

Ex-Or LightSpot



Making light work

**EX-OR LIGHTSPOT & LIGHTSPOT HD  
STAND-ALONE LIGHTING CONTROLS**

# Making light work Since 1984

For over 30 years our bright ideas have been helping our customers make light work.

We're acknowledged leaders in developing elegant and innovative lighting control systems that are easy to install and maintain. Our solutions help our customers to reduce their energy bills, lower their carbon footprints, and improve performance.

There was a time when lighting was just about illumination. Today it's still about creating a comfortable working environment, but not at any cost.

Our range of new generation lighting controls switch lights off when no-one's there, and dim or switch them off when there's enough natural light. So they help you save on your energy costs – sometimes as much as 70%, year after year.



## The Ex-Or Commitment

### **Making light work of energy savings**

Our high performance lighting controls deliver reductions of up to 70% in energy use. This means significant savings on energy bills at a time when energy costs are rising rapidly.

### **Making light work with ease**

At Ex-Or we pride ourselves on being easy to do business with, from your initial contact with our sales and customer service teams to the installation, commissioning and use of our products. We aim to delight you with our solutions, service and support.

### **Making light work for comfort and productivity**

The breadth of our portfolio and our know-how helps you achieve optimum energy saving in any space, whilst enhancing comfort and productivity for the building's users.

### **Making light work with quality**

Ex-Or have been creating award winning lighting control systems since 1984. Our unrivalled expertise has delivered some of the industry's most innovative solutions. Ex-Or's excellence in design and manufacturing provides robust and reliable products which are backed by a five-year warranty.





# Why you need lighting controls

Lighting is the second largest consumer of energy in a building, so is an obvious target for reducing costs. Lighting controls help you maximise energy efficiency while also enhancing comfort and productivity.

Lighting needs to be flexible – it needs to react to what’s happening in the building. When there’s no-one around it might not be needed at all – and you can’t always rely on people switching the lights off.

Spaces are flexible too. For example, you might have multi-use areas with pre-set lighting configurations for different activities, or a large office with frequent layout changes.

Furthermore it helps you to be more environmentally friendly as it’s easier to comply with energy legislation and buildings regulations such as BREEAM and LEED.

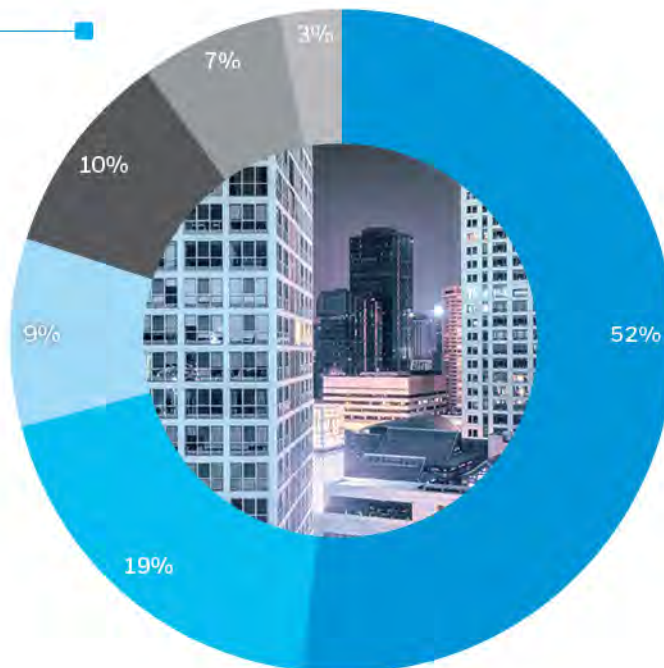
## Lighting controls help you save energy and save money:

- 19% of a building’s energy use is lighting – lighting controls can help you cut that by up to 70%
- Room sensors are a worthwhile investment – they can yield a payback in less than one year
- Lighting controls are eligible for tax relief under the UK government Enhanced Capital Allowance scheme

Ex-Or’s lighting controls, combined with LED lighting, can offer the greatest potential energy savings for your lighting – up to 90% in some applications.

How your building uses energy

- Heating, ventilation and cooling
- Lighting
- Hot water
- Catering
- Other
- Computing



Source:  
Department of Energy and climate  
change (July 2012)

Ex-Or LightSpot provides a stand-alone lighting control solution based on occupancy and daylight detection.

You don't need a centralised computer, you don't need to keep track of individual addresses for your lighting or lighting controls – you get flexible, responsive and reliable control to enhance the lit environment and minimise energy waste.

## LightSpot HD

# Making light work of energy savings

- Achieve optimal energy savings through occupancy detection and daylight detection
- Shorter time delays can be set, as even very small movements are detected, delivering greater energy savings
- Create virtual corridors so passing traffic doesn't unnecessarily trigger sensors
- Industry leading low levels of quiescent power consumption
- Mid-Bay & Hi-Bay versions specifically for greater mounting heights (12m and 16m respectively)
- QuickAnalytics data management tool allows you to check your installation and identify opportunities for enhanced energy savings by monitoring lighting usage, ambient light levels and room occupancy

*(See pages 14-15.)*



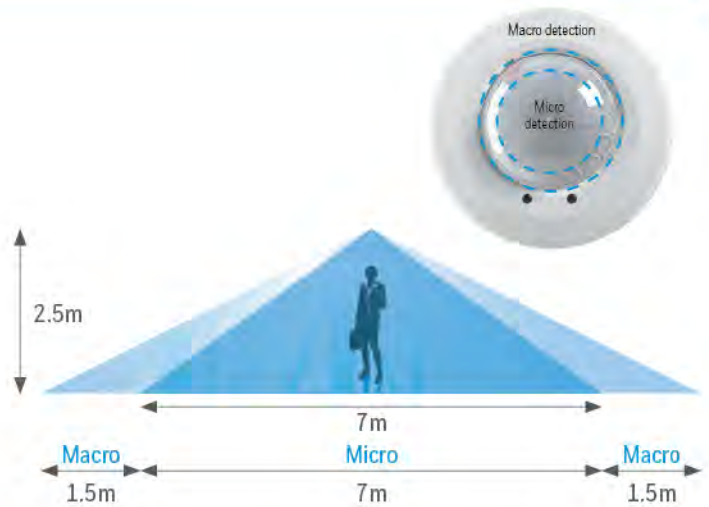
### Low quiescent power

LightSpot HD delivers industry leading low levels of quiescent power consumption of about 150mW, helping you achieve the highest possible energy savings.

