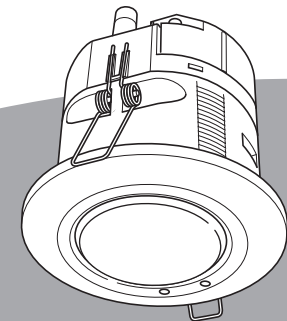


Installation Instructions



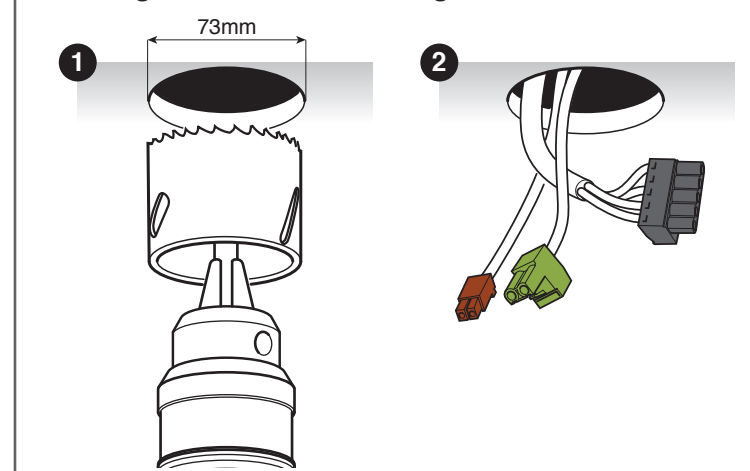
LightSpot HD Photocell Daylight Sensors

⚠ Only suitably qualified personnel should install this equipment

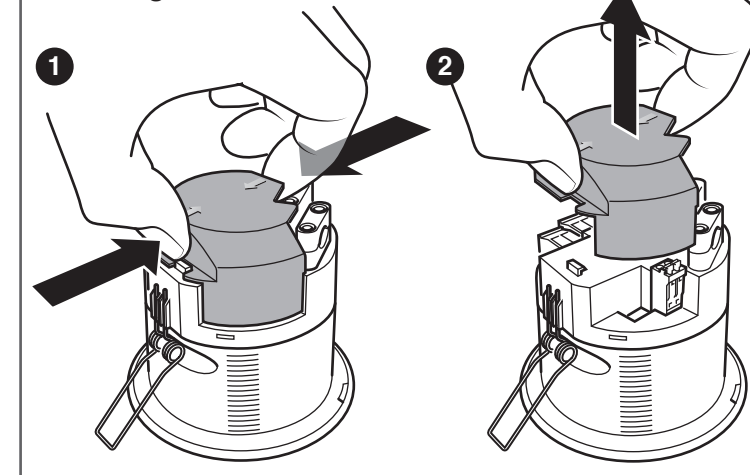
50093555-001 / Quick Link Photocell

Part Number	Flush Mount	Surface Mount	Mains Powered	Bus Powered	Switching	Digital Dimming	Analogue Dimming	Quick Link
LS3340DF	•		•			•		•
LS3340DSM		•	•			•		•
LS3340ARF	•		•		•			•
LS3340ARSM		•	•		•			•
LS3360F	•			•				•
LS3360SM		•		•				•

