LightSpot - Stand-alone lighting control by presence detection and photocell

Silver Series Regulating LightSpot

The Silver Series Regulating LightSpot offers high-performance, programmable presence detection for lighting control for work stations and offices. It is designed to control groups of luminaires and is available in 230V and 24V versions and for all regulating ballast types:

- 1-10V analogue regulating
- DSI regulating
- DALI regulating

DSI and DALI versions c/w 7-way plug for use with the CDW10U2UL UltraLite Connection Centre are available.

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.

Incorporates simple scene-setting - up to six scenes can be set via user remote. (Not available on MS1224UF.)

5-35* Off delay in minutes following the last observed movement after which the lights switch off. *Up to 96 hrs via HP2000; 5, 10 or 20 mins via HP18

6m Detection pattern and approx range in metres at floor level for 2.5m mounting height (detection pattern is cone shaped).
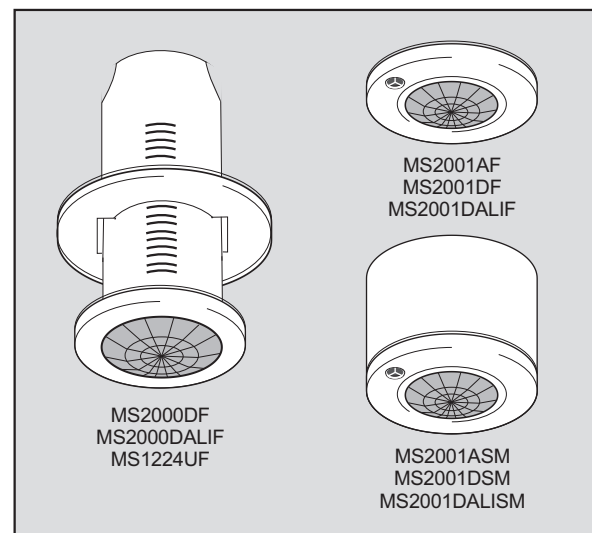
Hand Controller provides local user override.

Remote programming ensures changes can be easily accommodated. Please see individual detector instructions for programmer compatibility.

OneSwitch Dimming. Manual input to adjust light level or turn luminaires on or off. (Not available on MS1224UF.)

100 hr 100-hour Burn-in. Inhibits dimming functions to allow new lamps to burn in. (Available on DSI and DALI version detectors - and via HP2000 - only.)

MS2001AF
MS2001DF
MS2001DALIF

MS2000DF
MS2000DALIF
MS1224UF

MS2001ASM
MS2001DSM
MS2001DALISM

Ancillary Items

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

HP10 LightSpot Programmer
Infrared programming tool with 12 dil switches for the setting of individual parameters.

HP18 LightSpot Programmer
User-friendly override/programming remote controller.

Please note that the HP10 and HP18 do not give access to the full range of parameters.
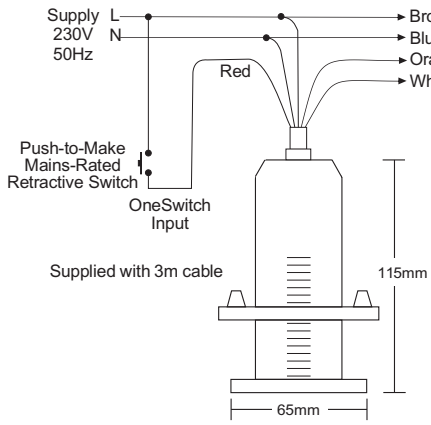
HC5 Universal Hand-held Controller

HC6 Two-button Hand-held Controller

HC5   HC6

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Electrical Connections & Installation Notes

Always check product label before connecting.

Slimline Flush versions

Supply L 230V N 50Hz → Brown, Blue, Orange, White (Red)

Push-to-Make Mains-Rated Retractive Switch — OneSwitch Input

Supplied with 3m cable — 115mm — 65mm

MS2000DF and MS2000DALIF

Polarity-free digital output.
Connection to ballast only.
Do not connect to other detectors.

