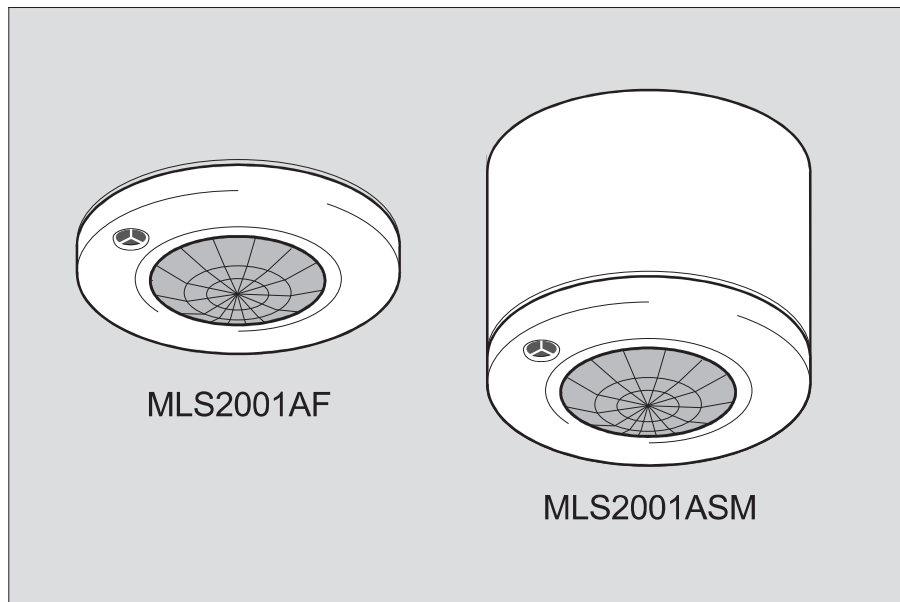




by Honeywell

**MLS Digital Detectors
MLS2001AF & MLS2001ASM
for use with Analogue 1-10V ballasts**



**Installation and Commissioning
Instructions**

Note: HP2000 required for commissioning

MLS2001AF & MLS2001ASM - MLS Digital Detectors for use with Analogue 1-10V Ballasts

Note: Connections to this equipment should be made by a suitably qualified person and in accordance with the current wiring regulations.

MLS Digital Detectors are the high-performance, communicating, presence detectors which lie at the heart of the advanced lighting management system known as The Ex-Or MLS Digital. These detectors are equipped with a regulating photocell to work with analogue 1-10V ballasts.

Fixing

MLS2001ASM - The housing may be secured to a hard surface or a BESA box. The unit fits into the housing with a simple bayonet action.

MLS2001AF - Depth required behind ceiling: 62mm from front flange plus an allowance for the minimum bend radius of the cable. The sinking box fits into a 89mm diameter hole in ceiling tile or plasterboard ceiling. To avoid damage to ceiling tile, do not overtighten. No access above the ceiling is necessary.

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

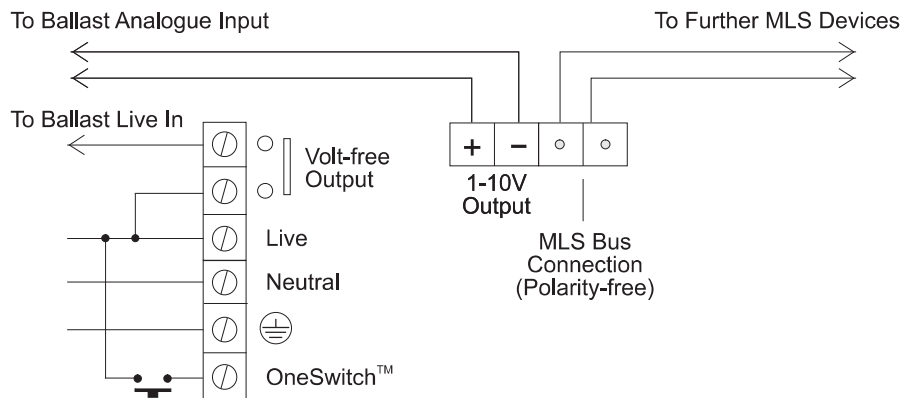
Connection Overview

Each luminaire to be controlled must contain an analogue regulating type ballast with the appropriate analogue input. Ballast types must not be mixed. Connect all ballasts in the control group (maximum load 6 Amps) in parallel and also to the analogue output of the MLS Detector.

The MLS Bus must be connected to the MLS bus wiring network. An MLS Bus Power Supply is required for each network of up to 200 MLS 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 1.5mm² unshielded twisted pair. Please read Application Note AN4001 for more details.

Do not connect mains to the MLS bus.



