

MLS INTEGRAL DETECTORS

MLS2000 DIS/DIW/DALIS/DALIW (single unit)

MLSM2000 D/DALI/A + DHW/DHS (two-part unit)

The Ex-Or MLS Managed Lighting System set the standard for communicating lighting management systems when it was introduced in 1994. With continuous development and utilising the latest digital control, it has evolved to become the premier lighting management system.

MLS Digital Luminaire Controllers may be integrated within luminaires with all makes of high frequency regulating ballasts. This provides individual luminaires with presence detection, daylight regulation/photocell control and full communication functions.

There are two types of controller: the single unit MLS2000D/DALI and the two-part MLSM2000D/DALI/A control module with DHW/S mini detector head (only the ultra-discreet detector head is visible).

Features include:

Scene-setting

Users can set up six lighting scenes by infrared remote control and recall them with a 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.

Group Dimming

Groups of luminaires may be brightened, dimmed and switched on/off by remote control.

Ballast Compatibility

MLS Digital is available for DSI/DALI ballasts or Analogue 1-10V and fixed-output electronic high-frequency ballasts.

OneSwitch™ Dimming

A simple, momentary, push-to-make wallswitch can be used to raise or lower the lighting level or to toggle the output ON/OFF. (Available on Two-part Controllers.)

Choice of Photocell Mode

Regulating, passive or none (selectable via the HP2000 Programmer) is available on the Analogue version.



Ref: D4068G

Commissioning the Programmable Parameters

The operation of MLS Digital is determined by the way the system is commissioned. Commissioning and re-commissioning is carried out using a menu-driven infrared remote programmer (HP2000) with virtually no disturbance to the building's occupants. The programmable parameters are shown overleaf in the order they are presented on the programmer. Options are selected from a choice of two or from a list.

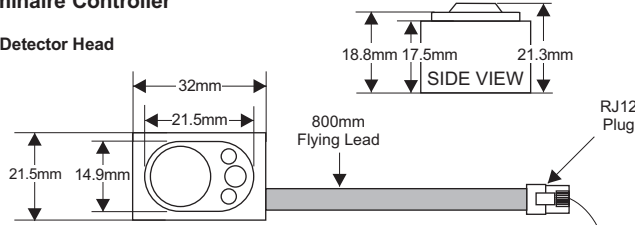
Commissioning of Lighting Scenes

Lighting scenes are set up using the infrared HC5 Hand-held Controller. The scene is set up manually then stored by a long press on the selected scene button. New scenes can be set up in this way without the need for separate programming devices.

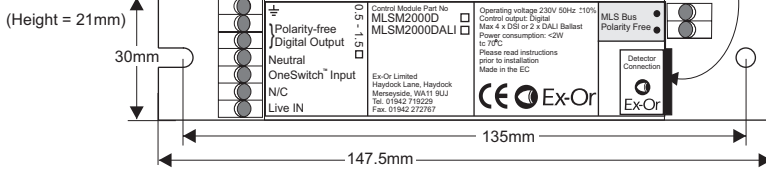
Electrical Connections

Two-part Luminaire Controller

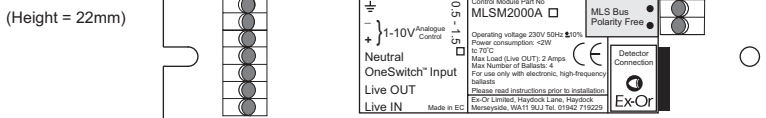
DHW/DHS Mini Detector Head



MLSM2000DALI/MLSM2000D mkl Digital Control Module

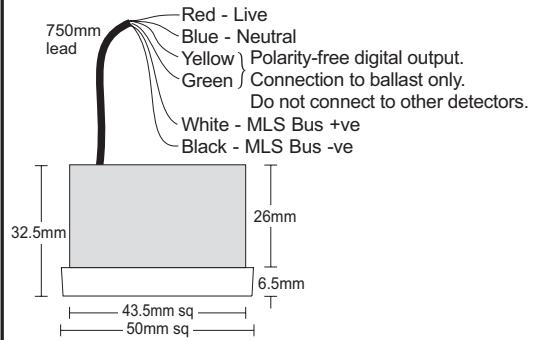


MLSM2000A Analogue 1-10V Control Module



Single-unit Luminaire Controller

For DSI ballasts: **MLS2000DIS & MLS2000DIW**
For DALI ballasts: **MLS2000DALIS & MLS2000DALIW**



Please Note: The MLS Bus is polarity-conscious unless specified otherwise on the detector/control module.

