

EBR-EBDHS-DALI

DALI network HS PIR with photocell

Overview



The EBR-EBDHS-DALI presence detector provides automatic control of lighting. It is connected to the RAPID DALI Gateway via a DALI network. The EBR-EBDHS-DALI is a high sensitivity PIR detector suitable for high bay applications, such as warehouses and factories, and where high detection sensitivity is needed.

Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty.

An adjustable internal light sensor provides light level information to the RAPID system to allow lights to be kept off if sufficient daylight is present, and to enable maintained illuminance for dimming systems.

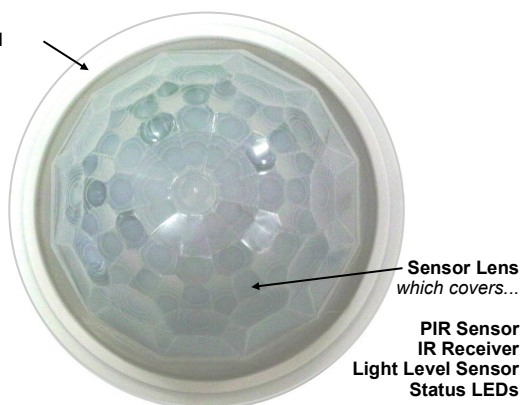
An integral IR sensor in the unit allows the unit to be commissioned, and used in conjunction with a remote control handset (part no: UHS) to:

- Act as a conventional dimmer
- Override the unit on or off

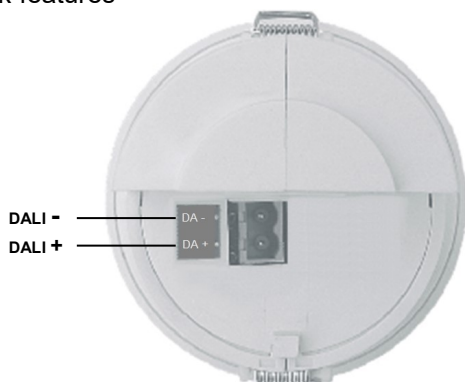
Features

Front features

Mounting Bezel



Back features



PIR Sensor

Detects movement within the unit's detection range, allowing load control in response to changes in occupancy.

IR Receiver



Receives control and programming commands from an IR (infrared) handset.

Light Level Sensor

Measures the overall light level in the detection area

Status LEDs

The LED flashes **Red** or **Green** to indicate the following:

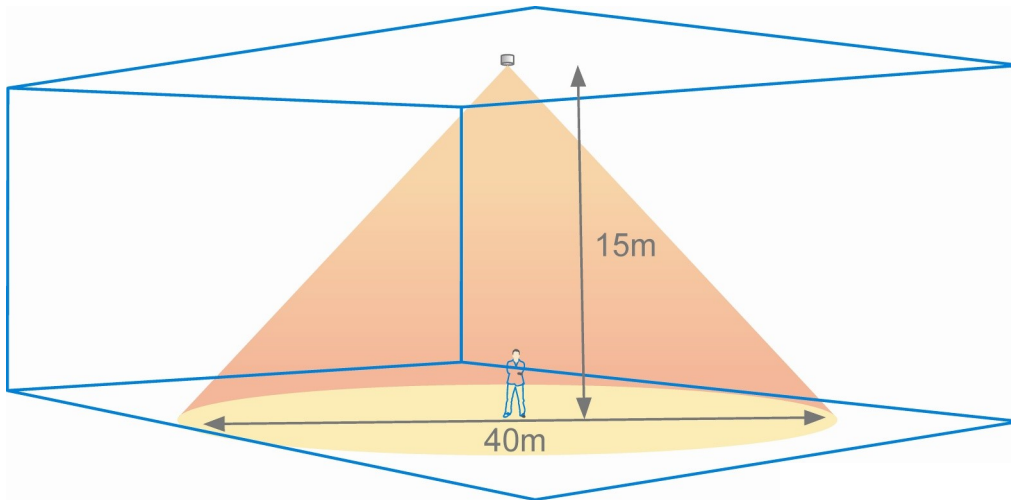
Walk Test LED active	 when movement is detected
Valid setting received	

DALI connection

Connection to the DALI bus via pluggable screw terminals. The DALI bus is polarity insensitive.

