313 Low-Profile Microwave Detector Installation Guide   Helvar

CE   UKCA

The Low-Profile 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 313 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.

When an area is no longer occupied, the load will switch off after a certain time. This time-out period is configured using Helvar's lighting system design and control software: Designer, or Toolbox.
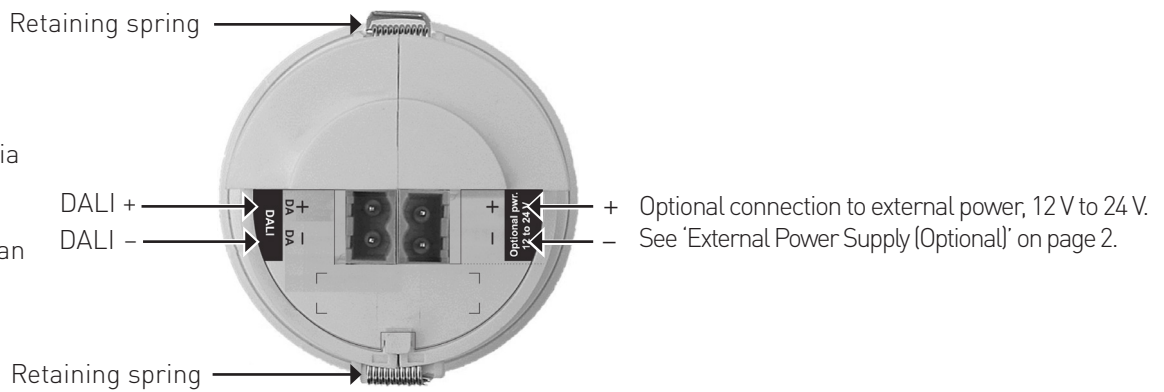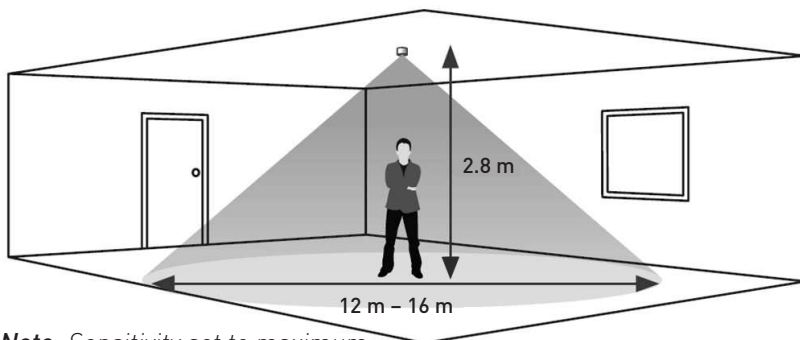
Features and Connections

Mounting bezel

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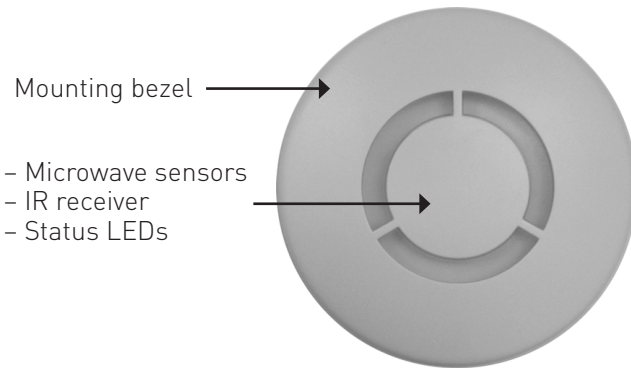
Microwave sensor: Detects movement within the detection range allowing load control in response to changes in room occupancy.
IR Receiver: Receives control and programming commands from a Helvar infrared remote handset (available separately).
Status LED: The red LED flashes to indicate the following:

Valid setting received	☀ x1
Identify active	☀ x6

Retaining spring

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.

DALI +
DALI –

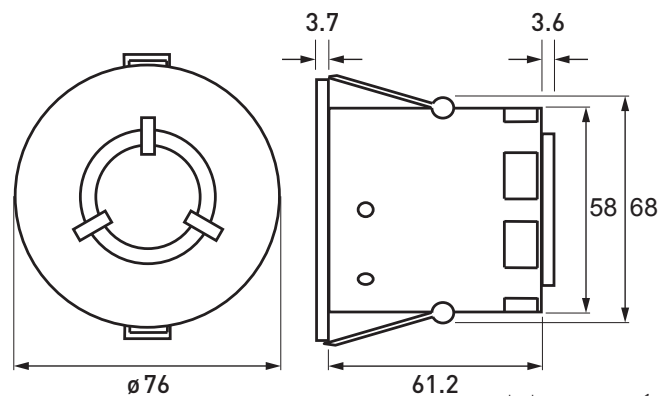+ Optional connection to external power, 12 V to 24 V. See 'External Power Supply (Optional)' on page 2.
–

Retaining spring

Detection Pattern

2.8 m

12 m – 16 m

Note: Sensitivity set to maximum

Dimensions

3.7   3.6

58 68

ø 76   61.2

Installation

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

1.
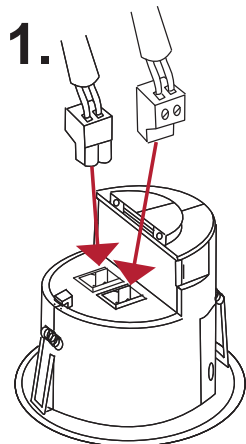
Connect the DALI terminal blocks.
If required, connect the external power cable.

