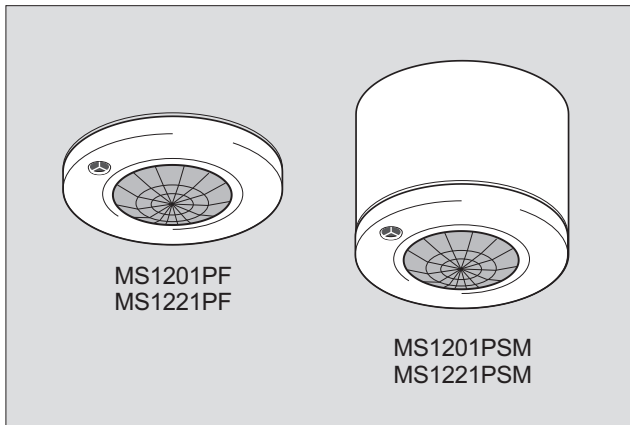




by Honeywell

**Silver Series LightSpot with photocell**  
**MS1201PF / MS1201PSM**  
**MS1221PF / MS1221PSM**



**Installation and Commissioning**  
**Instructions**

Note: Infrared Programmer required for commissioning

HP2000, HP10 or HP18 for MS1201PF/SM

HP2000 or HP10 for MS1221PF/SM

Please note that only the HP2000 offers the full range of programming options

User override available via HC5 or HC6 Hand-held Controllers

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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.



W4231G

## 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

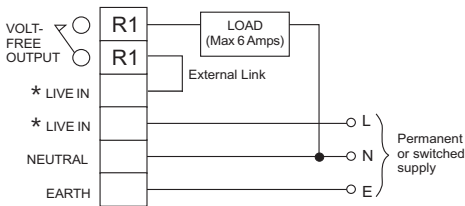
MS1201PSM / MS1221PSM - The housing may be secured to a hard surface or a BESA box. The unit fits into the housing with a simple bayonet action.

MS1201PF / 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

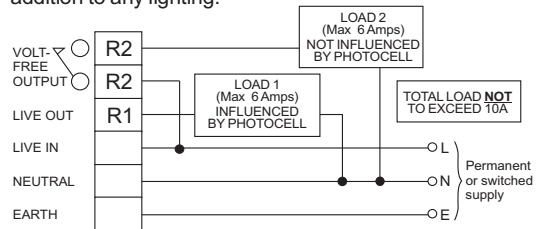
#### MS1201PF or MS1201PSM



\* The Live terminals are internally linked

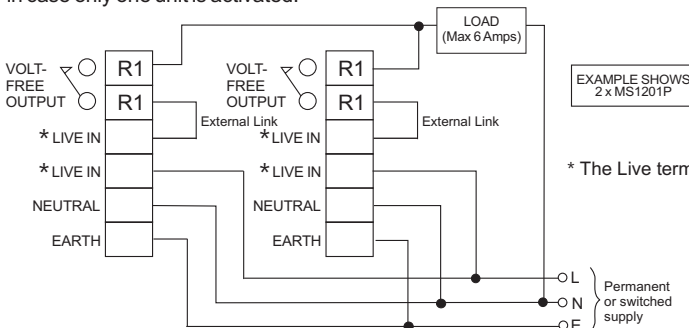
#### MS1221PF or MS1221PSM

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.



### Multiple Units

Larger areas can be covered by connecting extra units in parallel. The total load current must not exceed 6 Amps in case only one unit is activated.

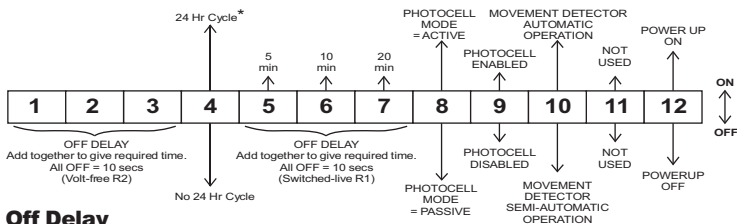


\* The Live terminals are internally linked

### 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.

## HP10 Parameter Options for MS1201P / MS1221P



Please note that additional parameters are available via the HP2000

\* Operates on R2 if Twin-Output Unit, R1 on Single-Output Unit. If controlling water with Single-Output Unit the photocell cannot be used

### Off Delay

The Off Delay may be set between 5 and 35 minutes. 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.