Installation - Slimline Flush Versions
Cut a 50mm diameter (64mm if using an FR64 flush ring or PB64 plasterboard fixing kit) hole in the ceiling tile, feed the flying lead and detector through and secure into position with the locking ring.
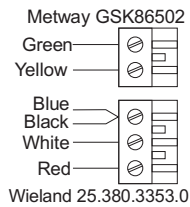
UltraLite versions (MS2000DFCWL7 and MS2000DALIFCWL7) require the use of an FR64 flush ring (supplied with the detector) and therefore always need a 64mm hole.

NOTE: Do not mount within 25cm of a luminaire.

MS1224UF

Red, Black } 24V AC/DC
White, Blue } Volt-free output
Yellow +, Green - } Ballast control

Supplied with 2m cable pre-wired to the following plugs:

Metway GSK86502
Green, Yellow

Blue, Black, White, Red

Wieland 25.380.3353.0

DIL Switches

Ballast Type	1	2	3	4
Non-Dimming	ON	ON	ON	ON
1-10V	ON	ON	ON	OFF
DSI	OFF	OFF	ON	OFF
DALI	OFF	OFF	OFF	OFF

Surface and Flush versions

62mm deep — 100mm — Flange: 10mm deep
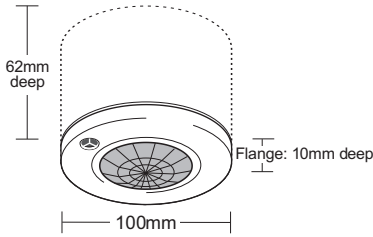
MS2001DF/SM and MS2001DALIF/SM

- OneSwitch
- Live
- Neutral
- (earth)
- Polarity-free digital output. Connection to ballasts only. Do not connect to other detectors.

MS2001AF/SM

- Volt-free Output
- Live
- Neutral
- (earth)
- OneSwitch

1-10V Output + − DO NOT CONNECT No Connection
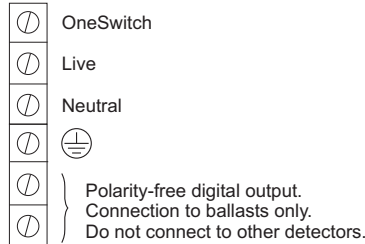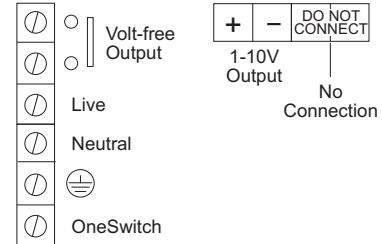
Installation: Surface Versions - The housing may be secured to a hard surface or a BESA box. The detector fits into the housing with a simple bayonet action.
Flush Versions - Depth required behind ceiling: 62mm from front flange. Sinking box fits into 89mm diameter hole in ceiling tile or plasterboard ceiling. No access above the ceiling is necessary. NOTE: Do not mount within 25cm of a luminaire.

