

## SPECIFICATION

### LOAD

10A of lighting and or ventilation including incandescent, fluorescent, compact fluorescent, low voltage (switch primary of transformer).  
Up to 10 dimming ballasts.

**SUPPLY VOLTAGE** 230-240 Volts AC 50 Hz

**TIME OUT PERIOD** Adjustable 15 seconds to 30 minutes.

**LIGHT LEVEL** Approx 100-800 LUX depending on location.

**FIXING METHOD** Flush fixing in 86mm hole using clip provided  
Surface fixing using integral back plate


**TERMINAL CAPACITY** 1.5 mm<sup>2</sup>

**MATERIAL** Flame retardant ABS, fixing clip polypropylene

**TYPE** Class 2

**TEMPERATURE** -10°C to 35°C

**SAFETY** The microwave radiation emitted by these units is extremely low power.  
At a distance of > 50mm the power density is <6% of the ANSI IEEE C95.1 –1991 recommended microwave power density.  
At a distance of 5mm from the unit it is <84% of recommended power density.

**CONFORMITY** EMC-89/336/EEC   
LVD-73/23/EEC

## PART NUMBERS

MWS3-D Multi-sense microwave presence detector with 1-10V dimming

MWS3-DSI Multi-sense microwave presence detector with DSI dimming

Due to our policy of continual product improvement CP Electronics reserves the right to alter the specification of this product without prior notice.

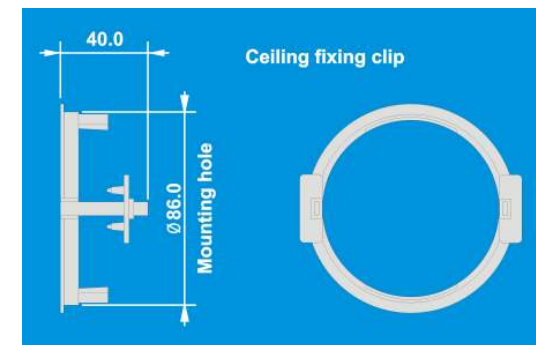
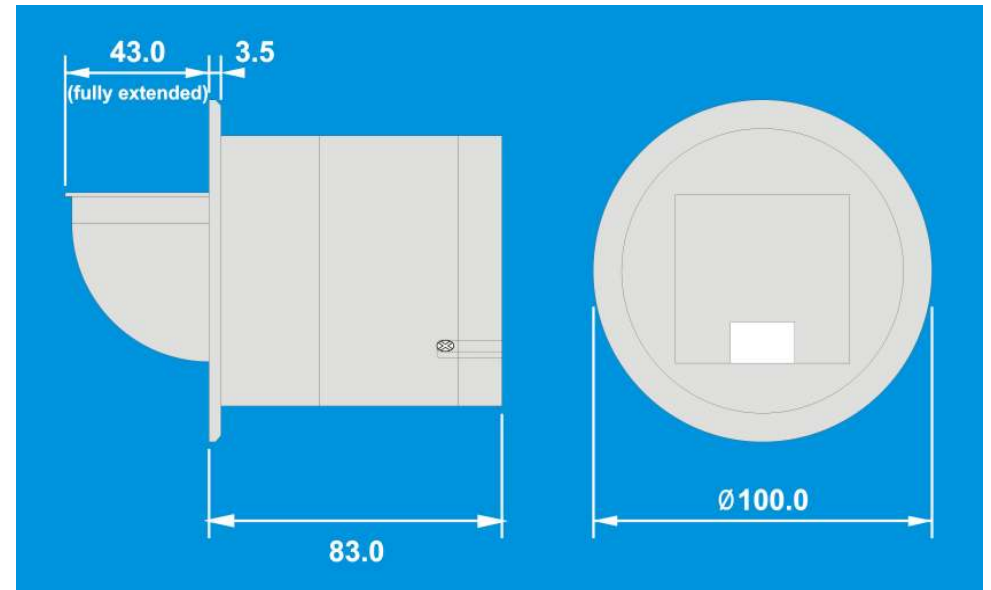
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## PRODUCT DATA AND INSTALLATION SHEET

### MWS3-D/DSI MULTI-SENSE DIMMING MICROWAVE PRESENCE DETECTOR



## DESCRIPTION AND OPERATION

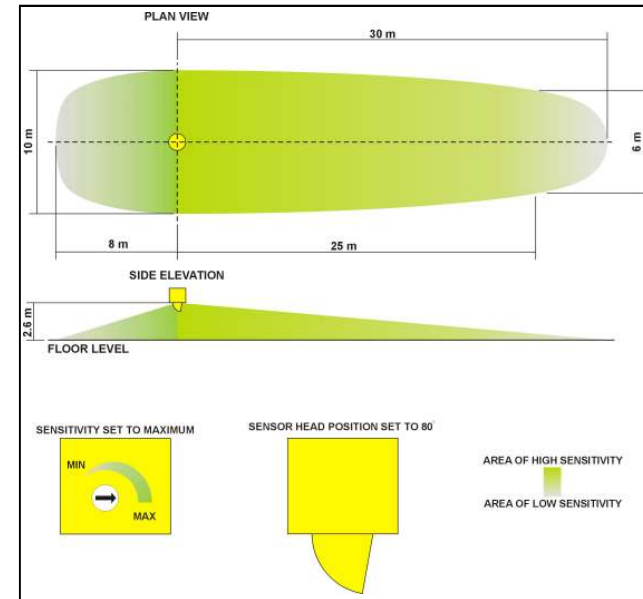
The MWS3-D/DSI microwave presence detectors are designed to provide automatic control of lighting loads. The MWS3 detects movement using a highly sensitive microwave detector. This works by emitting low power microwave signals and measuring the reflections as the signals bounce off of moving objects. The MWS3 has a unique adjustable sensor head that allows the area of detection to be optimised for the application.