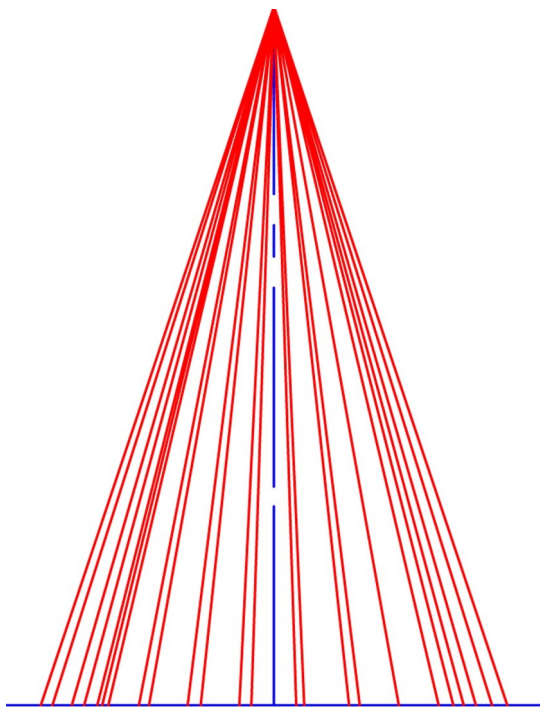
Detection diagrams

Range

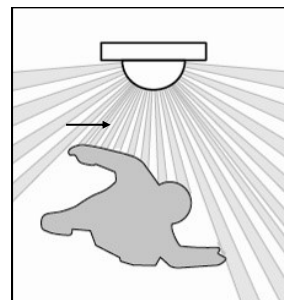


Maximum mounting height 20m

Detection pattern

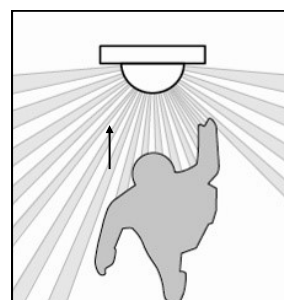


Walk across



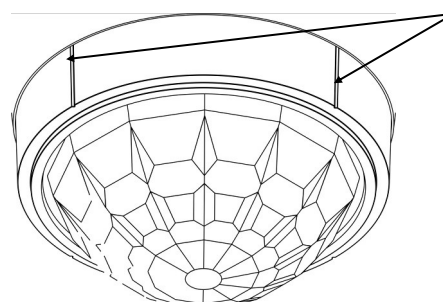
Height	Range Diameter
15m	40m
10m	26m
6m	16m
3m	9m

Walk towards

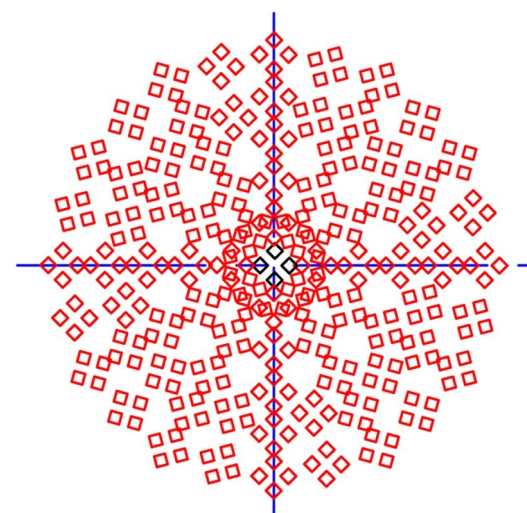


Height	Range Diameter
15m	30m
10m	20m
6m	12m
3m	8m

Alignment marks



The sensor head has 4 alignment marks. These 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. See example overleaf.

