



Lighting Controls

Sensors Guide

Introduction

Hacel Lighting has an established heritage and brand philosophy founded on quality service and innovative luminaires alongside a deserved reputation for flexibility and availability of which we are extremely proud. All Hacel products are designed and manufactured in our purpose built facility in the UK and still encompass the core values, which have been instilled in our business from the onset.

We have a clear, articulated and strategic focus, combined with a team of dedicated people. The people at the core of our business are what remains the major factor in our growth, development and strength. Our ongoing product design and development process underpins Hacel's commitment to innovation.

Our dedicated and experienced Lighting Design Consultants can assist and advise on your lighting control requirements. We always consider the well-being, economic and energy related prerequisites of the Client and offer enterprising solutions and professional advice regarding:

Please contact our Lighting Design Department for further information

lightingdesign@hacel.co.uk

Together Everyone Achieves More

Stand Alone Lighting Controls

What type of detectors do we use:

- PIR Detector - Passive Infrared sensors allow you to detect motion, whether a person is moving in or out of an area. It detects a persons body heat as it changes against the background of the room. No energy is emitted from the sensor, thus the name "passive infrared" (PIR).
- Microwave Detector - A microwave sensor sends out electromagnetic pulses and measures the changes in frequency due to the reflection off a moving object.

Detector Key Features:

- Presence Detection - When movement is detected the lights will automatically turn on. When the area is no longer occupied the lights will automatically turn off after an adjustable period of time.
- Absence Detection - The lights are manually turned on. When the area is no longer occupied the lights will automatically turn off, after an adjustable period of time.
- Maintained Illuminance (Daylight Harvesting) - The sensor measures the overall lighting level in the detection area and calculates the correct output of the luminaires, to achieve the pre-set lux level.
- Lux Control - Lux level setting to prevent the luminaires being switched on if the ambient lighting level is sufficient.

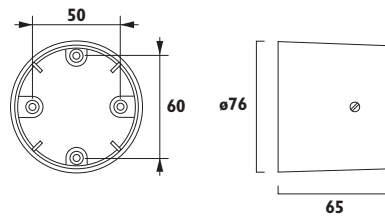
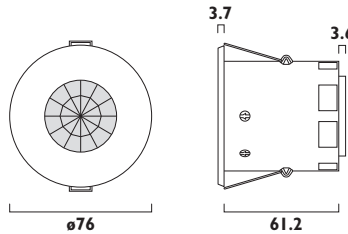
Key Features

For use where Dimming is not Required

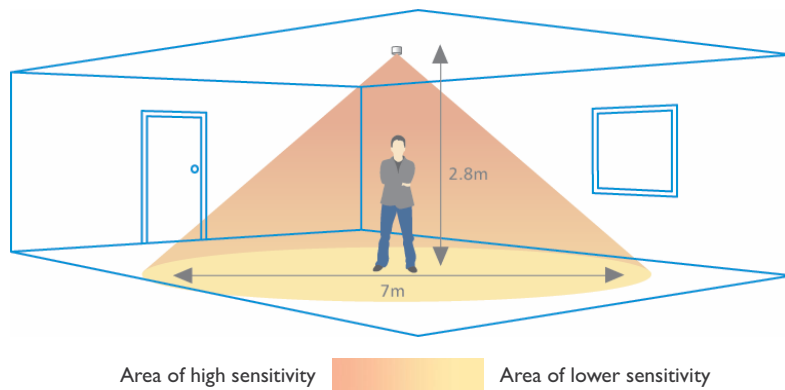
- Suitable for Offices, Classrooms & Toilets
- Presence Detection
- Absence Detection
- Factory default : Presence Detection
- Lux control
- Flush or Ceiling Mounted
- Detection range 7m Dia at 2.8m CH
- Max load 10A of lighting
- Terminal Capacity 2.5mm²
- Wire to a Retractive Switch
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Detectors can be wired in parallel
- Cut out diameter 64mm
- Sensitivity Adjustment
- Time out Adjustment

Stand Alone Detector – Non Dimming

EBDSPIR PRM Part Number 35-0950



DBB Back Box for 35-0950



The EBDSPM-PRM PIR (passive infrared) presence detector provides automatic control of lighting loads with optional manual control.

The output channel comprises a mains voltage relay capable of simple on/off switching.

Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty. Optional settings allow lights to be turned off in response to ambient daylight.

All functionality is fully programmable using an IR handset.

The Detection Mode can be set to behave in Presence or Absence mode:

Presence 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.

Absence The load is manually switched on. When the area is no longer occupied the load will automatically switch off after the adjustable time period has elapsed.

Switch Level On/Off Occupancy detection can be made dependant on the ambient light level using the Lux On Level and Lux Off Level parameters.

Key Features

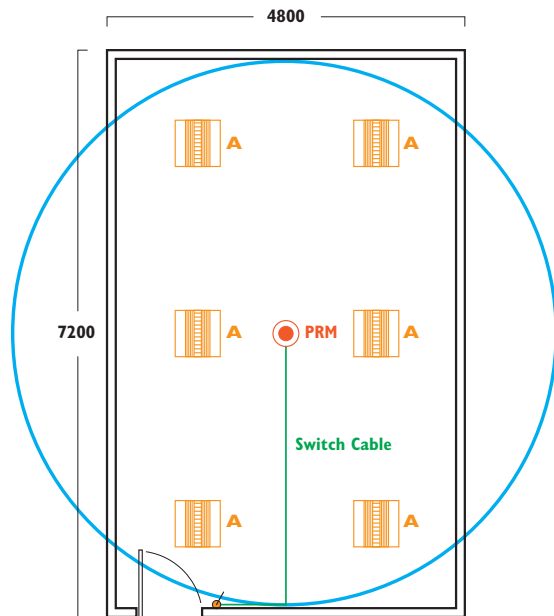
For use where Dimming is not Required

For use in:

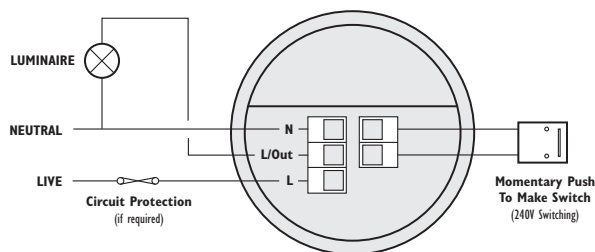
- Offices
- Classrooms
- Meeting Rooms
- Lobbies
- Toilets
- Time Out Adjustment

Basic Room Layout - Operation

EBDSPIR PRM Part Number 35-0950



Wiring Schematic



● Presence Detection

Lights on automatically when someone enters the room. When the room is no longer occupied the lights will automatically turn off after an adjustable period of time.

● Absence Detection

The lights are manually turned on when entering the room. When the room is no longer occupied the lights will automatically turn off after an adjustable period of time.