When movement is detected the load is turned on. When an area is no longer occupied the load will switch off after an adjustable time out period (other off modes are available, please call our sales office for information).

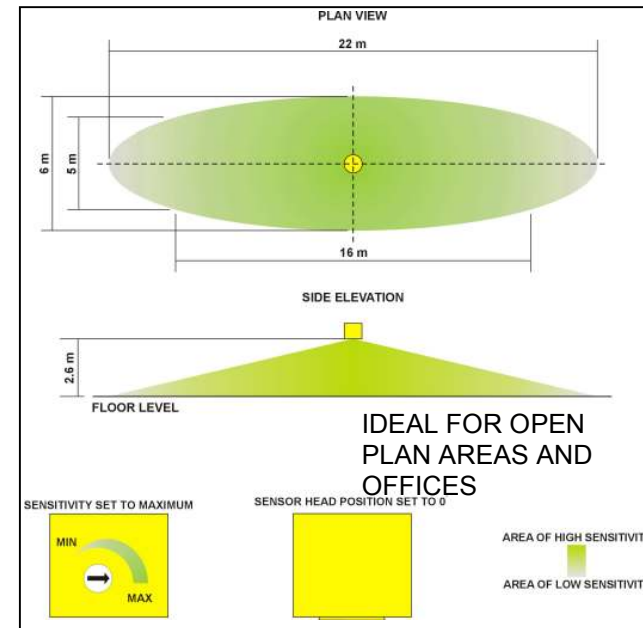
These units also provide a maintained illuminance feature. An internal light sensor measures the light level in an area and adjusts the output of the luminaries to maintain a constant, adjustable lux level. Note that this function only works with fluorescent fittings that have either 1-10V or DSI ballasts.

An integral IR sensor in the unit allows the unit to be used in conjunction with a remote control handset (part no: UHS) to:

- Act as a conventional dimmer
- Override the unit on or off
- Change the maintained illuminance lux setting



IDEAL FOR CORRIDOR  
OR AISLE APPLICA-  
TIONS



IDEAL FOR OPEN  
PLAN AREAS AND  
OFFICES

## FAULT FINDING

### LOAD DOES NOT COME ON

Check to see if the live supply to the circuit is good. Strap across the *L* and *LIVE OUT* terminal to turn the load on.

If the LED is flashing, press the cancel button on the handset.

### LOAD DOES NOT GO OFF

Ensure that the area is left unoccupied for a greater time period than the time out period set using the switch.

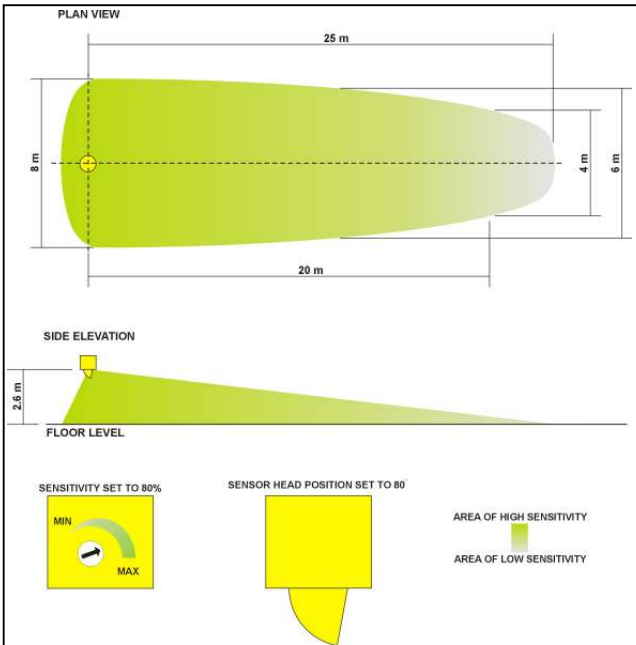
Make sure that the sensor is not adjacent to vibrating surfaces or objects (e.g. ventilation equipment).

The unit may pick up movement through thin partitions or walls. Reduce the sensitivity by turning the adjuster anticlockwise.

The unit may pick up movement that occurs behind the sensor. Reduce the sensitivity by turning the adjuster anticlockwise.

If the LED is flashing, press the cancel button on the handset.

## DETECTION PATTERNS



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TIONS

## WIRING & FIXING

Wire the products as in the diagram below.

