

314 Tilting Microwave Detector Installation Guide

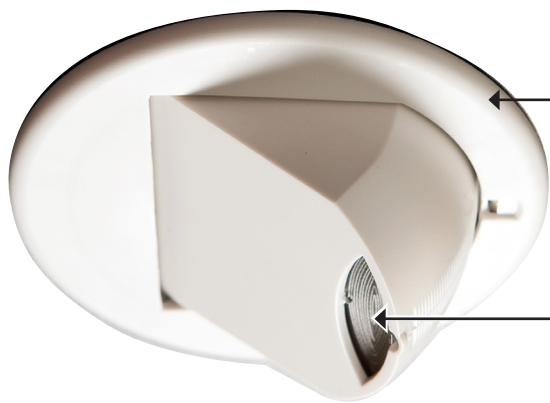


The Tilting Microwave Detector provides occupancy detection for the automatic control of DALI lighting loads. The unit can also be controlled using a Helvar infrared remote handset, such as the 303 DIGIDIM Infrared Remote Control.

Helvar's 314 detects movement using its highly sensitive microwave detector. It works by emitting low-power microwave signals and measuring the reflections as the signals bounce off moving objects.

The unit has an adjustable sensor head that allows the area of detection to be optimised for the required application. When an area is no longer occupied, the load switches off after a certain time. This time-out period is configured using Helvar's lighting system design and control software: Designer, or Toolbox.

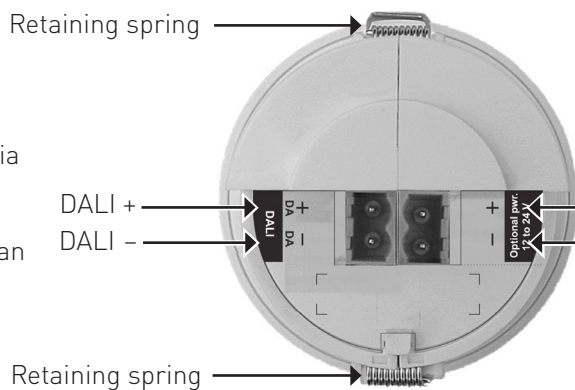
Features and Connections



Mounting bezel

- Microwave sensor: Detects movement within the detection range allowing load control in response to changes in room occupancy.
- IR Receiver: Receives control and programming commands from a Helvar infrared remote handset (available separately).
- Status LED: The red LED flashes to indicate the following:

Valid setting received	x1
Identify active	x6



Retaining spring

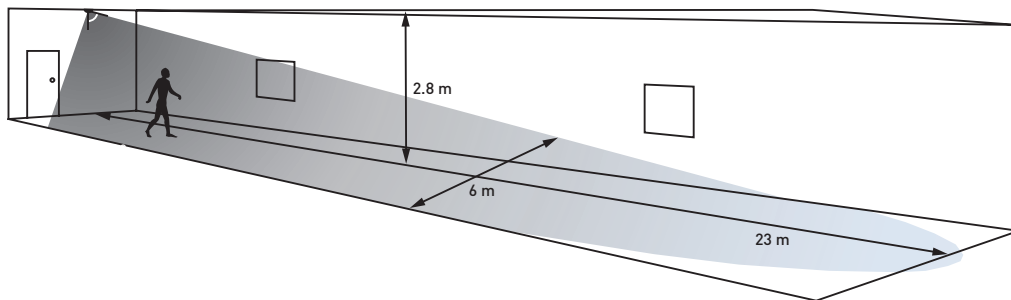
DALI +
DALI -

Optional connection to external power, 12 V to 24 V. See 'External Power Supply (Optional)' on page 2.

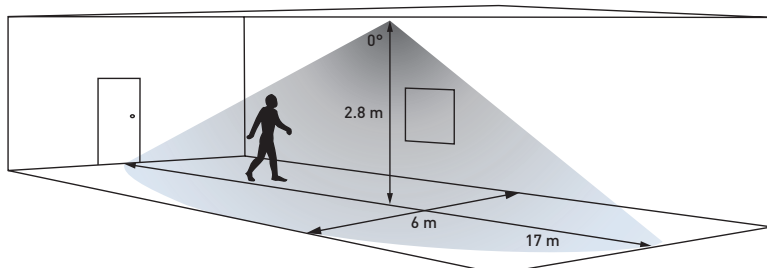
Retaining spring

The DALI connection is made via DA+ and DA- terminals. The DALI input is not polarity sensitive unless you are using an external power supply.

Detection Pattern



Detector head position at 80° to the vertical for large offices or classrooms, and for corridor and aisles. Sensitivity set to maximum.

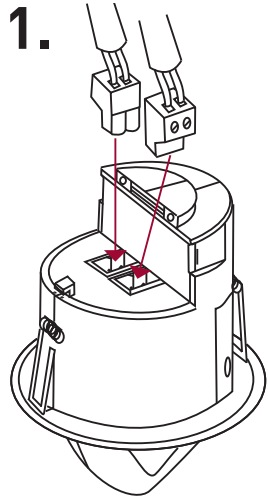


Detector head position at 0° to the vertical for open plan areas and offices. Sensitivity set to maximum.