● Max Load 10A of lighting

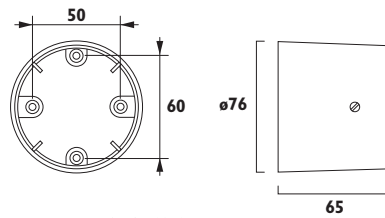
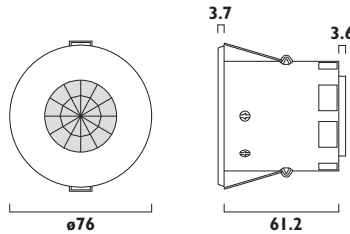
Key Features

For use where Dimming is Required

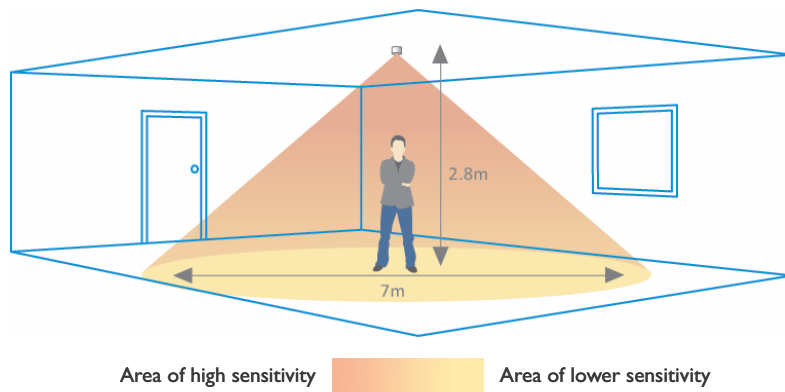
- Suitable for Offices, Classrooms & Meeting Rooms
- Presence Detection
- Absence Detection
- Daylight Harvesting
- Factory default: Presence Detection
- Factory default: DALI
- Lux control
- Flush or Ceiling Mounted
- Detection range 7m Dia at 2.8m CH
- Max load 10A of lighting
- 2 Channel Output
- Built in Interface for DSI / DALI
- Terminal Capacity 2.5mm²
- Wire to a centre biased Retractive Switch (MK K4900 or similar)
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Detectors can not be wired in parallel
- Cut out diameter 64mm
- Sensitivity Adjustment
- Time out Adjustment
- Lamp burn in function

Stand Alone Detector – Dimming

EBDSPIR DD Part Number 35-0886



DBB Back Box for 35-0950



The EBDSPiR-PRM PIR (passive infrared) presence detector provides automatic control of lighting loads with optional manual control.

Output Channel 1 comprises a mains voltage relay capable of simple on/off switching, while Output 2 provides dimmable control of either DALI or DSI type ballasts.

Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty. Optional settings allow lights to be turned off in response to ambient daylight, or implement a maintained illuminance (Daylight Harvesting System)

The flexibility of having two channels and two switch inputs allows the following example scenarios.

Dim an outside row of luminaires whilst internal fittings are switched.

Provide absence detection for two separate channels.

Maintained illuminance system with manual up/down controls.

All functionality is fully programmable using an IR handset.

Key Features

For use where Dimming is Required

For use in:

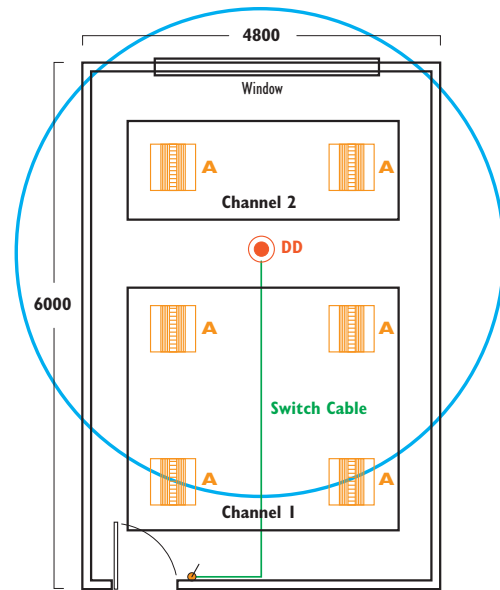
- Offices
- Classrooms
- Meeting Rooms

Max load 10A of lighting

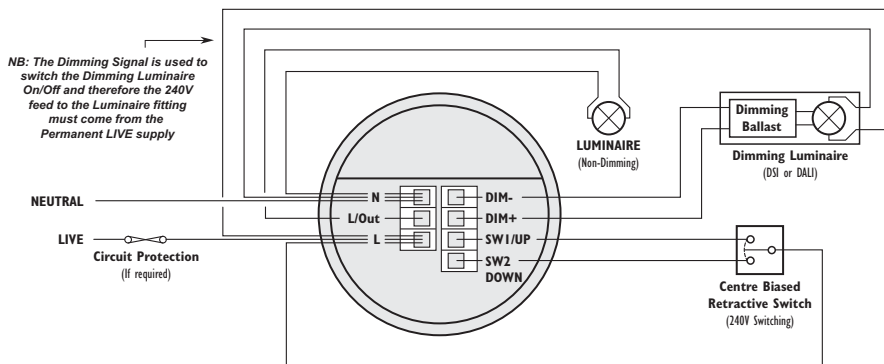
Max 10 ballasts on dimming circuit

Basic Room Layout - Operation

EBDSPIR DD Part Number 35-0886



Wiring Schematic



NB: The Centre Biased Retractive Switch will provide control for the Dimming Luminaire(s) only.
The Non-Dimming Luminaire(s) will be controlled only by the Sensor

● Presence Detection

Lights on automatically when someone enters the room. When the room is no longer occupied the lights will automatically turn off after an adjustable period of time.

● Absence Detection

The lights are manually turned on when entering the room. When the room is no longer occupied the lights will automatically turn off after an adjustable period of time.

Channel 1 (switched output) can be used to switch a separate channel of standard, non-dimming luminaires.

Channel 2 (dimmable output) can be used to control the light output of luminaires that are fitted with dimming ballasts. Maximum number of ballasts is 10.

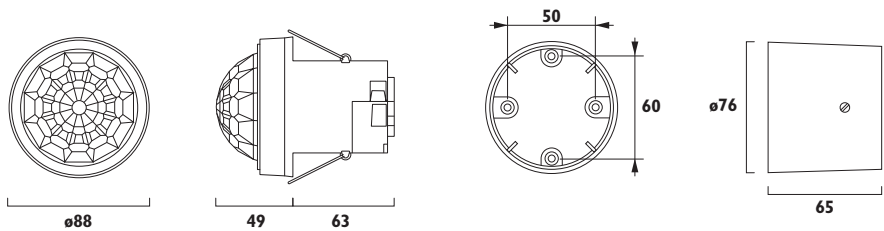
Key Features

For use where Dimming is Not Required

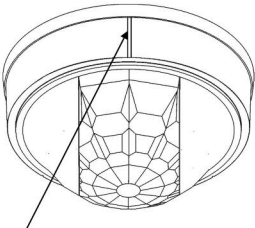
- Suitable for High level applications such as warehouses & factories
- Presence Detection
- Absence Detection
- Factory Default :presence detection
- Lux control
- Masking Shields
- Flush or Ceiling Mounted
- Variable Detection Range
- Max load 10A of lighting
- Terminal Capacity 2.5mm²
- Wire to a Retractive Switch
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Detectors can be wired in parallel
- Cut out Diameter 64mm
- Very High Sensitivity Adjustment
- Time out Adjustment

Stand Alone High Level Detector - Non Dimming

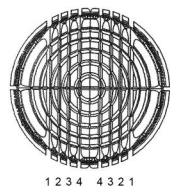
EBDHS PRM Part Number 35-1211



Masking shields trimmed for aisle shaped detection



Align trimmed shields with sensor head alignment marks and aisle.

