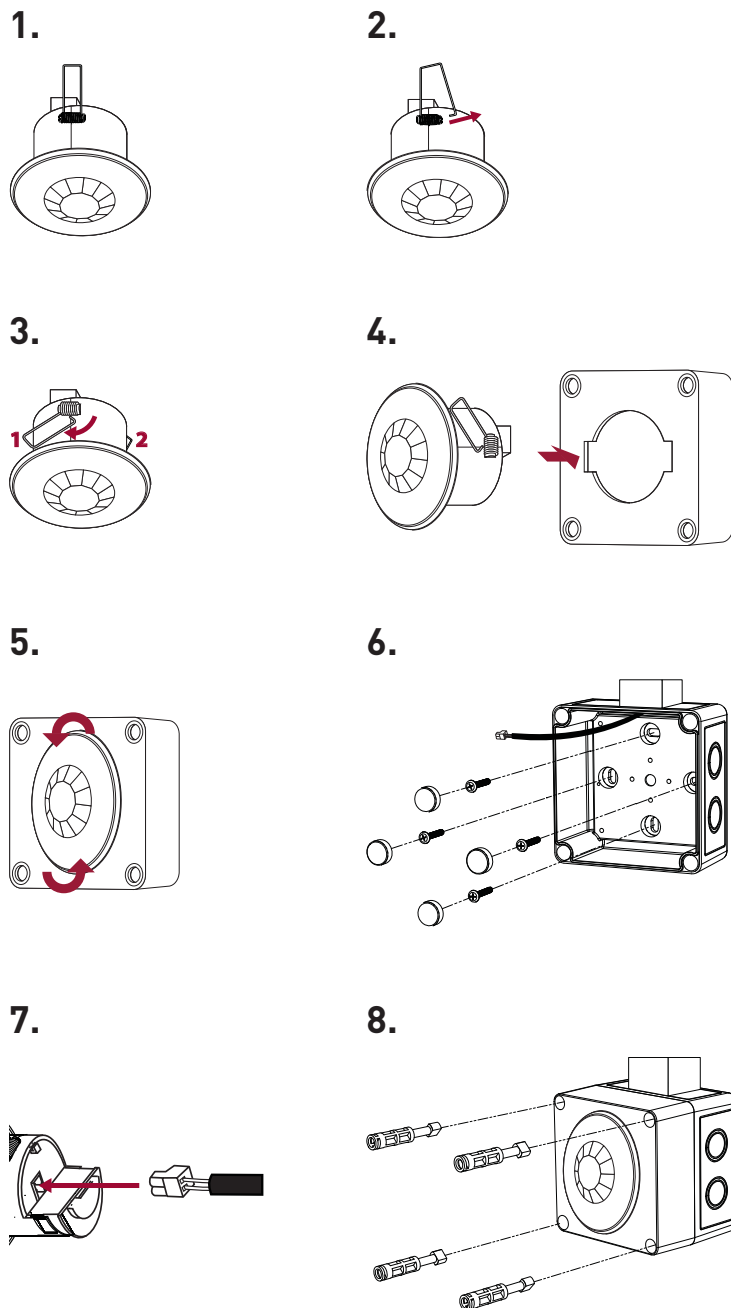
### Connection and Fixing: Surface Mounting

There are two different mounting procedures: one for the 311 onto the SBB-A surface back box, another one for the 311P and 311M onto the SBB-P surface back box. Both back boxes must be ordered separately.

### Mounting onto Surface Back Box SBB-A (IP 40)



## Mounting onto Surface Back Box SBB-P (IP IP55, 311P and 311M only)



## Technical Data

### Connections

**External power / DALI:** Removable connector block;  
Wire size: 0.5 mm<sup>2</sup> – 1.5 mm<sup>2</sup>  
solid or stranded

**Cable rating:** All cables must be mains rated.  
Max. length: 300 m @ 1.5 mm<sup>2</sup>

### Power

**DALI supply input:** 13 V to 22.5 V  
**DALI consumption:** 15 mA

### Sensors

**Presence detector:** PIR: Passive infrared presence detector

**Infrared receiver:** For remote control commands.  
*Note: Adjust sensitivity using Designer or Toolbox (not by remote control unit).*

### Mechanical data

**Mounting hole diameter:** 68 mm

**Bezel diameter:** 76 mm

**Material (casing):** Flame-retardant ABS

**Finish / Colour:** Matt / White RAL 9003

**Weight:** 58 g

**IP code:** 311: IP40  
311P\*: IP55  
311M\*: IP55  
\* Only when the supplied gasket is used and the unit is mounted onto Helvar's SBB-P back box or flush in a ceiling.

### Operating conditions

**Ambient temperature:** 311 & 311P: 0 °C to +35 °C  
311M: -30 °C to +35 °C  
*Note: The temperature difference between the detection target and the background must be at least 4 °C.*

**Relative humidity:** Max. 90 %, noncondensing

**Storage temperature:** 311 & 311P: -10 °C to +70 °C  
311M: -30 °C to +70 °C

### Conformity and standards

**EMC emission:** EN 61000-6-1

**EMC immunity:** EN 61000-6-3

**Safety:** EN 60730-1

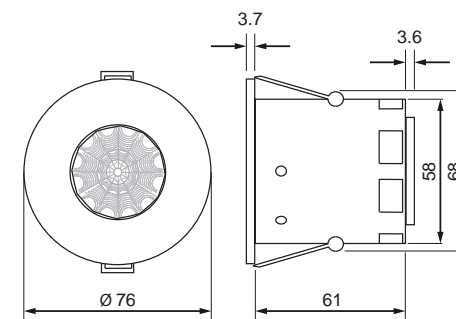
**Environment:** Complies with WEEE and RoHS directives.

### Version information

**Software version:** 6.08

**Hardware version:** Rev. 2

## Dimensions (mm)



*Note: The gasket is supplied with the 311M and the 311P versions.*