

## MLS Digital - Networked Managed Lighting System

# Mid-Bay & Hi-Bay Integral Luminaire Controllers

MLS Digital offers a flexible, user-responsive, building-wide control solution via a network of communicating detectors. Constant monitoring of occupancy and ambient light levels enables the system to automatically deliver optimum lighting conditions while effecting energy and cost savings.

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

The Mid-Bay controller is suitable for mounting at a height of up to 12m while the Hi-Bay controller can be mounted at up to 16m height. These controllers are available for DSI or DALI ballasts.



Presence detection is by passive infrared, effectively enhanced to improve sensitivity to small movements.



Regulating photocell ensures a minimum maintained light level, taking account of the contribution from adjacent luminaires and daylight



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



**Mid-Bay version:** Detection pattern and range in metres at floor level (detection pattern is cone shaped). Range to mounting height ratio is 1:1.75, i.e. at 8m height, the cone's diameter is 14m at the floor.



**Hi-Bay version:** Detection pattern and range in metres at floor level (detection pattern is cone shaped). Range to mounting height ratio is 1:1, i.e. at 9m height, the cone's diameter is 9m at the floor.



Incorporates simple scene-setting - up to six scenes including entry and exit scenes can be set or recalled via user remote.



Hand-held Controller provides local user override.



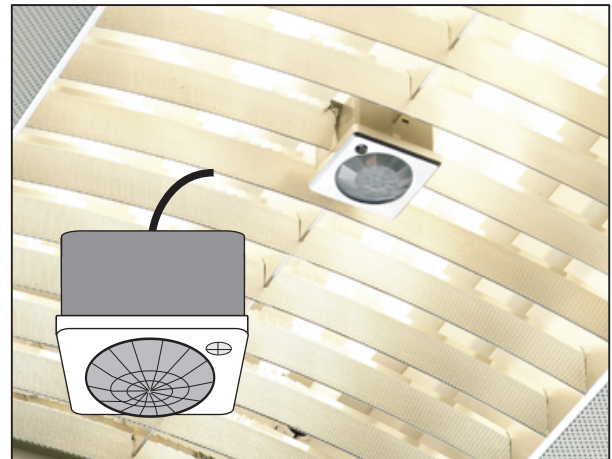
Remote programming via HP2000 ensures changes can be easily accommodated.



OneSwitch Dimming. Manual input to adjust light level or turn luminaires on or off. Available on Two-part Controllers.



100-hour Burn-in. Inhibits dimming functions to allow new lamps to burn in.



### Commissioning the Programmable Parameters

Operation of the system is determined by its commissioning. This is carried out using a menu-driven infrared remote programmer (HP2000) with virtually no disturbance to the building's occupants. Settings can be changed whenever required in the same way. The programmable parameters are shown overleaf; options for each parameter are selected from alternatives.

### Commissioning of Lighting Scenes

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

### Ancillary Items

#### HP2000 MLS Digital Programmer

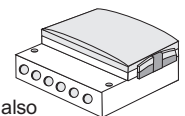
Menu-driven LCD Programmer with automatic device recognition and parameter download facilities.



#### 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.)



Please check [www.ex-or.com](http://www.ex-or.com) to ensure this is the most recent issue - Ref: D4136A

Electrical Connections		Technical Data	
<p><b>Please Note:</b> The MLS Bus is polarity-conscious unless specified otherwise on the detector/control module.</p>		<p><b>Mid-Bay</b>            MAXIMUM RECOMMENDED MOUNTING HEIGHT: 12.0m            RANGE: 360° cone-shaped detection pattern:            Diameter at floor level (d)            = 1.75 x mounting height (h)</p> <p><b>Hi-Bay</b>            MAXIMUM RECOMMENDED MOUNTING HEIGHT: 16.0m            RANGE: 360° cone-shaped detection pattern:            Diameter at floor level (d)            = mounting height (h)</p> <p><b>Both Types:</b>            MLS CABLE: 1.5mm<sup>2</sup> unscreened twisted-pair:            see Application Note AN4001            OPERATING VOLTAGE: 230V 50Hz (UK &amp; Europe)            COLOUR: White bezel            OPERATING TEMPERATURE: 0°C to 55°C            CAPACITY: DSI Digital - 4 ballasts max            DALI - 1 ballast max            MATERIAL: Flame retardant PC/ABS            IP RATING: 4X            WEIGHT: 50g</p>	
Programmable Parameters	Selectable Options (Factory pre-set shown in bold)		
Power up	On / Off		
Response	Auto, Manual/Bus, Manual		
Off Delay	1 min to 96 hrs / 10-second Walk-test Mode / Disabled. <b>20 mins</b>		
On Sensitivity	0-100 <b>100</b>		
Bus Connect	Yes / No		
1st - 4th Zone	1-100 addresses. <b>None</b>		
Corridor 1 & 2	Set addresses to begin and end contiguous group of zones. <b>None</b>		
Global 1 & 2 Rx	Yes / <b>No</b>		
Start lamps	<b>Max</b> / Min		
Entry Scene	Select Scenes 1 - 6. <b>Scene 1</b>		
Bright-out	Yes / <b>No</b>		
Dimming	Reg 100-50% <b>Reg 100%</b> 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% <b>100%</b>		
Fade to Off	Yes / <b>No</b>		
When Vacant	<b>Switch Off after Off Delay</b>		
	Go to Minimum	} and do not switch off for 3 hours then switch off until building is vacated then switch off	
	Regulate up to 25%		
Go to Scene 6			
Set-Point High	Aiming point as photocell adjusts ballast output. <b>1023</b>		
Set-Point Low	Level above which photocell switches its output off (only if Bright-out = Yes) <b>1023</b>		
<b>Additional feature available under Utilities on HP2000:</b>			
100-hr Burn-in	Inhibits dimming functions during burning-in of new lamps. <b>0hr</b>		

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>MLS2000DIMBW</b>	MLS Digital Mid-Bay Luminaire Controller for DSI ballasts - white bezel
<b>MLS2000DALIMBW</b>	MLS Digital Mid-Bay Luminaire Controller for DALI ballasts - white bezel
<b>MLS2000DIHBW</b>	MLS Digital Hi-Bay Luminaire Controller for DSI ballasts - white bezel
<b>MLS2000DALIHBW</b>	MLS Digital Hi-Bay Luminaire Controller for DALI ballasts - white bezel
<b>RB2000</b>	MLS Digital Bus Power Supply
<b>RB2000LT</b>	MLS Digital Bus Power Supply 'Lite'
<b>HP2000</b>	MLS Digital Programmer
<b>HC5</b>	Universal Hand-held Controller c/w wall bracket