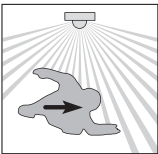


Slot number	Masking shield % coverage
1	45%
2	32%
3	22%
4	11%

Slot number 1 2 3 4 4 3 2 1

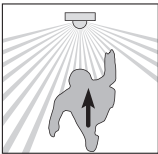
Example
Mounting height 6m
Trimmed to slots 2
Aisle detection width
16m x 32% = 5.1m walk across
12m x 32% = 3.8m walk towards

Walk Across

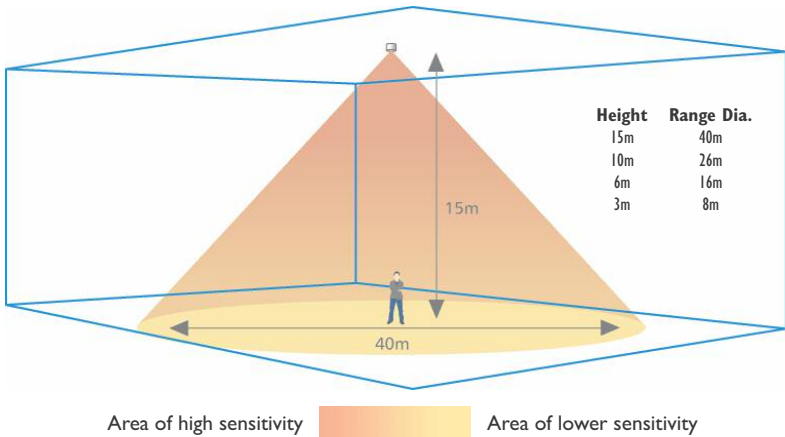


Height	Range Dia.
15m	40m
10m	26m
6m	16m
3m	9m

Walk Towards



Height	Range Dia.
15m	30m
10m	20m
6m	12m
3m	8m



The EBDHS-PRM PIR (passive infrared) presence detector provides automatic control of lighting loads with optional manual control.

The EBDHS-PRM is a high sensitivity PIR detector suitable for high bay applications, such as warehouses and factories, and where high detection sensitivity is needed.

The output channel comprises a mains voltage relay capable of simple on/off switching.

Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty. Optional settings allow lights to be turned off in response to ambient daylight.

All functionality is fully programmable using an IR handset.

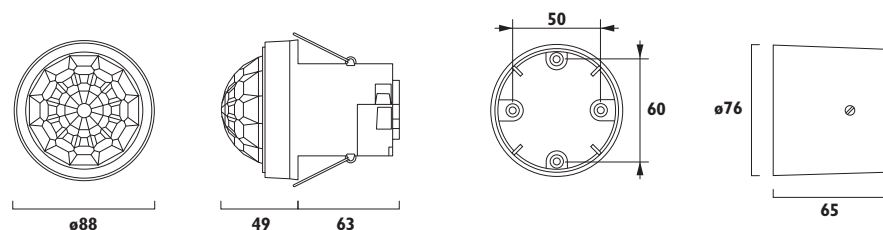
Key Features

For use where Dimming is Required

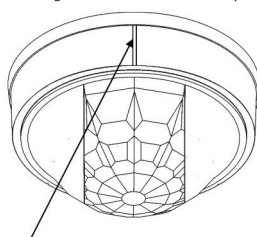
- Suitable for High level applications such as warehouses & factories
- Presence Detection
- Absence Detection
- Daylight Harvesting
- Factory Default :Presence Detection
- Factory Default :DALI
- Lux control
- Masking Shields
- Flush or Ceiling Mounted
- Variable Detection Range
- Max load 10A of lighting
- 2 Channel Output
- Built in Interface for DSI / DALI
- Max number of Ballasts - 10
- Terminal Capacity 2.5mm²
- Wire to a centre biased Retractive
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Detectors can not be wired in parallel
- Cut out Diameter 64mm
- Very High Sensitivity Adjustment
- Time out Adjustment
- Lamp burn in function

Stand Alone High Level Detector - Dimming

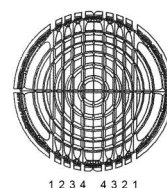
EBDHS DD Part Number 35-1106



Masking shields trimmed for aisle shaped detection



Align trimmed shields with sensor head alignment marks and aisle.



Slot number	Masking shield % coverage
1	45%
2	32%
3	22%
4	11%

Slot number

1 2 3 4 3 2 1

Example

Mounting height

6m

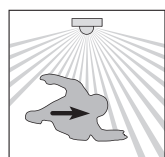
Trimmed to slots

Aisle detection width

16m x 32% = 5.1m walk across

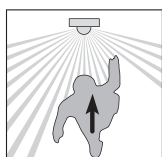
12m x 32% = 3.8m walk towards

Walk across

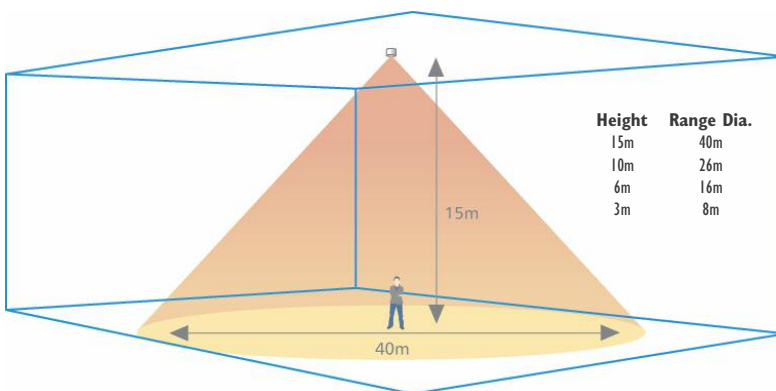


Height	Range Dia.
15m	40m
10m	26m
6m	16m
3m	9m

Walk across



Height	Range Dia.
15m	30m
10m	20m
6m	12m
3m	8m



Area of high sensitivity



Area of lower sensitivity

The EBDHS-DD PIR (passive infrared) presence detector provides automatic control of lighting loads with optional manual control.

The EBDHS-DD is a high sensitivity PIR detector suitable for high bay applications, such as warehouses and factories, and where high detection sensitivity is needed.

Output Channel 1 comprises a mains voltage relay capable of simple on/off switching, while Output Channel 2 provides dimmable control of either DALI or DSI type ballasts.

Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty.

Optional settings allow lights to be turned off in response to ambient daylight, or to implement a maintained illuminance (daylight harvesting) system.

The flexibility of having two channels and two switch inputs allows the following example scenarios:

- Dim an outside row of luminaires whilst internal fittings are switched.
- Provide absence detection for two separate channels.
- Maintained illuminance system with manual up/down controls.

All functionality is fully programmable using an IR handset.

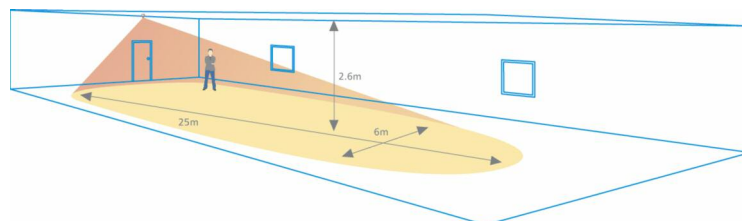
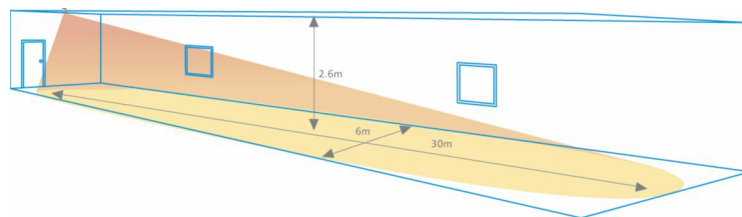
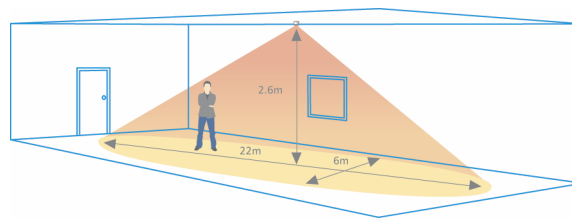
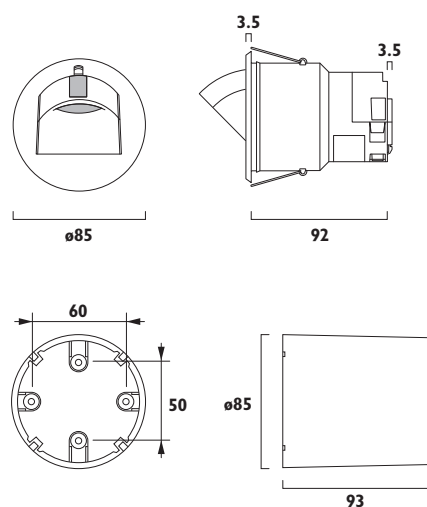
Key Features

