Ex-Or
by Honeywell

# MLSM2002CDR
# Digital Control Module
# for use with CDW12U5, CDH4U5 & CDH8U5 Programmable Intelligent Lighting Control Modules and DHW/DHS - Mini Detector Head


## Installation and Commissioning Instructions

## Introduction

The MLSM2002CDR 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 port 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 MLSM2002CDR is an SELV device.

## Installation Guidelines

1. The Mini Detector Head would normally be mounted within the luminaire or it can be mounted remotely. In either case the "Flush Fitting Kit " (DHFK) allows easy and accurate positioning.
2. The connecting cable must not be extended.
3. Artificial light illuminating the Mini Detector Head must only be reflected from the room, i.e. there must be no direct illumination.
4. In order to achieve satisfactory light-level regulating operation, a detector must observe a substantially greater proportion of artificial light from the luminaire(s) under its control than from neighbouring luminaires not under its control. This is particularly important when planning the installed layout of linear luminaires that have an integral detector positioned at one end.

## Mounting Details

The MLSM2002CDR Control Module is designed to be mounted within a luminaire on fixing centres of 135mm.

The interconnect cable between the detector head and the control module should be routed away from other luminaire internal wiring and away from the lamp end-caps.

The recommended position for the detector is in the middle of the luminaire. Where this is not possible and the detector is fitted near one end of the lamps, please ensure that the detector is at the 'cold' end of the lamps.

The DHW/S Mini Detector Head should be mounted such that only the raised front section of the bezel protrudes through the cut out in the louvre or infill panel, constructed in accordance with the dimensions opposite. Mini Detector Head should be connected to the control module into the modular socket labelled "Detector Connection" on the top of the control module.

The "Flush Fitting Kit " enables easy mounting in simple round hole in panels up to 4 mm thick.

## Connecting

The MLSM2002CDR 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.**

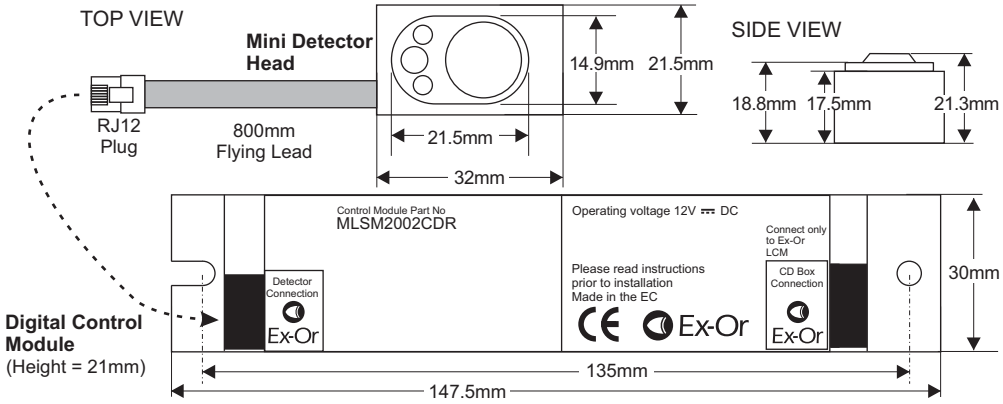
Ready-made patch leads in lengths of, 3m, 5m and 10m are available from Ex-Or (see back page for Part Numbers).

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). **Note that the maximum allowable cable length between the MLSM2002CDR 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 control module into the modular socket labelled "CD Box Connection" on the top of the control module.

**Electrical Connections & Dimensions**




## 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

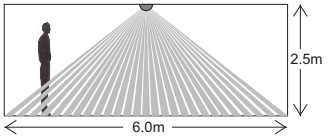
The desired switching light level must now be arrived at, either by waiting for an appropriate time of day or by a combination of manually switching off lights and perhaps masking windows. Using the QuickSet Pro Programmer, enter the Utilities menu and select ‘LightSpot/MLS/LCM’ then 'IR Remote'. Scroll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

## Important Additional Notes

1. 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.
2. This equipment switches lights no more frequently than would a responsible human occupant. However, manufacturers of some particular lighting types (e.g. '2D' luminaires) may specify a maximum number of switching cycles in order to achieve a predicted lamp life. Please check with the manufacturer of the luminaires to ensure that they are compatible with automatic controls in this respect.
3. Some devices in this product range feature a silvered surface finish; this is intended for decorative purposes only. Care should be taken to avoid accidental separation of the silvered coating from the product. If the unit is built into a luminaire that is subsequently wrapped in film having adhesive properties, it is recommended that a layer of suitable packaging material be used to protect the silvered area.

## Technical Data

RECOMMENDED MAXIMUM MOUNTING HEIGHT: 3.0m
RANGE: Cone-shaped detection pattern, diameter (at floor level) = 2.4 x mounting height




OPERATING VOLTAGE: 12V DC, SELV if installed correctly.
ta = 0 - 55°C
PHOTOCELL: Regulating
WEIGHT: 32g incl. 0.8m cable (DHW/DHS)
48g (MLSM2002CDR)
INTERCONNECT CABLE TEMPERATURE RATING: 60°C
COLOUR: White (RAL9010) or silver bezel (DHW = White, DHS = Silver)
MATERIAL: UV stabilised polycarbonate (DHW/DHS)
Flame retardant PC/ ABS (MLSM2002CDR)
OVERALL DIMENSIONS: 32 (l) x 21.5 (w) x 21.3 (h) mm (DHW/DHS)
147.5 (l) x 30 (w) x 21 (h) mm (MLSM2000CDR)
IP RATING: 20

**Part Numbers**

| | |
|---|---|
| MLSM2002CDR | Digital Control Module |
| DHW | Mini Detector Head White |
| DHS | Mini Detector Head Silver |
| DHFK-W | Flush Fitting Kit White |
| DHFK-S | Flush Fitting Kit Silver |
| 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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