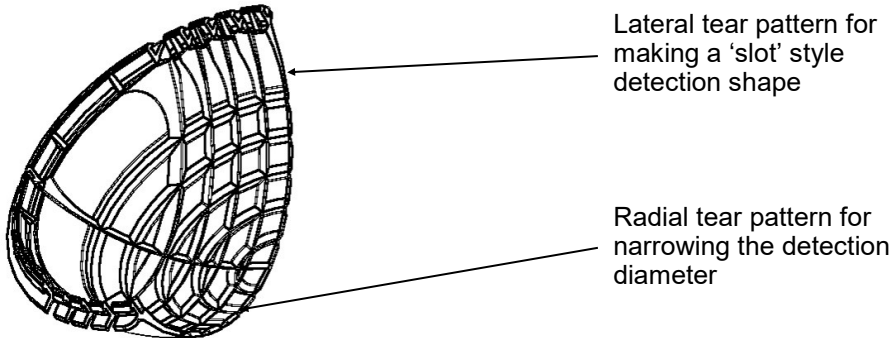


Masking

The EBR-EBDHS-DALI includes two clip-on masking shields to allow for precise masking of the detection shape. The masks can be easily shaped to produce detection patterns suitable for applications such as aisles and corners and for narrowing the detection diameter.

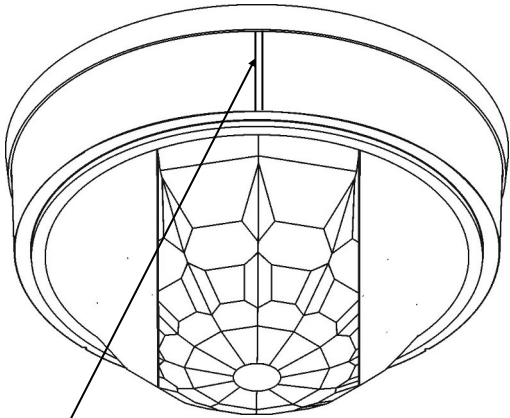
Important note. Ensure all infra-red (IR) programming is completed before affixing the masking shields to the detector.

The masking shields may impair the light sensor and IR sensors by covering them. Ensure correct operation before completing commissioning.

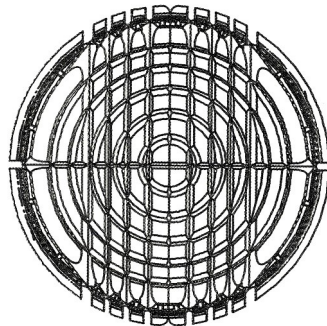


Aisles

Masking shields trimmed for aisle shaped detection



Align trimmed shields with sensor head alignment marks and aisle.



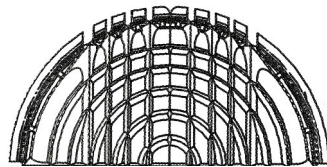
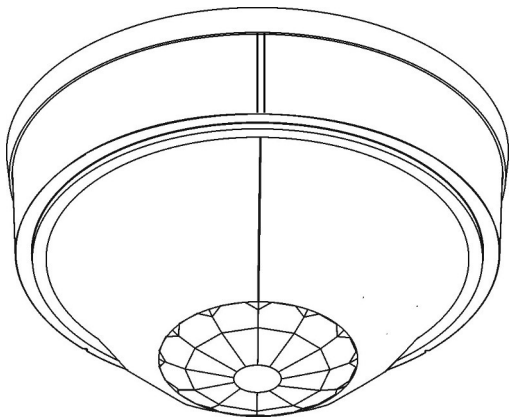
Slot number 1 2 3 4 4 3 2 1

Slot number	Masking shield % coverage
1	45%
2	32%
3	22%
4	11%

Example
 Mounting height 6m
 Trimmed to slots 2
 Aisle detection width 16m x 32% = 5.1m walk across
 12m x 32% = 3.8m walk towards

Narrow detection

Masking shields trimmed for a narrow beam of detection



Diameter number 1 2 3 4 5 5 4 3 2 1

Diameter number	Masking shield % coverage
1	89%
2	63%
3	45%
4	32%
5	22%

Example
 Mounting height 15m
 Trimmed to diameter 3
 Detection diameter 40m x 45% = 18m walk across
 30m x 45% = 13.5m walk towards

