

## LightSpot - Presence Detection Systems

# Standard Series LightSpot

Standard Series LightSpot is a general purpose, fully-automatic, directional presence detector with photocell. It saves energy by switching off lights in unoccupied areas and by holding lights off in occupied areas which have adequate natural light. It uses a specially developed ultrasonic radar to monitor the controlled space for movement. This radar is sensitive enough to respond to even very small movements thus ensuring that lights are sustained whenever the controlled space is occupied. If no movement has been detected for a pre-selected period, LightSpot switches the lights off until the next visitor is detected.

### Standard LightSpot with Photocell

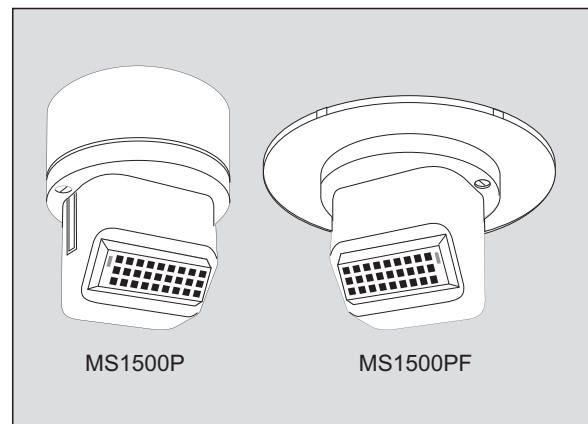
The Standard LightSpot control features a movement detector, photocell and 10 Amp load switching element in one easily deployed housing. LightSpot technology has been refined and improved over many years of efficient, reliable service in a wide range of industrial and commercial environments. The latest designs use state-of-the-art miniaturisation to pack the LightSpot's features into a small, attractive yet rugged enclosure which gives full field-of-view adjustment. Detectors are available for surface or semi-flush mounting.

### Adjustment Controls

Available for commissioning purposes, these are accessed via the side door. The availability of two independent sensitivity controls makes the LightSpot supremely flexible in use.

**ON Range** is the normal range control which may be adjusted according to the needs of the space being controlled.

**OFF Range** sets the range once lights have been switched off and may, in some instances, require a different sensitivity setting. A good example is a library or storage aisle which requires a high sensitivity when the aisle is occupied but a much lower sensitivity when the area becomes unoccupied so that traffic passing across the ends of an aisle will not activate the lights.



**OFF Delay** sets the time delay (after last detected movement) before lights are switched off. Standard time-out settings are 5-15 minutes in 5 minute increments with other times being available to special order. A set-up time of 5 seconds is provided to assist rapid commissioning.

**Power-up Condition.** The unit may be set to power-up, when mains power is first applied, with the load ON or OFF irrespective of occupancy or ambient light levels. Power-up OFF is useful where the use of stand-by generators, for example, makes it undesirable to have the full load activate at once.

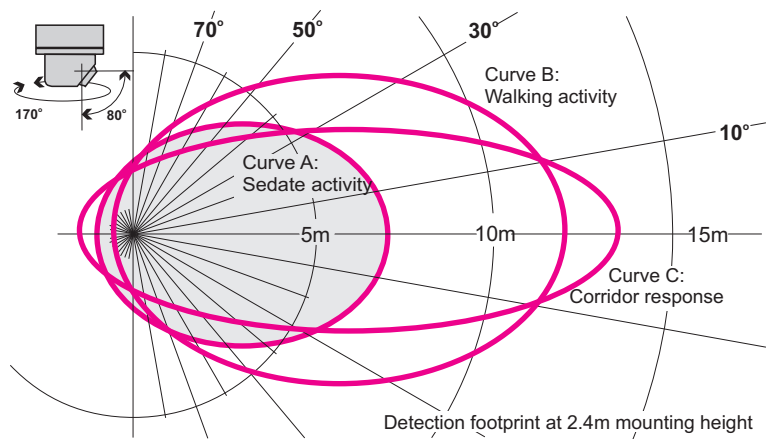
**Photocell.** The photocell is adjustable by a screw on the front grille. The LightSpot photocell observes the controlled space, not just ambient daylight, and takes account of all light contributions - even from adjacent zones. Photocell operation is extremely user-friendly: although the photocell takes into account light from the controlled luminaires themselves, it is configured never to switch lights off when anyone is present. It will, however, hold lights off as people enter an already adequately lit area and bring lights on if lighting levels fall in an occupied area.