Programmable Parameters	Selectable Options (Factory pre-set shown in bold)				
Power up	On / Off				
Response	Auto / Semi-Auto				
Off Delay	5-60 mins in 5 min steps/up to 96 hrs/10 secs for walk test. 20 mins				
Bus Connect	Yes / No				
1st - 4th Zone	1-100 addresses. None				
1st - 4th Zone†	1-50 addresses. None				
Common Zone 1 - 3†	On / Off				
Corridor 1 & 2	Set addresses to begin and end contiguous group of zones. None				
Global 1 & 2 Rx	Yes / No				
Manual I/P	Local / Share - Determines whether OneSwitch operates locally (just one detector) or on all devices belonging to the same zone.				
Start lamps	Max / Min				
Entry Scene	Select Scenes 1 - 6. Scene 1				
Bright-out	Yes / No				
Dimming	Reg 100-50% Reg 100% Sets the regulating range of the ballast in daylight conditions, i.e. at 100% the ballast can regulate over its full range, at 70% the ballast will not dim below 30% output. Manual override is not affected.				
Lamp Max*	10 - 100% (10 - 50% in 5% increments; 50%+ in 10% increments) 100% Manual override is not affected.				
Fade to Off	Yes / No				
When Vacant	Switch Off after Off Delay <table border="1"> <tr> <td>Go to Minimum</td> <td rowspan="3">} and do not switch off</td> </tr> <tr> <td>Regulate up to 25%</td> </tr> <tr> <td>Go to Scene 6</td> </tr> </table> for 3 hours then switch off until building is vacated then switch off	Go to Minimum	} and do not switch off	Regulate up to 25%	Go to Scene 6
Go to Minimum	} and do not switch off				
Regulate up to 25%					
Go to Scene 6					
Photocell†	Regulating / Passive / None See 'Dimming' above for details of regulating range.				
Threshold†	0-254 In Passive photocell mode, this number represents the light level below which lights will be triggered when occupancy is detected.				


NOTE: The parameters differ slightly between products.
† Denotes parameters for Analogue version only.
* This feature is available on MLSM2000D/DALI only.

Ordering Information	
Part Number	Description
Single Unit Controller	
MLS2000DIS	MLS Luminaire Controller for DSI ballasts - silver bezel
MLS2000DIW	MLS Luminaire Controller for DSI ballasts - white bezel
MLS2000DALIS	MLS Luminaire Controller for DALI ballasts - silver bezel
MLS2000DALIW	MLS Luminaire Controller for DALI ballasts - white bezel
Two-Part Luminaire Controller	
MLSM2000D	Digital Control Module for DSI ballasts
MLSM2000DALI	Digital Control Module for DALI ballasts
MLSM2000A	Digital Control Module for analogue ballasts
DHW	Mini Detector Head (White)
DHS	Mini Detector Head (Stainless Steel)
General Accessories	
RB2000	MLS Bus Power Supply
RB2000LT	MLS Bus Power Supply 'Lite'
HP2000	MLS Programmer
HC6	Two-Button Hand-held Controller


Technical Data
All types: MLS CABLE: 1.5mm ² unscreened twisted-pair: see Applic Note 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) COLOUR: White or silver bezel ta = 0 - 50°C
Single-unit Controller MLS2000D/DALI: CAPACITY: DSI Digital - 4 ballasts max DALI - 1 ballast max MATERIAL: Flame retardant PC/ABS IP RATING: 43 WEIGHT: 50g
Two-part Controller MLSM2000D/DALI/A: CAPACITY: DSI Digital - 4 ballasts max DALI - 2 ballasts max Analogue 1-10V & Fixed-output - Total load must not exceed 2 Amps, up to 4 ballasts max - electronic, high-frequency ballasts ONLY INTERCONNECT CABLE TEMPERATURE RATING: 60°C MATERIAL: Detector Head - UV stabilised polycarbonate Control Module - Flame retardant PC/ABS IP RATING: 20 WEIGHT: Detector Head - 32g Control Module - 48g

Accessories

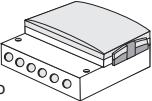
HP2000 MLS Digital Programmer
Menu-driven LCD Programmer with automatic device recognition and parameter download facilities.



HC5 Universal Hand-held Controller



RB2000 Bus Power Supply
A single Bus Power Supply synchronises and powers the bus for up to 200 MLS devices. It also provides a test facility. Units may be linked for larger installations and to provide a building-wide common zone. (RB2000LT Bus Power Supply may also be used but with reduced functionality.)



DHFK Flush-mounting Kit for Mini Detector Head
Allows for installation via a 30mm hole in the panel. Available in black, silver or white.

