



## Ex-Or MLS2401CDR 360 Degree Microwave Detector with Photocell Instruction Manual

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## Introduction

The MLS2401CDR offers high performance 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 receiver that can be used both for local control from a hand-held device, when in service, and for initial CDW12U5/CDH4U5/CDH8U5 system commissioning. When properly installed and connected the MLS2401CDR is an SELV device.

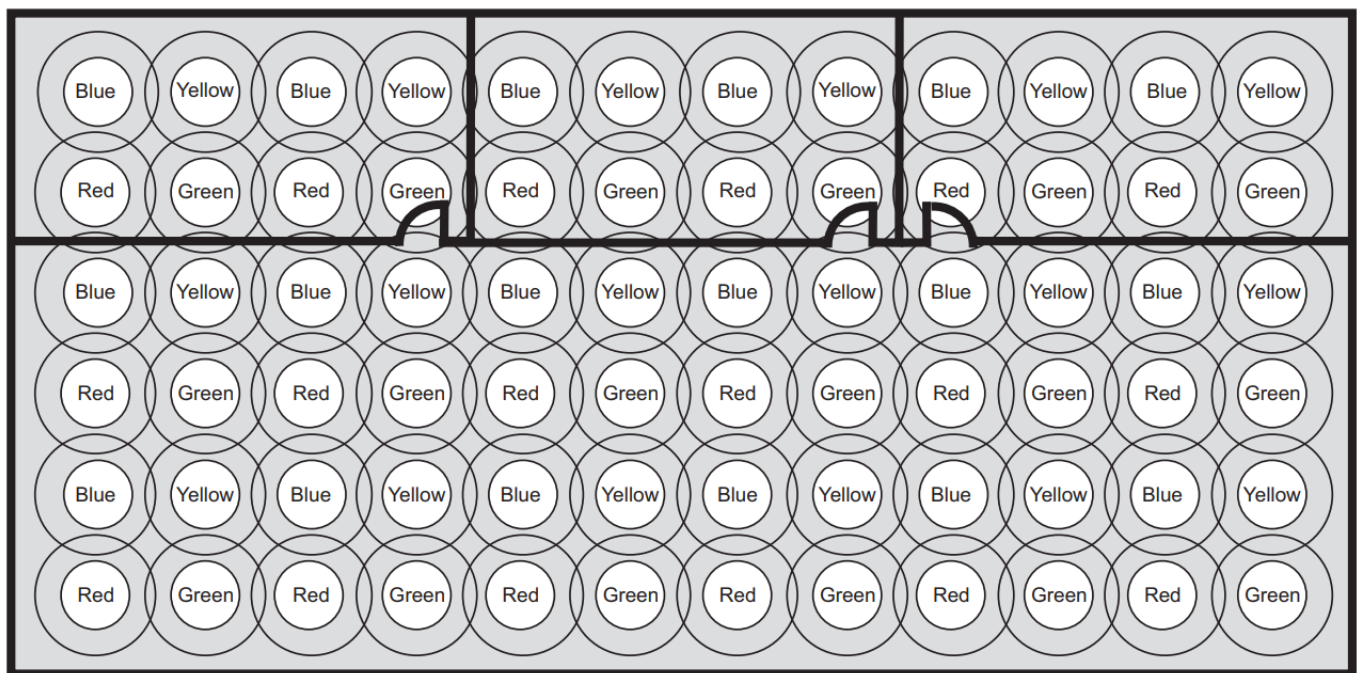
## Location

The MLS2401CDR is an extremely sensitive movement detector; it is essential therefore that it be installed on a rigid surface that will not itself be subject to movement or vibration.

Please note that MLS2401CDR is not recommended for applications where there are large surface areas of metal, e.g. metal ceiling or floor tiles, as unpredictable sensitivity may result

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.

The units are graded according to four variations in operating frequency. Each type can be identified by different colour-coding on the detector label and carton. For reliable operation it is essential that units of the same colour code do not occupy adjacent positions in open-plan areas or in adjoining rooms (see below).



**Note:** Should you need to order additional detectors for an existing installation and need specific colour-coded detectors, please add the following suffixes to the part number: Y = Yellow, B= Blue, G= Green, R = Red. (There is normally no need to specify the colour codes as orders are dispatched with a suitable colour-code mix.)