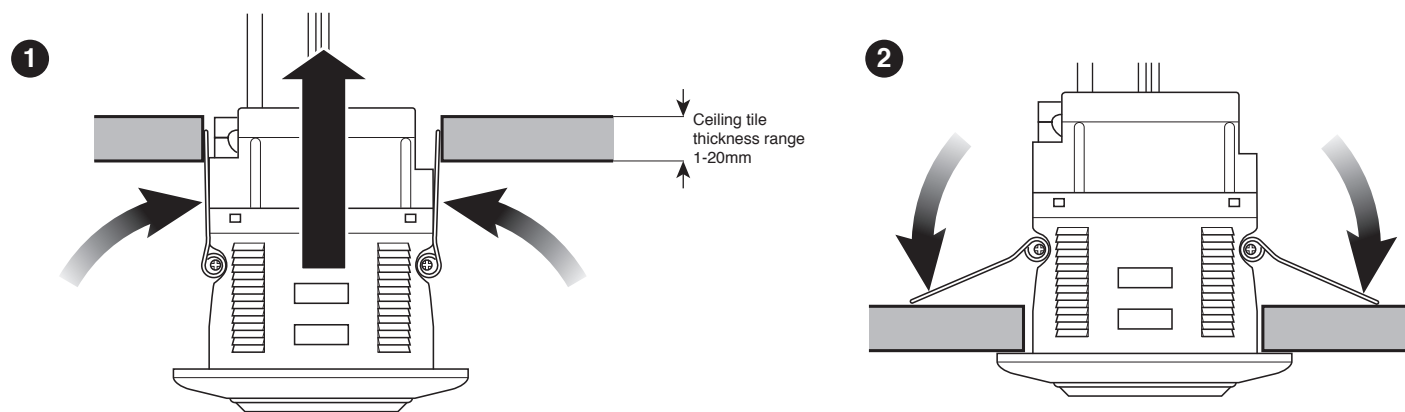
Installing the Sensor into Ceiling Tile



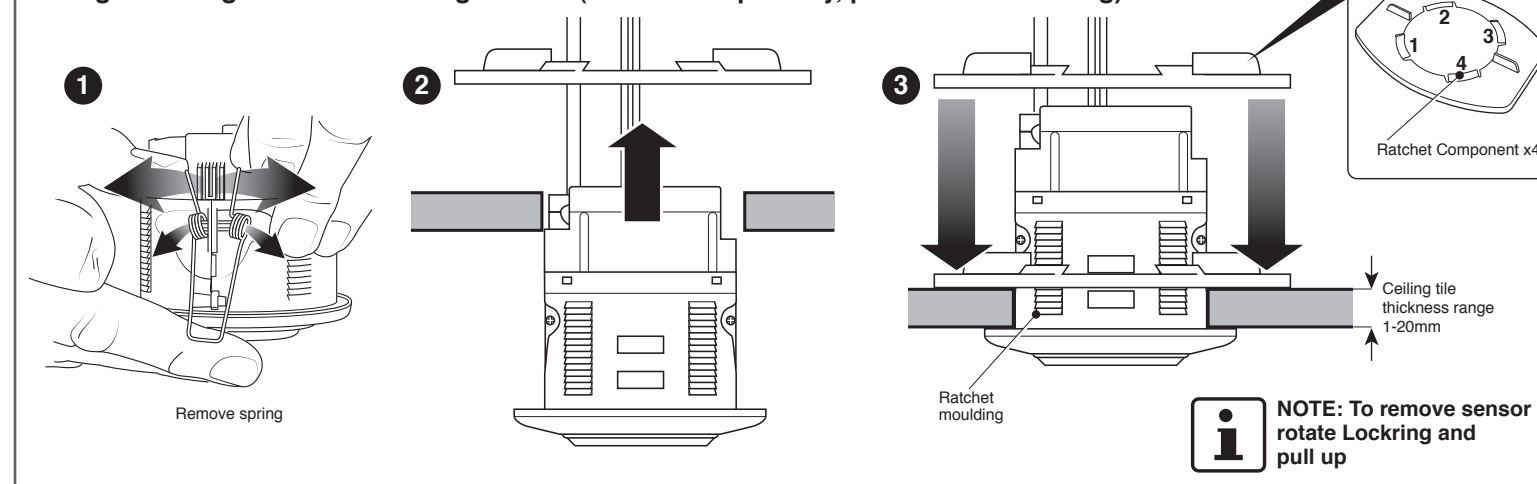
Removing the Terminal Cover



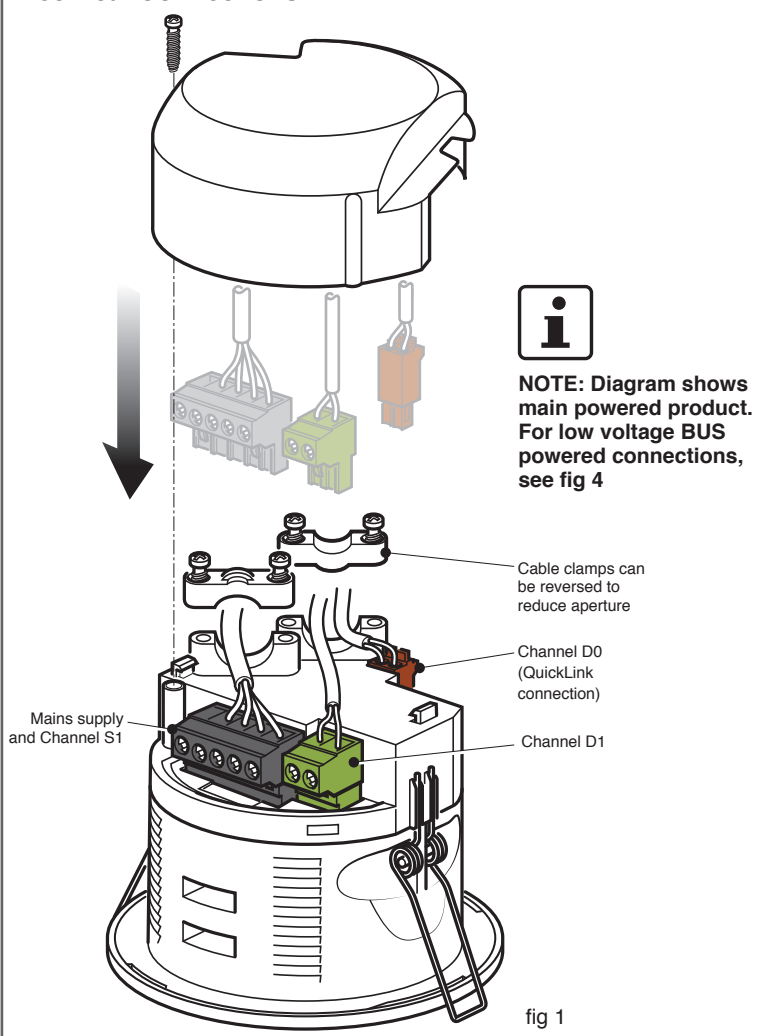
Fixing to Ceiling – Standard Method



Fixing to Ceiling – Secure Locking Method (Available separately, please order locking)



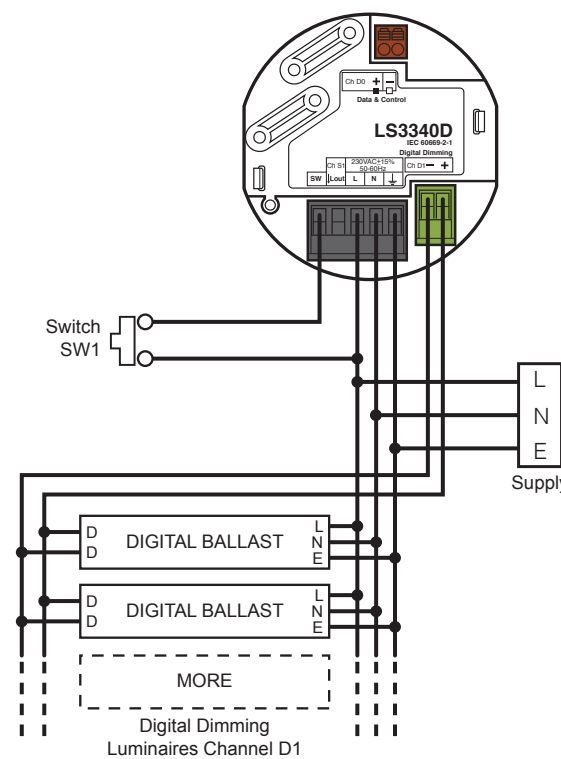
Electrical Connections