Programmable Parameters

Options vary depending on Programmer used

Programmable Parameters	MS2001A	MS2000D	MS2001D	MS1224U	Selectable Options (Factory pre-set shown in bold) These parameters may be re-programmed any number of times and all settings will be retained in the event of a power loss.
Power up	✓	✓	✓	✓	**On** / Off
Response	✓	✓	✓	✓	**Auto** / Semi-Auto
Minimum On Time				✓	Yes / **No**
Off Delay	✓	✓	✓	✓*	1 min-96 hrs via HP2000 (different options with other programmers) plus 10-second walk test. **20 mins** * MS1224UF not compatible with HP18
On Sensitivity			✓		Sensitivity to movement when area is occupied (100 = max) **100**
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.
Start Lamps	✓	✓	✓	✓	**Max** / Min
Entry Scene	✓	✓	✓		Select Scenes 1 - 6. **Scene 1**
Bright-out	✓	✓	✓	✓	Yes/ **No**
Fade to Off	✓	✓	✓	✓	Yes/ **No**
When Vacant	✓	✓	✓	✓	**Switch Off after Off Delay**
	✓	✓	✓	✓	Go to Minimum and do not switch off
	✓			✓	Go to Minimum for 3 hours then switch off
		✓	✓		Go to Minimum for 3 x off delay (XTN) then switch off
	✓			✓	Regulate up to 25% for 3 hours OR do not switch off
		✓	✓		Regulate up to 25% for 3 x off delay (XTN) OR do not switch off
	✓				Go to Scene 6 for 3 hours OR do not switch off
		✓	✓		Go to Scene 6 for 3 x off delay (XTN) OR do not switch off
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.
Photocell	✓				Reg 100 - 50% / Passive / Active / Disabled **Reg 100%** See Dimming above for details of regulating range.
Lamp Max	✓	✓	✓		10-100% (10- 50% in 5% increments; 50%+ in 10% increments) **100%**
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 ouput off (only if Bright-out = Yes) **1023**
100-hr Burn-in				✓	Burn-in 100 hrs / Cancel / Resume **0 hrs** Inhibits dimming functions for new lamps - activated by HP2000 only. See Application Note AN4028.

Technical Data

MAX RECOMMENDED MOUNTING HEIGHT: 3.0m
RANGE: Cone-shaped detection pattern, diameter (at floor level) = 2.4 x mounting height
PRODUCT RATING & RECOMMENDED CIRCUIT PROTECTION: 10 Amps
PHOTOCELL: Regulating
COLOUR: White
MATERIAL: Flame retardant PC/ABS
WEIGHT: 70g excluding cable (slimline flush versions)
  200g approx (flush and surface versions)
OPERATING TEMPERATURE: 0°C to 40°C

MS2001AF/SM
OPERATING VOLTAGE: 230V 50Hz (UK & Europe)
CAPACITY: 6 Amps (25 ballasts max)
OUTPUT: 1-10V Analogue
IP RATING: 3X

MS2000DF & MS2001DF/SM
OPERATING VOLTAGE: 230V 50Hz (UK & Europe)
CAPACITY: MS2000DF - 9 ballasts
  MS2001DF/SM - 25 ballasts
OUTPUT: Digital DSI
IP RATING: 4X

MS2000DALIF & MS2001DALIF/SM
OPERATING VOLTAGE: 230V 50Hz (UK & Europe)
CAPACITY: MS2000DALIF - 9 ballasts
  MS2001DALIF/SM - 25 ballasts
OUTPUT: DALI
IP RATING: 4X

MS1224UF
OPERATING VOLTAGE: 24V AC/DC
CAPACITY: 25 ballasts
OUTPUT: 0.5 amps max signal only
POWER CONSUMPTION: <0.5W
IP RATING: 4X

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.

Part Numbers

MS2001AF	Silver LightSpot for use with analogue regulating ballasts - flush
MS2001ASM	Silver LightSpot for use with analogue regulating ballasts - surface
MS2000DF	Silver LightSpot for use with DSI ballasts - slimline flush
MS2000DFCWL7	Silver UltraLite LightSpot for DSI ballasts - slimline flush c/w 7-way plug for use with CDW10U2UL Connection Centre
MS2001DF	Silver LightSpot for use with DSI ballasts - flush
MS2001DSM	Silver LightSpot for use with DSI ballasts - surface
MS2000DALIF	Silver LightSpot for DALI ballasts - slimline flush
MS2000DALIFCWL7	Silver UltraLite LightSpot for DALI ballasts - slimline flush c/w 7-way plug for use with CDW10U2UL Connection Centre

MS2001DALIF	Silver LightSpot for use with DALI ballasts - flush
MS2001DALISM	Silver LightSpot for use with DALI ballasts - surface
MS1224UF	Silver LightSpot - ELV for use with analogue/DSI/DALI ballasts - slimline flush
HP2000	MLS Digital Programmer
HP10	LightSpot Programmer
HP18	LightSpot Programmer
HC5	Universal Hand-held Controller c/w wall bracket
HC6	Two-button Hand-held Controller c/w wall bracket

Ref: D4012U