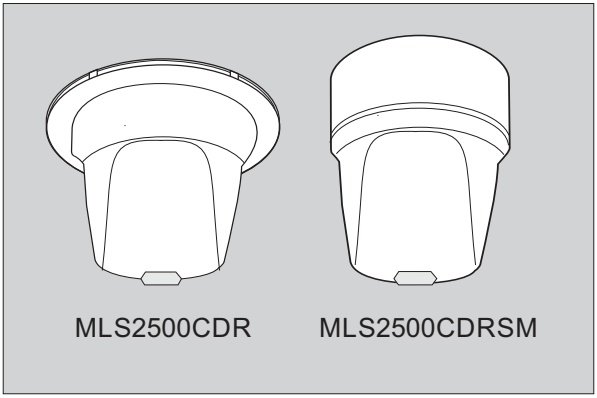
Ex-Or
by Honeywell

MLS2500CDR and MLS2500CDRSM
Mid-range Directional Microwave Detectors
with Photocell for use with CDW12U5, CDH4U5 & CDH8U5
Programmable Intelligent Lighting Control Modules



Installation and Commissioning Instructions

(HC5A or QuickSet Pro required for Photocell Commissioning)

Introduction

The MLS2500CDR Mid-Range Detector offers high performance, directional presence detection and contains a photocell to monitor total light levels allowing the light output of dimmable luminaires to be adjusted to suit the natural light level available. It also contains an infrared port that can be used both for local control from a hand-held device when in service, and for CDW12U5/CDH4U5/CDH8U5 system commissioning. Properly installed and connected this is an SELV device.

Positioning

Position the detector where it has a good "view" of the space to be controlled. An ideal location is in a corner adjacent to the entrance of a room or at one end of a corridor. Suitable fixing heights are between 2.5m and 3.5m.

This is an extremely sensitive movement detector. It is therefore essential that it be installed on a rigid surface that will not itself be subject to any movement or vibration.

Microwaves can penetrate lightly built partitions, glass etc and thus movement in adjacent spaces may cause spurious triggering if the orientation and sensitivity setting of the detector is not managed carefully.

This product is not recommended for applications where there are large areas of metal, e.g. metal ceiling panels or metal flooring, as unpredictable sensitivity may result.

Do not mount within 0.25m of a luminaire.

Fixing

The MLS2500CDR Semi Flush Version - Use a hole saw to cut a 76mm diameter hole into the ceiling tile. The flush ring is designed to clamp the ceiling tile beween its two halves.
Separate the detector from the under-ceiling half of the flush ring by loosening the locking screw so that about 3mm of thread is visible and twisting the detector anticlockwise
Align the mounting screw holes of the above-ceiling half of the flush ring with those of the backbox and position both above the hole in the ceiling tile. Now offer the below-ceiling half of the flush ring to the underside of the ceiling tile and align the mounting screw holes with those above. Note that the locking screw tab on the under-ceiling half of the flush ring should be directly below the similar tab on the backbox and the arrow symbol on the inside of the backbox should point into the controlled area.
Insert the mounting screws through both halves of the flush ring and engage them in the brass inserts of the backbox. Final adjustments to the orientation of the detector can be made before the mounting screws are tightened to clinch the ceiling tile between the two halves of the flush ring.

The MLS2500CDRSM Surface Mounted Version - Separate the detector from its backbox by loosening the locking screw so that about 3mm of thread is visible and then twist the detector anticlockwise to release it from the backbox.

The fixing holes in the backbox allow for mounting onto a BESA box or directly onto a rigid surface. The arrow symbol on the inside of the backbox should be aligned to point into the controlled area before the fixing screws are finally tightened.

Connecting

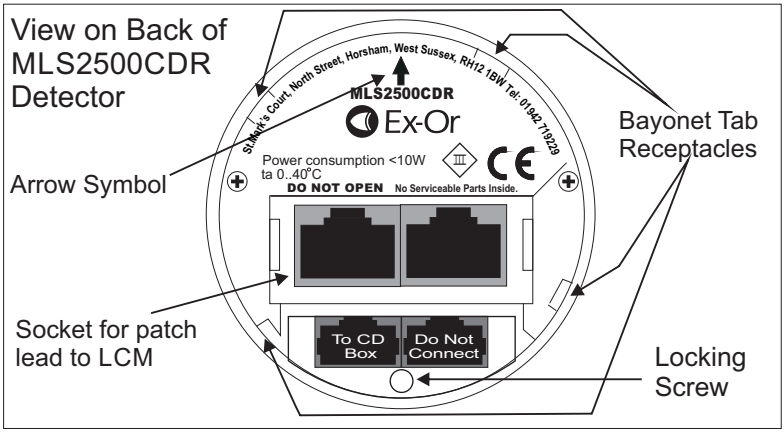
The MLS2500CDR connects to the LCM via an eight core, RJ45 plug terminated, patch lead. **All such patch leads must be segregated from mains wiring to preserve the detector SELV status that is provided by the LCM design.**

Ready-made patch leads in lengths of, 3m, 5m and 10m are available from Ex-Or. (See back page for Part Numbers.)