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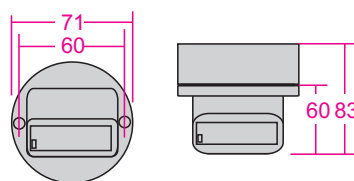
## Detection Pattern

Standard Series LightSpots utilise ultrasonic radar to monitor a space for movement. This involves transmitting an ultrasound signal and examining the reflected signal for frequency variations called "doppler shifts". The transmitted signal is more quickly dissipated in open space and squeezed out by constraining walls and ceilings. The range of the detector also depends upon the type of movement being observed: for example, walking activity can be observed at a greater distance than the slight hand or body movement to be expected from a person working at a desk. Curve A (shaded) gives the free-space detection pattern for seated occupancy. Curve B, the free-space detection pattern for walking activity and Curve C the coverage in a corridor type application. Note that LightSpot detectors can see behind themselves slightly so must be inset in a storage aisle or corridor application.

## Polar Plot

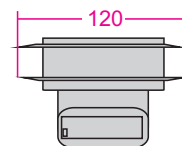


## Technical Data

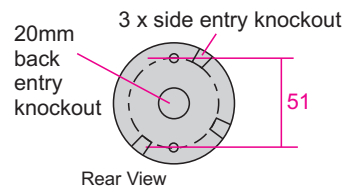


### Flush Plate & Clamp (FP15)

For simple flush mounting of detector to suspended ceilings.  
Max clamping distance - 25mm



A LightSpot will fit to its own backplate or to a standard 25mm switch sinking box.



### MS1500P - Surface version

The back-box can be secured directly to a hard surface or to a conduit stop end box.

### MS1500PF - Semi-flush version

Use a hole saw to drill a 76mm hole into the ceiling tile. The flush ring is designed to clamp the tile between its two halves.

OPERATING VOLTAGE: 230V 50Hz (UK & Europe)

MAXIMUM RECOMMENDED MOUNTING HEIGHT: 5 metres

SWITCH CAPACITY: 10 Amps

Incandescent lamps: 1500W max (230V)

TERMINAL CAPACITY: 2 x 1.5mm or 1 x 2.5mm

WEIGHT: 148g

TIME DELAY: 5, 10 or 15 mins

POWER-UP CONDITION: select ON or OFF

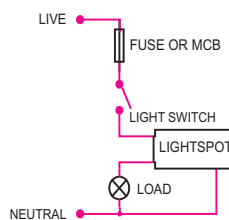
DETECTOR RANGE: adjustable (see above)

RANGE REDUCTION: adjustable

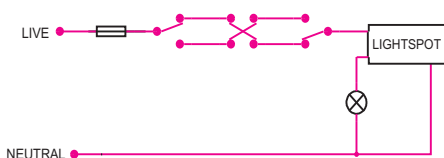
ULTRASONIC FREQUENCY: 40kHz

PHOTOCELL: adjustable 50 to 5000 lux

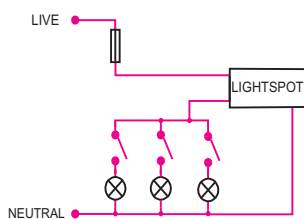
## Electrical Connection Diagram



Controlling a load with one switch circuit.



Controlling two or three way circuits.



Controlling a load with several switch circuits.

Note: Any number of LightSpot detectors may be connected in parallel.

Do not mount within 25cm of a luminaire.

Ex-Or operates a genuine policy of continuous improvement. You may expect the specification to be regularly enhanced. For latest technical information, please visit [www.ex-or.com](http://www.ex-or.com).

## Part Numbers

**MS1500P** Standard LightSpot incorporating photocell - surface mounted

**MS1500PF** Standard LightSpot incorporating photocell - semi-flush mounted

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