## Macro and Micro Detection Zones

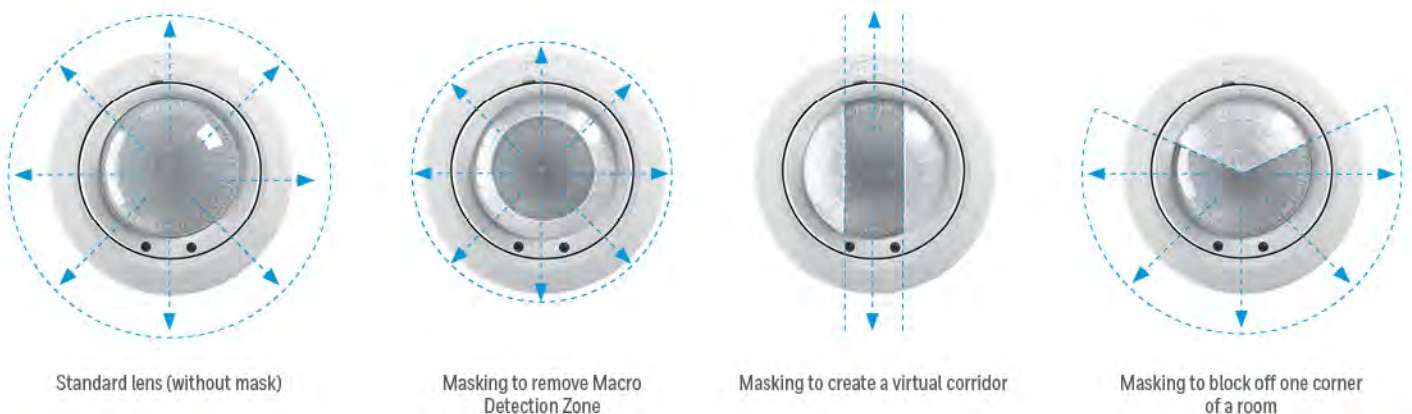
Lights are typically triggered by someone walking into an area, so the macro zone is attuned to large movements. But lights need to be sustained by smaller movements such as those made by someone sitting at a desk, so the inner micro range is much more sensitive.

At a typical mounting height of 2.5m, there's a highly sensitive micro detection diameter of 7m within a 10m macro detection diameter. Because of the extra sensitivity, you can set shorter time delays and get greater savings.



## High Accuracy Lens Masks

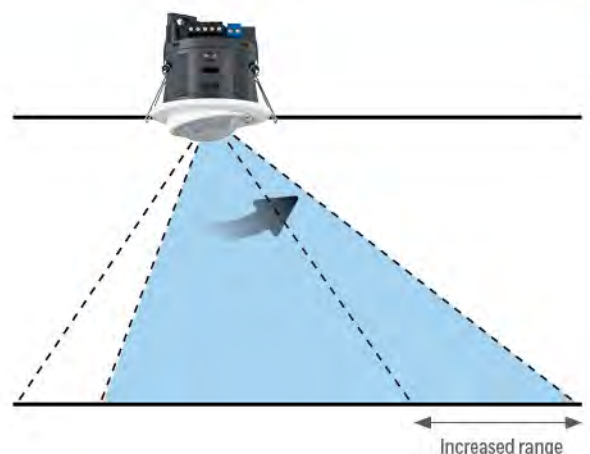
Fully customisable lens masks allow for highly defined detection areas. Virtual corridors can be easily created so that passing traffic doesn't unnecessarily trigger sensors.



## Lens Tilting

Many LightSpot HD sensors offer lens tilting for installation and commissioning flexibility. The detection zone can be adjusted to accommodate flexible installation locations and our unique anti-tamper 'twist-2-lock' feature locks the detection area in position.

TILTING LENS	
TYPE	RADIUS EXTENSION AT FULL TILT
Office	Up to 60%
Mid-Bay	Up to 40%
Hi-Bay	Up to 40%



Only LightSpot HD offers all these benefits in one range.

# LightSpot HD

## Making light work for comfort and productivity

- Improve lighting and safety with the **absence-by-day, presence-by-night** feature which provides optimum energy savings during daylight hours, then switches to a safety-first presence mode at a user-defined lux level
- **Advanced Occupancy Lifecycle** options (occupied, transition and background scenes) offer supreme flexibility in tailoring the installation to occupants' needs
- Enjoy the energy saving advantages of absence detection without worrying about lights switching off when they are still needed thanks to **absence recovery** mode
- Pre-programmed lighting scenes enable the delivery of the right lighting profile for the task in hand
- Infrared hand-held user overrides - user can easily set the optimum light level for the current task. Functions include on/off, raise/lower, scene recall

### Absence by day, presence by night

The innovative **absence by day, presence by night** feature gives you the best of both worlds. With operation determined by light levels, you get maximised savings during the day and user convenience and safety at night.



**Absence detection** – whereby lights need to be switched on manually – is a popular choice for maximising savings especially in areas that benefit from natural light.



**Presence detection** – whereby lights are switched on and off automatically – preferable during the hours of darkness.



# LightSpot HD

## Making light work with ease

- Pluggable, colour-coded connectors make it easy to see what goes where and help to eliminate wiring errors
- Locking rings and spring clips give you complete installation flexibility. Spring clips are ideal for plasterboard ceilings while locking rings are great for ceiling tiles – they don't damage the tiles and make maintenance simple too
- Auto detection of DSI/DALI: Digital dimming sensors automatically differentiate between these ballast types
- Plug-and-play option for installation with UltraLite Lighting Control Modules
- Commissioning is quick and simple with the QuickSet Pro hand-held infrared programmer. Choose your settings and upload them to a sensor: it's as easy as that. As it's a two-way device, you can even 'cut and paste' parameter settings from one sensor to another (See page 12.)



### Locking Ring Mounting Option



### Spring Clip Mounting Option



### Colour Coded Connectors



### Plug-and-play Option

Any LightSpot HD sensor can be connected to an UltraLite LCM (available in 10, 6 and 4-way) using the appropriate plugged lead.

(See page 11.)



# Making light work with quality

- Over 30 years' experience in the manufacture and selling of lighting control solutions
- High quality production, stringent testing, high performance subcomponent selection and built-in quality
- Designed in the UK and manufactured in Honeywell factories to the most rigorous quality processes, such as 100% line testing
- All products are supplied with a 5-year warranty



## 5 Year Warranty

We are so confident in the quality of our products that we are happy to offer a 5-year back-to-base warranty on the whole LightSpot range.



## Manufacturing Excellence

All LightSpot products are manufactured on state-of-the-art production lines to a Six Sigma process. Every single LightSpot product is individually tested at the end of the production line before being packaged and dispatched.

# LightSpot HD

## Making light work in **your application**

### Offices



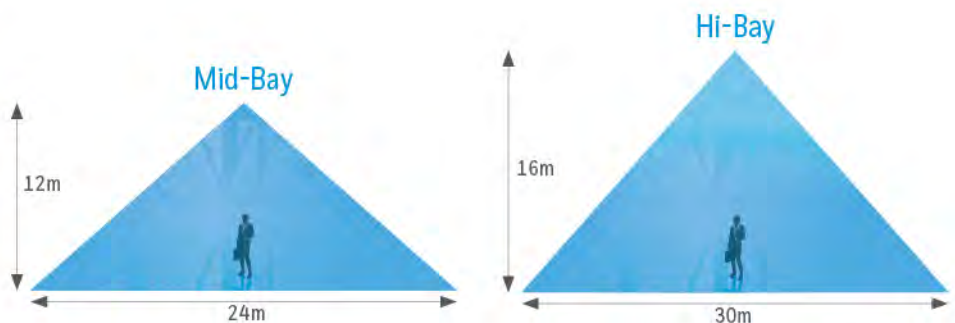
Office lighting needs to be flexible and reliable. With ultra-sensitive micro detection zones, even small movements made while sitting at a computer are detected, so lights stay on. Conversely, precise lens masking and lens tilting lets you create customised zones so that people walking through 'corridors' in an open plan office won't falsely trigger the lights.