For use where Dimming is Not Required

- Suitable for Offices, Classrooms & Corridors
- Presence Detection
- Absence Detection
- Adjustable head for different detection patterns
- Factory Default :Presence Detection
- Lux control
- Flush or Ceiling Mounted
- Detection range 6mx30m at 2.6m CH
- Max load 10A of lighting
- Terminal Capacity 2.5mm²
- Wire to Retractive Switch
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Cut out diameter 74mm
- Sensitivity Adjustment
- Time out Adjustment
- Locking Head Unit

Stand Alone Adjustable Microwave Detector - Non Dimming

MWS3A-PRM Part Number 35-0940



Area of high sensitivity Area of lower sensitivity

The MWS3A-PRM microwave presence detector provides automatic control of lighting loads with optional manual control.

It 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.

The output channel comprises a mains voltage relay capable of simple on/off switching.

Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty.

Optional settings allow lights to be turned off in response to ambient daylight.

The MWS3A-PRM has a unique adjustable sensor head that allows the area of detection to be optimised for the application.

All functionality is fully programmable using an IR handset.

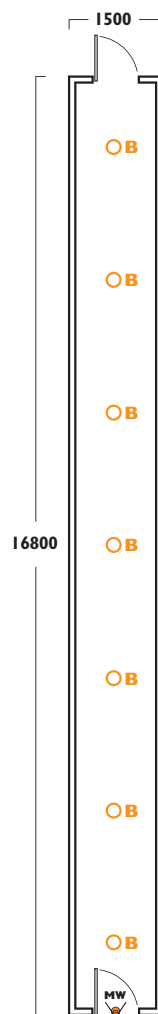
Key Features

For use where Dimming is Not Required

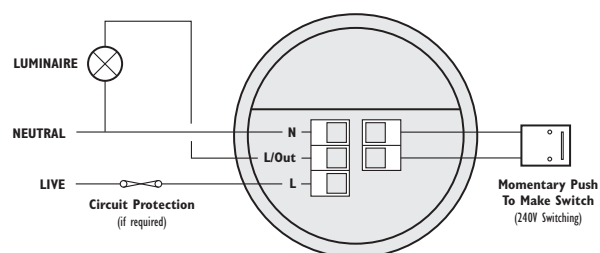
- Suitable for Corridors

Stand Alone Adjustable Microwave Detector - Non Dimming

MWS3A-PRM Part Number 35-0940



Wiring Schematic



Corridor Layout - Non Dimming Operation

● Presence Detection

Lights on automatically when someone enters the room. When the room is no longer occupied the lights will automatically turn off after an adjustable period of time.

● Max Load 10A of lighting

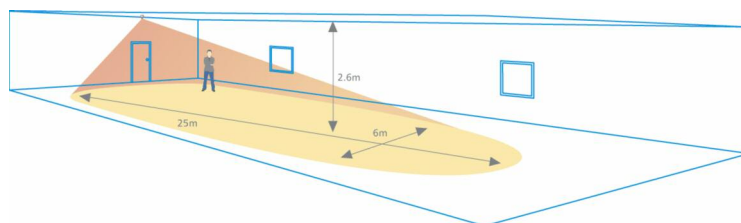
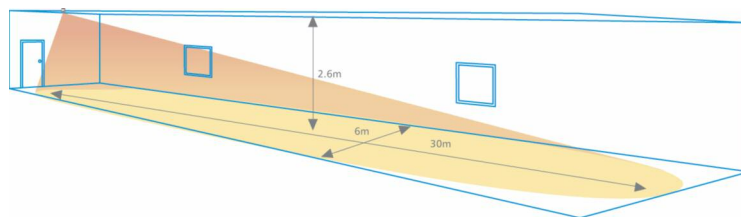
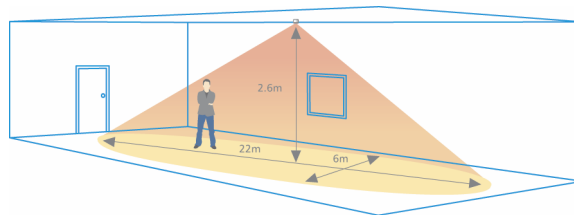
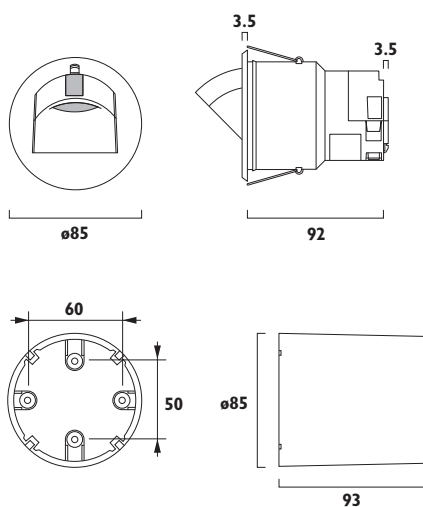
Key Features

For use where Dimming is Required

- Suitable for Offices, Classrooms & Corridors
- Presence Detection
- Absence Detection
- Daylight Harvesting
- Adjustable head for different detection patterns
- Factory Default: Presence Detection
- Factory Default: DALI
- Lux control
- Flush or Ceiling Mounted
- Detection range 6mx30m at 2.6m CH
- Max load 10A of lighting
- 2 Channel Outputs
- Terminal Capacity 2.5mm²
- Wire to a Centre Biased Retractive Switch (MK K4900 or similar)
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Cut out diameter 74mm
- Sensitivity Adjustment

Stand Alone Adjustable Microwave Detector - Dimming

MWS3A-DD Part Number 35-0917



Area of high sensitivity  Area of lower sensitivity

The MWS3A-DD (microwave) presence detector provides automatic control of lighting loads with optional manual control.

Output Channel 1 comprises a mains voltage relay capable of simple on/off switching, while Output 2 provides dimmable control of either DALI or DSI type ballasts.

Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty. Optional settings allow lights to be turned off in response to ambient daylight, or implement a maintained illuminance (Daylight Harvesting System).

The flexibility of having two channels and two switch inputs allows the following example scenarios.

- Dim an outside row of luminaires whilst internal fittings are switched.
- Provide absence detection for two separate channels.
- Maintained illuminance system with manual up/down controls.