NOTE: Diagram shows main powered product. For low voltage BUS powered connections, see fig 4

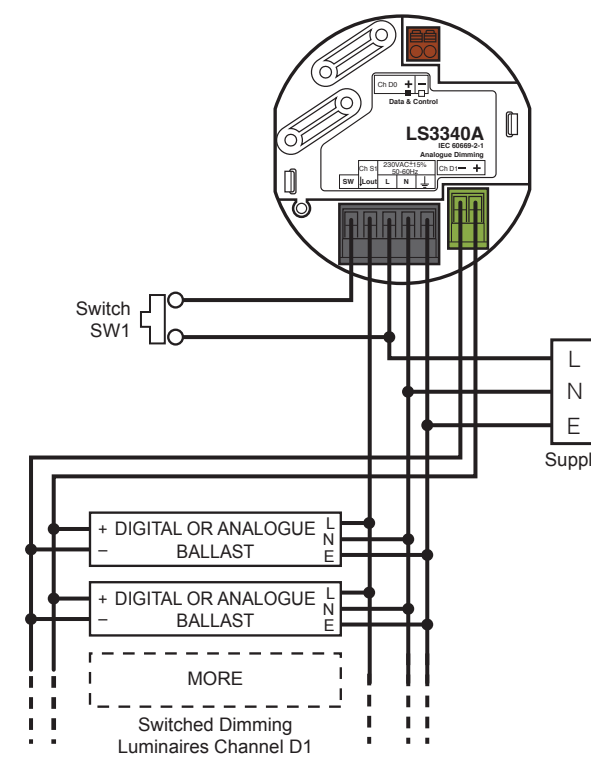
The following wiring diagrams show how to connect some of the more fully-featured products listed in the product table above. For clarity, the wiring for some of the lesser-featured products is not shown, but the wiring principles are the same and equally applicable. Simply omit any sections that are not relevant to the product being installed.