And, if office layouts change, QuickLink allows you to simply add a few sensors to control the lights in a newly enlarged room.

### Warehouses



Large open warehouses with high ceilings no longer have to mean high energy costs. Optimised for peak performance in these spaces, Ex-Or LightSpot HD Mid-Bay sensors offer reliable presence detection at mounting heights of 4m – 12m while Hi-Bay versions are suited to mounting heights of 12m – 16m.



### Healthcare



Hospitals use two separate power supplies: essential (uninterruptible) and non-essential (may fail in a power outage). Using QuickLink, our intelligent solution for small lighting networks, you can create a system that controls both. Two Master sensors can control the different lighting loads, one connected to the essential supply and one to the non-essential. These can then be linked with just two low-voltage connections to provide synchronised control of non-essential lighting. Lighting isn't compromised if there's power interruption and you still enjoy the energy saving benefits of LightSpot HD.

### Education



Getting the light just right for the modern high tech classroom environment is essential for retaining attention and optimising the learning experience. Multiple sensing technologies provide powerful yet cost effective controls that are simple to install and commission. All sensors include photocells allowing users to maximise available natural daylight whilst maintaining constant light levels above students' desks. You can even recall lighting scenes using a switch or IR controller to give perfect task lighting for different activities.

# LightSpot HD

## PIR Sensors



### Switching PIR Sensors

All LightSpot HD Switching sensors include integral photocells that constantly monitor ambient light levels. You can choose to hold lights off in occupied areas until it gets dark or switch them off at a given light level, thus maximising energy savings.

### Dimming PIR Sensors

Reliable control of analogue and digital dimming lighting loads. LightSpot HD Dimming sensors include integral photocells which will hold the lights off in occupied areas until it gets dark or switch them off at a given light level.

Regulating photocells enable a constant light level to be maintained throughout the day via analogue or digital dimming.

Automatic detection of DALI and DSI digital dimming type luminaires reduces commissioning time and minimises errors in commissioning.

Dimming sensors are available for either dimming alone or dimming and switching. Sensors offering dimming and switching have two channels – useful for dimming lighting adjacent to windows for example.

### Features and benefits

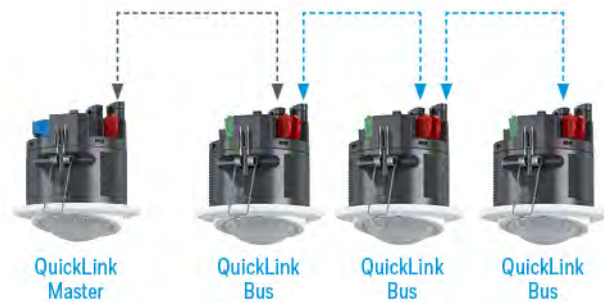
- High definition lenses, performance optics and software are all optimised to provide class leading sensitivity and occupancy detection ensuring that the lights are always on when required
- LightSpot HD standard mount sensors deliver a highly sensitive micro detection diameter of 7m within a 10m macro detection diameter (when installed at a mounting height of 2.5m)
- LightSpot HD sensors are optimised for a range of mounting heights up to 16 metres
- Features like colour-coded connectors make LightSpot HD sensors easy to install, and flexibility is enhanced with both spring clip and locking ring mounting options
- Tilting lenses enable the precise area of sensing to be adjusted as required. This means you can recover from an incorrect installation location or, as the building's use changes, you can adjust the detection footprint
- QuickAnalytics provides verification of energy savings using QuickSet Pro

# LightSpot HD

## QuickLink PIR Sensors

QuickLink is a unique intelligent solution that lets you easily create a simple small network of up to four sensors.

Each sensor can act independently or as an integral part of the network. Bus sensors are linked with just two low-voltage connections.



QuickLink Master sensors can be connected to up to three QuickLink Bus Sensors.



### Features and benefits

- QuickLink networks improve the intelligence of the system as the data on occupancy and light levels can be shared amongst the sensors. Applications include corridor linking, ensuring you will always walk into an appropriately lit corridor
- QuickLink allows up to three additional sensors to be added with just two low-voltage connections
- LightSpot HD QuickLink Master Sensors deliver industry leading low levels of quiescent power consumption, ensuring that the highest possible energy savings are achieved
- A QuickLink sensor effectively adds a third channel of sensing capability. For example, you could dim the window-row lights and have the next row into the room dim to a level offset from that

# LightSpot HD

## QuickLink Daylight Sensors

A range of high performance daylight sensors using precise photocell technology to switch off and maintain lighting levels using digital and analogue dimming.



### Features and benefits

- Enhanced Photocell technology is ideal for any environment where lights would be left on unnecessarily when there is sufficient daylight
- LightSpot HD Daylight Sensors observe the controlled space, not just daylight, and take account of all light contributions including artificial
- The passing cloud timer prevents unwanted switching of lights when light levels fluctuate rapidly
- LightSpot HD Daylight Sensors provide advanced features and more powerful operational parameters than normal integrated photocells making them ideal for high specification installations
- The QuickLink feature allows you to create a small yet powerful Network of up to 4 sensors allowing easy extension of the detection area

# LightSpot HD

## Lighting Control Module Installation Options

For the ultimate in installation simplicity, any sensor from the LightSpot HD range can be connected to a Connect UltraLite Lighting Control Module (LCM) using the appropriate plugged lead.

All the leads are LSOH and are terminated with a 7-way Wieland GST-style locking connector and LightSpot HD connections.

UltraLite LCMs are available in 10-way, 6-way and 4-way versions.



### Switching



### Switching & Dimming



### Dimming



### QuickLink



A range of pre-wired sensors for direct connection to an UltraLite connection centre is also available. See UltraLite brochure for full details and all part numbers.



# LightSpot HD

## Programming



### Easy to commission and maintain

Commissioning is simplicity itself. A hand-held infrared programmer means you can tell each sensor exactly what you want it to do.

### Just point and programme

You don't need to climb any ladders or pore over a long programming guide. The intuitive on-screen guide will take you through the whole process.



Set parameters using on-screen scroll-down menus



Upload settings to sensor – the luminaire blinks to confirm

All LightSpot sensors with programmable parameters are also commissioned in this way.



### Time saving copy and paste

Want to repeat the same settings on a number of sensors? Simple, just 'copy and paste' from one sensor to any other sensor. You can commission whole areas in just a few minutes.



Download ideal settings from one sensor



'Paste' to other sensors

### Change your settings later

It couldn't be easier. Just download the settings from your sensor, make the changes you want and upload the new settings. You can then 'copy and paste' these settings to other sensors.



Download existing settings



Change just those settings required using the on-screen menu



Upload new settings to sensor

### Add new sensors

Extending a building? Converting an office? Whatever changes you're making, it's easy to connect another sensor to the system. Once it's wired up, just upload the settings and you're done.



Install new sensor and wire it up



Using QuickSet Pro, choose new settings or simply 'copy and paste' as shown above



# LightSpot HD

## Programmers & Controllers

### QuickSet Pro

QuickSet Pro is our hand-held commissioning device. With QuickSet Pro it's fast and easy to commission your system, make changes to the settings and add new devices.

