

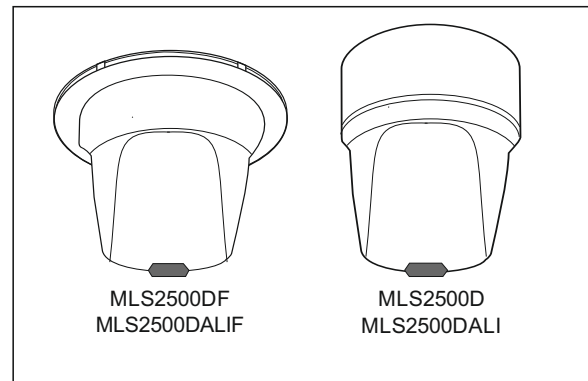
MLS Digital - Networked Managed Lighting System

# Digital Mid Range Detector

Digital Mid Range offers high performance directional presence detection for the control of luminaires with DSI or DALI high frequency ballasts and other lighting loads.

With a range of up to 20m which can be adjusted to suit any application, it is ideal for larger classrooms, conference rooms, storage aisles etc. Digital Mid Range incorporates relay and digital dimming outputs and is available for semi-flush or surface mounting.

Versions enabled for EnOcean wireless switching are available for those applications requiring manual control options.



Active presence detection by microwave technology.



Passive photocell holds lights off in bright ambient 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 (dimming 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.



Dual circuit control. Digital output always influenced by photocell, relay output can be influenced by photocell if configured.



Hand-held Controller provides local user override.



Remote programming ensures changes can be easily accommodated.



OneSwitch Dimming (WL suffix part numbers only). Manual input to adjust light level or turn luminaires on or off via MK EnOcean wireless switches which should be ordered separately.

### Scene-setting

Users can set up to six lighting scenes by infrared remote control (HC5A) 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

Digital Mid Range is available for fixed-output high-frequency ballasts and dimmable DSI and DALI ballasts.

### Dual Output

Manual control of digital and relay outputs with OneSwitch dimming or hand-held controller.

### Commissioning and Programmable Parameters

Operation is determined by how the unit is commissioned. Commissioning and re-commissioning are carried out using a menu-driven, infrared remote programmer (QuickSet Pro) with virtually no disturbance to the building's occupants. As the programmers have a range of 5 metres, ladders or platforms are seldom required.

The association of wireless switches with the OneSwitch function should be carried out at installation time; this requires access to the unit.

Wiring Diagram	
	<p><i>Always check the product label before connecting.</i></p> <p>Relay outputs may be connected in parallel to cover larger areas with multiple detectors but the total load switched by the parallel combination should not exceed 10 Amps.</p> <p>Digital Dimming Signal Outputs <b>MUST NOT</b> be connected, in parallel or in series, to those of another detector.</p> <p>The diagram above shows a fully utilised unit, controlling both dimmable and non-dimmable luminaires. In the simplest installation, controlling only non-dimmable loads, just the mains supply and the switched live output would be required.</p> <p><b>Note:</b> Do not mount within 25cm of a luminaire.</p>
Dimensions	Installation
	<p><b>Surface version</b> (MLS2500D/MLS2500DWL/MLS2500DALI/MLS2500DALIWL)</p> <p>The back-box can be secured directly to a hard surface or to a conduit stop end box.</p> <p><b>Semi-flush version</b> (MLS2500DF/MLS2500DWLF/MLS2500DALIF/MLS2500DALIWLF)</p> <p>Use a hole saw to drill a 76mm hole into the ceiling tile. The flush ring is designed to clamp the tile between its two halves.</p> <p><b>Note:</b> For wall mounting, use the WMK wall-mounting kit.</p>
Ancillary Items	Technical Data
<p><b>QuickSet Pro Digital 2-Way Programmer</b> Menu-driven LCD Programmer with automatic device recognition and parameter download facilities.</p> <p>QUICKSET PRO</p> <p><b>HC5A Universal Hand-held Controller</b> Allows user override. Supplied with wall bracket.</p> <p>HC5A</p>	<p>MLS CABLE: 1.5mm<sup>2</sup> unscreened twisted-pair (applicable when detector used as part of a full MLS Digital Managed Lighting System): see Application Note AN4001</p> <p>OPERATING VOLTAGE: 230V ~ 50-60Hz</p> <p>SWITCH CAPACITY: 10 Amps max any lighting load except incandescent lamps: 1500W max (at 230V~)</p> <p>MAXIMUM RECOMMENDED LOAD (DSI/DALI): 25 Ballasts</p> <p>MAXIMUM RECOMMENDED MOUNTING HEIGHT: 3.5m</p> <p>RANGE: Adjustable up to 20m</p> <p>OFF DELAY: 1 min - 96 hours plus 10-second walk-test mode</p> <p>PHOTOCELL: Passive/Active/Regulating adjustable 50-5000 lux</p> <p>MATERIAL: Flame retardant PC/ABS</p> <p>COLOUR: White</p> <p>WEIGHT: 160g (surface versions), 180g (semi-flush versions)</p> <p>IP RATING: 4X</p> <p>OPERATING TEMPERATURE: 0°C to 40°C</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**

- Digital Mid Range with photocell:**
- MLS2500D for DSI ballasts - surface mounted
  - MLS2500DWLF for DSI ballasts, with wireless OneSwitch capability - semi-flush mounted
  - MLS2500DALI for DALI ballasts - surface mounted
  - MLS2500DALIF for DALI ballasts - semi-flush mounted

**Ancillary Items**

- QUICKSET PRO QuickSet Pro Digital 2-Way Programmer
- HC5A Universal Hand-held Controller c/w wall bracket
- WMK Wall-mounting Kit
- MRFK Semi-flush Mounting Kit