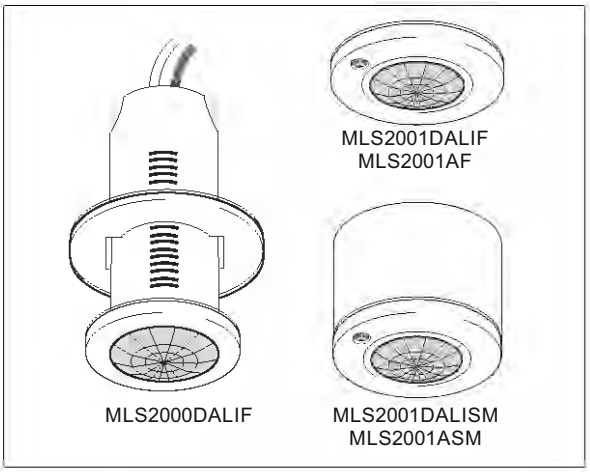
MLS Digital - Networked Managed Lighting System

Remote Detectors for Regulating Ballasts

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.

The detectors covered by this data sheet are designed for use with regulating ballasts (with specific controls for DSI, DALI and 1-10V Analogue types). They are designed for ceiling mounting to provide a group of luminaires with presence detection, daylight regulation/photocell control and full communication functions.



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.

Detection pattern and approximate range in metres at floor level for 2.5m mounting height (detection pattern is cone shaped).

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

Hand Controller provides local user override.

Remote programming ensures changes can be easily accommodated.

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

100-hour Burn-in. Inhibits dimming functions to allow new lamps to burn in. Available on DSI/DALI versions only.

Commissioning the Programmable Parameters

Operation of the system is determined by its commissioning. This is carried out using a menu-driven infrared remote programmer (QuickSet Pro) 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 in the order they are presented on the programmer. Options are selected from alternatives.

Commissioning of Lighting Scenes

Lighting scenes are set up using the infrared HC5A 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


QUICKSET PRO

QuickSet Pro Digital 2-Way Programmer
Menu-driven LCD Programmer with automatic device recognition and parameter download facilities.


HC5A

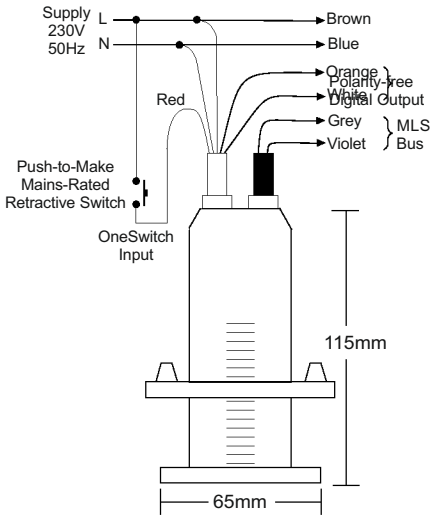
HC5A Universal Hand-held Controller
Allows user override. Supplied with wall bracket.

RB2000 Bus Power Supply

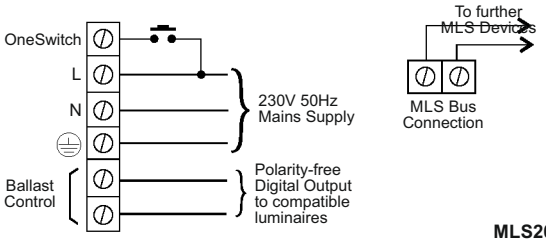
A single Bus Power Supply synchronises and powers the bus for up to 200 MLS devices. It also provides a test facility. Units may be linked for larger installations and to provide a building-wide common zone. (RB2000LT Bus Power Supply may also be used but with reduced functionality.)

Electrical Connections and Installation Notes

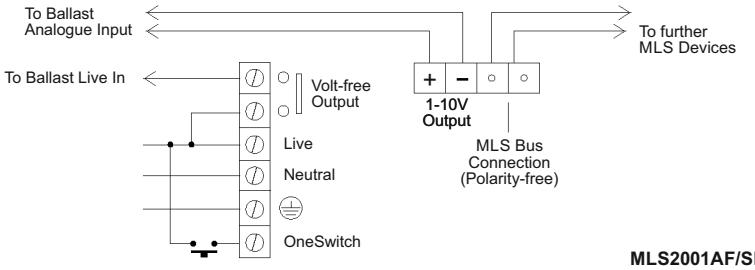
Installation
Slimline flush versions: Cut a 50mm diameter (64mm if using an FR64 flush ring or PB64 plasterboard fixing kit) circular hole in the ceiling tile, feed the flying lead and detector through and secure into position with the locking ring. Do not mount within 25cm of a luminaire.