### Movement Detector Operation (Automatic / Semi-Automatic)

Where absence detection is required (ie 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 Setting (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 Operation (Passive/Active/Disabled)

Both the single-output detector and the dual-output detector have an in-built photocell. On the dual-output detector the photocell does not affect the volt-free output - ie 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). In this mode it is necessary to have a hygiene cycle (flush) if the area has been unoccupied for 24hrs. Select this feature and the output will switch on for the duration of the Off Delay once every 24hrs if the area remains unoccupied. Operates on R2 (if selected) on twin-output unit.

### 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). Programme using an infrared programming tool. Please note that the full range of parameters is accessible via the HP2000; the HP10 and HP18 offer different/limited programming options.

### 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.

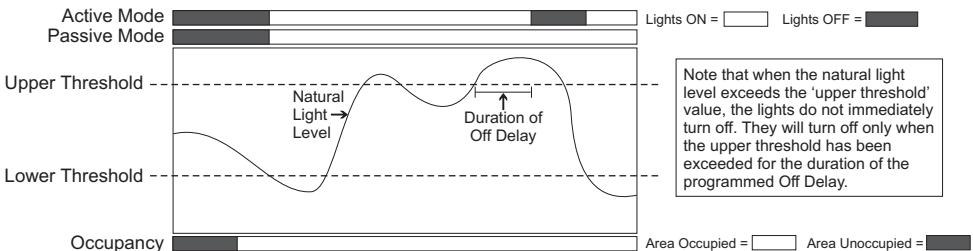
1. Change the Off Delay to 10 seconds using the HP10 or press 'TEST' (HP18) or 'Utilities/Walk Test/OK' (HP2000).
2. Move around the area that is being controlled, stopping for 10 seconds to allow the lights to switch off, before moving and triggering the lights back on. Re-programme the desired Off Delay once testing is complete. Note: If the HP2000 or HP18 was used to engage 'soft' walk test mode as described above, 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/User Remote/Luminaire+/OK' [HP2000], or 'Up' [HP10] or 'On' [HP18]. 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/Set Light Level/OK' [HP2000], or 'Store' [HP10] or 'Set' [HP18]. 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 HP2000. 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 [HP2000 only] is shown momentarily on the HP2000 screen following the Download; this is a useful mechanism for troubleshooting.



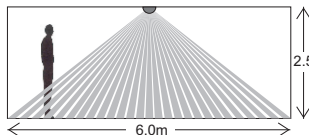
## Washroom Mode

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.

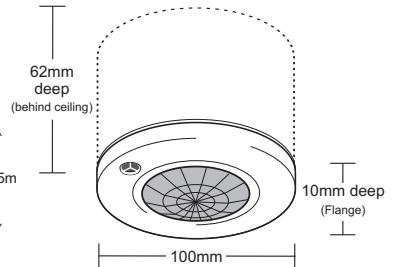
**Note:** The MS1201PF/PSM and MS1221PF/PSM and 230V solenoid valve can be ordered as a complete product, Ex-Or part nos. UC1201PF/PSM and UC1221PF/PSM.

## 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 HP2000/HP10/HP18

OFF DELAY 1 & 2: Adjustable via Programmer - factory pre-set to 20 mins

Options: 1 min - 96 hours / Disabled via HP2000; 5-35 mins via HP10 (also 5, 10 or 20 mins via HP18 - MS1201PF/SM only) plus 10-second Walk-test Mode

On MS1221PF/SM each output is independently adjustable (via HP2000 or HP10)

COLOUR: White

MATERIAL: Flame retardant PC/ABS

WEIGHT: 200g approx

IP RATING: 3X