Stand-Alone Mains-Powered Photocell with Digital Dimming Output (fig 2)



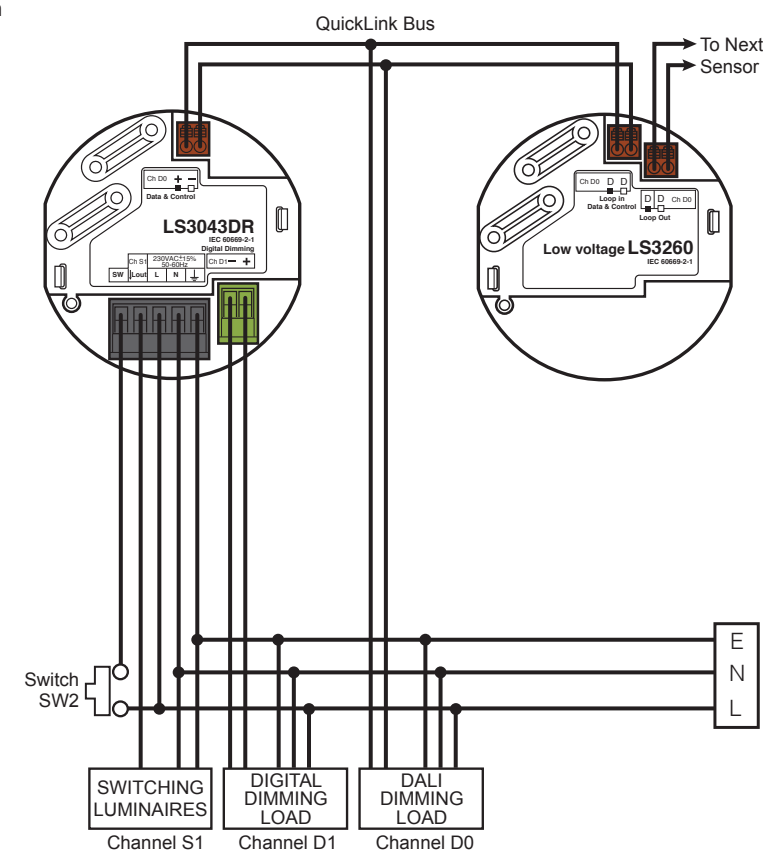
Stand-Alone Mains-Powered Photocell with Dimming and Switched Live Outputs (fig 3)

Analogue ballasts cannot be switched off from the control terminals, so it is necessary to switch the mains power from the sensor as shown in the diagram below. Although switching the mains power is not necessary with digital ballasts, they may be wired this way in order to reduce the quiescent power consumption to an absolute minimum.



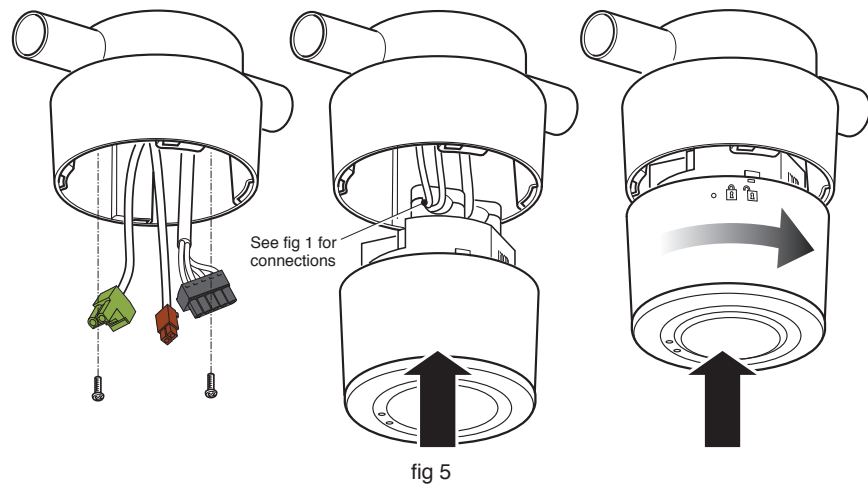
Using a low Voltage Photocell on the QuickLink Bus (fig 4)

The diagram below shows how to connect a DALI low voltage photocell to the QuickLink bus. In this example, the QuickLink bus is powered by a mains powered presence sensor.