Prerequisites

- Position the detector so that the occupants of the room are normally inside the detection zone.
- Do not install the detector within 1 m of any lighting, forced air heating, or ventilation equipment.
- Do not fix the detector to an unstable or vibrating surface.
- Install the unit as far away as possible from the surface of metal objects.
- The detection pattern illustrated (see 'Detection Pattern' on page 1) is based on a mounting height of 2.8 m. A lower mounting height will decrease the overall size of the detection zone.

Connection, Fitting and Set Up



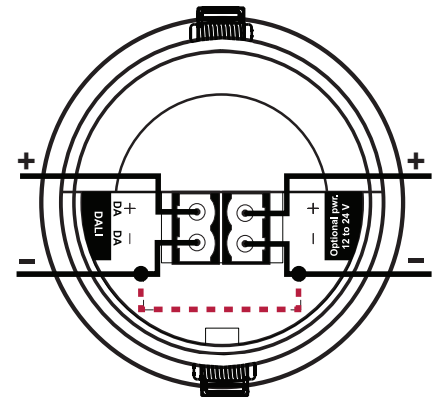
Connect the DALI terminal blocks. If required, connect the external power cable.

External Power Supply (Optional)

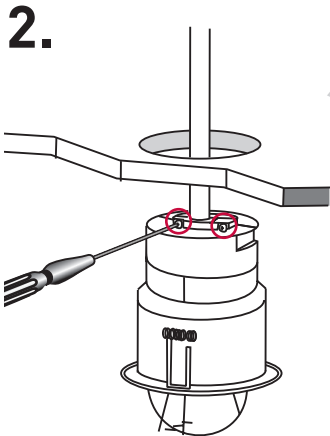
The table below shows the various 12 V to 24 V external power supply units that can be used and the sensor hardware revision needed for each of them.

EPS	Current limited	Link from DA- to EPS-	Sensor hardware revision
Helvar 401	Yes	No	Any
Helvar 402	Yes	Yes	Any
Helvar 403	Yes	No	Any
Helvar LL1x30-E-CV24	Slow	No	4 or later
Generic 12 V to 24 V	No	No*	4 or later

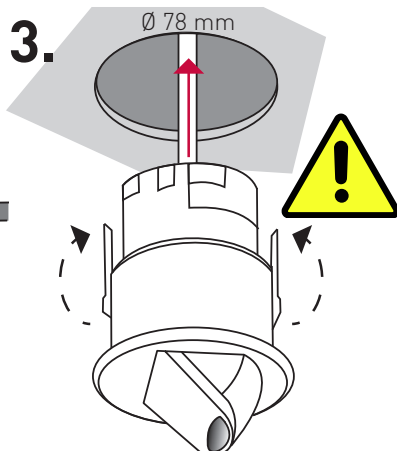
Note: In some cases the generic EPS output is referenced to earth.



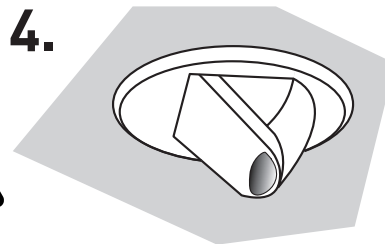
With some models, you must make a wire link between the DALI negative terminal and the negative terminal of the external power supply, as shown in the figure.



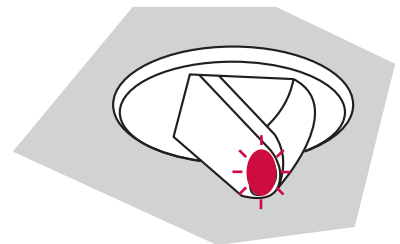
Attach the cable clamp.



Insert the detector into the cutout. Take special care when bending the springs back



Ensure the fitted unit sits flush to the ceiling.



With the circuit switched on the LED in the sensor will flash red for 30 seconds.

When the detector is activated the relating light load will illuminate and remain on for a defaulted time of 20 minutes if there is no other movement detected.

Check the DALI network connection by selecting the *Identify* function in Designer or Toolbox

Adjustments to the detector such as sensitivity, On / Off transitions and illumination periods can be managed using Designer or Toolbox.

