

## Ceiling PIR Detector (311)

The 311 Ceiling PIR Detector is a compact flush-mounted ceiling unit containing sensors to provide energy-saving functions when used in a DALI system. The unit can also be controlled using the Helvar 303 Infrared Remote Control handset.

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.

#### IR Receiver and Remote Control

You can use the Helvar 303 Infrared Remote Control (available separately) to:

- recall lighting scenes 1–4;
- adjust light levels;
- store current level; and
- install preset levels for scenes 1–4.

*Note: A different remote control unit (IR307) is used for 311 sensors of hardware rev. 1, and software version 5.40.*

### 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

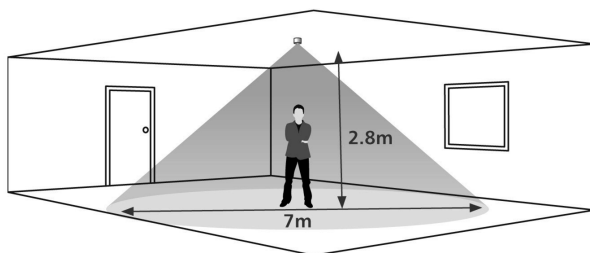
The default time-outs for On, Exit and Transition can be altered using Designer, or Toolbox.

### Identify: Check Connection to DALI Network

To make sure that the sensor is correctly connected to the DALI network, use the *Identify* function in Helvar’s lighting system design and control software: Designer, or Toolbox. The sensor’s status LED flashes repeatedly until *Identify* is cancelled.

## Detection Pattern

### Detection area



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



Sensitivity set to maximum

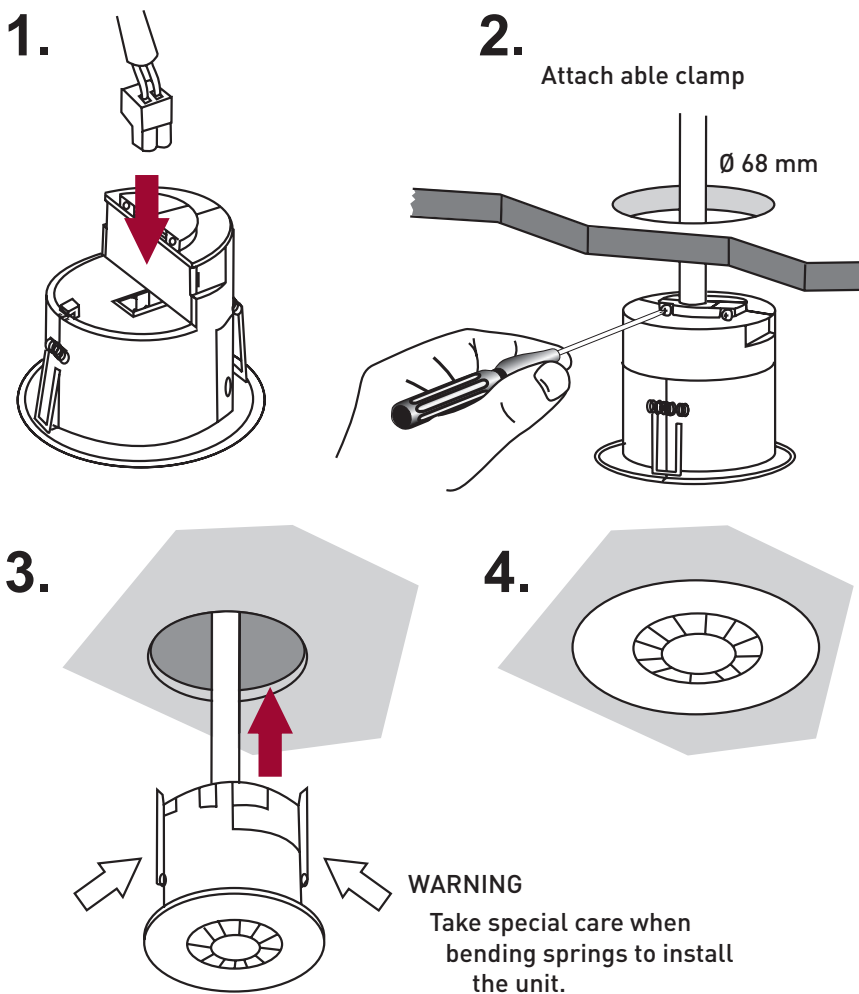
## Installation

1. Connect the DALI connectors 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 surface back box (see ‘Connection and Fixing: Surface Mounting’ on page 3).
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 (of no movement detected) for the load to switch off.