All functionality is fully programmable using an IR handset

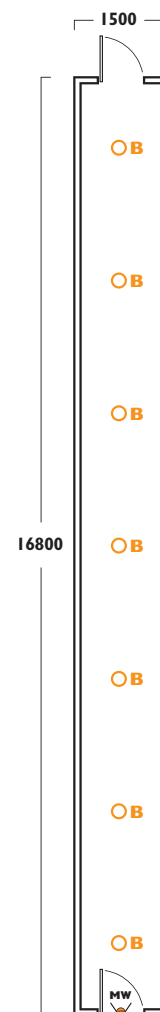
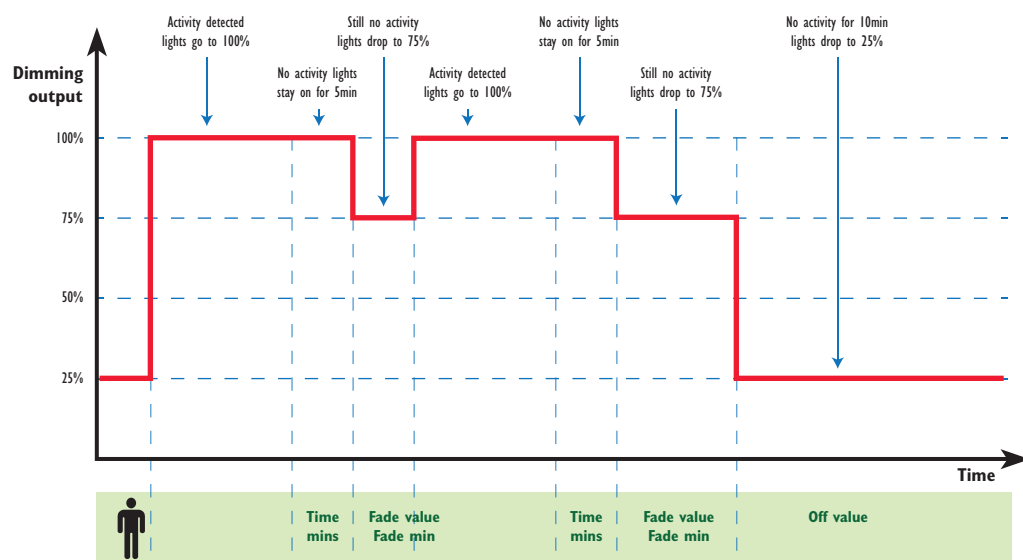
Key Features

For use where Dimming is Required

- Suitable for Corridors
- Max load 10A of lighting
- Max number of ballasts 10 for dimming channel

Stand Alone Adjustable Microwave Detector - Dimming

MWS3A-DD Part Number 35-0917



Corridor Layout - Dimming with Fade and Non zero off

● Presence Detection

Lights on automatically when someone enters the room.

The sensor is set for Fade and Non zero off. The corridor lighting is set at 25% of the lighting level, when a person enters the corridor the lighting level will increase to 100%. Once the corridor is no longer occupied for a set period of time, the lighting level will fade down to 75% over an adjustable time period. If there is no activity in the room for 10 minutes the lighting will drop to 25% and remain at this level until someone enters the corridor again.

Max Load 10A of lighting

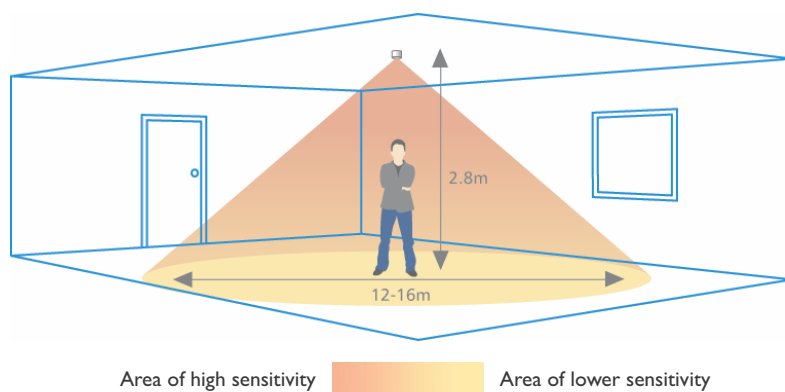
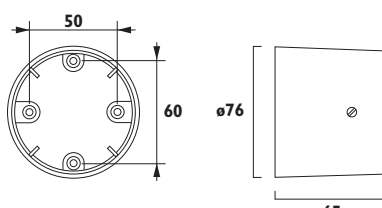
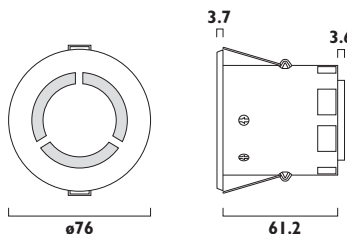
Key Features

For use where Dimming is Not Required

- Suitable for Offices, Classrooms & Toilets
- Presence Detection
- Factory default Presence Detection
- Lux control
- Flush, Ceiling or Ceiling Mounted
- Detection Range 12-16m at 2.8m CH
- Max load 10A of lighting
- Terminal Capacity 2.5mm²
- Wire to Retractive Switch
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Cut out Diameter 64mm
- Sensitivity Adjustment
- Time out Adjustment

Stand Alone Mid Range Microwave Detector - Non Dimming

MWS6-PRM Part Number 35-0938



The MWS6-PRM microwave presence detector provides automatic control of lighting loads with optional manual control.

The MWS6-PRM 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.

The output channel comprises a mains voltage relay capable of simple on/off switching.

Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty. Optional settings allow lights to be turned off in response to ambient daylight.

All functionality is fully programmable using an IR handset.

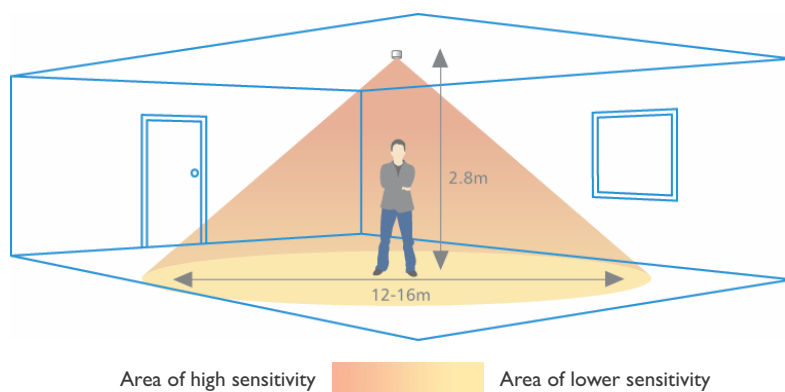
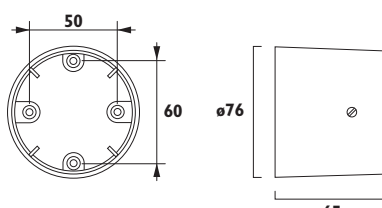
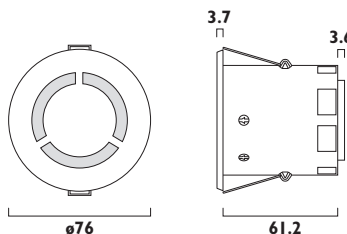
Key Features

For use where Dimming is Required

- Suitable for Offices, Classrooms & Meeting Rooms
- Presence Detection
- Absence Detection
- Daylight Harvesting
- Factory default: Presence Detection
- Factory default: DALI
- Lux control
- Flush or Ceiling Mounted
- Detection range 12-16m Ø at 2.8m CH
- Max load 10A of lighting
- Max number of Ballasts - 10
- 2 Channel Output
- Built in Interface for DSI / DALI
- Terminal Capacity 2.5mm²
- Wire to a Centre Biased Retractive Switch (MK K4900 or similar)
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Cut out Diameter 64mm
- Sensitivity Adjustment
- Time out Adjustment
- Lamp burn in function

Stand Alone Mid Range Microwave Detector - Dimming

MWS6-DD Part Number 35-0941



The EBDSPiR-PRM PIR (passive infrared) presence detector provides automatic control of lighting loads with optional manual control.