- **Large, high resolution backlit screen**  
Means it's usable even in poor lighting conditions
- **Auto software update**  
When it's connected to your computer
- **Hold and store data**  
So you have a permanent record of your settings
- **Pre-commission**  
Prior to visiting site
- **Fully backwards compatible**  
With all Ex-Or products
- **Helps you verify your energy savings**  
With QuickAnalytics
- **Long battery life**  
Typically up to 160 hours normal operation
- **Integral carry strap**  
Prevents accidental damage



QuickSet Pro

### QuickSet

QuickSet is an infrared programming controller specially designed for LightSpot HD. It features:

- Four time delay settings – 5, 10, 20 and 40 minutes
- Presence and Absence detection mode
- Enable/disable photocell
- Walk test feature
- Set regulating light level – when used in conjunction with a suitable Lux meter

### QuickControl

For carrying out simple day-to-day actions on your LightSpot HD system, QuickControl is ideal:

- On/off override
- Set and recall six lighting scenes
- Light level adjustment
- Supplied with wall bracket



QuickSet



QuickControl

# LightSpot HD

## QuickAnalytics

QuickAnalytics is a unique sensor data management tool for LightSpot HD. Available via the QuickSet Pro infrared programmer, QuickAnalytics gives you access to key data stored in the sensor which can be used to make informed decisions on the operation of your lighting control system.

QuickAnalytics is available from all\* LightSpot HD sensors.

\*Excluding only the basic LS3100 and LS3000D ranges.



### Use Less Energy

**Verify the System Configuration** – Verify that the system is installed and commissioned to deliver the energy savings that you need.

**Identify Further Savings** – Identify opportunities for enhanced energy savings by monitoring lighting usage, ambient lux levels and room occupancy.

**Improve Comfort and Productivity** – The data can enhance the comfort and productivity by reporting regular manual interventions of the light level using local controls. The system can even help you optimise room usage by reporting room occupancy over a working period.

### Ease of use

Using a PC based application and graphical representation of data, the system has been designed to give users easy access to powerful data about the lighting control system.

### Quick Analytics Details

Each sensor has its own product ID and the ability to share log files recording key data such as:

- Number of times movement has been seen
- Manual input operation (switch or infrared controller)
- Who has performed an operation (the owner of a named QuickSet Pro)
- Lux levels
- Time of day

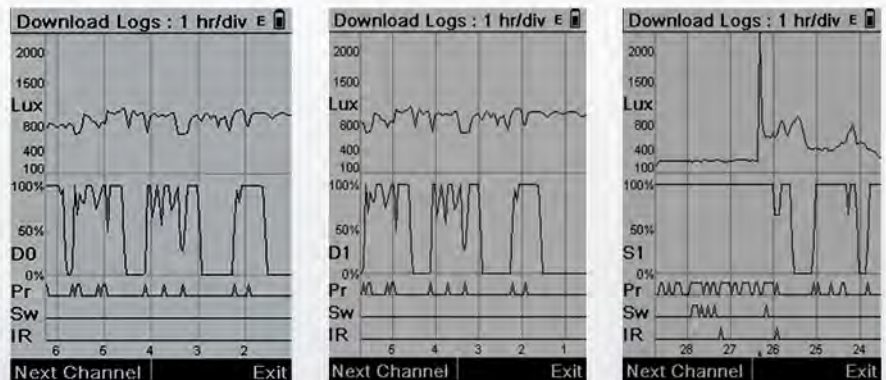
The log files can help to check whether sensors have been commissioned correctly and to identify any faults or local interference. The Sensor Logs are accessed very simply via the QuickSet Pro in the same way as any other programming information.

The downloaded log files are displayed on the QuickSet Pro screen, giving the sensor's part number and with its unique identity number.

You can choose the level of information you receive – detailed data for a couple of days or just key data over a longer period. In this instance, the chosen interval is 3 minutes which gives the most detailed information. The longest period available is 15 minutes, which will give a 10 day overview.

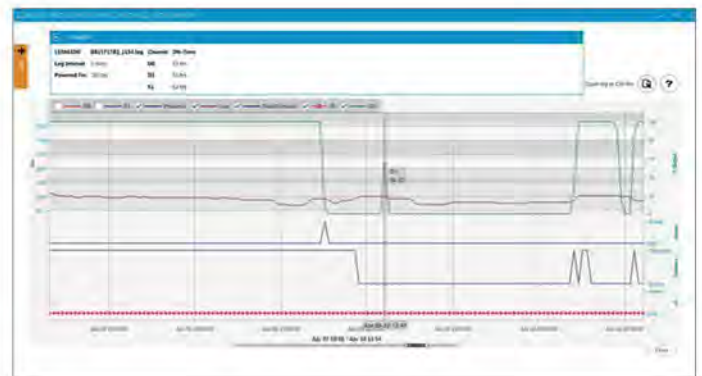


*'Knowledge is power'  
- maximise energy  
savings with  
QuickAnalytics.*



Activity on each channel is reported. In the case of a Master Dimming Sensor, this would comprise 3 channels: QuickLink connection channel, Dimming channel and Switching channel. Activity includes presence, switch input, infrared input and lux level. Each channel is shown on a separate screen, please see images above.

The log files can then, if desired, be exported to the desktop application for further manipulation, production of graphs etc at your leisure.



### Application Examples



It is reported that lights keep coming on every hour at night when the building is shut.

- Examination of the log files shows that the lights have been triggered by movement and further investigation reveals that it is simply the security guard on his rounds
- Consider reducing the occupancy timeout (off delay) to cut the time that the lights are on unnecessarily and save further energy



Log files reveal extensive use of manual override reducing light levels in certain rooms.

- Has the photocell in the room been set too high and therefore the light levels are too great
- By modifying the light level at which the electrical lighting is switched on, further energy savings can be achieved and greater comfort in the space created



Log files reveal extensive use of manual override raising light levels in certain rooms.

- Investigate whether the rooms are really too dim. Have the blinds been shut due to glare causing daylight-linked luminaires to come on?
- Improved daylight glare control can be a cost-effective energy saving measure and also create a more comfortable environment



Your organisation is looking for further cost effective energy saving measures.

- LightSpot HD has been installed for a year and has met all expected payback targets, however energy costs continue to rise and your organisation wants further incremental energy savings across their estates
- With the diagnostic data from LightSpot HD you can identify further opportunities for saving without further expenditure

# LightSpot PIR Sensors



## Dual-mount 360° Switching PIR Sensor

Innovative dual-mount system requires only one sensor for either flush or surface-mount applications.

- Cost-effective, reliable occupancy detection
- Integrated daylight sensing
- Quick, easy commissioning with simple local controls for time delay and lux level adjustments
- Ideal for offices, corridors, toilets and storage areas



## BattenFit PIR Sensor

The BattenFit Sensor is an award-winning, simple-to-fit control solution for batten-style luminaires. It is available in two versions: switching (with photocell option) or regulating for digital DSI or DALI ballasts.

- Infrared programmable (where parameters are configurable)
- Switching and regulating versions
- IP65 versions



## Washroom Series LightSpot

Presence-detecting LightSpot washroom controls provide a simple and effective way to cut waste and save money by regulating the flow of water to automatic flushing cisterns. Further savings can be made by switching off lights and fans in unoccupied toilet areas. The flush control can be programmed independently from the lighting control.