Where it is a requirement that the patch leads are protected by conduit it may prove more convenient to run the cables unterminated and attach the RJ45 connectors afterwards. In this case the cable used should be 4-twisted pair, 24awg multistranded, unscreened data cable to Category 5E standard, (e.g. Belden Datatwist 350). No strain-relief hoods should be fitted to the insulation displacement RJ45 connectors, due to the limited space available above the emplaced detector.

The wiring scheme used should follow either the T-568A or the T-568B Ethernet standards, and must give "1-1", "straight-through" connectivity between the two RJ45 connectors for all eight cores. **Note that this detector is not an Ethernet device and cannot be used with network Hubs and Switches.**

Plug the RJ45 connector at the detector station into the modular socket labelled "To CD Box" on the top of the detector module and offer the detector to the flush ring or backbox so that the arrow symbol on the detector label points in the same direction as the arrow symbol inside the backbox. When the multi-tab bayonet fitting is engaged, twist the detector clockwise to retain it and tighten the locking screw until the head is flush to secure it.



Commissioning

In the CDW12U5 and CDH4U5/CDH8U5 systems, all configuration information is held within the LCMs themselves, not in individual detectors. Most of the configuration items are set up with the aid of a dedicated programme running on a portable PC which communicates with the LCM either by an infrared link, via one of the attached detectors, or by a specialised serial link into the LCM itself. However, when setting the actual light levels around which dimming or switching decisions are to be made, the system allows the commissioning engineer the same convenience as if he were dealing with traditional stand-alone detectors. An infrared programming tool, the QuickSet Pro or HC5A, is used to set the controlling or switching set-point for the photocell. In all cases the setting is then transmitted from the detector to the LCM, where it is uniquely associated with the detector number being dealt with and will be preserved in the event of power failure. All settings can be re-programmed any number of times.

Setting the Regulating Photocell

Using the QuickSet Pro Programmer, enter the Utilities menu and select ‘LightSpot/MLS/LCM’ then ‘Set Light Level’. Use the ‘up’ and ‘down’ buttons to manually adjust the light output from the luminaire(s) and when at the required level press and hold ‘OK’ to store. The luminaire(s) will blink to acknowledge a successful store operation.

Due to the fact that the photocell is on the ceiling looking down, it is not possible for measurements made with a lux meter on the working plane to remain constant when daylight illuminates the ceiling and the working plane to a differing extent. Therefore, products of this type should be regarded as capable of maintaining an APPROXIMATE light level only.

Setting the Switching Photocell

The desired switching light level must now be arrived at, either by waiting for an appropriate time of day or by a combination of manually switching off lights and perhaps masking windows. Using the QuickSet Pro Programmer, enter the Utilities menu and select ‘LightSpot/MLS/LCM’ then 'IR Remote'. Scroll down to 'Scene 1' and press and hold the 'OK' button to store. The luminaire(s) will blink to acknowledge a successful store operation

Testing

Detectors can be put into a temporary 10-second Off Delay mode to check their sensitivity and range settings using the QuickSet Pro’s Walk Test option (found under ‘Utilities’). This mode expires automatically after a few minutes.

Technical Data

MAX RECOMMENDED MOUNTING HEIGHT: 3.5m
RANGE: Adjustable up to 20m
OPERATING VOLTAGE: 12V DC, SELV if installed correctly
PHOTOCELL: Regulating
DEPTH REQUIRED BEHIND CEILING (SEMI-FLUSH VERSION):
40mm plus an allowance for the minimum bend radius of the patch lead.
WEIGHT: 160g (surface version); 180g (semi-flush version)
COLOUR: White (RAL9010)
MATERIAL: Flame retardant PC/ABS
IP RATING: 4X
OPERATING TEMPERATURE: 0°C to 40°C

Part Numbers

MLS2500CDR	Corner-Mount Microwave Presence Detector with Photocell, Semi-Flush Mount
MLS2500CDRSM	Corner-Mount Microwave Presence Detector with Photocell, Surface Mount
WMK	Wall Mounting Kit
BT5E030GY	3m Detector Patch Lead
BT5E050GY	5m Detector Patch Lead
BT5E100GY	10m Detector Patch Lead

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At the end of their useful life the packaging and product should be disposed of via a suitable recycling centre.
Do not dispose of with normal household waste.
Do not burn.

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