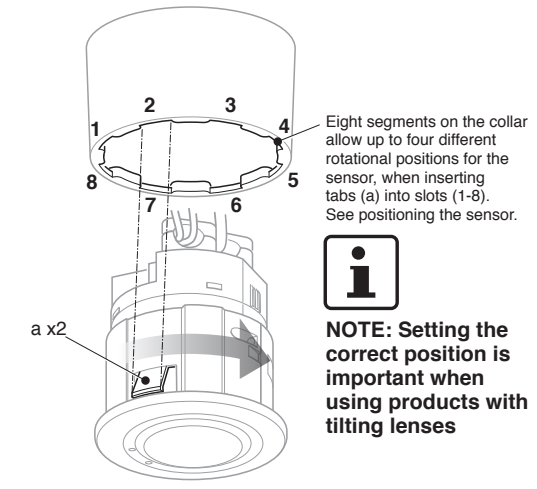
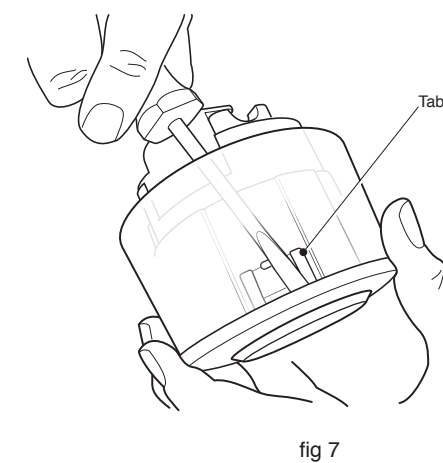
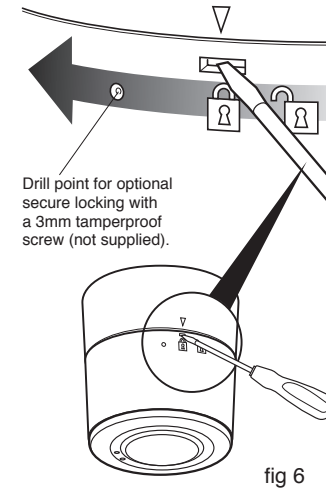
Fixing to Ceiling – Surface Mounting (optional)

Product variants with “SM” suffix on the part number are supplied with the surface fitting kit as standard. The surface mount kit is available as a separate part, please order **Surfmt**. The sensor may be mounted to any suitable surface, but is most commonly fixed to a conduit stop-end (fig 5 set) (BESA) box or bushed to trunking.



Uninstalling and Repositioning

Insert a flat headed screwdriver into the slot as shown and twist the collar anti-clockwise to release, fig 6. To separate the sensor from the surface mount casing, push a flat headed screwdriver onto the tab via the inside void of the casing and pull the sensor upwards, fig 7.



NOTE: Setting the correct position is important when using products with tilting lenses

Diagnostics

A number of LED indications are provided in order to help with fault-finding. Sensors are supplied with the LEDs disabled, however they may be enabled at the point of commissioning if required. Detectable wiring faults are always indicated by the LEDs, irrespective of whether they are enabled.

Wiring faults on analogue dimming circuits are difficult to detect automatically. If analogue dimming is not working as expected, the recommended method for checking is as follows:

1. Disconnect the dimming control pair from the sensor.
2. With the [now open-circuit] dimming control wiring still connected to the luminaires, the brightness should immediately go to full.
3. Briefly short together the two wires from the luminaire dimming pair, the luminaires should go to low brightness, but not off.
4. If either of steps 2, 3 above do not work as described on every luminaire, investigate the wiring. When working correctly, re-connect the dimming pair to the sensor.



NOTE: With regard to safety, the dimming control connections should be treated with the same respect as mains.

