PRE4202

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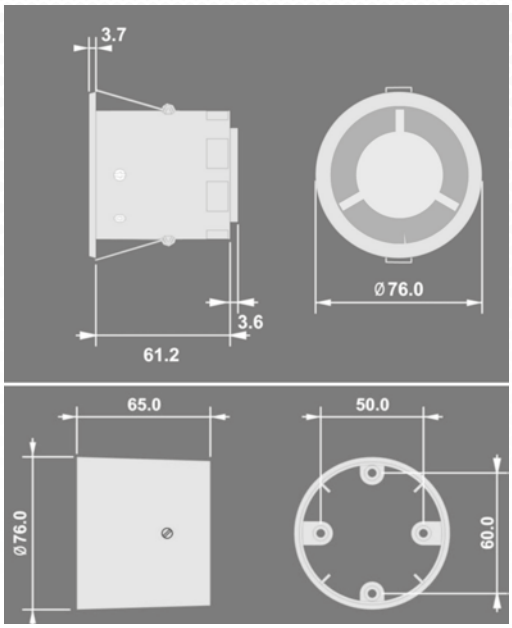
Ceiling mounted microwave sensor

Cleverly simple
control of energy.



DESCRIPTION & OPERATION

The PRE4202 microwave presence detector provides automatic control of lighting loads with optional manual control. It can be used on incandescent, fluorescent and compact fluorescent lighting, and has the added benefit of being able to connect an external switch. The PRE4202 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 moving objects. When an area is no longer occupied the load will switch off after an adjustable time out period.

Two modes of operation are available:

Presence detection:
When movement is detected the load will automatically turn on. When the area is no longer occupied the load will automatically switch off after an adjustable time period. If an external switch is connected, this can override the lights off (after the detection time period has elapsed it will revert to automatic operation). An integral adjustable photocell allows the lights to be kept off if there is sufficient ambient light.

Absence detection:
The load is manually switched on using an external switch. When the area is no longer occupied the load will automatically switch off after the adjustable time period has elapsed. Pressing the switch again during occupancy override the lights off (after the detection time period has elapsed it will revert to automatic operation).

In both modes of operation a short button press turns the load on whilst a long button press turns the load off.

An integral infra-red sensor in the unit allows the unit to be pro-grammed using the optional PRE5900L programming handset. This gives complete flexibility over many of the operating parameters. Without the handset, manual adjustments can be made to the sensitivity, lux and time settings using the controls on the rear of the sensor head.

The PRE5900L user handset can be used to change output lux levels and override the lights on or off.

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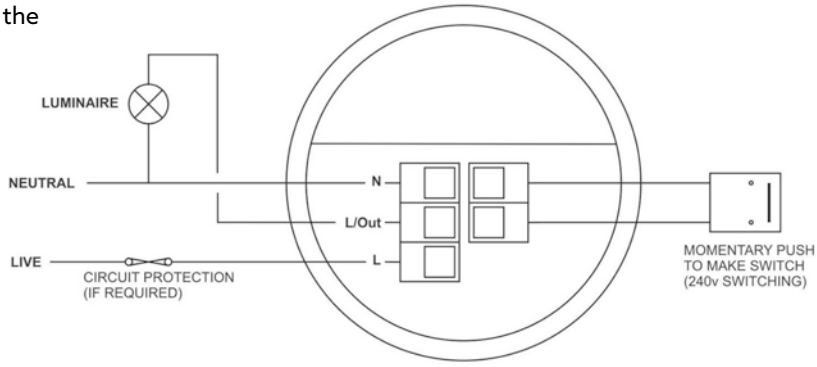
WIRING & FIXING

