digidim **Installation and User Guide**

Helvar

freedom in lighting

High-Bay Presence/Absence Detector (317)

The 317 High-Bay PIR Presence/Absence Detector, in conjunction with a Helvar lighting control system, provides automatic control of lighting loads in buildings and interior spaces with high ceilings. The 317 is typically installed in warehouses and factories, and is used in other applications where mounting heights are too high for standard sensors.

As with all the other Helvar 'system' sensors, the 317 is fully compatible with Helvar's lighting systems and configuration software, Designer™ and Digidim Toolbox™: once connected to a Helvar DALI network and lighting control system, the software automatically detects the unit, which can then be programmed with the required functions.

Mounting bezel

Sensor lens
- PIR Sensor
- Status LED
- IR Receiver

Retaining spring

DALI +
DALI −

Retaining spring

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 send signals to the 317 detector to:

- Recall lighting scenes 1–4
- Adjust light levels
- Store current level
- Install preset levels for scenes 1–4

Note: *A different remote control unit (IR307) is used for 317 sensors of hardware rev. 1, and software version 5.40. For instructions, see Installation Guide 7860287, issue 1.*

303 Infrared Remote Control

Sensitivity, Timeouts, Identify

Sensitivity

Adjust the sensitivity using *Designer* or *Toolbox*.

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.*

### Adjusting On, Exit and Transition timeouts

The default timeouts 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.
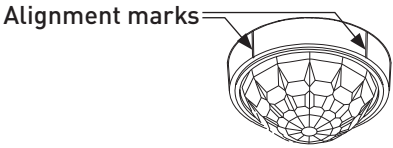
Detection area and detection area masking

Detection area

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

15 m

40 m
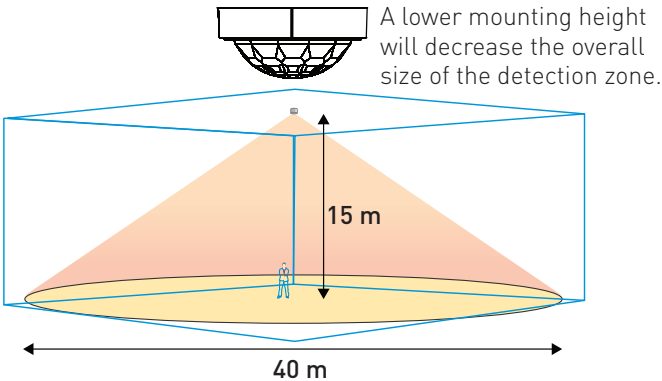
Alignment marks

The sensor head has 4 alignment marks.

Alignment marks

These marks correspond to the 4 outer passive infrared sensors under the lens.

Use these marks to align with aisles and corridors to ensure the best detection characteristics.

Detection area masking

Two adaptable clip-on shielding masks are supplied with the 317. Each can cover half of the sensor lens.

Lateral or radial strips can be cut out of the masks to customise the detection area.

Aisles / corridors (lateral masks)

Cut the mask to make two lateral masks. This leaves a straight section of the lens uncovered.

The slots you cut out approximate to the levels of sensor coverage given in the following table:

Slot number	Masking shield: approx. % coverage
1	45 %
2	30 %
3	20 %
4	10 %

Slots: 1 2 3 4 4 3 2 1
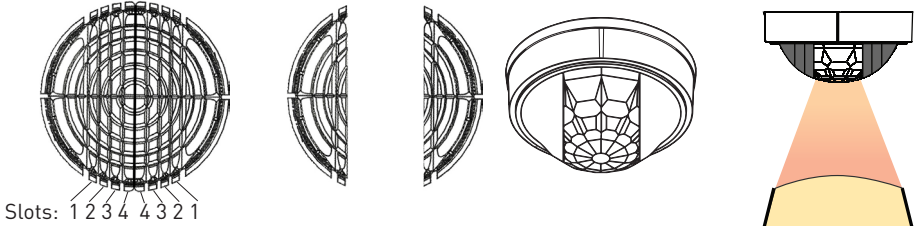
Small areas (radial masks)

Cut semicircles out of the mask to make two radial masks. This leaves a circular section of the lens uncovered.