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

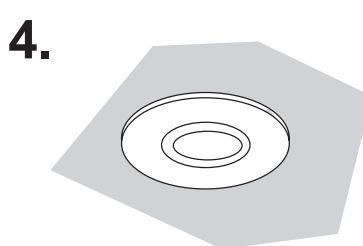*Note*: *In some cases the generic EPS output is referenced to earth.*
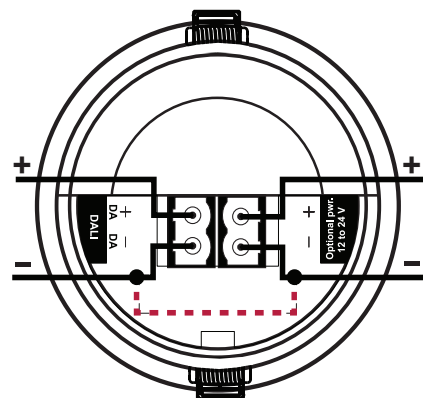
With some models, you must make a wire link between the DALI negative terminal and the negative terminal of the external power supply, as shown in the figure.

2.
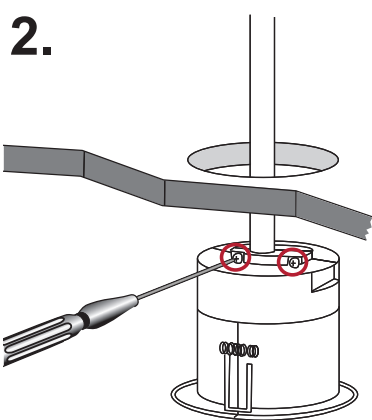
Attach the cable clamp.

3.
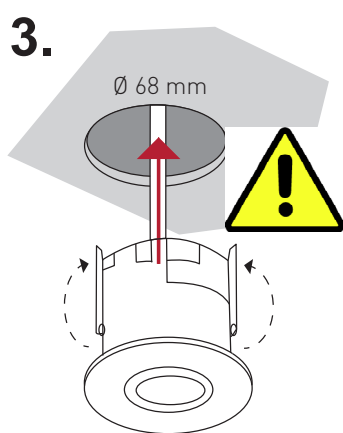
Insert the detector into the cutout.Take special care when bending the springs back

4.

Ensure the fitted unit sits flush to the ceiling.

5.

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.*
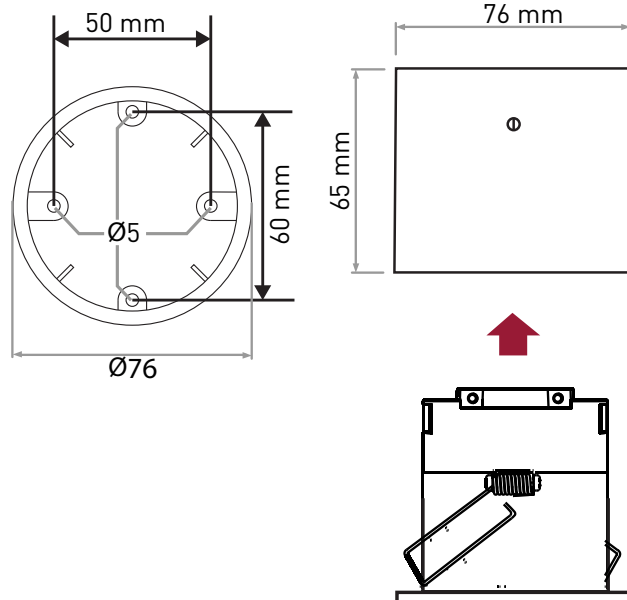When using Designer, connect the PC to the lighting network via a Helvar router.
When using Toolbox, connect the PC to the lighting network via a Helvar serial or USB interface.
For information about Designer and Toolbox, visit www.helvar.com.

Surface Back Box SBB-A, SBB-AB

Note: Surface mount boxes are sold separately.

Remote Control

The 303 DIGIDIM Infrared Remote Control can send signals to the 313 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 – 2.5 mm² solid or stranded
Cable rating:	All cables must be mains rated.

Power

DALI supply input:	13 V to 22.5 V
DALI consumption:	20 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; 0.3 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

Frequency:	5.8 GHz

Mechanical data

Mounting hole diameter:	68 mm
Bezel diameter:	76 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/Colour:	Matt / White RAL 9003
Weight:	90 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 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
Hardware version:	Rev. 4

Software compatibility

Designer:	4.1 or later
Toolbox:	2.2.16 or later

Helvar Ltd
Hawley Mill
Hawley Road
DARTFORD
DA2 7SY
UNITED KINGDOM
www.helvar.com