## Fixing

**MLS2401CDR Flush Mount Version** – Depth required behind ceiling: 62mm from front flange plus an allowance for the minimum bend radius of the cable. Sinking box fits into a 89mm diameter hole in ceiling tile or plasterboard ceiling. To avoid damage to ceiling tile, do not overtighten. No access above the ceiling is necessary. The unit fits into the housing with a simple bayonet action.

**MLS2401CDRSM Surface Mount Version** – The housing may be secured to a hard surface or a BESA box.

The unit fits into the housing with a simple bayonet action.

**Do not position this product on a pitch narrower than 5m. Do not mount within 0.25m of a luminaire.**

## Connecting

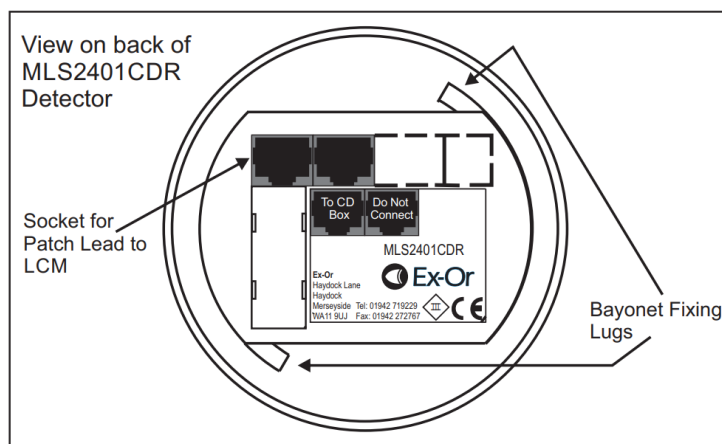
The MLS2401CDR connects to the LCM via an eight core, RJ45 plug terminated, patch lead. **All such patch leads must be segregated from mains wiring to preserve the detector SELV status that is provided by the LCM design.**

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 multi stranded, 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. **Note that the maximum allowable cable length between the MLS2401CDR and the LCM is 100m.**

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 backbox. When the bayonet fitting is engaged, twist the detector clockwise to retain it.



## Commissioning

In the CDW12U5 and CDH4U5/CDH8U5 systems, all configuration information is held within the Lighting Control Modules 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

