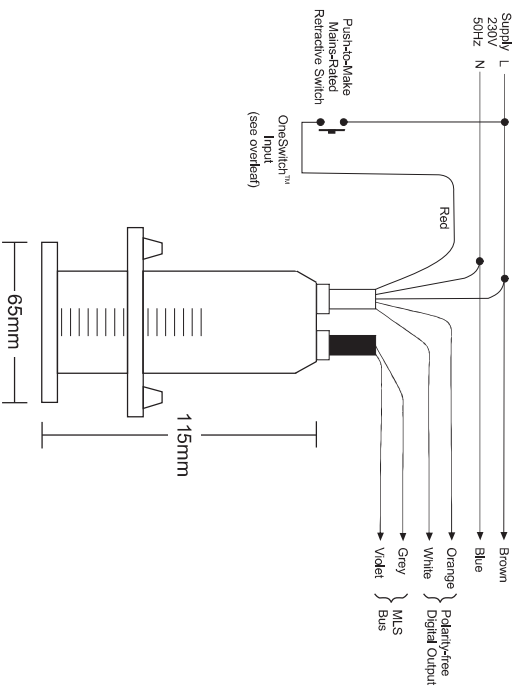
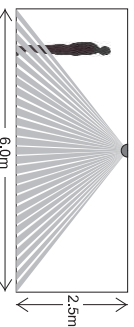


Electrical Connections



Technical Data

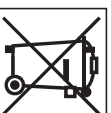
MLS CABLE: 1.5mm² unscreened twisted-pair : see Application Note AN4001
RECOMMENDED MAXIMUM MOUNTING HEIGHT: 3.0m
RANGE: Cone-shaped detection pattern, diameter (at floor level) = 2.4 x mounting height



OPERATING VOLTAGE: 230V 50Hz (UK & Europe)
PRODUCT RATING & RECOMMENDED CIRCUIT PROTECTION: 10 Amps
CAPACITY: 9 ballasts
OUTPUT: 2-wire digital polarity free-max extended cable length: 12m
PHOTOCELL: Regulating
OFF DELAY: 5-60 minutes
DEPTH REQUIRED BEHIND CEILING: 125mm
WEIGHT: 70g approx excluding cable
COLOR: White
MATERIAL: Flame retardant PC/ABS
IP RATING: 4X

Ex-Or

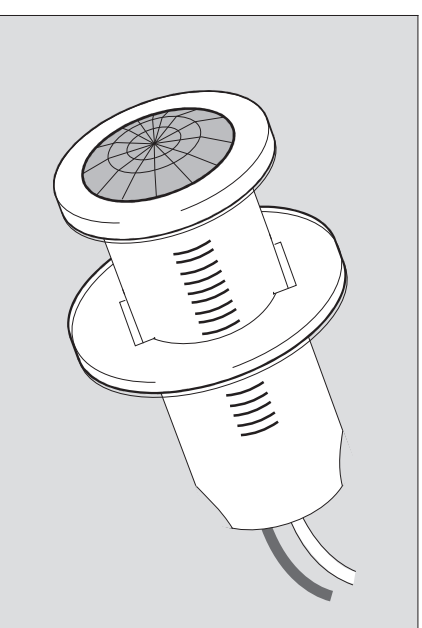
Haydock Lane, Haydock, Merseyside WA11 9JU
 Tel: +44 (0)1942 719229
 Fax: +44 (0)1942 272767
 Email: technicalsales.ex-or@honeywell.com
www.ex-or.com



At the end of their useful life the packaging and product should be disposed of in a suitable recycling centre. Do not dispose of with normal household waste. Do not burn.



MLS Digital Detector
MLS2000DF for DSI ballasts
MLS2000DALIF for DALI ballasts



Installation and Commissioning Instructions

Note: HP2000 required for commissioning
 HC5 / 6 available for User-override



W4232E

MLS Digital Detector: MLS2000DF for DSI ballasts / MLS2000DALIF for DALI ballasts

Only suitably qualified personnel should install this equipment.

MLS Detectors are the high-performance, communicating presence detectors 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 digital DSI/DALI ballasts.

Fixing

These detectors are suitable for flush-mounting in a suspended ceiling tile, maximum 54mm thickness with a minimum clearance of 125mm between the front surface of the tile and the hard ceiling behind and should be mounted in the centre of the area being monitored. 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 detectors are supplied with two flying leads. The 5-core mains lead should be taken into the nearest luminaire, from where it will pick up its 230V supply. This lead also contains connections for the polarity-free digital output (for connection to the control input on the ballast) and the OneSwitch dimming input. The OneSwitch dimming input is sheathed for applications which do not require this connection. This wire should be terminated safely if not being used - do not connect to Neutral or Earth. Please see below for OneSwitch details.

The second lead contains connections for the MLS bus. The bus enables the MLS Detector to communicate with the rest of the MLS devices in the system.

Each luminaire to be controlled must contain a digital regulating type ballast with the appropriate DSI or DALI input. Ballast types must not be mixed. Connect all ballasts in the control group (maximum nine) in parallel and also to the polarity-free digital output of the MLS Detector.

Each luminaire is controlled completely by its digital input and therefore would normally have a permanent power supply. Turning the power off to some lights within a control circuit will not affect the operation of those that remain powered-up.

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 unscreened 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). Please see Application Note AN4008 for further information.

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 read carefully the operating instructions that accompany the programmer prior to performing a programming operation.

Setting the Regulating Photocell

This product is intended for use with high frequency regulating ballasts with digital control inputs. An infrared programming tool HP2000 or HP10 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.

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 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. A means for disconnection must be incorporated in the fixed wiring in accordance with the current wiring regulations.
2. Although nominally 12V, the dimming output is not ELV 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.
3. The dimming control output should be connected only to the control input of the ballasts - never to other detectors.
4. This equipment should be used to control only those ballasts powered from the same phase as the detector.
5. Due to the fact that the photocell is on the ceiling locking 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.