- Programmable photocell mode
- Daily hygiene flush for extended shutdowns
- Mounting options: flush, surface



### Dual-output 360° PIR Sensor (Silver Series & Multi-Function LightSpot)

High-performance, programmable, dual-output PIR sensors are ideal for controlling functions requiring different time delays.

- Programmable photocell mode
- Dual-output: either switching, or switching and dimming (useful where just the perimeter lights require photocell operation)
- Multi-function version offers dual control for Lighting and Emergency Test, Lighting and Air Conditioning, Lighting and Water/Fan or Two-channel Lighting
- Hi-Bay version for greater mounting heights
- Mounting options: flush, surface



### Integral PIR Luminaire Controllers

High-performance presence detectors with photocells for integration within luminaires and infill panels. There are two types of controller: either single unit or control module with mini detector head (only the ultra-discreet detector head, as shown, is visible).

- Suitable for integration in most luminaire designs
- Rear or side cable entry options
- Moulded-in features to assist in mounting
- Versions for on/off switching of fixed-output ballast and for dimming analogue and digital ballasts
- Mid-Bay and Hi-Bay versions (single-unit type only) for greater mounting heights



# LightSpot Microwave Sensors



Microwave technology enables the range to be adjusted to ensure a tailored detection pattern to suit any application.



## 360° Microwave Sensors (Gold Series LightSpot)

- Superior performance, programmable 360° microwave sensors
- Ideal for offices, open-plan workstations, classrooms etc
- Dual-circuit versions offer either switching or switching and dimming (useful where just the perimeter lights require photocell operation)
- Single-circuit analogue output version
- Dimming versions incorporate terminals for optional OneSwitch dimming
- Mounting options: flush, surface



## Directional Microwave Sensors Mid Range LightSpot

- Up to 20m x 20m coverage
- Ideal for larger classrooms, longer corridors, conference rooms, storage aisles etc
- Either passive/active photocell or regulating
- Infrared programmable
- Dimming versions incorporate terminals for optional OneSwitch dimming
- Mounting options: semi-flush, surface (wall-mounting kit available)



Separate control  
unit required

## Long Range LightSpot

- Up to 15m or 30m range
- Ideal for sports hall, stadia, warehouses and other large areas
- Detectors and control units can be combined, or separated for more convenient electrical connection and commissioning
- Dual-circuit option
- Dual sensitivity – i.e. more sensitive when on than off
- Up to 3 detectors per control unit
- Mounting options: flush, surface (wall-mounting kit available), box-mounted, IP67 and IK08 rated mounting kit

# LightSpot

## Ultrasonic Sensors & Photocells



### LightSpot Ultrasonic Sensors (Standard Series LightSpot)

Ultrasonic presence detection offers an extremely sensitive response with even very small movements sustaining the lights.

- Ideal for offices, classrooms, corridors and other medium-range applications
- Directionally adjustable
- Two independently adjustable sensitive controls ensure that the lights are always on when required and, importantly, off when not required to maximise energy savings
- Passive photocell – holds lights off when area becomes occupied in bright ambient conditions
- Mounting options: semi-flush, surface

### LightSpot Photocells

Two-part switching photocells.

For controlling the light facilities of streets, external stairways, shop windows, entrances etc.

- Sensor can be mounted up to 100m from control unit
- Sensor designed for outdoor installation
- Time clock version for scheduling switching times

See *LightSpot HD* for other photocell-only options.



## Programmings & Controllers



### QuickSet Pro

Hand-held Infrared Programming Controller c/w LCD screen, USB port and Micro SD Memory Card Slot.

See page 13 for full details.



### HP18 LightSpot Programming Controller

Most infrared-enabled LightSpot sensors respond to the On, Off, Brighten, Set Light Level, Dim and Walk Test commands. Limited programming functions apply to selected products.



### HC5A LightSpot Controller

Offers the user temporary on/off override and light level adjustment along with the ability to set and recall up to six different lighting 'scenes'.

See information on individual sensors to check compatibility.


# LightSpot & LightSpot HD Product Selector






## Icon Key

ICON	DESCRIPTION
TYPE/RESPONSE	
	Passive Infrared Detection (PIR)
	Microwave Detection
	Ultrasonic Detection
	Presence Detection
	Presence or Absence (via QuickSet or QuickSet Pro) or Auto Absence (via QuickSet Pro only)
	Presence Detection or Semi-Auto Operation selectable by DIL switch
	Presence or Absence Detection – programmable by QuickSet Pro (or QuickSet – LightSpot HD only)

OUTPUT	
	Relay – Switching only (Amps as shown)
	Digital Dimming (ballast max as shown) – where type is not designated, DSI or DALI auto selects
	Analogue 1-10V Dimming (ballast max as shown)
	Volt-free Output
	Dual Output: Relay
	Dual Output: Relay & Digital Dimming
	Dual Output: Relay & Analogue Dimming

ICON	DESCRIPTION
PHOTOCELL	
	Active Switching (non-dimming) Photocell - Switches lights on and off according to ambient conditions
	Regulating (dimming) Photocell - Adjusts luminaire output to maintain constant light levels
	Passive Photocell - Holds lights off when area becomes occupied in bright conditions
	Passive or Active Switching Photocell
	Passive or Regulating Photocell
	Passive, Active Switching or Regulating Photocell

OCCUPIED TIMER /OFF DELAY	
	Time-out options (in this instance, adjustable between 5 seconds and infinity) and whether infrared programmer is required to adjust (see separate column for compatible programmers, noting that QuickSet and HP18 offer limited timer options)

DETECTION AREA	
	Detection Area @ approx 2.5m mounting height – 360° Sensor
	Detection Area @ 2.5m mounting height – 90° Sensor
	Detection Area @ 2.5m (Longer in corridor)
	Detection area @ 2.5m mounting height. Coverage ratio (diameter to height): Micro (high sensitivity) = 2.8:1, Macro (standard sensitivity) = 4:1
	Mounting height and coverage ratio (as stated)

ICON	DESCRIPTION
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IP RATING	
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As stated (enhanced ratings shown as icons)

INPUT	
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230V Manual OneSwitch Override  
(push-to-make as per MK K4910 WHI)



230V Configurable multi-function switch input  
(push-to-make as per MK K4910 WHI)



ELV Configurable multi-function switch input  
(2-way centre-off retractive as per MK K4900 WHI)

REMOTE PROGRAMMER	
-------------------	--

Compatible programmer/s as stated  
(NB: Some features/settings, e.g. Auto Absence, are available via QuickSet Pro only)

USER OVERRIDE	
---------------	--

Compatible controller/s for carrying out simple day-to-day actions as stated

QUICKLINK	
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Allows the easy creation of a simple, small network of up to 4 sensors:

**Master** QuickLink Master Sensor can be connected to up to 3 Bus Sensors

**Bus** QuickLink Bus Sensor – up to 3 per Master Sensor with just two low-voltage connections

LENS TILT (UP TO 10°)	
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Allows adjustment of the detection footprint to fine tune or correct operation

QUICKANALYTICS	
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Sensor data management tool (via QuickSet Pro)



