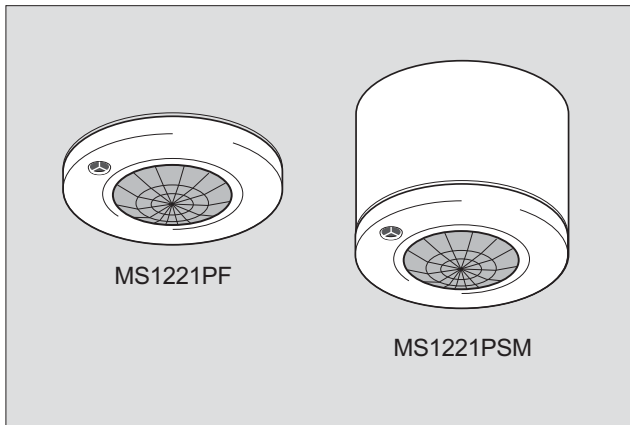




by Honeywell

**Silver Series LightSpot with photocell  
MS1221PF / MS1221PSM**



**Installation and Commissioning  
Instructions**

Note: Infrared Programmer QuickSet Pro required for commissioning

**Honeywell Ex-Or**

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

Tel: +44 (0)1942 719229

Fax: +44 (0)1942 508753

Email: [technicalsales.ex-or@honeywell.com](mailto:technicalsales.ex-or@honeywell.com)

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



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.



W42311

## Silver Series LightSpot with photocell

The Silver Series LightSpot is a high performance presence detector with photocell. In all operating modes, the photocell can hold lights off as a vacant area becomes occupied, and if the light level falls too low during the period of occupancy, the lights switch on. In 'Passive Mode' the lights do not switch off whilst the area is occupied no matter how much light is measured. In 'Active Mode' the photocell is able to switch the lights off whilst the area is occupied.

### Fixing

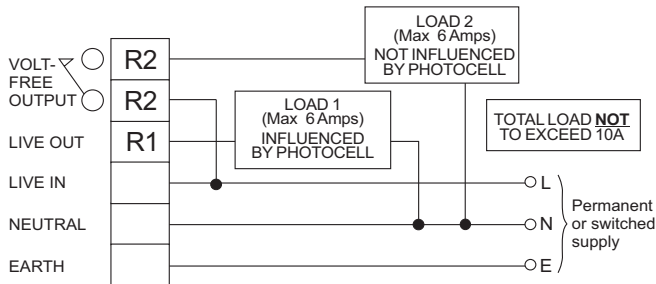
MS1221PSM - The housing may be secured to a hard surface or a BESA box. The unit fits into the housing with a simple bayonet action.

MS1221PF - Supplied with a sinking (dry lining) box for flush fitting. Sinking box fits into an 89mm diameter hole in ceiling tile or plasterboard ceiling. To avoid damage to ceiling tile, do not overtighten. Depth required behind ceiling: 62mm from front flange plus an allowance for the minimum bend radius of the cable. No access above the ceiling is necessary.

**Note:** Do not mount within 25cm of a luminaire.

### Connection Examples

The MS1221 has two outputs, one influenced by the photocell (R1), the other not (R2). This is useful in applications where a fan or water is being controlled in addition to any lighting.



### Important Additional Notes

1. Only suitably qualified personnel should install this equipment.
2. All terminals on this product are provided for final connections. It is not intended that the product be used as a junction box for looping cables.
3. A means for disconnection must be incorporated in the fixed wiring in accordance with the current wiring regulations.
4. This equipment switches lights no more frequently than would a responsible human occupant. However, manufacturers of some 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.

## Parameter Options

### R1 and R2 Off Delay

Independent Off Delays of between 1 minute and 96 hours may be set for each Relay. A 10-second Off Delay is available for walk-testing the product. In a typical office environment a 20-minute Off Delay is usually satisfactory.

### Response (Automatic / Semi-Automatic)

Where absence detection is required (i.e. the user manually turns lights ON if required but lights still turn off automatically once an area is vacated), semi-automatic operation can be set via the programmer. It should be noted that this mode of operation affects only the switched-live output. Where semi-automatic operation is required on both outputs, please contact Ex-Or for assistance.

### Power Up (On/Off)

Set to ON the detector will automatically switch its outputs on when Mains is applied. If set to OFF, the detector will power up without turning its outputs on, wait for 30 seconds and THEN look for movement. Only if the area is occupied will the output switch on at this time. The detector must be set to Power Up ON when used in conjunction with semi-automatic operation.

### Photocell Mode (Passive/Active/Disabled)

The sensor features an in-built photocell. The photocell does not affect the volt-free output - i.e. the volt-free output will turn ON regardless of natural light levels when occupancy is detected. The photocell has three modes of operation - Passive, Active and Disabled. Its operational behaviour is governed by the setting chosen and by the values stored in the Upper and Lower thresholds (see diagram overleaf).

**Passive** - The photocell will inhibit turn-on of the controlled load if sufficient natural light is available. It will not turn the load off whilst an area is occupied

**Active** - The photocell will turn the controlled load on and off as required whilst natural light levels fluctuate during a period of occupancy. This mode of operation operates in conjunction with a passing cloud timer (PCT). The PCT is asymmetrical in operation - the load will be switched on immediately that the light level falls below the lower set point, however, the load switches off only if the light level exceeds the upper threshold *continuously* for a period equal to the Off Delay.

