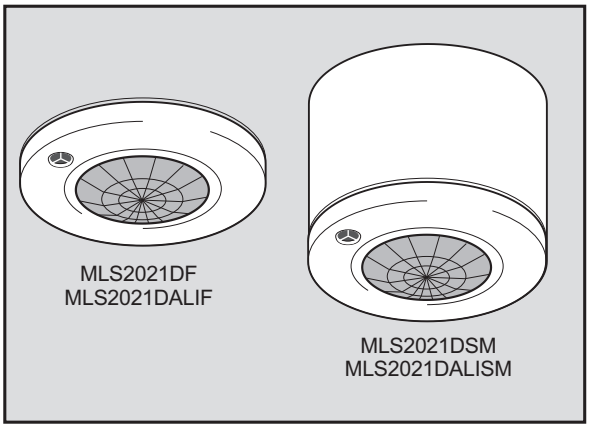
MLS Digital - Networked Managed Lighting System

Digital Gold PIR Detector

This high-performance, communicating presence detector can be used as part of a full Ex-Or MLS Managed Lighting System or as a stand-alone unit. It is equipped with a regulating photocell to control digital DSI or DALI ballasts (when using the detector's Digital Output) and a volt-free output for control of non-dimmable lighting loads. It is available in flush and surface mount versions. Non-networkable versions are available c/w with 3m cable and 7-way plug for use with the CDW10U2UL UltraLite Connection Centre.



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

Passive photocell holds lights off in bright ambient conditions. Active photocell has the capability to switch lights off in occupied areas. (Acts on relay.)

Regulating photocell ensures a minimum maintained light level, taking account of the contribution from adjacent luminaires and daylight. (Acts on dimming output.)

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

Off delay in minutes following the last observed movement after which the lights switch off.

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

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

Hand-held Controllers provide 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.

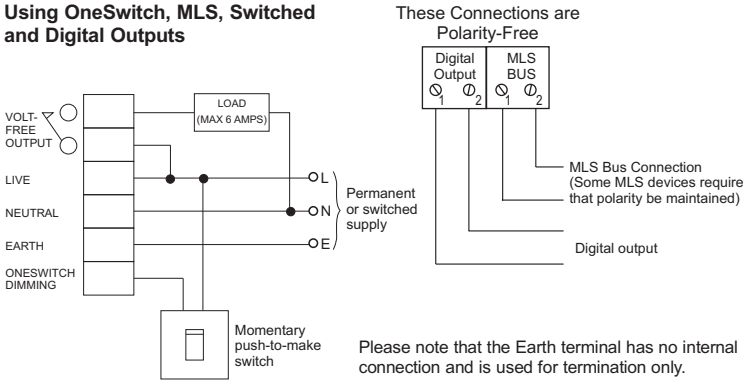
NB: Pluggable versions (MLS2021DFCWL7 and MLS2021DALIFCWL7) for use with the CDW10U2UL UltraLite Connection Centre do not offer MLS functionality and cannot be connected using MLS cable.

Programmable Parameters
POWER UP **Options: On/Off** Sets the status of luminaires when power is applied. On - lights power-up on irrespective of occupancy. Off - lights respond to occupancy after 30 seconds.
RESPONSE **Options: Auto; Manual/Bus; Manual Only** Auto - lights switch on and off automatically. Manual/Bus - lights triggered only by: 1) infrared control or OneSwitch, 2) power interruption, or 3) another detector in zone being triggered. Manual Only - as Manual/Bus but excluding option 3.
OFF DELAY **Options: 1 minute - 96 hours** Sets the period after the last observed movement when the lights switch off. (In walk-test mode, the Off Delay is 10 seconds.)
ON SENSITIVITY **0-100** Sensitivity to movement when the area is occupied.
BUS CONNECT **Yes/No** Detector can operate as part of MLS Digital network. Further parameters allocate to Zones, Global Zones and determine Corridors.
START LAMPS **Options: Max/Min** Sets the level at which lamps strike when turning on.
ENTRY SCENE **Options: Scenes 1-6** Sets which scene is recalled when an unoccupied area is entered.
LAMP MAX **Options: 10-100%** Can be set to limit the absolute maximum ballast output.
DIMMING (Regulating Photocell) **Options: 100-50%** Can be set to operate between 100% and 50% ballast output from max to bottom-end limit when working on photocell control.
FADE TO OFF **Options: Yes/No** Can set lamps to fade to off instead of switching off.
VACANT **Options: 10 alternative exit scenes** Output and duration options for status of lighting when area has been vacated (e.g. remain on at minimum output until building is vacated).
BRIGHT-OUT **Options: Yes/No** Off delay is not refreshed if ambient light exceeds 125% of set level.
PHOTOCELL (Switching) **Options: Active/Passive/Disabled** Passive - holds lights off when sufficient natural light. Active - lights turn on and off as required when natural light levels fluctuate and area is occupied. Disabled - the photocell has no effect.
SET POINT HIGH/LOW: **Options: 1-1023** Switching mode - threshold for photocell to switch output on/off. Regulating mode - aiming point for adjusting output/switching off.