Output Channel 1 comprises a mains voltage relay capable of simple on/off switching, while Output 2 provides dimmable control of either DALI or DSI type ballasts.

Functioning as a presence detector, the unit can turn lights on when a room is occupied and off when the room is empty. Optional settings allow lights to be turned off in response to ambient daylight, or implement a maintained illuminance (Daylight Harvesting System).

The flexibility of having two channels and two switch inputs allows the following example scenarios.

- Dim an outside row of luminaires whilst internal fittings are switched.
- Provide absence detection for two separate channels.
- Maintained illuminance system with manual up/down controls.

All functionality is fully programmable using an IR handset.

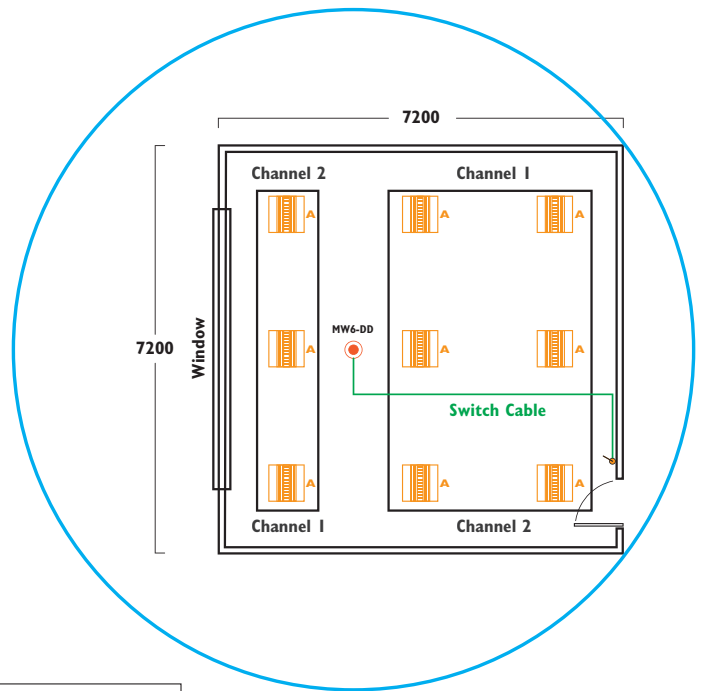
Key Features

For use where Dimming is Required

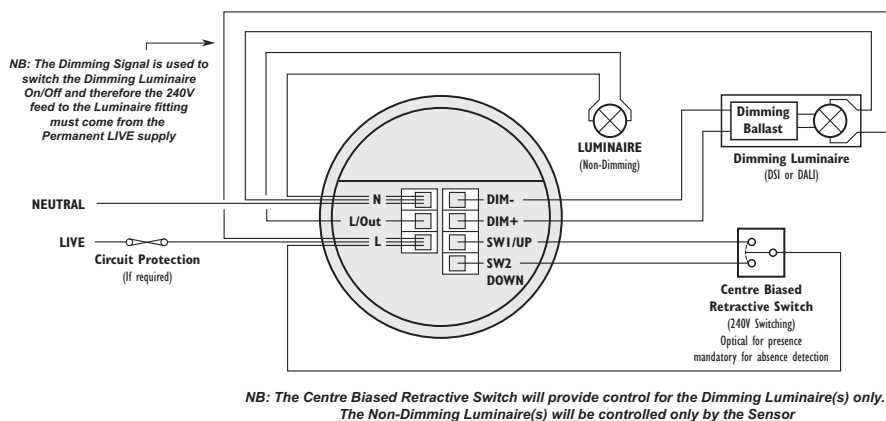
- Offices
- Classrooms
- Meeting Rooms
- Max load 10A of lighting
- Max 10 ballasts on dimming circuit
- Detection range 12-16m at 2.8CH

Stand Alone Adjustable Microwave Detector - Dimming

MWS6-DD Part Number 35-0940



Wiring Schematic



Room Layout

● Presence Detection

Lights on automatically when someone enters the room. When the room is no longer occupied the lights will automatically turn off after an adjustable period of time.

● Absence Detection

The lights are manually turned on when entering the room. When the room is no longer occupied the lights will automatically turn off after an adjustable period of time.

Channel 1 (switched output) can be used to switch a separate channel of standard, non-dimming luminaires.

Channel 2 (dimmable output) can be used to control the light output of luminaires that are fitted with dimming ballasts. Maximum number of ballasts is 10

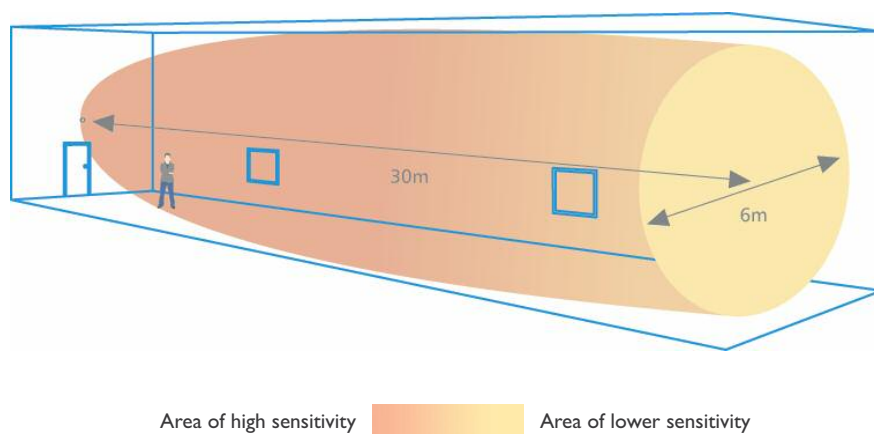
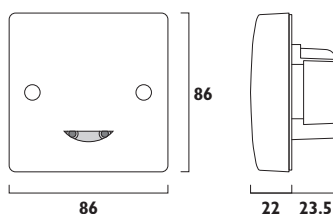
Key Features

For use where Dimming is Not Required

- Suitable for Offices, Classrooms
- Presence Detection
- Factory default: Presence Detection
- Lux control
- Factory default: Presence Detection
- Factory default: DALI
- Lux control
- Flush or Wall Mounted
- Mounting height 1.2m to 1.5m
- Detection range 6x30m Ø at 2.8m CH
- Max load 10A of lighting
- Terminal Capacity 2.5mm²
- Programmed with UHS 5 Basic or UNLCHHS Advanced
- To fit into a BS4662 square back box
- Sensitivity Adjustment

Stand Alone Microwave Detector - Non Dimming

MWIA-PRM Part Number 35-0887



The MWSIA series of microwave presence detector switches are designed to provide automatic control of lighting, heating or ventilation loads.

The MWSIA 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.

The MWSIA is optimised for wall mounting applications to give detection over long distances.

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.

The internal light sensor provides additional energy saving in lighting applications.

When an area is occupied lighting is only switched on when the level of natural light is below a preset level.