The 'diameter numbers' of the semicircles you cut out approximate to the levels of sensor coverage given in the table:

Diameter number	Masking shield: approx. % coverage
1	90%
2	65%
3	45%
4	35%
5	20%

/ / \ \ / / / \ \
1 2 3 4 5 5 4 3 2 1
Diameter number
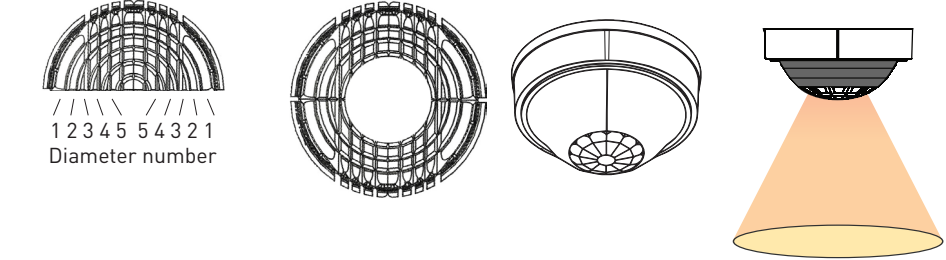
Orientation and sensitivity

If someone walks 'across' the detection area (not directly towards the centre of the sensor), the sensor range is greater than if someone walks towards the centre of sensor ('along' the line between alignment marks).

Therefore, note the orientation of the sensor (as indicated by the alignment marks) when installing the sensors.

Walk across

Alignment marks
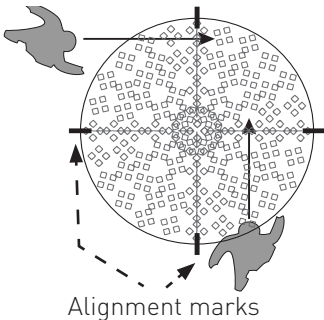
Height	Range diameter
15 m	40 m
10 m	26 m
6 m	16 m
3 m	9 m

Walk towards

Alignment marks
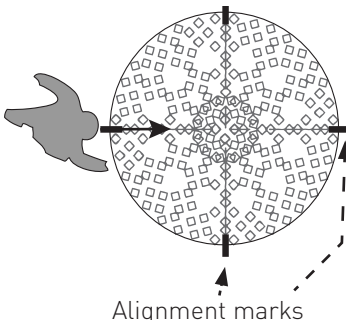
Height	Range diameter
15 m	30 m
10 m	20 m
6 m	12 m
3 m	8 m

Installation

1. Connect the DALI connector to the socket at the rear of the sensor.
2. **Flush fixing:** Insert the unit into the ceiling or wall (see *Connection and Fixing: Flush fixing*); or
   Surface mounting: Install the unit using the SBB-A surface back box (see *Connection and Fixing: Surface mounting*).
3. Power the unit up.
4. Configure the 317 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