# Product Selector

PART NUMBER	MOUNTING TYPE	DESCRIPTION	TYPE/ RESPONSE	OUTPUT	PHOTOCELL	OCCUPIED TIMER
<b>LIGHTSPOT HD SWITCHING PIR SENSORS</b>						
<b>LS3100RF</b>	Flush	LightSpot HD Switching Sensor with Manual Override				
<b>LS3100RSM</b>	Surface					
<b>LS3100RMBF</b>	Flush	LightSpot HD Mid-Bay Switching Sensor with Manual Override				
<b>LS3100RBSM</b>	Surface					
<b>LS3100RMBIPF</b>	Flush	LightSpot HD Mid-Bay IP55 Switching Sensor with Manual Override				
<b>LS3100RHBF</b>	Flush					
<b>LS3100RHBSM</b>	Surface	LightSpot HD Hi-Bay Switching Sensor with Manual Override				
<b>LS3100RHIPF</b>	Flush					
<b>LS3200RF</b>	Flush	LightSpot HD Switching Sensor with Programmable Manual Override				
<b>LS3200RSM</b>	Surface					
<b>LS3200RIPF</b>	Flush	LightSpot HD IP55 Switching Sensor with Programmable Manual Override				
<b>LS3200RMBF</b>	Flush					
<b>LS3200RBSM</b>	Surface	LightSpot HD Mid-Bay Switching Sensor with Programmable Manual Override				
<b>LS3200RHBF</b>	Flush					
<b>LS3200RHBSM</b>	Surface	LightSpot HD Hi-Bay Switching Sensor with Programmable Manual Override				
<b>LS3243RF</b>	Flush					
<b>LS3243RSM</b>	Surface	LightSpot HD QuickLink Master Switching Sensor with Lens Tilting and Low Power				
<b>LS3243RMBF</b>	Flush					
<b>LS3243RBSM</b>	Surface	LightSpot HD Mid-Bay QuickLink Master Switching Sensor with Lens Tilting and Low Power				
<b>LS3243RHBF</b>	Flush					
<b>LS3243RHBSM</b>	Surface	LightSpot HD Hi-Bay QuickLink Master Switching Sensor with Lens Tilting and Low Power				

DETECTION AREA	IP RATING	INPUT	REMOTE PROGRAMMER	USER OVERRIDE	QUICK LINK	LENS TILT	QUICK ANALYTICS
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
 			QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
 			QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
 			QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl	Master		
	IP4X		QuickSet Pro QuickSet	QuickControl	Master		
	IP4X		QuickSet Pro QuickSet	QuickControl	Master		

# Product Selector






PART NUMBER	MOUNTING TYPE	DESCRIPTION	TYPE/RESPONSE	OUTPUT	PHOTOCELL	OCCUPIED TIMER
<b>LIGHTSPOT HD DIMMING PIR SENSORS</b>						
LS3000DF	Flush	LightSpot HD Digital Dimming Sensor				
LS3000DSM	Surface					
LS3000DMBF	Flush	LightSpot HD Mid-Bay Digital Dimming Sensor				
LS3000DMBSM	Surface					
LS3000DMBIPF	Flush	LightSpot HD Mid-Bay IP55 Digital Dimming Sensor				
LS3000DHBFB	Flush	LightSpot HD Hi-Bay Digital Dimming Sensor				
LS3000DHBFBM	Surface					
LS3000DHBIPFB	Flush	LightSpot HD Hi-Bay IP55 Digital Dimming Sensor Flush Mount				
LS3000DRFB	Flush	LightSpot HD Digital Dimming Sensor with Relay				
LS3000DRFBM	Surface					
LS3000DRMBFB	Flush	LightSpot HD Mid-Bay Digital Dimming Sensor with Relay				
LS3000DRMBFBM	Surface					
LS3000DRHFBFB	Flush	LightSpot HD Hi-Bay Digital Dimming Sensor with Relay				
LS3000DRHFBFBM	Surface					
LS3000ARFB	Flush	LightSpot HD 1-10V Analogue Dimming Sensor				
LS3000ARFBM	Surface					
LS3000ARMBFB	Flush	LightSpot HD Mid-Bay 1-10V Analogue Dimming Sensor				
LS3000ARMBFBM	Surface					
LS3000ARHFBFB	Flush	LightSpot HD Hi-Bay 1-10V Analogue Dimming Sensor				
LS3000ARHFBFBM	Surface					
<b>LIGHTSPOT HD QUICKLINK DIMMING MASTER SENSORS</b>						
LS3043DRFB	Flush	LightSpot HD QuickLink Master Digital Dimming Sensor with Lens Tilting and Low Power				
LS3043DRFBM	Surface					
LS3043DRMBFB	Flush	LightSpot HD Mid-Bay QuickLink Master Digital Dimming Sensor with Lens Tilting and Low Power with Relay				
LS3043DRMBFBM	Surface					
LS3043DRHFBFB	Flush	LightSpot HD Hi-Bay QuickLink Master Digital Dimming Sensor with Lens Tilting and Low Power with Relay				
LS3043DRHFBFBM	Surface					
LS3043ARFB	Flush	LightSpot HD QuickLink Master 1-10V Analogue Dimming Sensor with Lens Tilting and Low Power				
LS3043ARFBM	Surface					

DETECTION AREA	IP RATING	INPUT	REMOTE PROGRAMMER	USER OVERRIDE	QUICK LINK	LENS TILT	QUICK ANALYTICS
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
			QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
			QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl			
	IP4X		QuickSet Pro QuickSet	QuickControl	Master		
	IP4X		QuickSet Pro QuickSet	QuickControl	Master		
	IP4X		QuickSet Pro QuickSet	QuickControl	Master		
	IP4X		QuickSet Pro QuickSet	QuickControl	Master		

# Product Selector

PART NUMBER	MOUNTING TYPE	DESCRIPTION	TYPE/ RESPONSE	OUTPUT	PHOTOCELL	OCCUPIED TIMER
<b>LIGHTSPOT HD QUICKLINK BUS SENSORS</b>						
LS3260F	Flush	LightSpot HD Low Voltage QuickLink Bus Connection Sensor		Operation determined by DO line connected to the Master		
LS3260SM	Surface					
LS3260MBF	Flush	LightSpot HD Mid-Bay Low Voltage QuickLink Bus Connection Sensor		Operation determined by DO line connected to the Master		
LS3260MBSM	Surface					
LS3260HBF	Flush	LightSpot HD Hi-Bay Low Voltage QuickLink Bus Connection Sensor		Operation determined by DO line connected to the Master		
LS3260HBSM	Surface					
LS3263MBF	Flush	LightSpot HD QuickLink Low Voltage Bus Connection Mid-Bay PIR Detector with Lens Tilting		Operation determined by DO line connected to the Master		
LS3263MBSM	Surface					
LS3263HBF	Flush	LightSpot HD QuickLink Low Voltage Bus Connection Hi-Bay PIR Detector with Lens Tilting		Operation determined by DO line connected to the Master		
LS3263HBSM	Surface					
LS3270F	Flush	LightSpot HD Low Voltage QuickLink Bus Connection Sensor with ELV Switch Inputs and VF O/P		Operation determined by DO line connected to the Master		
LS3270SM	Surface					
LS3283RF	Flush	LightSpot HD Switching Low Voltage QuickLink Bus Connection Sensor with ELV Switch Inputs VF O/P and Lens Tilting				
LS3283RSM	Surface					

