

## MLS Digital - Networked Managed Lighting System

# Digital Gold Microwave Detector for use with Analogue 1-10V Ballasts

The Digital Gold Microwave Detector for use with Analogue 1-10V Ballasts is part of a comprehensive range of presence detectors designed to control modular luminaires with high frequency ballasts and other lighting loads as part of an MLS Digital Managed Lighting System.

It offers superior-performance, programmable presence detection for lighting control in offices and open-plan workstations. The use of microwave presence detection technology enables the range to be adjusted to ensure a tailored detection pattern to suit any application. Versions are available for flush and surface mounting.

The Digital Gold Microwave Detector for use with Analogue 1-10V Ballasts offers the following features:



Active presence detection by microwave technology.



Passive photocell holds lights off in bright conditions. Active photocell has the capability to switch lights off in occupied areas.



Regulating photocell actively monitors ambient light levels and adjusts the light output accordingly (dimmable control gear only).



Incorporates simple scene-setting - up to six scenes can be set via user remote.



Off delay: Period following the last observed movement after which the lights switch off.



Detection pattern and range in metres under normal operating conditions.



1-10V Analogue output always influenced by photocell. Relay output always controlled by the presence detector and can also be influenced by photocell, if so configured.



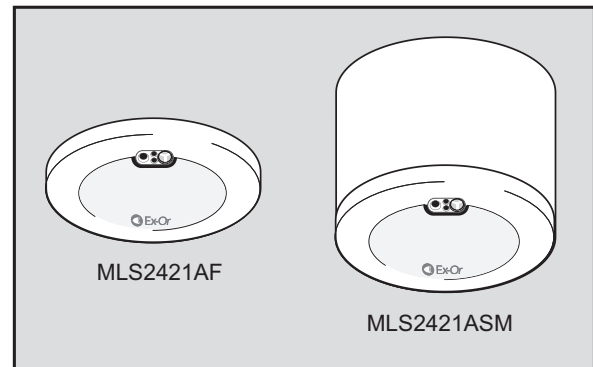
Hand-held Controllers (HC5 and HC6) provide local user override.



Remote programming with the HP2000 Hand-held Infrared Programmer ensures changes can be easily accommodated.



OneSwitch Dimming. Manual input to adjust light level or turn luminaires on or off.



### Scene-setting

When used with dimmable Analogue 1-10V ballasts, users can set up to six lighting scenes by infrared remote control and recall them with the single press of a button.

### Entry and Exit Scenes

The entry scene is automatically selected when the area becomes occupied. Similarly, there is an option to select an Exit Scene for when an area is vacated.

### Ballast Compatibility

The MLS2421A Detector is fully compatible with dimmable Analogue 1-10V ballasts (1-10V control signal plus relay power switching). It may alternatively be used to switch fixed-output high-frequency ballasts or other lighting loads.

### Local Overrides

Manual control of coordinated analogue and relay outputs with OneSwitch switching/dimming or by hand-held controller.

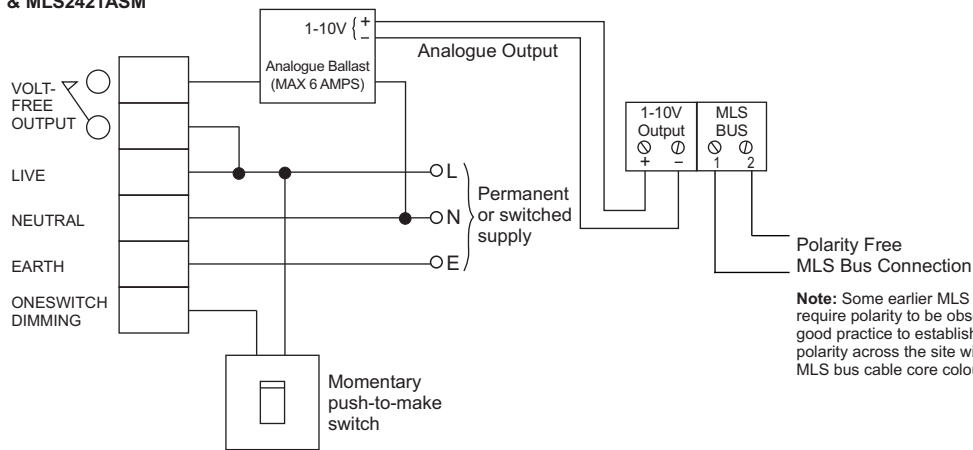
### Commissioning and Programmable Parameters

The operation of the MLS2421A Detector is determined by how the unit is commissioned. Commissioning and re-commissioning is carried out using a menu-driven, infrared remote programmer (HP2000) without inconveniencing the building's occupants.

