

Microwave Sensor



This discrete microwave detector is supplied already integrated into our luminaires to provide occupancy/motion detection with simple adjustment of detection range, time out and switching light level.

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- Simple set up and operation
- Up to 360° detection (subject to mounting orientation)
- 1m to 5m diameter detection range, up to 8m diameter
- 2 to 30 lux switching for twilight operation subject to mounting and luminaire compatibility
- 5 sec to 25 minute time delay

Function

An HF or microwave detector operates differently to a Passive Infra-Red detector (PIR), it is important to understand the main operational differences to ensure the correct device is used for the application.

Unlike motion detectors with PIR technology, this high frequency (HF) motion detector emits a 5.8 GHz signal.

Movement is detected by a change in frequency of waves reflected by a moving object within the detection zone. Vibration or moving machinery may also trigger the device.

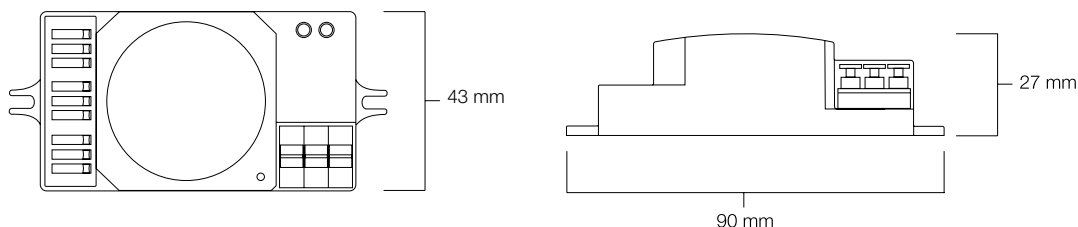
The HF detectors are almost temperature-independent, whereas temperature is the basis for the PIR motion detectors temperature measuring process.

Infra-red waves from a PIR detector do not pass through walls, but high frequency waves can do. As a consequence, it may not be possible to have the clear boundary of a room wall when using an HF occupancy detector. Therefore, movement of people or machinery in adjacent rooms may also be detected and activate the device, resulting in lights activating unnecessarily.

The HF sensor is ideally suited to integration within luminaires with panels or diffusers through which a PIR's detection and functionality may be impaired.

The sensor is often set to daylight to deactivate the photocell to avoid false switching due to proximity to the lamps.

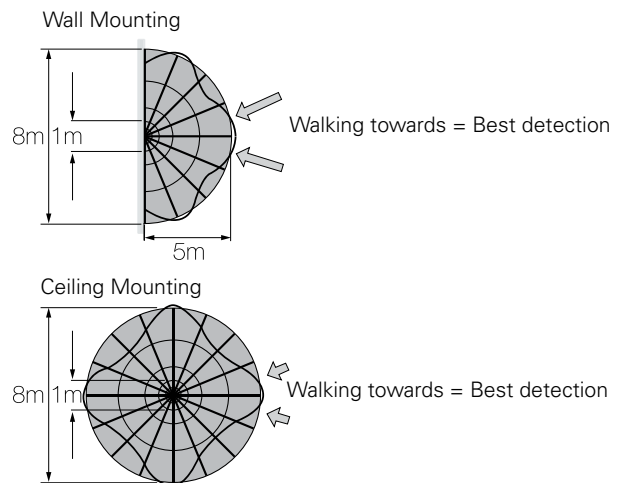
Dimensions



Integrated Microwave Detector



Detection Zone



Range/Sensitivity

Detection

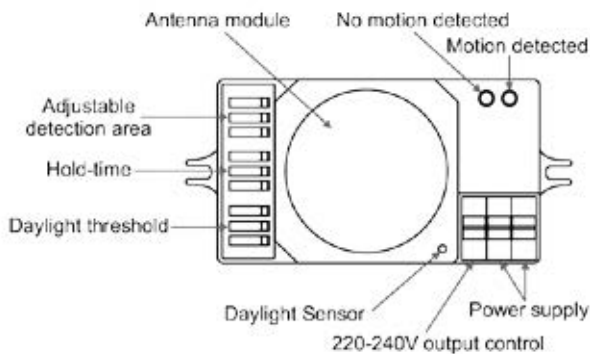
Range and sensitivity can be set by the 3 dip switches. The chosen range can be varied from 1 to 5m. Avoid locating the device near a heating or air conditioning source.

Set up and Operation

Please read all the information contained in these directions prior to any set up or servicing.

Isolate the device from the mains power supply before carrying out any installation, maintenance or servicing.

The device will generally be pre installed into a luminaire ready for set up with no additional installation or connection required.



Light Level Setting

The chosen light response threshold can be infinitely varied from approx. 2 to 30 lux or disabled using the dip switches.

Time Setting

The light can be set to stay ON for any period of time between approx. 5 seconds and a maximum of 25 minutes using the dip switches

Any movement detected before this time elapses will re-start the timer.

There will be no twilight evaluation (daytime operation) for as long as the motion detector is switched on.

Note: After the light switches OFF, it takes approx. 1 second before it is able to start detecting movement again.

Trouble Shooting Guide

Malfunction	Cause	Remedy
The load will not work	Incorrect light-control setting selected Load faulty Mains switch OFF	Adjust setting Replace load Switch ON
The load is always on	Continuous movement in the detection zone	Check zone setting
The load is on without any identifiable movement	The sensor is not mounted for reliably detection movement Movement occurred, but not identified by the sensor (movement behind wall, movement of small object in immediate lamp vicinity etc.)	Securely mount enclosure Check zone setting
The load will not work despite movement	Rapid movements are being suppressed to minimise malfunctioning or the detection radius is too small	Check zone setting

Test Setting

In order to adjust the detection range during the day, the light level value must be set to daylight and time should be set to the minimum (approx. 5 seconds). The sensor is often set to daylight to deactivate the photocell to avoid false switching due to proximity to the lamps.

Note: When initialising the detector into operation or after a power failure, the motion detector will switch on for the duration of the set time-value.

Connections

Connect power supply as indicated in the terminal connection:

Phase = L

Connected phase = L'

Neutral conductor = N

Technical Data

Power Supply:	230V (+6%/-10%) 50/60Hz
Maxload:	400W Inductive
Power consumption:	<1W
HF transmitter output:	5.8GHz <10mW ISM Band
Range:	Up to 5m
Photo electric switch:	2 to 30 lux
Time setting:	5 sec to 25 min
Ambient temperature range:	-10 to + 50°C (The luminaire ambient operating temperature may be more restricted)
Housing material:	UV stable Polycarbonate

Luminaire Range Compatibility

The device is designed for integration into our luminaires and is not available as a stand alone device.

Luminaire ranges particularly suited to the integrated microwave sensor include: Tufflite, Crompack 5, Cercla, Modulay with panels, Varsity and Wavelite 2. The 'IM' prefix on compatible luminaires indicates inclusion of the microwave detector. Please contact your local Eaton sales engineer to discuss your requirements.

For further information contact our technical support and application department on 01302 303240 or email LightingTechnicalUK@Eaton.com