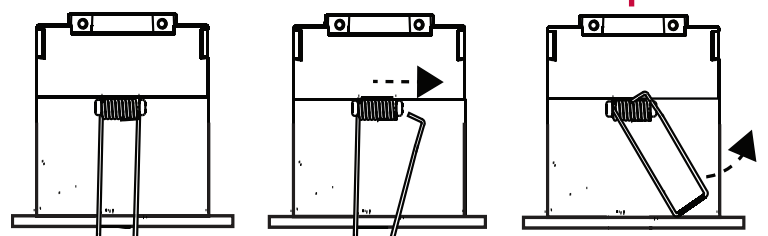
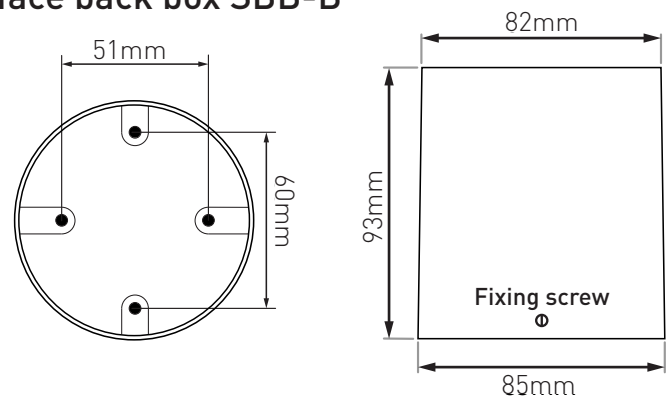
Note: Maximum sensitivity makes the detector unit **extremely sensitive** to movement and may detect through glass, thin walls or partitions. If this causes a problem, reduce the sensitivity.

When using Designer, connect the PC to the lighting network via a Helvar router.

When using Toolbox, connect the PC to the lighting network via a Helvar serial or USB interface.

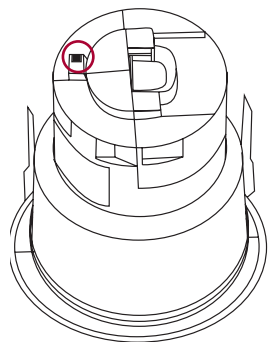
For information about Designer and Toolbox, visit www.helvar.com.

Surface back box SBB-B



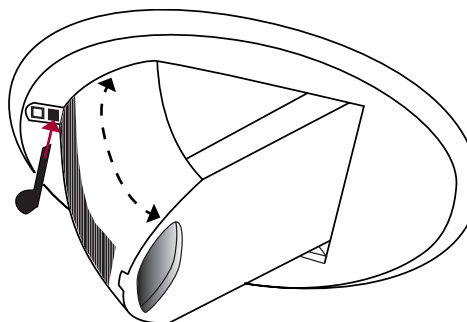
Head Adjustment and Locking

1.



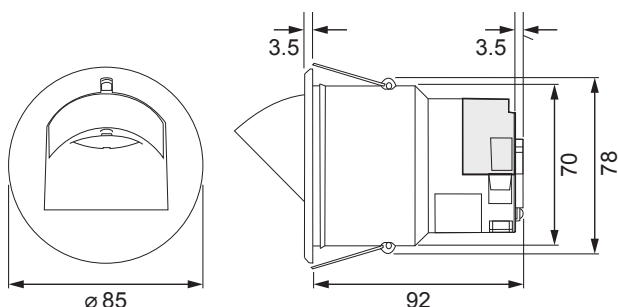
Carefully remove the metal locking clip, circled left, from rear of unit.

2.



Adjust the head to its required position.
Push the locking clip into its position, as shown left, to lock the head. Ensure the clip is fully secured in place.

Dimensions (mm)



Remote Control

The 303 DIGIDIM Infrared Remote Control can send signals to the 314 Detector to:

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

For more details visit Helvar.com or speak to one of our representatives.



Technical Data

Connections

External power / DALI: Removable terminal block
Wire section: 0.5 mm² - 1.5 mm² solid or stranded

Cable rating: All cables must be mains rated.

Power

DALI supply input: 13 V to 22.5 V

DALI consumption: 40 mA *Note: DALI consumption is less than 2 mA when external power is supplied to the unit.*

(Optional) External power: 12 V to 24 V; 0.5 W

Remote control functions

Use Helvar infrared remote handset 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 Toolbox (not by remote control unit).

Factory setting for sensor sensitivity: 9 (maximum).

Microwave operating frequency

Model	Frequency
314	10.687 GHz - China, Hong Kong, India, Malaysia, Middle East, Singapore, United Kingdom
314/R2	10.525 GHz - Australia, Europe except for Austria, France, Germany, Ireland, Portugal, Slovakia, Switzerland, United Kingdom
314/R3	9.900 GHz - France, Portugal, Switzerland

Mechanical data

Mounting hole diameter: 78 mm

Bezel diameter: 85 mm

Recommended clearance depth 80 mm (without protective cover)
(incl. 50 mm for cabling): 100 mm (with protective cover)

Material (casing): Flame retardant ABS and PC/ABS

Finish / Colour: Matt / White RAL 9003

Weight: 124 g

IP code: IP30

Operating conditions

Ambient temperature: 0 °C to +50 °C

Relative humidity: Max. 90 %, noncondensing

Storage temperature: -10 °C to +70 °C

Conformity and standards

EMC immunity: EN 61000-6-1

EMC emission: EN 61000-6-3

Safety: EN 60730-1

Environment: Complies with WEEE and RoHS directives.

Version information

Software version: 6

Hardware version: Rev. 4

Software compatibility

Designer: 4.1 or later

Toolbox: 2.2.16 or later



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