1. Wire the products using the diagram below.
2. To switch from more than one position simply wire two or more units in parallel using the Live, Neutral, Switched Live and manual switch wires only.
3. The detector should be sited so that the occupants of the room fall inside the detection pattern shown in section 5, at a recommended ceiling height of 2.8m. Note that the higher the sensor is installed the shorter the detection range will be.
4. Do not site within 1 metre of any lighting or ventilation equipment.
5. Do not fix to a vibrating surface.
6. Do not fix to a suspended luminaire.
7. Site as far away as possible from the surface of metal objects.
8. Mount using one of the two options overleaf.
9. Connect the sensor via the terminal blocks. Live supply to the L terminal; load to the L/OUT terminal; Neutral to the N terminal on the green terminal block. External switch connections to the switch terminal.
10. Use a small screwdriver to set the LUX level adjuster fully anti-clockwise, the time to minimum (fully clockwise) and the sensitivity to maximum (fully anti-clockwise).
11. Power the unit upóthe load should come on immediately.
12. Vacate the room or remain and wait for the load to switch off (should take no more than 2 minutes). The area of detection can be varied by altering the sensitivity adjuster.
13. Note: on maximum sensitivity this unit is extremely sensitive to movement and may detect through glass, thin walls or partitions. If this causes a problem reduce the sensitivity by turning the adjuster anticlockwise.
14. Check that the load switches on when movement is detected.
15. The LUX thumbwheel determines the ambient light level at which the lights turn on.
16. Select the time using the adjuster, fully anti-clockwise is the maximum.
17. Using the PRE5900L infra-red handset: the override on button turns the unit on permanently; the override off button turns the unit off permanently; the cancel button cancels the overrides. When an override is selected an LED will flash inside the unit. The 5900L handset can also be used to set the lux levels - see Section 4.3

Absence detection

18. To use absence detection a retractive (momentary) switch must be connected between the 2 terminals on the diagram. Note that this will be switching mains voltage.
19. The unit ships with presence detection as default. To change to absence detection, press and release the external switch 5 times within the first minute of power up. The LED will turn on solid for 30 seconds to indicate absence mode has been selected.
20. To change back to presence detection, repeat the above procedureóthe LED will flash for 30 seconds to indicate presence mode has been selected.

Note: the above adjustments can also be made using the PRE5900L handset instead of the manual adjusters or external switches. See section 4.