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## Wiring Diagram

### MLS2421AF & MLS2421ASM



**Note:** Some earlier MLS devices require polarity to be observed, so it is good practice to establish a consistent polarity across the site with respect to MLS bus cable core colours



Relay outputs may be connected together in parallel to cover larger areas. The total load on all combined relay outputs must not, however, exceed 6 Amps as only one relay may be closed at a given moment.

Analogue outputs **MUST NOT** be connected in parallel.

The diagram above shows a unit exercising full ON/OFF and dimming control over an Analogue 1-10V Dimming Load. In a simpler application, controlling a non-dimmable load, just the mains supply and volt-free connections would be required. Please see installation instructions W4474 for further connection diagrams.

**Note:** Do not position this product on a pitch narrower than 5m. Do not mount within 0.25m of a luminaire.

*Always check the product label before connecting.*

| Dimensions   | Ancillary Items  |
|--|--|
| <p>62mm deep behind ceiling</p> <p>Flange: 15mm deep</p> <p>62mm deep</p> <p>100mm</p> <p>100mm</p> <p>MLS2421AF</p> <p>MLS2421ASM</p>   |  <p><b>HP2000 MLS Programmer</b><br/>Menu-driven LCD Programmer with automatic equipment recognition and parameter download facilities.</p> <p>HP2000</p>  <p><b>HC6 Two-button Hand-held Controller</b><br/>Note: The HC5 Universal Hand-held Controller is also suitable for use with these detectors.</p> <p>HC6</p>   |
| Technical Data   | Installation and Commissioning Notes   |
| <p>MAXIMUM RECOMMENDED MOUNTING HEIGHT: 3.0m<br/>           RANGE: Approx 7m dia at 2.4m ceiling height<br/>           OFF DELAY: 1 minute to 96 hours - adjustable<br/>           PHOTOCELL: Passive/Active/Regulating adjustable 50-5000 lux<br/>           OPERATING VOLTAGE: 230V ~ 50Hz (UK &amp; Europe)<br/>           PRODUCT RATING &amp; RECOMMENDED CIRCUIT PROTECTION: 10 Amps<br/>           MAXIMUM RECOMMENDED LOAD (VOLT-FREE): 6 Amps<br/>           MAXIMUM RECOMMENDED LOAD (Analogue): 20 Ballasts<br/>           COLOUR: White<br/>           MATERIAL: Flame retardant PC/ABS<br/>           WEIGHT: 300g<br/>           IP RATING: 2X</p> | <p><b>Flush versions</b><br/>           Depth required behind ceiling: 62mm from front flange. Sinking box fits into 89mm diameter hole in ceiling tile or plasterboard ceiling. No access above the ceiling is necessary. The detector fits into the sinking box with a simple bayonet action thus concealing the fixing screws.</p> <p><b>Surface versions</b><br/>           The housing may be secured to a hard surface or a BESA box. The detector fits into the surface box with a simple bayonet action, thus concealing the fixing screws.</p> <p>Please note that microwave detectors are not recommended for applications where there are large surface areas of metal, e.g. metal ceiling or floor tiles, as unpredictable sensitivity may result.</p> |

Ex-Or operates a genuine policy of continuous improvement. You may expect the specification to be regularly enhanced. For latest technical information, please visit [www.ex-or.com](http://www.ex-or.com)

## Part Numbers

|                   |  |
|-------------------|--|
| <b>MLS2421AF</b>  | Digital Gold Microwave Detector with photocell for Analogue 1-10V ballasts - flush mount   |
| <b>MLS2421ASM</b> | Digital Gold Microwave Detector with photocell for Analogue 1-10V ballasts - surface mount |
| <b>RB2000</b>     | MLS Bus Power Supply   |
| <b>HP2000</b>     | MLS Digital Programmer   |
| <b>HC6</b>        | Two-button Hand-held Controller c/w wall bracket   |
| <b>HC5</b>        | Universal Hand-held Controller c/w wall bracket  |