\*Volt-free output but operation also determined by DO line connected to Master

PART NUMBER	MOUNTING TYPE	DESCRIPTION	TYPE/ RESPONSE	OUTPUT	PHOTOCELL	OCCUPIED TIMER
<b>LIGHTSPOT HD DAYLIGHT SENSORS</b>						<b>LUX LEVEL</b>
LS3340DF	Flush	LightSpot HD Photocell Digital Dimming QuickLink Master Sensor Low Power	Integrated Digital Photosensor			5-1000 Lux
LS3340DSM	Surface					
LS3340ARF	Flush	LightSpot HD Photocell Analogue Dimming QuickLink Master Sensor Low Power	Integrated Digital Photosensor			5-1000 Lux
LS3340ARSM	Surface					
LS3360F	Flush	LightSpot HD Photocell QuickLink Low Voltage Bus Connection Sensor	Integrated Digital Photosensor	Bus Powered		5-1000 Lux
LS3360SM	Surface					

## LIGHTSPOT HD TOOLS

<b>QUICKSET PRO</b>	Digital 2-Way Programming Tool
<b>QUICKSET</b>	LightSpot HD Infrared Programming Tool
<b>QUICKCONTROL</b>	LightSpot HD Infrared User Controller



## LIGHTSPOT HD ACCESSORIES






<b>SURFMT</b>	LightSpot HD Surface Mount Kit
<b>LSHDFLUSHMT</b>	LightSpot HD Flush Mount Kit
<b>LOCKRING</b>	LightSpot HD Secure Flush Mount Adaptor
<b>RTRADP</b>	Retrofit Adaptor For Converting Legacy LightSpot Mounting

See Connect UltraLite brochure for details of plugs and leads to enable LightSpot HD sensors to be used with UltraLite Lighting Control Modules.































See MLS Connect Digital brochure for details of sensors for Intelligent Lighting Control Modules.

For our on-line 'Product Selector' visit:  
[www.ex-or.com](http://www.ex-or.com)

DETECTION AREA	IP RATING	INPUT	REMOTE PROGRAMMER	USER OVERRIDE	QUICK LINK	LENS TILT	QUICK ANALYTICS
	IP4X		QuickSet Pro QuickSet	QuickControl	Bus		
	IP4X		QuickSet Pro QuickSet	QuickControl	Bus		
	IP4X		QuickSet Pro QuickSet	QuickControl	Bus		
	IP4X		QuickSet Pro QuickSet	QuickControl	Bus		
	IP4X		QuickSet Pro QuickSet	QuickControl	Bus		
	IP4X		QuickSet Pro QuickSet	QuickControl	Bus		
	IP4X		QuickSet Pro QuickSet	QuickControl	Bus		


DETECTION AREA	IP RATING	INPUT	REMOTE PROGRAMMER	USER OVERRIDE	QUICK LINK	LENS TILT	QUICK ANALYTICS
	IP4X		QuickSet Pro QuickSet	QuickControl	Master		
	IP4X		QuickSet Pro QuickSet	QuickControl	Master		
	IP4X		QuickSet Pro QuickSet	QuickControl	Bus		

# Product Selector

PART NUMBER	MOUNTING TYPE	DESCRIPTION	TYPE/RESPONSE	OUTPUT	PHOTOCELL
<b>LIGHTSPOT SWITCHING PIR SENSORS</b>					
<b>LS1000R</b>	Flush or Surface	LightSpot Dual Mount PIR Detector			
<b>MSB1000T</b>	Batten-style Luminaires	BattenFit Sensor – PIR 2A Switching Presence Detector			
<b>MSB1000PT</b>	Batten-style Luminaires	BattenFit Sensor – PIR 2A Switching Presence Detector with photocell			
<b>MSB1000DT</b>	Batten-style Luminaires	BattenFit Sensor – PIR Presence Detector with regulating photocell for DSI ballasts			
<b>MSB1000DALIT</b>	Batten-style Luminaires	BattenFit Sensor – PIR Presence Detector with regulating photocell for DALI ballasts			
<b>MSB1001T</b>	Batten-style Luminaires	BattenFit Sensor – IP65 PIR 2A Switching Presence Detector			
<b>MSB1001PT</b>	Batten-style Luminaires	BattenFit Sensor – IP65 PIR 2A Switching Presence Detector with photocell			
<b>MSB1001DT</b>	Batten-style Luminaires	BattenFit Sensor – IP65 PIR Presence Detector with regulating photocell for DSI ballasts			
<b>MSB1001DALIT</b>	Batten-style Luminaires	BattenFit Sensor – IP65 PIR Presence Detector with regulating photocell for DALI ballasts			
<b>MS2021PF</b>	Recessed Plasterboard	Multi-Function LightSpot PIR Presence Detector with dual-relay output and digital adjustable passive/active photocell, programmable for lighting/emergency lighting/air conditioning control			
<b>MS2021PSM</b>	Surface				
<b>MS2021PHBF</b>	Recessed Plasterboard	Multi-Function Hi-Bay LightSpot PIR Presence Detector with dual-relay output and digital adjustable passive/active photocell, programmable for lighting/emergency lighting/air conditioning control			
<b>MS2021PHBSM</b>	Surface				
<b>MS1221PF</b>	Recessed Plasterboard	Silver Series LightSpot PIR Presence Detector with dual-relay output and digital adjustable passive/active photocell, with programmable features			
<b>MS1221PSM</b>	Surface				
<b>UC1221PF</b>	Recessed Plasterboard	Washroom Series LightSpot PIR Presence Detector with dual-relay output and digital adjustable passive/active photocell - supplied with solenoid valve			
<b>UC1221PSM</b>	Surface				
<b>MSM2000D</b>	Integral (requires DHS/DHW)	LightSpot Mini Control Module for DSI ballasts. Incorporates 'OneSwitch' override. Used with DHS or DHW Mini Detector			
<b>MSM2000DALI</b>	Integral (requires DHS/DHW)	LightSpot Mini Control Module for DALI ballasts. Incorporates 'OneSwitch' override. Used with DHS or DHW Mini Detector			
<b>MSM2000A</b>	Integral (requires DHS/DHW)	LightSpot Mini Control Module for fixed output or 1-10V analogue ballasts. Incorporates 'OneSwitch' override. Used with DHS or DHW Mini Detector			








OFF DELAY	DETECTION AREA	IP RATING	INPUT	REMOTE PROGRAMMER	USER OVERRIDE
		IP44			
		IP4X		Engage Walk Test only	HC5A HP18
		IP4X		QuickSet Pro HP18	HC5A HP18
		IP4X		QuickSet Pro HP18	HC5A HP18
		IP4X		QuickSet Pro HP18	HC5A HP18
				Engage Walk Test only	HC5A HP18
				QuickSet Pro HP18	HC5A HP18
				QuickSet Pro HP18	HC5A HP18
				QuickSet Pro HP18	HC5A HP18
		IP3X		QuickSet Pro	HC5A HP18
		IP3X		QuickSet Pro	HC5A HP18
		IP3X		QuickSet Pro	HC5A HP18
		IP3X		QuickSet Pro	HC5A HP18
		IP20		QuickSet Pro HP18	HC5A HP18
		IP20		QuickSet Pro HP18	HC5A HP18
		IP20		QuickSet Pro HP18	HC5A HP18

