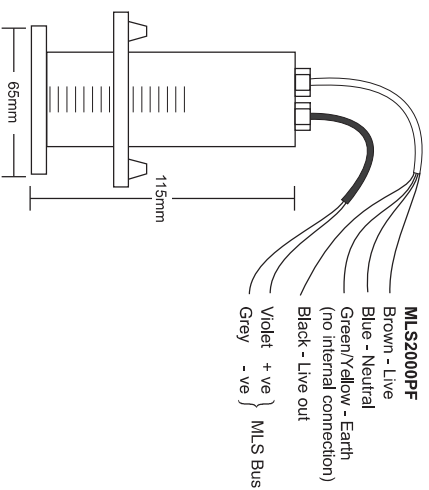


## Electrical Connections

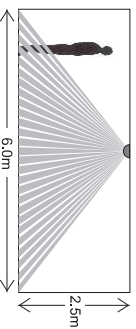


## Technical Data

MLS CABLE: 1.5mm<sup>2</sup> unscreened twisted-pair : see Application No AN4001

MAXIMUM RECOMMENDED MOUNTING HEIGHT: 3.0m

RANGE: Cone-shaped detection pattern, diameter (at floor level) = 2.4 x mounting height



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

PRODUCT RATING & RECOMMENDED CIRCUIT PROTECTION: 10 Amps

CAPACITY: Maximum load 6 Amps

OUTPUT: Switching

PHOTOCELL: Passive

OFF DELAY: 1 minute - 96 hours plus 10-second walk-test

DEPTH REQUIRED BEHIND CEILING: 125mm

WEIGHT: 70g excluding cable

COLOUR: White

MATERIAL: Flame retardant PC/ABS

IP RATING: 4X

## Ex-Or

Haydock Lane, Haydock, Merseyside WA11 9JU

Tel: +44 (0)1942 719229

Fax: +44 (0)1942 272767

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

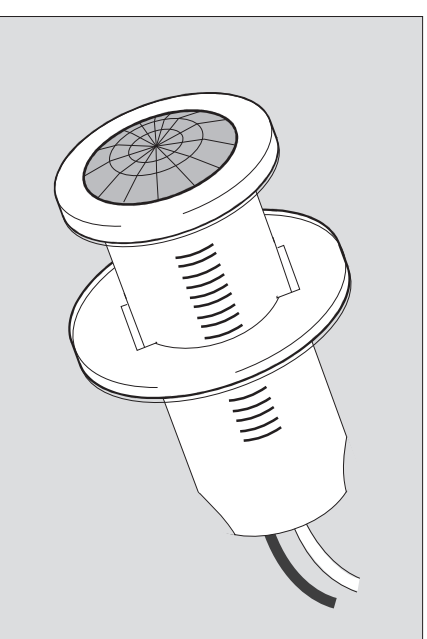
[www.ex-or.com](http://www.ex-or.com)



W440801



**MLS2000PF**  
**MLS Digital Detector**  
**with photocell**



## Installation and Commissioning Instructions

Note: HP2000 required for commissioning

## **MLS2000PF - MLS Digital Detector with photocell**

### **Only suitably qualified personnel should install this equipment.**

MLS Digital Detectors are the high-performance, communicating, presence detectors at the heart of the advanced lighting management system known as The Ex-Or MLS Digital. This detector is equipped with a passive photocell designed to hold lights off when areas become occupied if the daylight contribution is high and to switch lights on in occupied areas as the daylight contribution falls. Please note that the photocell will not switch lights off in occupied areas.

### **Fixing**

The detector is suitable for flush-mounting in a suspended ceiling tile, maximum 54mm thick with a minimum clearance of 125mm between the front surface of the tile and the hard ceiling behind. It should be mounted in the centre of the group of luminaires to be controlled. Cut a 50mm diameter (64mm if using an FR64 flush ring or PB64 plasterboard fixing kit) circular hole in the tile, feed the flying leads and detector through the hole and secure in position with the locking ring. Twist the locking ring to release the detector if necessary.  
**Note:** Do not position within 25cm of a luminaire.