LED indication	Meaning
1 blue flash every 2 seconds	Light level demand – photocell striving for more light in order to reach set-point
2 blue flashes every 2 seconds	A manual switch is being activated
Long red flash every 2 seconds	100hr lamp burn-in is in progress – this means dimming will not be permitted for the duration
2 red flashes every 2 seconds	Channel D0 or Channel D1 error – e.g. 3. Too many QuickLink mains-powered devices connected together, or 4. Dimming terminals connected somewhere they shouldn't
3 red flashes every 2 seconds	Channel D0 or Channel D1 error – e.g. 5. Possible short circuit, or 6. Too many luminaires, or 7. Too many QuickLink low voltage detectors, or 8. QuickLink mains-powered detectors connected together with wrong polarity

Out of Box Behaviour

Prior to commissioning, the default settings for each channel of the sensor will be as follows:

Time Delay: 20 minutes

Photocell Setting: Always turn lights on

Dimming Level: 100%

Occupancy Mode: Automatic (lights Auto ON, Auto OFF)

Digital Ballast Type (DSI/DALI): Auto detect



NOTE: Please go to www.ex-or.com for a complete list of programmable parameters.

Technical Data

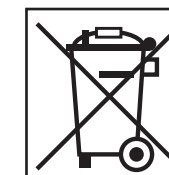
Marking	Manual Switch	Live Output (ChS1)	Power Supply			Dimming (ChD1)		QuickLink and Dimming (ChD0)		QuickLink Loop In		QuickLink Loop Out			
	SW	Lout	L	N	E	D1-	D1+	D0+	D0-	D	D	D	D		
Colour	Black					Blue		Red		Red	Red				
Terminal type	Pluggable rising cage clamp					Pluggable rising cage clamp		Pluggable screwless		Pluggable screwless	Pluggable screwless				
Terminal capacity	1 x 0.5-2.5mm sq solid or stranded					1 x 0.5-2.5mm sq solid or stranded		1 x 0.5-1.5mm sq solid or stranded		1 x 0.5-1.5mm sq solid or stranded	1 x 0.5-1.5mm sq solid or stranded				
Recommended Cable	0.75mm sq	Derive from appropriate wiring regulations					0.75mm sq		0.75mm sq		0.75mm sq				
Maximum length	10m						100m		100m		100m total system length				
Function	Input	Output	Input			Output		Output		Input	Output				
Operating Voltage	230VAC+/-15% 50-60Hz Recommended circuit protection: 16A MCB					Low Voltage – isolation 1.5kV					12-22VDC				
Power Consumption	Negligible	N/A	150mW (some products)			N/A		N/A		160mW (12mA)		160mW (12mA) per additional device			
Maximum Load Current	N/A	10A (maximum inrush 80A)	N/A			60mA max 15 ballasts for DSI, DALI and analogue		60mA		N/A		N/A			
Permissible load types/connections	N/A	Magnetic- ballasted fluorescent, Compact fluorescent, Electronic- ballasted fluorescent, LED (maximum inrush 80A), Tungsten lamps (max 6A)	N/A			15 DALI digital ballasts or 15 DSI digital ballasts		10 DALI digital ballasts		N/A		N/A			
						*some products, analogue ballasts (max 15)		QuickLink Low Voltage sensors (max 3) QuickLink Master sensors (max 1)							

IMPORTANT NOTES

1. A means for disconnection must be incorporated in the fixed wiring in accordance with the current wiring regulations.
2. Dimming (DALI, DSI and Analogue) and QuickLink terminals have only basic isolation from mains and therefore should be wired in mains-rated cable and treated with the same respect as mains with regard to wiring practice.
3. This equipment is designed to switch lights no more frequently than normal manual operation. However, manufacturers of some particular lighting types (e.g. '2D' luminaires) may specify a maximum number of switching cycles and/or a minimum on-time in order to achieve a predicted lamp life. Please check with the manufacturer of the luminaires to ensure that they are compatible with automatic controls in this respect.

4. In order to achieve satisfactory light level regulating operation, a sensor must observe a substantially greater proportion of artificial light from the luminaire(s) under its control than from neighbouring luminaires not under its control. This is particularly important when planning the installed layout of linear luminaires that have an integral detector positioned at one end.
5. Due to limited space within the enclosure, it is not recommended that this product be used as a wiring junction box. System connections should be made elsewhere and wiring not looped within the product enclosure.
6. All information given in this document was correct at the time of publication.

TECHNICAL SUPPORT
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At the end of their useful life the packaging and product should be disposed of via a suitable recycling centre. Do not dispose of with normal household waste. Do not burn.