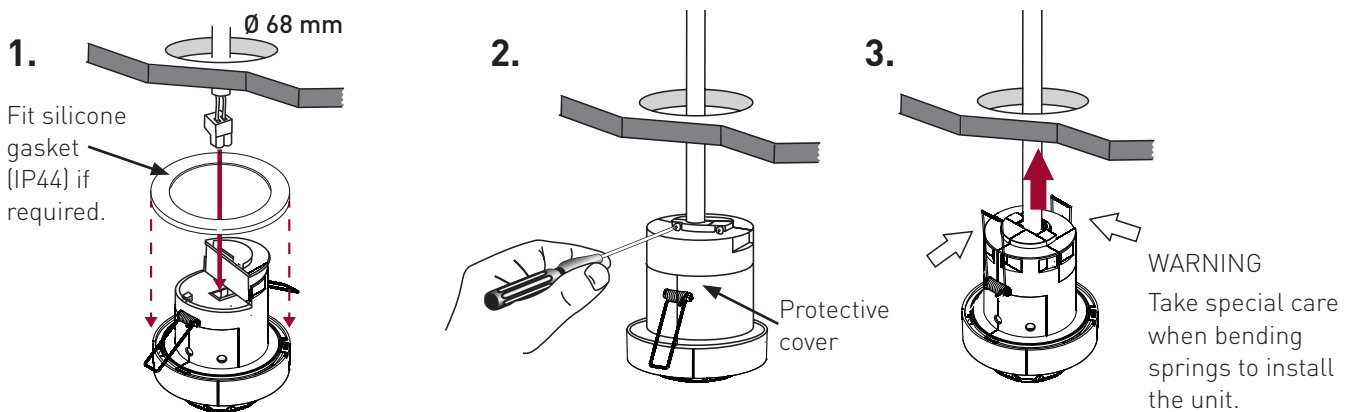Position the sensor so that the occupants of the room are normally inside the detection zone.

Do not fix the sensor to an unstable or vibrating surface.

Do not install the sensor within 1 metre of any lighting, forced air heating, or ventilation equipment.
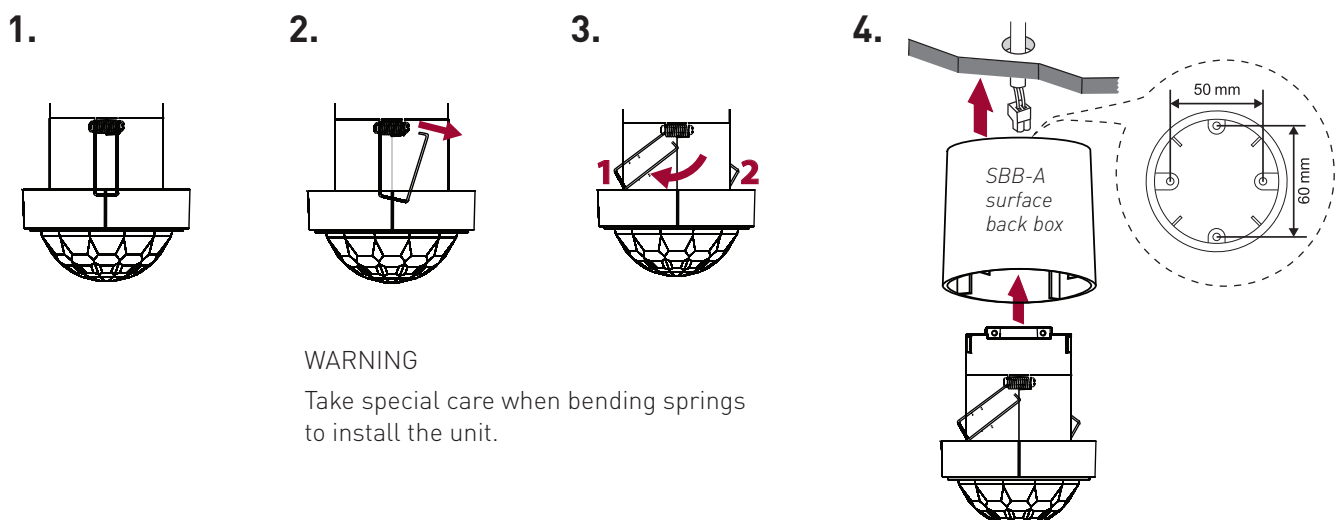
Consider the possible effects on infrared detector of layers of hot and cold air in large buildings.