### **Connection**

The detector is supplied with two flying leads. The mains lead should be taken into the nearest luminaire from where it will pick up its 230V supply. Control of a group of luminaires is achieved by connecting all the luminaires in a group (typically four) in parallel with the switched live output of the detector. The MLS Digital Bus must be connected to the MLS Digital Bus wiring network to enable communication with the rest of the system. An MLS Bus Power Supply is required for each network of up to 200 MLS Digital Detectors. Please refer to Bus Power Supply installation instructions prior to commencement of any bus wiring.

It is imperative that the MLS bus is wired with the correct type of cable; normally it should be 1.5mm<sup>2</sup> unscreened twisted pair. Please read Application Note AN4001 for more details.  
Do not connect mains to the MLS bus.

### **Commissioning**

Detectors are supplied factory pre-set which ensures the lighting will switch on automatically as soon as power is applied. Final commissioning of the detectors, including assigning to zones, requires the use of the HP2000 Programmer. Please refer to HP2000 instructions for comprehensive commissioning details.

### **Commissioning Detectors using the HP2000**

It is important that the HP2000 be held perpendicular and at a distance of between 0.5m and 2m from the detector.

1. Switch on HP2000 by pressing the red power button.
2. Point HP2000 at detector and press the DOWNLOAD button. The HP2000 will confirm the product's identity and call up the correct menu of parameters and their current settings.
3. Use a combination of UP, DOWN, FORWARD and BACK buttons to navigate the parameter menu, selecting options for each shown. (See Tips below.)
4. When options for all parameters have been selected, point the HP2000 at the detector and press the UPLOAD button. The luminaire(s) will switch off briefly during the programming process and the HP2000 shows DATAOK to confirm operation.
5. After a short period of inactivity (default 5 minutes), the HP2000 hibernates retaining the most recent settings.

### **Tips**

- i) Where there are only two options such as ON/OFF, a double click of the OK button toggles between them.
- ii) Where there are multiple options, a double click of the OK button recalls a list of all options for that parameter. Use the UP, DOWN and OK buttons to select.
- iii) Use the OK button to go forward (through the menus) without displaying help pages.
- iv) Press UPLOAD at any time to transfer all current settings from the handset to the product.

### **Setting the Photocell**

The light level should be set at a time when the ambient light level is equal to the level at which it would be desirable for the photocell to become active. This can be achieved in the following ways:

1. Wait until the appropriate time of day.
2. Create the desired level by turning lights on or off as required and/or opening or closing window blinds etc. At this point the photocell can be commissioned correctly.

### **Setting the photocell using an HP10**

1. Point the HP10 at the detector from a distance of about 1m and press the 'Store' button.
2. The lights will acknowledge the command - i.e. turn on if they were previously off or briefly turn off, then back on, if they were on at the start of programming.

### **Setting the photocell using an HP2000**

1. Point HP2000 at detector and press the DOWNLOAD button. The HP2000 will confirm the product's identity and call up the correct menu of parameters and their current settings.
2. Select UTILITIES, then USER REMOTE.
3. Select SCENE 1 in the display while pointing the HP2000 at the detector (as in any programming operation). Press and hold the OK button until the lights acknowledge the command - i.e. they either turn on if they were previously off or briefly turn off, then back on, if they were on at the start of programming.

### **Setting the photocell using an HC5**

1. Point the HC5 at the detector.
2. Press and hold the '1' button until the lights acknowledge the command - i.e. they either turn on if they were previously off or briefly turn off, then back on, if they were on at the start of programming.

Note: In all cases the photocell will make its measurement and store it in non-volatile memory (i.e. the set-point will be retained in the event of power loss).

### **Important Additional Notes**

1. A means for disconnection must be incorporated in the fixed wiring in accordance with the current wiring regulations.
2. 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 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.