MLS2000DALIF - for DALI ballasts



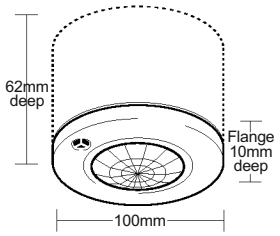
MLS2001DF/SM - for DSI ballasts
MLS2001DALIF/SM - for DALI ballasts



MLS2001AF/SM - for 1-10V Analogue ballasts

Installation
Flush versions: 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.

Surface versions: The housing may be secured to a hard surface or a BESA box. The detector fits into the housing with a simple bayonet action thus concealing the fixing screws.
Note: Do not mount within 25cm of a luminaire.



Electrical Connections and Installation Notes continued

Programmable Parameters	Selectable Options (Factory pre-set shown in bold)
Power up	**On** / Off
Response	**Auto** / Manual/Bus / Manual Only
Off Delay	1 min to 96 hrs / 10-second Walk-test Mode / Disabled. **20 mins**
24 Hour Cycle	On / **Off** Output turns off for duration of Off Delay if area is unoccupied for 24 hrs. Useful for hygiene flush when controlling water.
On Sensitivity**	0-100 Sensitivity to movement when area occupied. **100** (= max)
Bus Connect	**Yes** / No
Zone 1, 2, 3 & 4	1-100 addresses. **None**
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 This determines whether OneSwitch operates locally (just one detector) or on all devices on the same zones.
Start Lamps	**Max** / Min
Entry Scene	Select Scenes 1 - 6. **Scene 1**
Bright-out	Yes/ **No**
Dimming *This parameter refers to digital detectors only: see 'Photocell' below for analogue detectors.*	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.
Fade to Off	Yes/ **No**
When Vacant	**Switch Off after Off Delay** Go to Minimum } and do not switch off Regulate up to 25% } for 3 x Off Delay (XTN) then switch off Go to Scene 6 } until building is vacated then switch off
Photocell†	Reg 100 - 50% / Passive / Active / Disabled **Reg 100%** See 'Dimming' above for details of regulating range. Active — Holds/switches lights off in bright ambient conditions Passive — Holds lights off in bright ambient conditions (If either of these options is chosen, the Bright-out and ambient light dimming functions are de-activated. The photocell will not dim the luminaire.) Disabled — No photocell action
Lamp Max	10-100% (10- 50% in 5% increments; 50%+ in 10% increments) **100%** Limits the maximum output of the ballast in all operating modes.
Lower Threshold†	0-254 Point at which photocell allows lights to switch on.
Upper Threshold†	0-254 Point where photocell turns lights off if Photocell Mode = Active
Set-point Low**	0-1023 Aiming point as photocell adjusts ballast output. **1023**
Set-point High**	0-1023 Level above which photocell switches its output off (only if Bright Out = Yes) **1023**
Additional feature available under Utilities on QuickSet Pro:	
100-hr Burn-in**	Inhibits dimming functions during burning-in of new lamps. **0hr**

† **Analogue versions only** ** **DSI/DALI versions only**

Technical Data

All types:
MAX RECOMMENDED MOUNTING HEIGHT: 3.0m
RANGE: Cone-shaped detection pattern, diameter (at floor level) = 2.4 x mounting height
OPERATING VOLTAGE: 230V ~ 50-60Hz
PRODUCT RATING & RECOMMENDED
CIRCUIT PROTECTION: 10 Amps
COLOUR: White
MATERIAL: Flame retardant PC/ABS
PHOTOCELL: Regulating (operational in Scene 1 only)
OPERATING TEMPERATURE: 0°C to 40°C

MLS2000DF / MLS2000DALIF:
WEIGHT: 70g excluding cable
OUTPUT: Digital DSI/DALI
CAPACITY: 9 ballasts
IP RATING: 4X

MLS2001DALI* / MLS2001A*:
WEIGHT: 210g (flush versions); 187g (surface versions)
OUTPUT: DALI (MLS2001DALI*)
1-10V Analogue (MLS2001A*)
CAPACITY: 25 ballasts
IP RATING: 4X (MLS2001DALI*)
3X (MLS2001A*)

* Denotes suffix F or SM

Part Numbers

	MLS Digital Detectors:
MLS2000DF	for DSI ballasts - slimline flush
MLS2000DALIF	for DALI ballasts - slimline flush
MLS2001DALIF	for DALI ballasts - flush
MLS2001DALISM	for DALI ballasts - surface
MLS2001AF	for Analogue 1-10V ballasts - flush
MLS2001ASM	for Analogue 1-10V ballasts - surface
	Ancillary Items:
RB2000	MLS Digital Bus Power Supply
RB2000LT	MLS Digital Bus Power Supply 'Lite'
QUICKSET PRO	QuickSet Pro Digital 2-Way Programmer
HC5A	Universal Hand-held Controller c/w wall bracket

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