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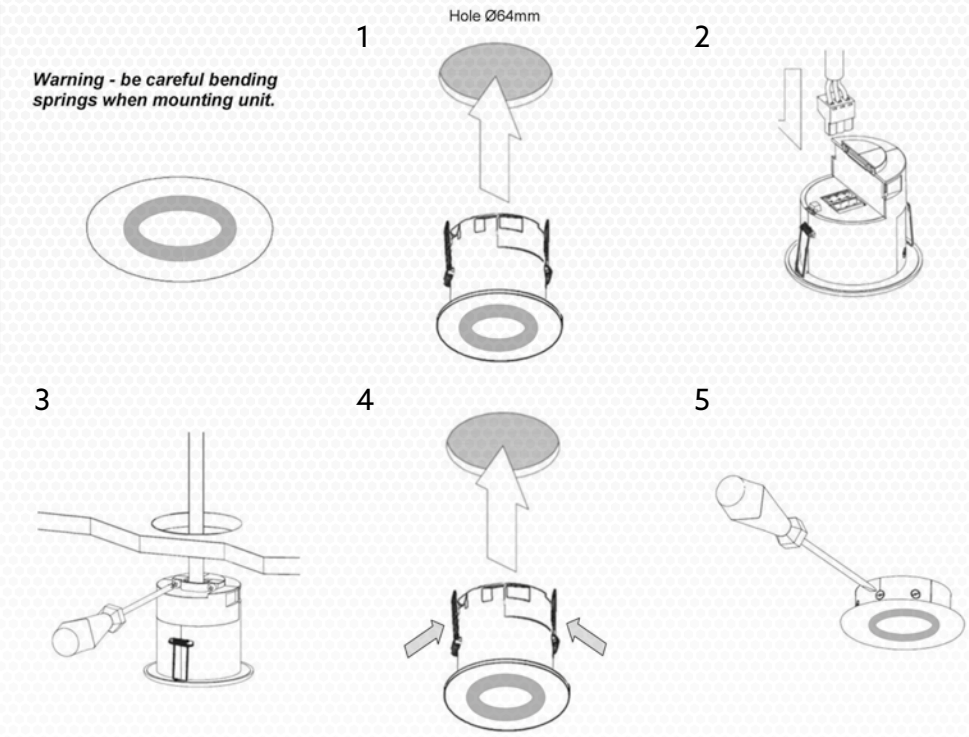
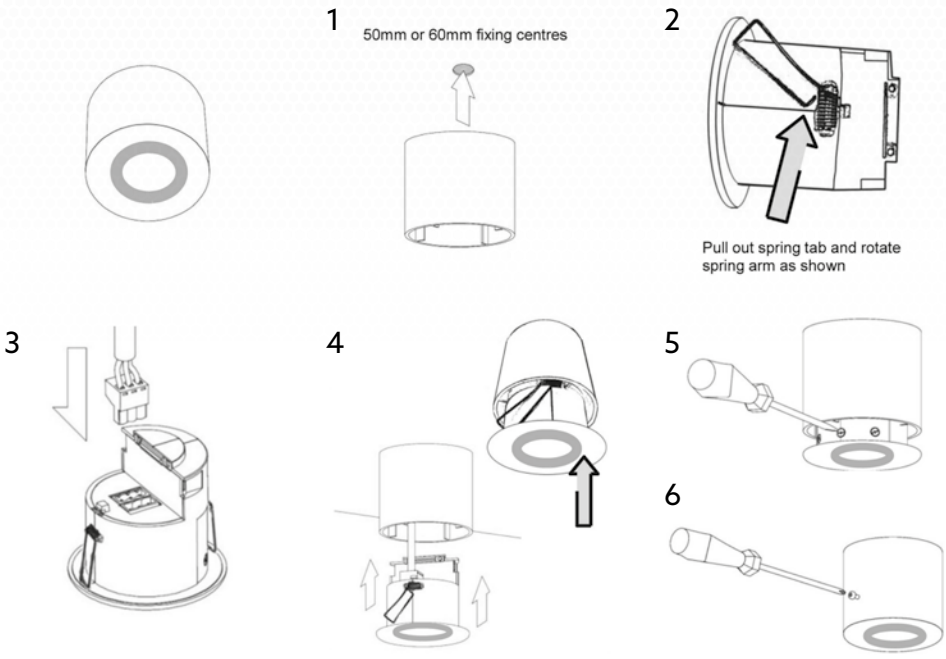
FLUSH FIXING



SURFACE FIXING



Due to our policy of continuous improvement, we reserve the right to change specifications without notice.
All information was correct at time of when this product file was produced - April 2020

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PROGRAMMING

1 Detector Parameters

1.1 Time adjustment	10 seconds to 99 minutes time delay (select 0 for 10 second delay - use for commissioning only).
1.2 Sensitivity On (9)	Sensitivity level when the detector is already operational adjustable between 1 (min.) and 9 (max.)
1.3 Sensitivity Off (9)	Sensitivity level for switching the detector on - adjustable between 1 (min.) and 9 (max.).
1.4 Power Up On (Y)	Select No for a 30 second delay on start up. If Yes is selected, there will be no delay on start up and the detector will always power up detecting.
1.5 Walk Test (N)	An LED behind the detector lens will flash to show movement has been detected (use for commissioning).
1.6 Disable Detector (N)	Disables detection. In this mode the detector acts as photocell only. The lux preset determines the light level at which the output is turned on. The sensitivity preset determines the light level at which the output turns off. The time preset prevents nuisance tripping and in this mode is adjustable between 0-13 minutes.
1.7 Factory Default	Restores factory default settings.

2 Switching functions (factory default in brackets):

2.1 Presence detection	Auto switch on with detection, auto off after movement ceases (default) and time delay ends.
2.2 Absence detection	Manual switch on, auto off after movement ceases and time delay ends.
2.3 Switch level on (9)	Lux level setting to prevent the luminaires being switched on if the ambient light level is sufficient (adjustable between 1and 9). The luminaires will always be switched on at level 9.
2.4 Switch level off (9)	Lux level setting to switch the luminaires off during occupancy if the ambient light level goes above the setting (adjustable between 1 and 9). Level 9 will always keep the lights on. This setting can be used for window row switching.