Layers of cold or hot air can form in the upper part of large buildings, such as warehouses, due to a number of factors, including the layout of the building, heating and ventilation systems, shelving system arrangements, roofing materials and the weather. If the sensor is positioned in or above such a layer of air, the sensitivity of the sensor cannot be guaranteed.

Connection and Fixing: Flush fixing

1.
Ø 68 mm

Fit silicone gasket (IP44) if required.

2.

Protective cover

3.

WARNING
Take special care when bending springs to install the unit.

Connection and Fixing: Surface mounting

1.

2.

WARNING

Take special care when bending springs to install the unit.

3.

1   2

4.

SBB-A surface back box

50 mm

60 mm

Technical Data

![Helvar logo — freedom in lighting]

Connections

DALI:	Removable connector block Wire size: 0.5 mm² – 1.5 mm² Solid, flexible or stranded
Cable rating:	All cables must be mains rated

Power

DALI supply input:	13 V to 22.5 V
DALI consumption:	20 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
Use the Helvar 303 to:	– recall lighting scenes 1–4; – adjust light levels; – store current level; – install preset levels for scenes 1–4. Note: Adjust sensitivity using Designer, or DIGIDIM Toolbox (and not by remote control unit)
Range:	5 m – 15 m

Mechanical data

|	
Mounting hole diameter:	68 mm
Bezel diameter:	88 mm
Recommended clearance depth (incl. 50 mm for cabling):	80 mm (without protective cover); 100 mm (with protective cover)
Material (casing):	Flame retardant ABS and PC/ABS
Finish:	Matte
Colour:	White
Weight:	120 g
IP code:	IP40 without gasket; IP65 with gasket
Gasket:	Silicone ingress protection gasket (not compatible with surface mount box SBB-A)
Masks:	2 adaptable masks included, each covering half of the sensor lens.

Operating conditions

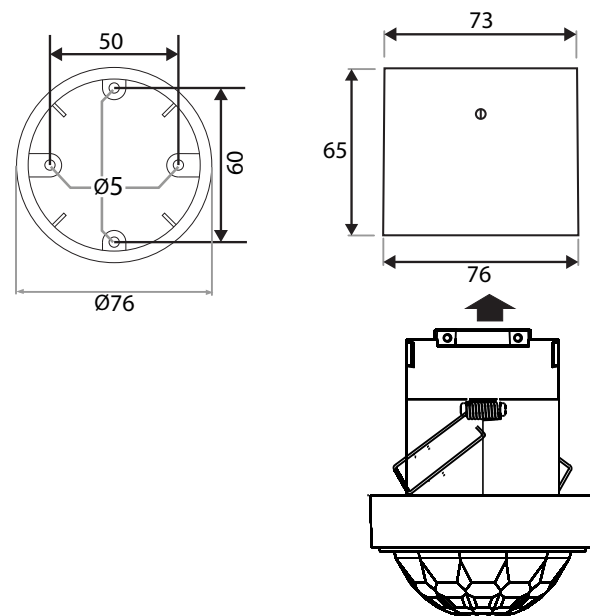|	
Ambient temperature:	0 °C to +35 °C
Relative humidity:	Max. 90 %, non-condensing
Storage temperature:	–10 °C to +70 °C

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

Dimensions
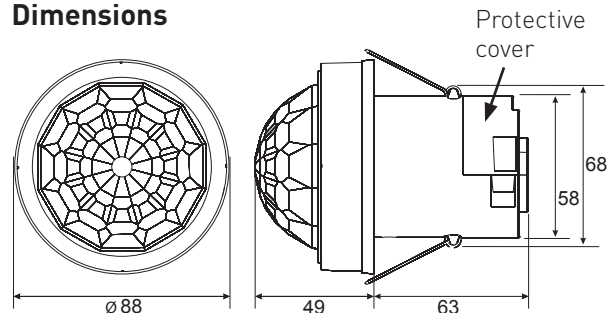
Installation in surface mount box SBB-A

Note: The SBB-A surface mount box must be ordered separately.