Key Features

For use where Dimming is Not Required

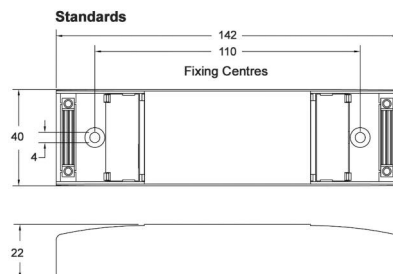
- For use in our LL3 / LL4 / Skylink /Skyway Spacer Modules
- Presence Detection
- Absence Detection
- Factory default : Presence Detection
- Lux control
- Flush Mounted
- Detection range 5m Ø at 2.8m CH
- Max load 6A of lighting
- Terminal Capacity 1mm²
- Wire to a Retractive switch
- Programmed with UHS 5 Basic or UNLCHHS Advanced
- Detectors can be wired in parallel
- Sensitivity Adjustment
- Time out Adjustment

Stand Alone Miniature Detector - Non Dimming

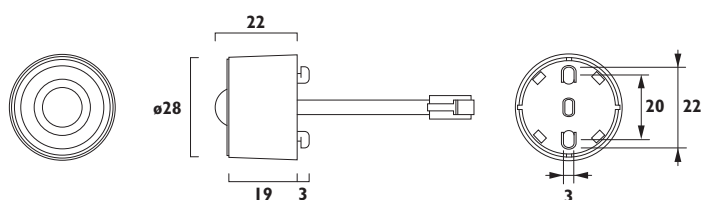
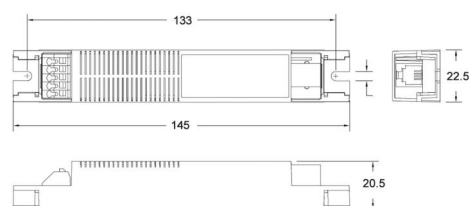
EBMPIR PRM-L03 (Standard) Part Number 35-1108



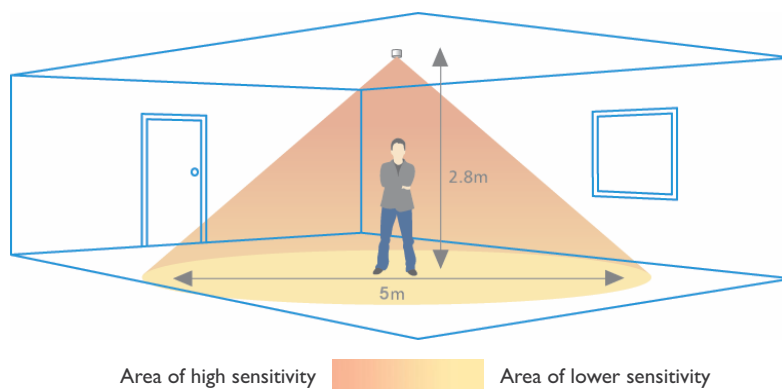
Power Supplies



Slim-line



Sensor Head



The EBMPIR series of miniature PIR (passive infrared) presence detectors provide automatic control of lighting loads with optional manual control.

The unit detects movement using a PIR sensor and turns the load on. When an area is no longer occupied the load will switch off after an adjustable time out period.

A selection of fixing clips to allow the unit to be mounted in or to the side of a luminaire are available.

All functionality is fully programmable using an IR handset.

Key Features

For use where Dimming is Required

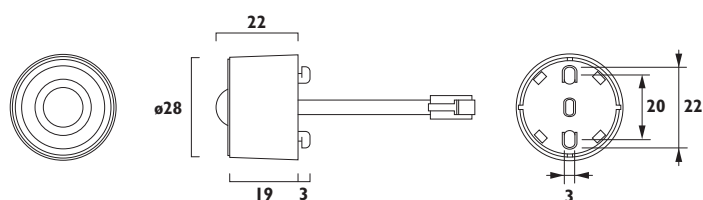
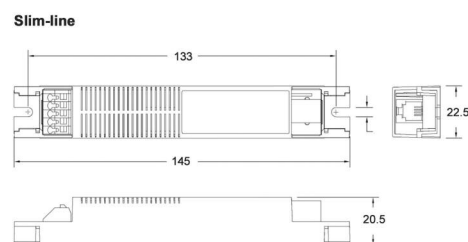
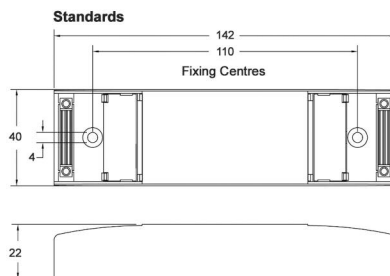
- Suitable for use in our LL3 / LL4 Spacer / Skyway Modules
- Presence Detection
- Absence Detection
- Daylight Harvesting
- Factory default : Presence Detection
- Factory default : DALI
- Lux control
- Flush Mounted
- Detection range 5m Ø at 2.8m CH
- Max load 6A of lighting
- Max number of Ballasts - 10
- Built in Interface for DSI / DALI
- Terminal Capacity 1mm²
- Wire to a Centre Biased Retractive switch (MK K4990 or similar)
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Detectors can not be wired in parallel
- Sensitivity Adjustment
- Time out Adjustment

Stand Alone Miniature Detector - Dimming

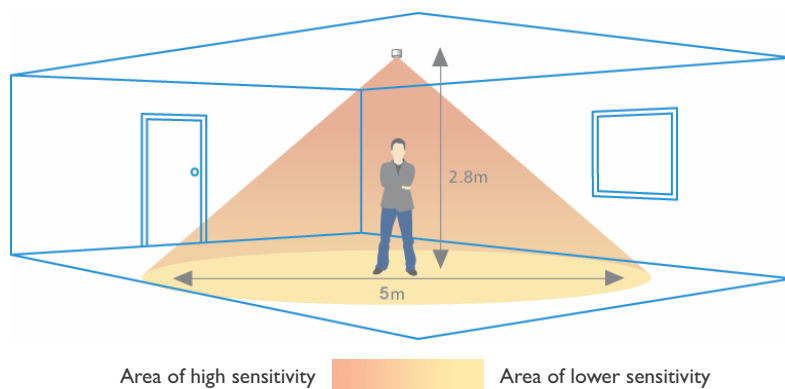
EBMPIR DD-L03 (Standard) Part Number 35-096 I



Power Supplies



Sensor Head



The EBMHS series of miniature PIR (passive infrared) presence detectors provide automatic control of lighting loads with optional manual control.

Three models are available: premium, direct dim, and analogue dim all of which will switch incandescent, fluorescent and compact fluorescent lighting.

The direct dim variant controls DALI or DSI digital dimming ballasts whilst the analogue dim variant controls 1-10V dimming ballasts.

The unit detects movement using a PIR sensor and turns the load on. When an area is no longer occupied the load will switch off after an adjustable time out period.

A selection of fixing clips to allow the unit to be mounted in or to the side of a luminaire are available

All functionality is fully programmable using an IR handset.

Key Features

For use where Dimming is Not Required

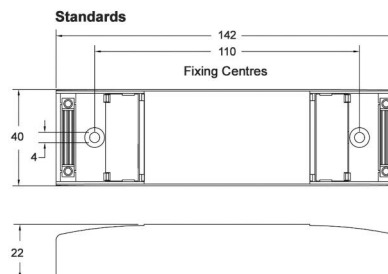
- For use in our Ambiere / Opulus / Solos luminaires
- Presence Detection
- Absence Detection
- Factory default : Presence Detection
- Lux control
- Integral or Flush Mounted
- Detection range 8m Ø at 2.4m CH
- Max load 6A of lighting
- Terminal Capacity 1mm²
- Wire to a Retractive switch
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Detectors can be wired in parallel
- Sensitivity Adjustment
- Time out Adjustment

Stand Alone Miniture Microwave Detector - Non Dimming

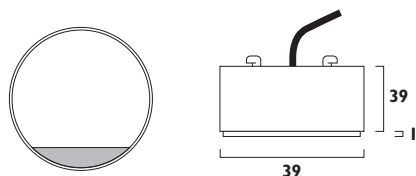
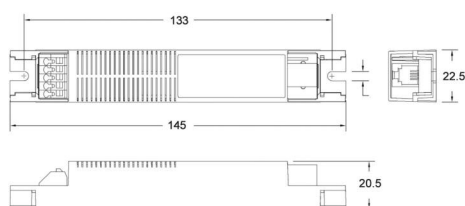
MWS5 PRM-L03 (Standard) Part Number 35-I040