# Product Selector

PART NUMBER	MOUNTING TYPE	DESCRIPTION	TYPE/ RESPONSE	OUTPUT	PHOTOCELL
DHS	Integral (silver bezel)	Mini Detector for use with Mini Control Module			
DHW	Integral (white bezel)				
MS1200DIS	Integral (silver bezel)	Silver Series LightSpot Luminaire Controller for DSI ballasts			
MS1200DIW	Integral (white bezel)				
MS1200DALIS	Integral (silver bezel)	Silver Series LightSpot Luminaire Controller for DALI ballasts			
MS1200DALIW	Integral (white bezel)				
MS1200DIMBW	Integral (white bezel)	Silver Series LightSpot Mid-Bay Luminaire Controller for DSI ballasts			
MS1200DALIMBW	Integral (white bezel)	Silver Series LightSpot Mid-Bay Luminaire Controller for DALI ballasts			
MS1200DIHBW	Integral (white bezel)	Silver Series LightSpot Hi-Bay Luminaire Controller for DSI ballasts			
MS1200DALIHBW	Integral (white bezel)	Silver Series LightSpot Hi-Bay Luminaire Controller for DALI ballasts			
<b>LIGHTSPOT MICROWAVE SENSORS</b>					
MS2421PF	Recessed Plasterboard	Gold Series LightSpot Microwave Presence Detector with dual output and digital passive/active photocell			
MS2421PSM	Surface				
MS2421AF	Recessed Plasterboard	Gold Series LightSpot Microwave Presence Detector with regulating photocell for analogue ballasts			
MS2421ASM	Surface				
MLS2421DF	Recessed Plasterboard	Digital Gold Dual-channel Microwave Presence Detector for with regulating photocell DSI ballasts			
MLS2421DSM	Surface				
MLS2421DALIF	Recessed Plasterboard	Digital Gold Dual-channel Microwave Presence Detector with regulating photocell for DALI ballasts			
MLS2421DALISM	Surface				
MR1500PF	Semi-recessed	Mid Range Series LightSpot Microwave Presence Detector with passive photocell			
MR1500P	Surface (wallmount with WMK)				
MR2500DF	Semi-recessed	Mid Range Regulating LightSpot with photocell. Microwave presence detector: 2 30V 10A and DSI outputs			
MR2500D	Surface (wallmount with WMK)				
MR2500DALIF	Semi-recessed	Mid Range Regulating LightSpot with photocell. Microwave presence detector: 2 30V 10A and DALI outputs			
MR2500DALI	Surface (wallmount with WMK)				
LR15F	Semi-recessed	Long Range Series LightSpot 15m Detector			
LR15SM	Surface (wallmount with WMK)				
LR15B	Box Mount				

OFF DELAY	DETECTION AREA	IP RATING	INPUT	REMOTE PROGRAMMER	USER OVERRIDE
Operation determined by associated Control Module.					
		IP4X		QuickSet Pro HP18	HC5A HP18
		IP4X		QuickSet Pro HP18	HC5A HP18
		IP4X		QuickSet Pro HP18	HC5A HP18
		IP4X		QuickSet Pro HP18	HC5A HP18
		IP4X		QuickSet Pro HP18	HC5A HP18
		IP4X		QuickSet Pro HP18	HC5A HP18
		IP2X		QuickSet Pro	HC5A
		IP2X		QuickSet Pro	HC5A
		IP2X		QuickSet Pro	HC5A
		IP2X		QuickSet Pro	HC5A
		IP4X		QuickSet Pro	HC5A
		IP4X		QuickSet Pro	HC5A
		IP4X		QuickSet Pro	HC5A
		IP4X			

# Product Selector

PART NUMBER	MOUNTING TYPE	DESCRIPTION	TYPE/RESPONSE	OUTPUT	PHOTOCELL
<b>LR30F</b>	Semi-recessed	Long Range Series LightSpot 30m Detector			
<b>LR30SM</b>	Surface (wallmount with WMK)				
<b>LR30B</b>	Box Mount				
<b>LRC1L</b>	Box Mount	Long Range Series LightSpot Control Unit with single switch relay	Used with Long Range Detector		
<b>LRC2L</b>	Box Mount	Long Range Series LightSpot Control Unit with dual switch relay	Used with Long Range Detector		
<b>LIGHTSPOT ULTRASONIC SENSORS</b>					
<b>MS1500PF</b>	Semi-recessed	Standard Series LightSpot UltraSonic Presence Detector with passive photocell			
<b>MS1500P</b>	Surface				
<b>LIGHTSPOT PHOTOCELL</b>					
<b>MP102</b>	DIN rail	Two-part Mains Photocell	Mains Photocell		
<b>MP102TC</b>		Two-part Mains Photocell with integral 24-hour, 7-day Time Clock with LCD display			

<b>LIGHTSPOT TOOLS</b>	
<b>QUICKSET PRO</b>	Digital 2-Way Programmer
<b>HP18</b>	LightSpot Programming Controller for use with Selected Programmable Detectors
<b>HC5A</b>	LightSpot Controller c/w wall bracket

<b>LIGHTSPOT ACCESSORIES</b>	
<b>FR10</b>	Flush-mounting Kit for surface detectors (Silver, Gold, Hi-Bay, Multi-Function)
<b>SB10</b>	Surface-mounting Box for flush detectors (Silver, Gold, Hi-Bay, Multi-Function)
<b>WMK</b>	Wall-mounting Kit for Mid & Long Range surface detectors
<b>MRFK</b>	Semi-flush Mounting Kit for Mid & Long Range surface detectors
<b>LROKIT</b>	Long Range 'Ruggedising' Kit for installing LR30F Sensor
<b>FP15</b>	Flush-mounting Kit for Standard Series LightSpot
<b>HBPIRLM</b>	Hi-Bay & Mid-Bay End-of-Aisle Lens Mask
<b>PIRLM</b>	PIR Lens Masking Kit for Detection Pattern Customisation
<b>DHFK-B</b>	Flush-mounting Kit for use with Mini Detector – black
<b>DHFK-S</b>	Flush-mounting Kit for use with Mini Detector – silver
<b>DHFK-W</b>	Flush-mounting Kit for use with Mini Detector – white
<b>SV3</b>	WRAS-Approved Solenoid Valve – 15mm compression fittings

OFF DELAY	DETECTION AREA	IP RATING		INPUT	REMOTE PROGRAMMER	USER OVERRIDE
		 LR30F using LRDKIT	IP4X Otherwise			
		IP3X				
LUX LEVEL						
2-50,000		 SENSOR	IP20 CONTROL UNIT			

**Honeywell Ex-Or**

Albery House,  
Springfield Road,  
Horsham,  
West Sussex  
RH12 2PQ, UK

**Customer Service**

Tel +44 (0)1942 719229  
Fax +44 (0)1942 508753  
E-mail [enquiries.ex-or@honeywell.com](mailto:enquiries.ex-or@honeywell.com)

**Technical**

Tel +44 (0)1942 719229  
Fax +44 (0)1942 508753  
E-mail [technicalsales.ex-or@honeywell.com](mailto:technicalsales.ex-or@honeywell.com)

[www.ex-or.com](http://www.ex-or.com)

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