Please check www.ex-or.com to ensure this is the most recent issue - Ref: D4115B

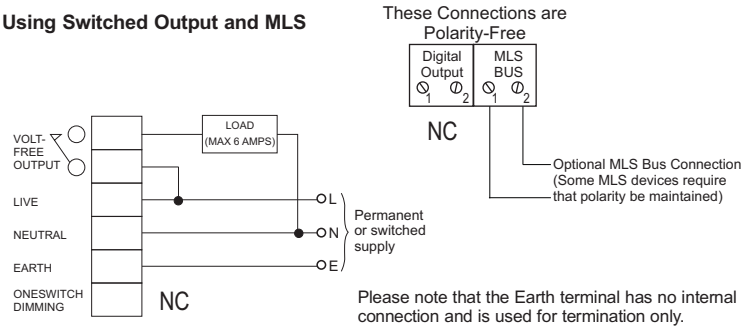
Example Wiring Diagrams

Using OneSwitch, MLS, Switched and Digital Outputs



Please note that the Earth terminal has no internal connection and is used for termination only.

Using Switched Output and MLS



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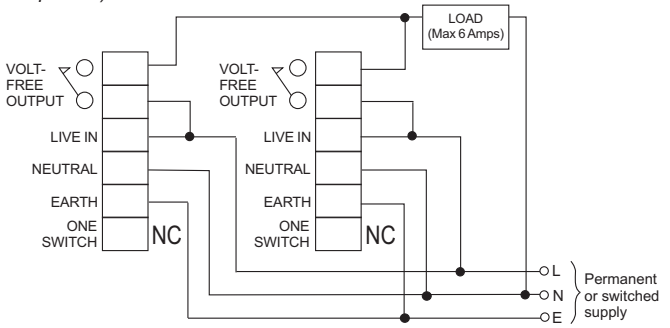
In Parallel, using Switched Output only

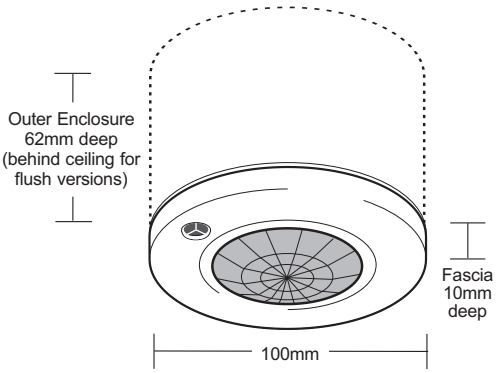
(Note: Digital outputs MUST NOT be connected in parallel)

Any connection not shown is NO CONNECTION



Relay outputs may be connected together in parallel to cover larger areas, however the total load on all combined relay outputs must not exceed 6 Amps.

Dimensions & Installation Notes



Surface Versions (MLS2021DSM/MLS2021DALISM)
Supplied with a sinking (dry-lining) box for flush fitting. The sinking box fits into an 89mm diameter hole in a ceiling tile or plasterboard ceiling. To avoid damage to ceiling tile do not overtighten. Depth required behind ceiling 62mm from front flange plus an allowance for the minimum bend radius of the cable. No access above the ceiling is necessary.

Flush Versions (MLS2021DF/MLS2021DALIF)
The housing may be secured to a hard surface or a BESA box. The detector fits into the housing with a simple bayonet action.

Ancillary Items

HP2000

HP2000 MLS Digital Programmer

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

HC5

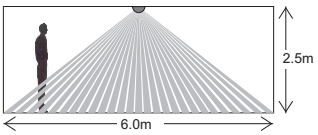
HC5 Universal Hand-held Controller

Technical Data

MLS CABLE : 1.5mm^2 unscreened twisted-pair (applicable when detector is used as part of a full MLS Digital Managed Lighting System) see Application Note AN4001

MAXIMUM RECOMMENDED MOUNTING HEIGHT: 3.0m

RANGE: Cone-shaped detection pattern, diameter (at floor level) = 2.4 x mounting height



OFF DELAY: 1 minute - 96 hours (adjustable) plus 10-second walk-test mode. Alternatively, the off delay can be disabled.

PHOTOCELL: Adjustable 50-5000 lux via HP2000

OPERATING VOLTAGE: 230V ~ 50Hz (UK & Europe)

PRODUCT RATING AND RECOMMENDED CIRCUIT PROTECTION: 10 Amps

MAXIMUM RECOMMENDED LOAD (VOLT-FREE): 6 Amps

MAXIMUM RECOMMENDED LOAD (DSI/DALI): 25 Ballasts

COLOUR: White (RAL9010)

MATERIAL: Flame retardant PC/ABS

WEIGHT: 200g approx

IP RATING: 3X

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

MLS2021DF	Digital Gold PIR Detector with regulating photocell for DSI ballasts - flush
MLS2021DFCWL7	Digital Gold UltraLite PIR Detector with regulating photocell for DSI ballasts - flush c/w 3m cable and 7-way plug for use with CDW10U2UL UltraLite Connection Centre (NB: This version does not offer MLS functionality and cannot be connected using MLS cable)
MLS2021DSM	Digital Gold PIR Detector with regulating photocell for DSI ballasts - surface
MLS2021DALIF	Digital Gold PIR Detector with regulating photocell for DALI ballasts - flush
MLS2021DALIFCWL7	Digital Gold UltraLite PIR Detector with regulating photocell for DSI ballasts - flush c/w 3m cable and 7-way plug for use with CDW10U2UL UltraLite Connection Centre (NB: This version does not offer MLS functionality and cannot be connected using MLS cable)
MLS2021DALISM	Digital Gold PIR Detector with regulating photocell for DALI ballasts - surface
HP2000	MLS Digital Programmer
HC5	Universal Hand-held Controller c/w wall bracket