To switch from more than one position simply wire two or more units in parallel to achieve two way and intermediate switching.

The detector should be sited so that the occupants of the room fall inside the detection pattern shown overleaf, at a recommended ceiling height of 2.8m.

**Corridors or aisles:** the unit should be placed at the end of the corridor or aisle and the sensor head should be angled to look down the corridor or aisle.

**Open plan areas and offices:** the unit can be mounted in a corner looking outwards in which case the sensor head should be angled. Or the unit can be mounted in the centre of the area with the sensor head flat.

Note that the higher the sensor is installed the shorter the detection range will be.

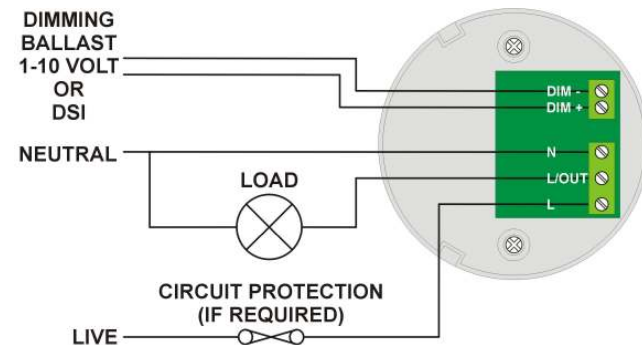
- Do not site within 1m of any lighting or ventilation equipment.
- Do not fix to a vibrating surface.
- Site as far away as possible from the surface of metal objects.

To flush mount:

- Cut a 86mm hole in the ceiling
- Insert the mounting clip into the hole and carefully push the two fixings on the arms downwards until they grip firmly to the ceiling
- Unscrew the back plate, connect (see below) and re-fix the back plate
- Push the unit into the clip and setup as instructed below

To surface mount:

- Unscrew the back plate and fix straight to the ceiling or to a BESA box
- Connect and re-fix the back plate
- Setup as instructed below



## INSTALLATION

**Warning.** This device works at mains potential. Be sure to take care when working with electricity.

1. Make sure the load is connected and in working order.
2. Isolate the mains supply to the circuit at the main consumer unit.
3. Connect the controller via the terminal block. Live supply to the *L* terminal, Neutral to the *N* terminal and the load to the *L/OUT* terminal.
4. Connect the dimming terminals of the ballast to the DIM– and DIM+ ensuring correct polarity.
5. Swing the sensor head down using the finger slot to expose the settings.
6. Use a small screwdriver to set the time to minimum (fully anticlockwise) and the sensitivity to maximum (fully clockwise) using the diagram below.
7. Apply power—the load should come on immediately.
8. Vacate the room or remain very still and wait for the load to switch off (should take no more than 2 minutes). Check that the load switches on when movement is detected.
9. To set the LUX level see overleaf.
10. Select the time out range using the adjuster, fully clockwise is the maximum.
11. The area of detection can be varied by altering the angle of the sensor head and the sensitivity adjuster. Note: on maximum sensitivity this unit is extremely sensitive to movement and may detect through thin walls or partitions. If this causes a problem reduce the sensitivity by turning the adjuster anticlockwise.



**IMPORTANT NOTICE!**  
This device should be installed by a qualified electrician in accordance with the latest edition of the IEE wiring regulations.

## SETTING THE LUX LEVEL

To set the lux level provided by the maintained illuminance function, follow these steps:

1. Starting at halfway, use the LUX adjustment to set the target lux level.
2. During operation the output LUX changes very gradually. However when the LUX adjuster is moved, the unit automatically enters setup mode: in this mode the output changes rapidly. After 2 minutes the unit reverts to normal.
3. When adjusting the output, allow the LUX level to settle by turning very gradually.
4. To disable the maintained illuminance function completely, set the LUX adjustment to maximum (when maximum has been reached there is a long LED flash).
5. The target LUX level can be changed using the optional user handset (*UHS*). See below.

## USER HANDSET

### USING AS A DIMMER

When the lighting is switched, the light level can be manually adjusted. Set the level using the LUX UP and LUX DOWN buttons.

To revert to maintained illuminance press CANCEL.

The unit will automatically revert to maintained illuminance after an occupancy cycle. If maintained illuminance is disabled (see above) then the unit will act only as a dimmer.

### SETTING THE LUX LEVEL

The maintained illuminance target lux level can be set as above or using the handset. To set the level press the SET button. Then slowly press the LUX UP or LUX DOWN buttons to obtain the desired lux level.

After 2 minutes without pressing the buttons, the unit will revert to normal operation. This can be achieved sooner by pressing CANCEL.

### SETTING THE SWITCH ON LEVEL

This is the light output that will be set when the unit first switches on.

Press the LUX UP and LUX DOWN buttons to reach the desired switch on level (do **not** press the SET button first). Press the ON button within 10 seconds to memorise the level as the switch on level.

### OVERRIDING ON AND OFF

To turn OFF permanently press the OFF button. To return to automatic operation press CANCEL.

To turn on permanently press the ON button. To return to automatic operation press cancel.

In both override modes the LED will flash.