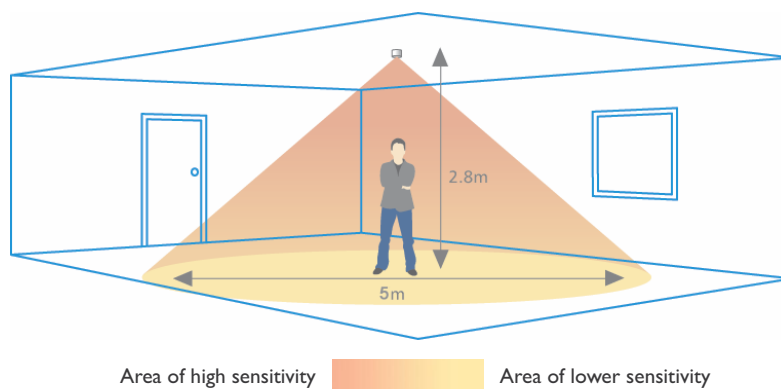
Power Supplies



Slim-line



Sensor Head



The MWS5 series of miniature microwave presence detectors provide automatic control of lighting loads with optional manual control. As microwave radiation penetrates plastic and glass, this unit has been specifically designed to be mounted inside a luminaire.

The unit detects movement using a microwave sensor and turns the load on. When an area is no longer occupied the load will switch off after an adjustable time out period.

A selection of fixing clips to allow the unit to be mounted in or to the side of a luminaire are available.

All functionality is fully programmable using an IR handset.

Key Features

For use where Dimming is Required

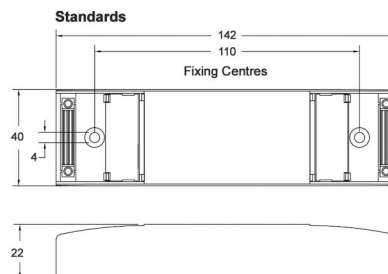
- Suitable for use in Ambiere / Opulus / Solos Luminaires
- Presence Detection
- Absence Detection
- Daylight Harvesting
- Factory default : Presence Detection
- Factory Default : DALI
- Lux control
- Detection range 8m Dia at 2.4m CH
- Max load 6A of lighting
- Max number of Ballasts - 10
- Built in Interface for DSI / DALI
- Terminal Capacity 1mm²
- Wire to a Centre Biased Retractive switch (MK K4990 or similar)
- Programmed with UHS 5 - Basic or UNLCHHS - Advanced
- Detectors can not be wired in parallel
- Sensitivity Adjustment
- Time out Adjustment

Stand Alone Miniature Microwave Detector - Dimming

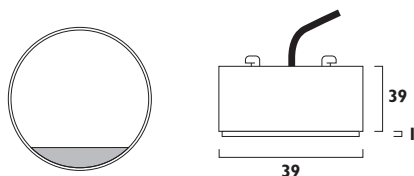
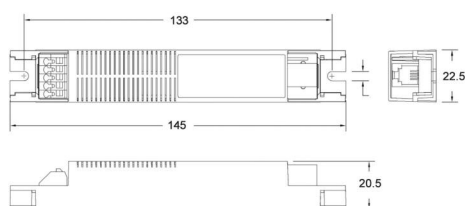
MWS5-DD L03 (Standard) Part Number 35-0982



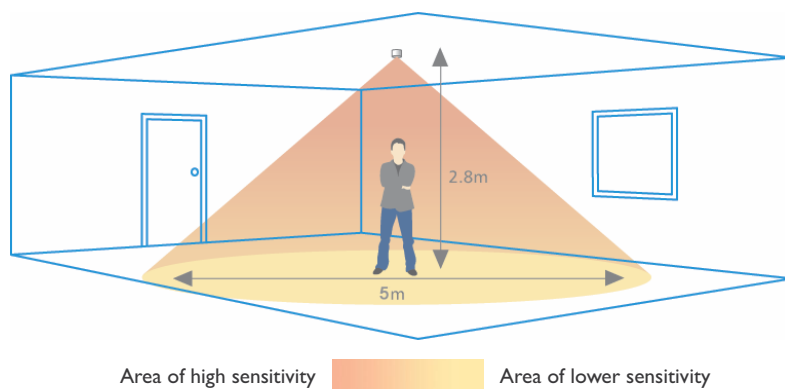
Power Supplies



Slim-line



Sensor Head



The MWS5 series of miniature microwave presence detectors provide automatic control of lighting loads with optional manual control. As microwave radiation penetrates plastic and glass, this unit has been specifically designed to be mounted inside a luminaire.

Three models are available: premium, direct dim, and analogue dim all of which will switch incandescent, fluorescent and compact fluorescent lighting.

The direct dim variant controls DALI or DSI digital dimming ballasts whilst the analogue dim variant controls 1-10V dimming ballasts.

The unit detects movement using a microwave sensor and turns the load on. When an area is no longer occupied the load will switch off after an adjustable time out period.

A selection of fixing clips to allow the unit to be mounted in or to the side of a luminaire are available.

All functionality is fully programmable using an IR handset.

Key Features

- Infrared Programming Hand Set
- IR Range 7m
- Basic functions for
- PRM
- DD
- Vitesse Plus
- D-Mate

UHS5 User Handset

Part Number 35-1072



The UHS5 is a compact infrared handset used for the basic programming of IR enabled CP products.

● Pointing the Handset

You must point the handset directly at the device that you want to control or program .

When programming a device it is only necessary to point the handset when 'sending' a new setting.

● Sending settings to a device

To send the programming parameters to the device follow the table on page 2. The shift key is used to access the parameters in red and blue text. The Send LED flashes once to signify that a setting has been sent.

● Advanced settings

For advanced settings use the UNLCDHS handset.

● Important note

This handset may include settings that are not used on the device being programmed. Refer the individual device's Product Guide for default and special settings.

Key Features

- Infrared Scene Operating Hand set
- IR Range 7m
- Basic functions for
- PRM
- DD
- Vitesse Plus
- D-Mate

UHS7 User Handset

Part Number 35-1262



The UHS7 is a compact infrared handset used for:

- **Selecting scenes**
- **Raising and lowering the scene light levels**
- **Turning the lights on or off**
- **Pointing the Handset**

You must point the handset directly at the device that you want to control.

- **Advanced settings**

For advanced settings use the UNLCDHS handset.

Important note:

This handset may include settings that are not used on the device being programmed. Refer the individual device's Product Guide for default and special settings.

Key Features

- Advanced Infrared Programming hand set for
- PRM
- DD
- Vitesse Plus
- D-Mate
- Rapid
- AN-I0
- IR Range

Low	8m
Medium	15m
High	25m

UNLCDHS Universal LCD Programming Handset

Part Number 35-1064



The UNLCDHS is a compact infrared handset used for the operation, configuration and programming of CP products that have the ability to be programmed via IR and/or RF. These include the PRM, DD, AD, Vitesse Plus, Rapid, D.Mate and An-10 ranges.

The handset has the following features:

USB port: the USB connection can be used for saving device settings, updating the handset's software and as a programming connection for D-Mate Programmable Addressers.

Macros: create and save settings that can be recalled to program devices.

Readback: to read the settings from a device.

An-10 wireless connection: two way communication with An-10 products.

Programming is achieved by selecting the parameter to be programmed from the appropriate menu and then transmitting the setting to a device by pressing the send button.

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WALLSEND
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UK

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