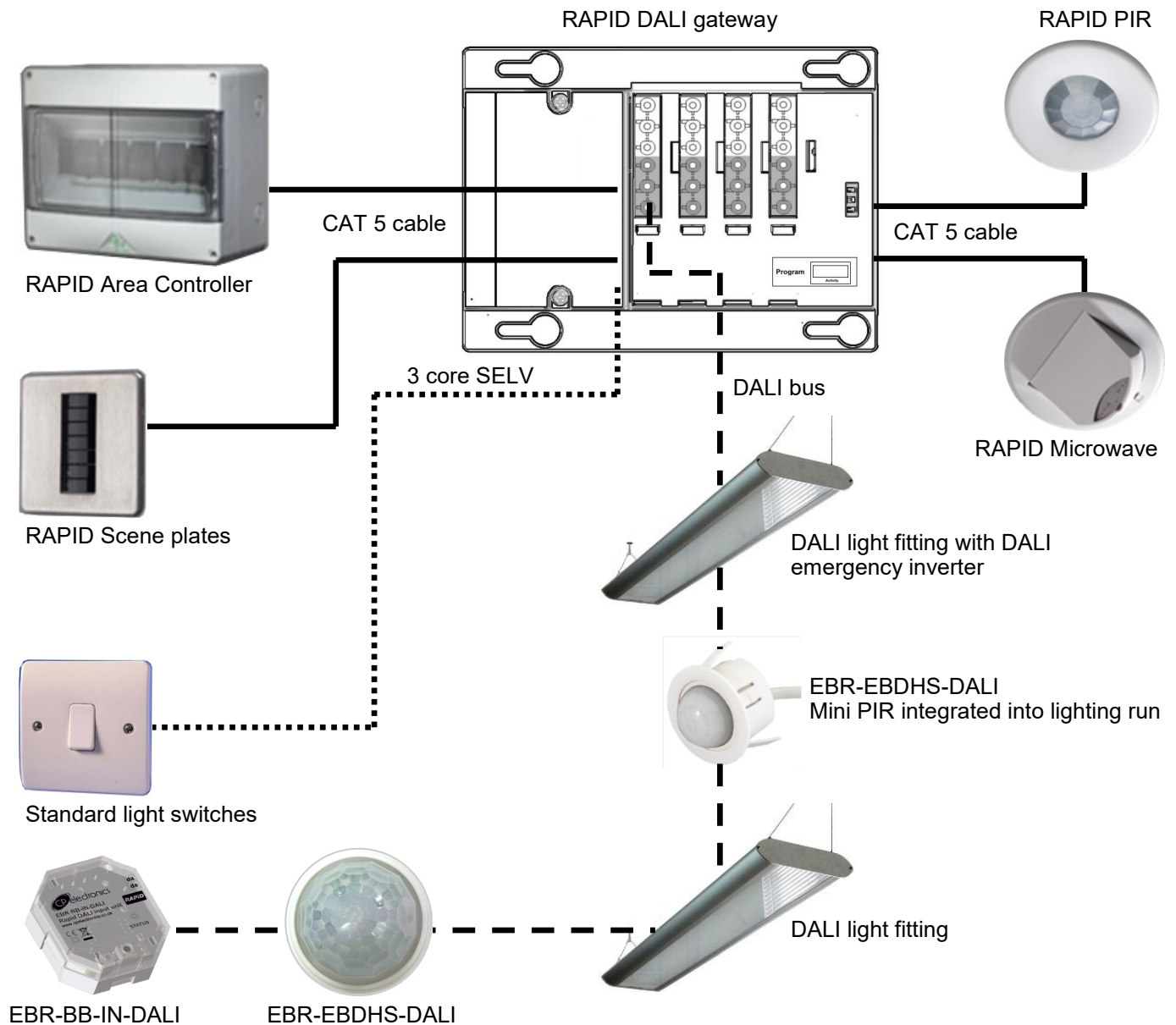
Installation

Choosing a Suitable Location

The EBR-EBDHS-DALI is designed to be ceiling mounted and must satisfy the following criteria:

- Avoid positioning the unit where direct sunlight may enter the sensor element.
- Do not site the sensor within 1m of any lighting, forced air heating or ventilation.
- Do not fix the sensor to an unstable or vibrating surface.
- Do not exceed maximum length of cable (200m) on data bus.
- Do not exceed maximum bus loading (200mA).