3 User menu PRE5900L user menu handset functions:

3.1 Lux up	Can only be used with the set button see 3.6.
3.2 Lux down	Can only be used with the set button see 3.6.
3.3 Override on	Permanently overrides the luminaire output on.
3.4 Override off	Permanently overrides the luminaire output off.
3.5 Cancel	Cancels the on or off override, returning the detector to normal operation.
3.6 Set	Send before using lux up or lux down. The switch level on (see 2.3) can then be adjusted using the lux up or lux down buttons.

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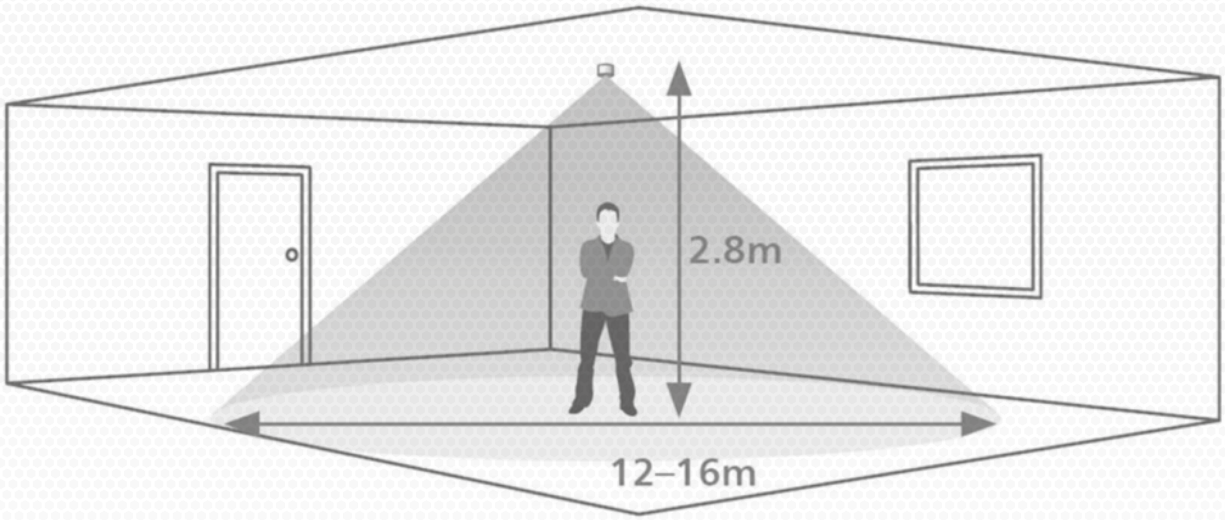
DETECTION PATTERNS



Area of high sensitivity **Area of lower sensitivity**

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 supply and wiring are good, check the LUX level setting. Increase the LUX level setting to allow the controller to turn on at higher ambient natural light level.

If the detection range is smaller than expected, check the diagram above. Rotating the sensor slightly may improve the range.

LIGHTS DO NOT GO OFF

Ensure that the area is left unoccupied for longer than the selected timer setting.

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

The unit may pick up movement through glass, thin partitions or walls. Reduce the sensitivity by turning the adjuster anticlockwise (or use the handset).

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SPECIFICATION

Load	10A of lighting and or ventilation including incandescent, fluorescent, compact fluorescent, low voltage (switch primary of transformer).
Supply voltage	220-240 Volts AC 50 Hz
Time out period	Adjustable 15 seconds to 99 minutes
Light level	Light to dark.
Terminal capacity	2.5mm2
Material	Flame retardant ABS, fixing clip Polystyrene
Type	Class 2
Frequency	5.8 GHZ
Safety	The microwave radiation emitted by these units is extremely low power and complies with ANSI standard -IEEEC95.1-1999 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields 3kHz 300GHz
Temperature	-10°C to 35°C
Conformity	EMC-89/336/EEC LVD-73/23/EEC

This device should be installed by a qualified electrician in accordance with the latest edition of the IEE Wiring Regulations and any applicable Building Regulations.

FM45789

EMS534520

ESTA
energy services and technology association

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