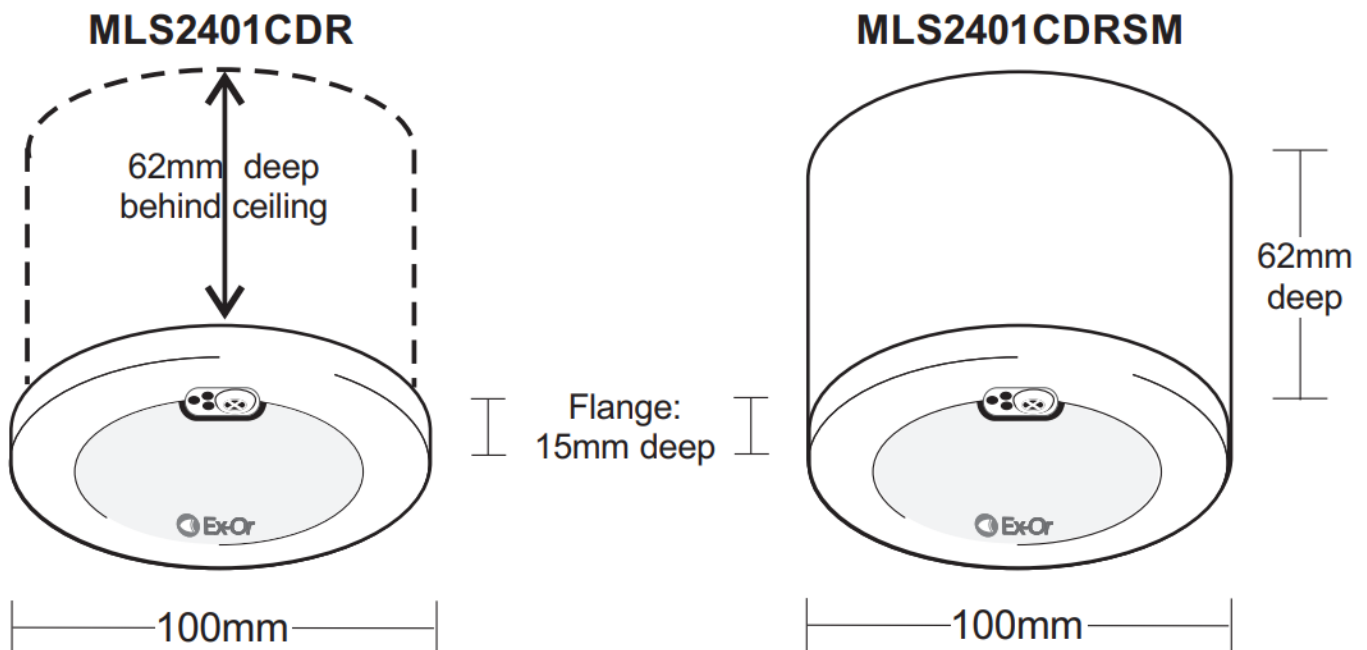
## Setting the Switching Photocell

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, 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 speed the process of checking their sensitivity and range settings using the QuickSet Pro's Walk Test option (found under Utilities). This mode expires automatically after a few minutes.

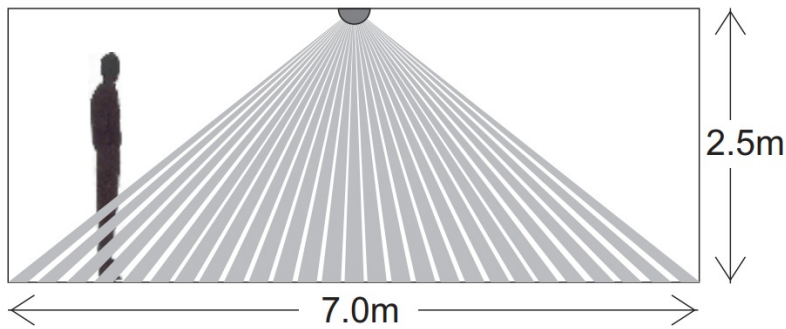
## Dimensions



## Technical Data

RECOMMENDED MAXIMUM MOUNTING HEIGHT: 3.0m

RANGE: Cone-shaped detection pattern, diameter (at floor level) = 2.8 x mounting height



**OPERATING VOLTAGE:** 12V DC, SELV if installed correctly.

**PHOTOCELL:** Regulating

**DEPTH REQUIRED BEHIND CEILING (FLUSH VERSION):**

62mm from front flange plus an allowance for the minimum bend radius of the patch lead.

**WEIGHT:** 251g (surface version); 243g (flush version)

**COLOUR:** White (RAL9010)

**MATERIAL:** Flame retardant PC/ABS

**IP RATING:** 2X

**OPERATING TEMPERATURE:** 0 C to 40 C

## Part Numbers

**MLS2401CDR** 360° Microwave Presence Detector with Photocell, Flush Mount

**MLS2401CDRSM** 360° Microwave Presence Detector with Photocell, Surface Mount

**BT5E030GY** 3m Detector Patch Lead

**BT5E050GY** 5m Detector Patch Lead

**BT5E100GY** 10m Detector Patch Lead

## EU contact for regulatory questions:

PEHA Elektro

GmbH & Co.KG Gartenstraße 49,58511 Lüdenscheid

Germany Web: [www.peha.de](http://www.peha.de)

## Honeywell

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Web: [www.ex-or.com](http://www.ex-or.com)




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.



Documents / Resources

 <p>Ex-Or MLS2401CDR and MLS2401CDRSM 360° Microwave Detector with Photocell for use with CDR2401, CDR2401C, CDR2401D Programmable Intelligent Lighting Control Modules</p> <p>Installation and Commissioning Instructions</p> <p>Ex-Or GmbH Pro-Systeme für Intelligente Gebäudetechnik</p>	<p><a href="#">Ex-Or MLS2401CDR 360 Degree Microwave Detector with Photocell</a> [pdf] Instruction Manual</p> <p>MLS2401CDR 360 Degree Microwave Detector with Photocell, MLS2401CDR, 360 Degree Microwave Detector with Photocell, MLS2401CDRSM</p>
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References

- [H PEHA Elektro GmbH & Co.KG a Honeywell Company](#)