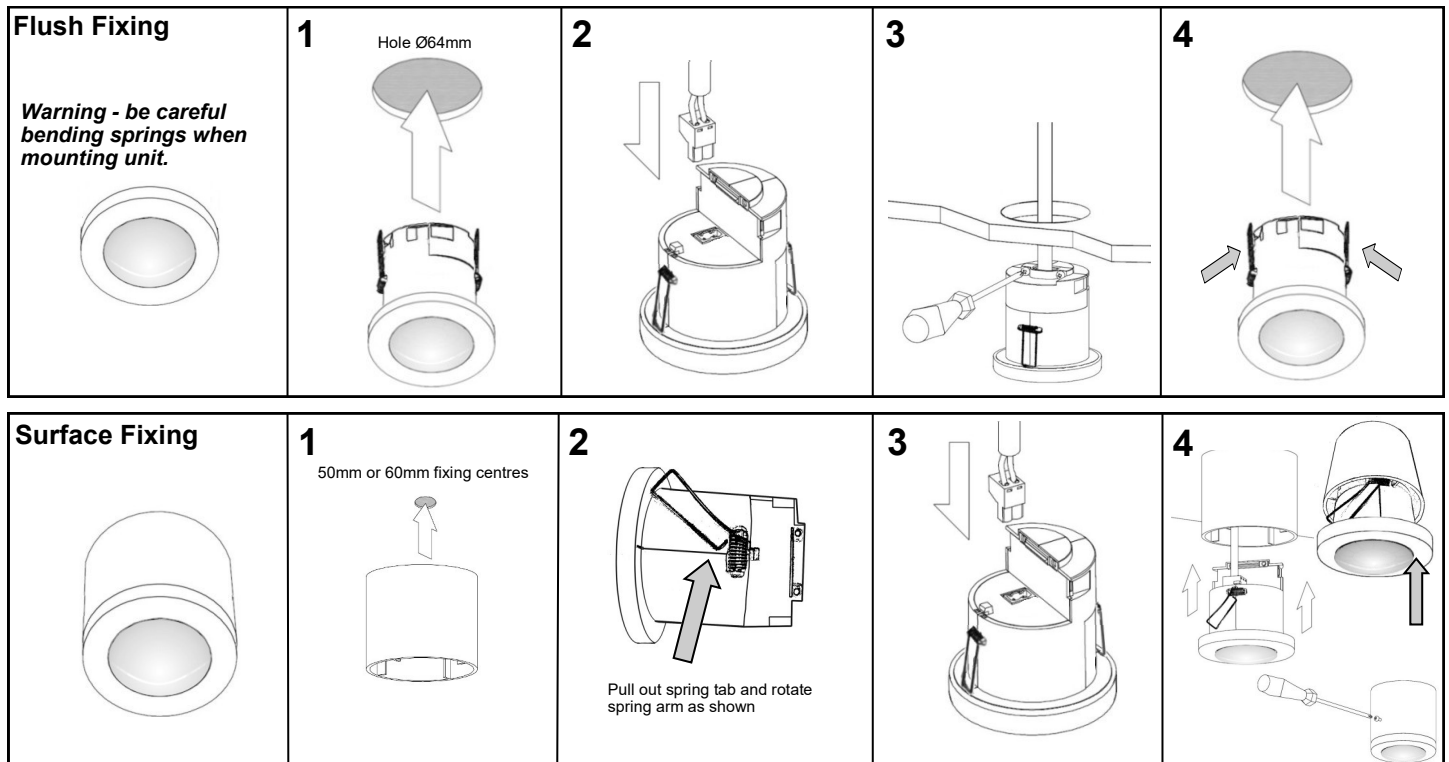
System wiring example



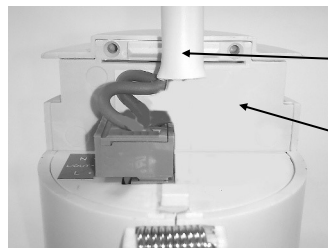
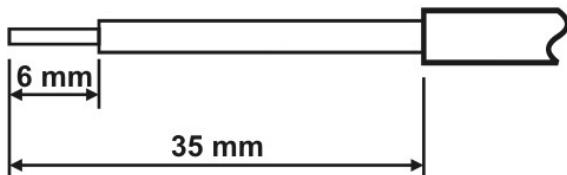
The EBR-EBDHS-DALI is designed to be mounted using either:

- Flush fixing, or
- Surface fixing, using the optional Surface Mounting Box (part no. DBB).

