DALI External Light Sensor

The 329 DALI External Light Sensor, when used in conjunction with a Helvar Lighting Router based controls system, can provide energy savings by adjusting light levels based on the available daylight.

Mount the 329 outdoors to monitor the level of daylight. For instance, bright sunlight will raise the overall light level in the rooms of a building. The sensor will detect this, and the system will reduce the energy levels supplied to the lamps. If the day then becomes overcast, the system will respond to the lower levels of ambient light by increasing the energy provided to the lamps. By profiling the building (measuring the daylight contribution per room) the system can be used to maintain an approximate constant light level, and thereby reduce energy use.

The 329 is for mounting outdoors. The unit head assembly is waterproof when correctly installed and mounted vertically, and can tolerate a wide range of operating temperatures and conditions.

Key Features

- Open loop light control
- Light range of 1 - 100,000 LUX
- Simple mounting
- Easy connection to Helvar router system

Installation Notes

- The unit is intended for wall mounting.

- Isolate the mains supply before installation.

- Cabling must be 230 VAC mains rated.

- Do not mount sensor in direct line of artificial light sources e.g. lamps, uplighters.

- The unit must be mounted vertically, i.e. with the clear Sensor Head Cover pointing upwards. Any convenient surface may be used as long as the sensor element has a reasonably unrestricted view of the sky.

- To avoid the possible risk of lightning strikes, never install the external light sensor at the highest point on a building.
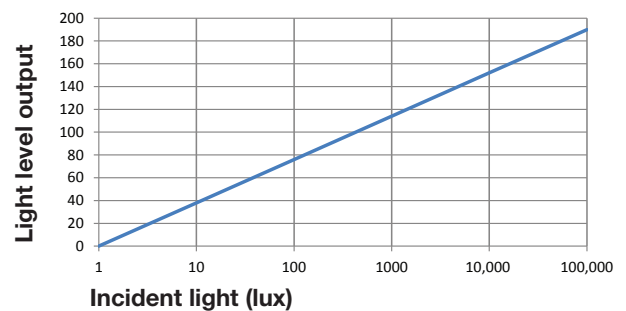
Light sensing angle

Vertical plane: unrestricted viewing angle of 170°.
Horizontal plane: 360° viewing angle.

Light level output

The external light sensor is calibrated to provide a scaled light level output of 0 to 200 covering the full range of daylight. The sensitivity of the external light sensor is factory-set and no adjustment is required.

Incident Light (lux)	Light Level Output Value	Equivalent To
≤1	0	Darkness
2	11	
5	26	
10	38	Twilight
20	49	
50	65	
100	76	Dark day
200	87	
500	102	
1,000	114	Overcast day
2,000	125	
5,000	140	
10,000	152	Full daylight
20,000	163	
50,000	178	
100,000	190	Bright sunlight

Helvar 329 DALI External Light Sensor: Datasheet

Technical Data

Connections

DALI:
Wire size: 1.0 mm^2 - 2.5 mm^2
2-core solid, flexible or stranded
Max. length: 300 m @ 2.5 mm^2
(part of DALI subnet)

Connector type:
Screw terminals:
N: DALI +
L0: DALI –
L1: No connection

Power cable rating: All cables must be mains rated

Power

DALI power supply: 13 - 22 V

DALI consumption: 10 mA

Sensor

Sensor element: Photodiode matched to human eye response

Light sensing angle:
When mounted vertically:
85° from vertical;
Horizontal plane: 360°.

Working light range: 1 - 100,000 Lux

Light level reading output: 0 - 200

Mounting

Mounting angle: Vertical (clear sensor head at top)

Mounting points: 2 x M4 (No 8 woodscrew) (for fixing centres see diagram)

Mechanical Data

Overall dimensions (mm): 148 (H) x 82 (W) x 87 (D)

Materials:

  Base & mounting bracket Black ABS

  Socket & sensor ass'y Black glass-filled nylon

  Sensor cover Toughened acrylic (UV stable)

IP rating: IP 65

Weight: 250 g

Operating Conditions

Ambient temperature: -35°C to +70°C

Relative humidity: Max 90%, non-condensing

Storage temperature: -35°C to +70°C
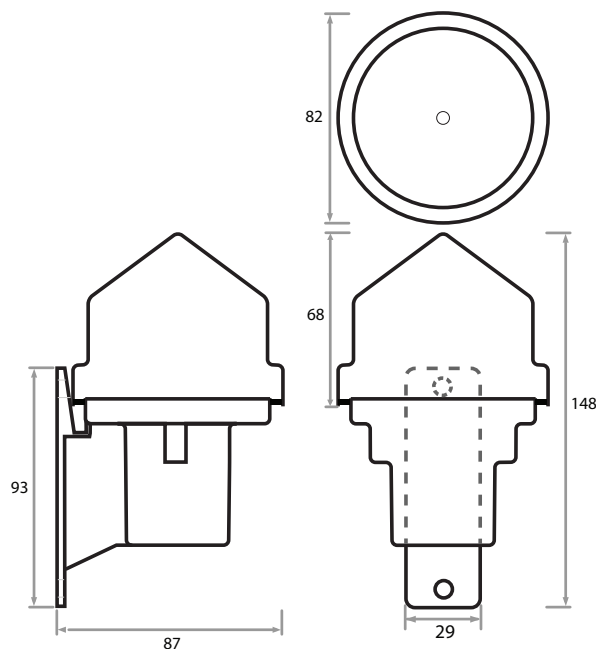
Conformity and Standards

EMC: Emissions EN 55015

  Immunity: EN 61547

  Safety: EN 60950

Environment: Complies with WEEE and RoHS directives

Dimensions (mm)

Fixing centre locations
(Dimensions in mm)

www.helvar.com