### Installation Notes

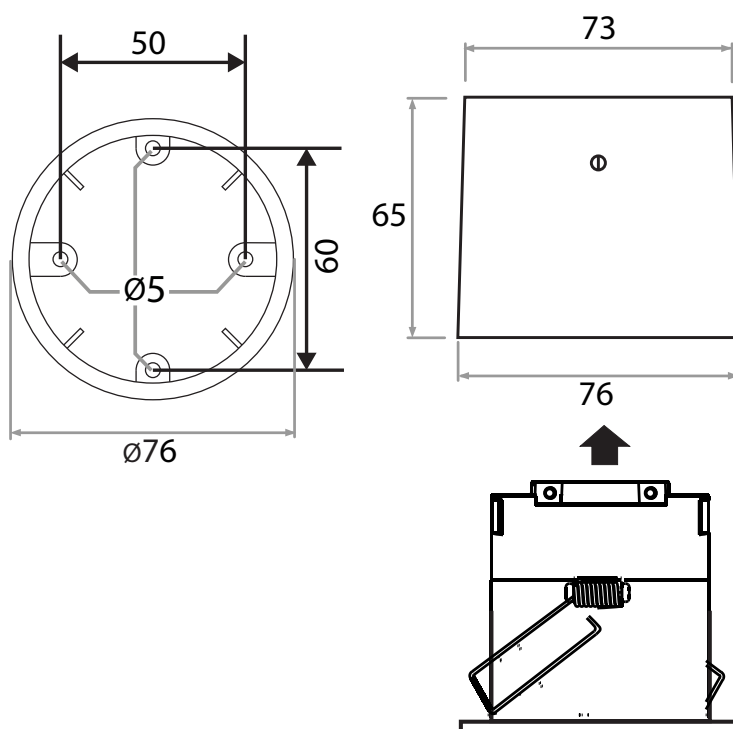
- Position the sensor so that the occupants of the room are normally inside the detection zone.
- Do not fix the sensor to an unstable or vibrating surface.
- Do not install the sensor within one metre of any lighting, forced air heating, or ventilation equipment.

### Connection and Fixing: Flush Fixing



### Connection and Fixing: Surface Mounting

*Note: Order the SBB-A surface mount box separately.*



## 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

## Remote control functions

**Remote control handset:** Helvar 303 remote control  
*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

**Weight:** 58 g

**IP code:** 311: IP40  
311P\*: IP55  
311M\*: IP55  
\* Only when the unit is installed 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

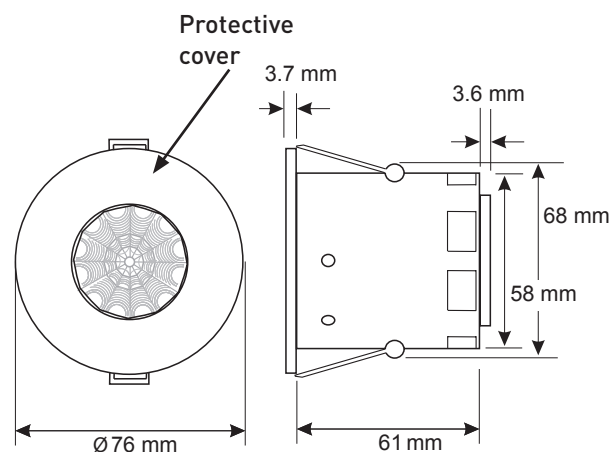
**Environment:** Complies with WEEE and RoHS directives.

## Version information

**Software version:** 6.08

**Hardware version:** Rev. 2

## Dimensions



**Hole diameter: Ø68 mm**

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