'OneSwitch' Dimming

OneSwitch dimming affords local control to the end-user whereby a simple, momentary, push-to-make wallswitch can be used to raise or lower the lighting level or to toggle the output ON/OFF. A short press of the switch (less than 1 second) will toggle the output status while a longer press will raise or lower the output. Each time the switch is pressed, the direction of dimming reverses. If the switch has not been pressed for 5 seconds, the direction will be up (brighter) - unless the output is already above 90% in which case the direction is down. If the switch is held continuously, and the output reaches maximum, the light output will remain at this level until the switch is released - a latching switch may be connected in parallel allowing the occupancy detection to be overridden on (Note: If the initial direction was down, when the output reaches minimum it will ramp back up automatically). A wiring diagram is shown above.

Setting the regulating photocell

This product is intended for use with high frequency regulating ballasts with analogue control inputs. An infrared programming tool HP2000 is required for programming the regulating light level set point. The setting is preserved in the event of a power failure and can be re-programmed any number of times.

Using the HP2000 MLS Programmer, enter the Utilities menu and select 'Set Light Level'. Use the 'up' and 'down' buttons to manually adjust the light output from the luminaire(s) and when at the required level press and hold 'OK' to store. The luminaire(s) will blink to acknowledge a successful store operation.

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 instructions.

Commissioning Detectors using the HP2000

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 DATA OK to confirm operation.
5. After a short period of inactivity (default 5 minutes), the HP2000 hibernates retaining the most recent settings.

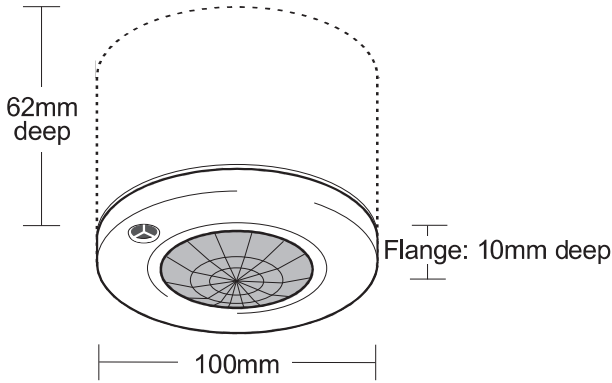
Tips

- 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.

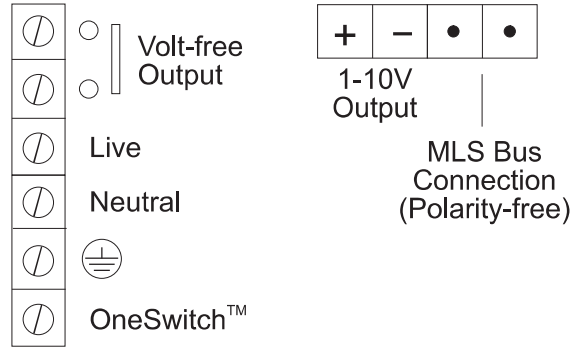
Important Additional Notes

1. 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.
2. A means for disconnection must be incorporated in the fixed wiring in accordance with the current wiring regulations.
3. Although nominally 12V, the dimming output is not SELV and therefore should be treated with the same respect as mains with regard to wiring practice. The 0V line of the dimming output is almost at Neutral potential.
4. The dimming control output should be connected only to the control input of the ballasts - never to other detectors.
5. This equipment should be used to control only those ballasts powered from the same phase as the detector.
6. Due to the fact that the photocell is on the ceiling looking down, it is not possible for measurements made with a lux meter on the working plane to remain constant when daylight illuminates the ceiling and the working plane to a differing extent. Therefore, products of this type should be regarded as capable of maintaining an APPROXIMATE light level only.

Dimensions



Electrical Connections

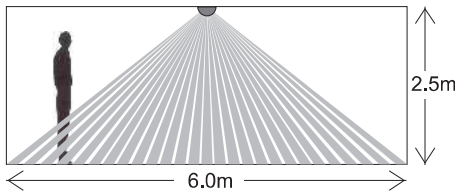


Technical Data

MLS CABLE: 1.5mm² unscreened twisted-pair : see Application Note AN4001

MOUNTING HEIGHT: 3.0m max

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: 6 Amps

OUTPUT: Analogue 1-10V

PHOTOCELL: Regulating

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

WEIGHT: Approx 200g

COLOUR: White

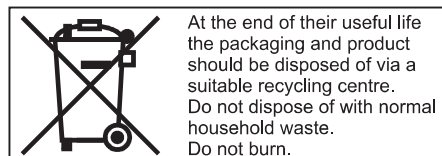
MATERIAL: Flame retardant PC/ABS

IP RATING: 3X

* Denotes suffix F or SM.

Ex-Or

Novar ED&S Limited
 Haydock Lane, Haydock, Merseyside WA11 9UJ
 Tel: +44 (0)1942 719229
 Fax: +44 (0)1942 508753
 Email: technicalsales.ex-or@honeywell.com
www.ex-or.com



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