**Disabled** - The photocell has no effect.

### 24hr Cycle (Yes/No)

For use in 'Washroom Mode' only (see overleaf) to provide hygiene flush. In this mode, if the detector has seen no movement for 24 hours, the output (selectable; default = R2 volt-free) will be switched ON for the duration of the time delay. Used in conjunction with a suitable valve the need for separate urinal flush control is removed.

### Lower Threshold (0-254)

The point at which the photocell allows lights to switch on.

### Upper Threshold (0-254)

The point where the photocell turns lights off if the photocell is in Active Mode.

## Commissioning

The units are supplied with factory default settings (Power-Up On, fully Automatic operation, a 20 minute Off Delay, no 24hr Cycle, Photocell Disabled). Program using the infrared programming tool QuickSet Pro.

## Walk-test Mode

Walk-test mode is used to check that the detector is operating as required. The short off-delay enables the installer to check that lights are switching on when movements are made at the edge of the detection zone. It is easier to carry out a walk-test when the photocell is not holding the lights off.

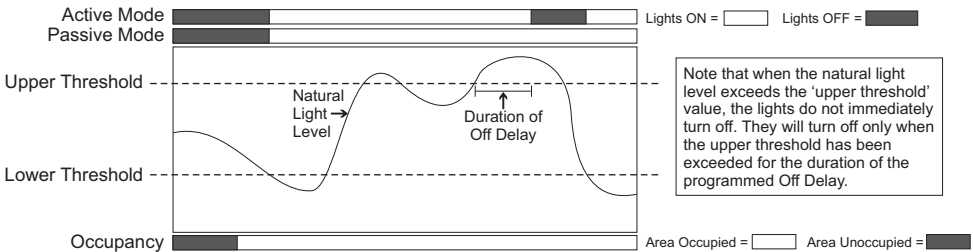
1. Change the Off Delay to 10 seconds using the QuickSet Pro by choosing 'Utilities / LightSpot/MLS/LCM / User Test / Walk Test / OK'.
2. Move around the area that is being controlled, stopping for 10 seconds to allow the lights to switch off, before moving and triggering the lights back on. Re-program the desired Off Delay once testing is complete. The programmed Off Delay will be automatically restored after 5 minutes.

## Setting the Photocell (Photocell only affects the 'Live Out' output)

1. If the lights are not already on, switch them on manually by pressing 'Utilities / LightSpot/MLS/LCM / IR Remote / Luminaire+ / OK' on the QuickSet Pro. Fluorescent lights do not reach full output until up to 15 minutes after being switched on, so ensure that the lights are fully warmed up before continuing. This stage may be omitted if the intention is to operate the detector's photocell in Passive Mode only [the detector must have already been programmed to Passive Mode].
2. Wait until the time of day when the natural light level is at the point below which you *would* want the lights to be on, and above which you *would not* want the lights to be on.
3. Start the internal self-programming mechanism by pressing 'Utilities / LightSpot/MLS/LCM / Set Light Level / OK'. The detector takes a measurement, adds a small amount and stores the value in the Upper Threshold. Then it turns the lights off, makes another measurement and stores the value in the Lower Threshold. The lights now switch on again to acknowledge a successful programming operation.

The two switching thresholds have now been set, and the difference between them is equal to the contribution made by the electric lighting; this is the perfect amount of hysteresis to ensure that the lights will not oscillate. The thresholds may be read back and fine-tuned if necessary using the QuickSet Pro. Please note that the values are non-specific units i.e. not lux.

**Note:** The light level perceived by the detector at the moment immediately prior to a Download operation is shown momentarily on the QuickSet Pro screen following the Download; this is a useful mechanism for troubleshooting.



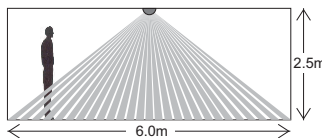
## Washroom Mode

The unit may be used in conjunction with a 230V solenoid valve and a trickle valve or 'petcock' to effect a urinal flush system. Set the water flow rate by adjusting the petcock so that the cistern *just* fills within the chosen Off Delay period of the detector. Note that in this mode, the photocell should be disabled, unless using the dual output unit.

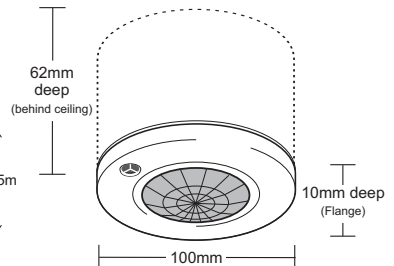
**Note:** The MS1221PF/PSM and 230V solenoid valve can be ordered as a complete product, Ex-Or part nos. UC1221PF/PSM.

## Technical Data

OPERATING VOLTAGE: 230V 50Hz (UK & Europe)  
 RECOMMENDED CIRCUIT PROTECTION: 10 Amps  
 TERMINAL CAPACITY: 2 x 2.5mm<sup>2</sup>  
 MAXIMUM LOAD: 6 Amps per output [not exceeding 10A in total]  
 MAXIMUM RECOMMENDED MOUNTING HEIGHT: 3 metres  
 RANGE: Cone-shaped detection pattern, diameter (at floor level) = 2.4 x mounting height



## Dimensions



PHOTOCELL: Adjustable 50-5000 lux via Programmer  
 OFF DELAY 1 & 2: Adjustable via Programmer - factory pre-set to 20 mins  
 Each output is independently adjustable.

COLOUR: White RAL9010  
 MATERIAL: Flame retardant PC/ABS  
 WEIGHT: 210g (Flush version); 187g (Surface version)  
 IP RATING: 3X