Both methods are illustrated below.



Wire stripping details



Important

Ensure that the cables are formed as shown before affixing the cable clamp. The clamp **MUST** clamp the outer sheath(s) only.

Bend cores as shown.

DALI bus loading

Devices (detectors / input units) and ballast combinations for 200mA supply.

This assumes that the sensor LEDs are all on, and the sensor is receiving IR communication.

- 4 devices and up to 64 ballasts
- 5 devices and up to 55 ballasts
- 6 devices and up to 44 ballasts
- 7 devices and up to 33 ballasts
- 8 devices and up to 22 ballasts
- 9 devices and up to 12 ballasts
- 10 devices and up to 2 ballasts

In most realistic scenarios, only one LED is on at a time and only one detector is receiving IR; guidance changes to.

- 10 devices up to 64 ballasts
- 11 devices up to 60 ballasts
- 12 devices up to 55 ballasts
- 13 devices up to 50 ballasts
- 14 devices up to 48 ballasts
- 15 devices up to 44 ballasts

Addressing limits of DG64

- 5 input units of 7 channels each
- 10 detectors

Technical data

Dimensions	See diagrams opposite
Weight	0.10kg
Supply Voltage	9.5VDC—22.5VDC via DALI
Current consumption	8mA

DALI bus	Cannot be considered as SELV since DALI, ballasts only offer basic insulation, therefore all devices on the DALI bus must be wired as if carrying mains potential.
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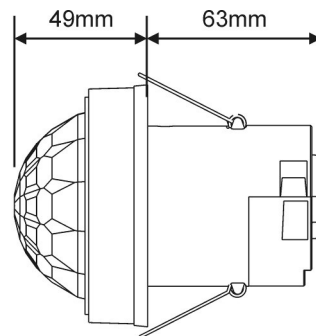
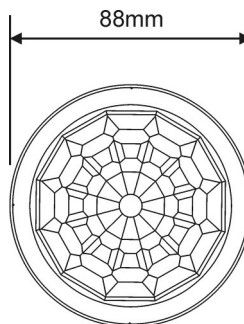
Terminal Capacity	2.5mm ²
Temperature	-10°C to 35°C
Humidity	5 to 95% non-condensing
Material (casing)	Flame retardant ABS and PC/ABS
Type	Class 2
IP rating	40 without gasket. 65 with gasket.

Compliance	EMC-2014/30/EU LVD-2014/35/EU
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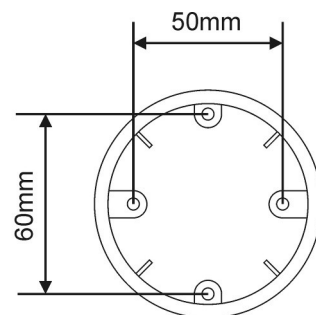
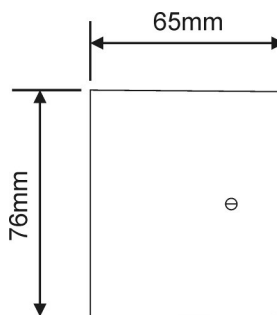
For further compliance information visit
www.cpelectronics.co.uk/compliance



EBR-EBDHS-DALI



DBB



UK and international patents applied for

Part numbers

	Part number	Description
Sensor	EBR-EBDHS-DALI	DALI network HSPIR with photocell
Accessories	DBB	Surface mounting box
	UHS	User handset override on/off; lux up/lux down
	UHS3	User override remote handset on/off
	UHS3 (2)	User override remote handset, off only
	UNLCDHS	Universal LCD programming handset

IMPORTANT NOTICE!

This device should be installed by a qualified electrician in accordance with the latest edition of the IEE Wiring Regulations and any applicable Building Regulations.



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