.n**xt**™ | Lighting Control System

BAJAJ

Smart Controls for Smart Buildings

Bajaj Electrical offers a complete portfolio of sensors & scene selection systems that are efficient, smart, dynamic & agile.

Efficiency with
Smartness

In addition to switches and scheduling, you can further increase efficiency and be smart with saving money on energy with .nxt™ Occupancy and Photo Sensors. A recent study has shown that utilizing occupancy and photo sensors saves an average of 30-40% on energy costs.* .nxt™ is a comprehensive line of Bajaj sensors that offers solutions for almost any application. Whether you need a sensor that is commercial or industrial, indoor or outdoor, ultrasonic or passive infrared – or both – you're sure to find it with .nxt™ range.

Dynamic
& Agile

The most efficient lighting control systems use a combination of time-based automation, astronomical features, daylight harvesting and occupancy interaction. Integrating .nxt™ Occupancy and Photo Sensors into a complete control unit – like An-10 wireless lighting control system or Rapid fully addressable Modular Lighting Control System – will help you maximize efficiency and energy savings.

These highly efficient devices optimize & control energy usages delivering you a higher return on investment as well as savings

PIR Occupancy Sensors

PIR Occupancy Sensors with Daylight Dimming

PIR Dual Circuit Sensors

PIR Dual Circuit Occupancy with Daylight Dimming

Microwave Occupancy Sensors with Lux Level Sensing

PIR Sensors with Analogue Dimming output

Microwave Occupancy Sensor

Luminaire Mount High-Bay PIR Detectors

Microwave Occupancy Sensors with Adjustable Head

Accessories

Occupancy
SENSORS

Occupancy sensors go a step beyond scheduling by detecting motion within a space and switching the lights on and off as needed. Occupancy sensors are ideal for spaces that are intermittently occupied. Because of their easy installation, user convenience and maintenance-free operation, occupancy sensors are one of the most preferred lighting control solutions.

Our line of .nxt™ Occupancy Sensors allows you to conserve energy and helps you to be smart by saving money when illumination isn't necessary, while minimizing occupant annoyance caused by false activations or scheduling.
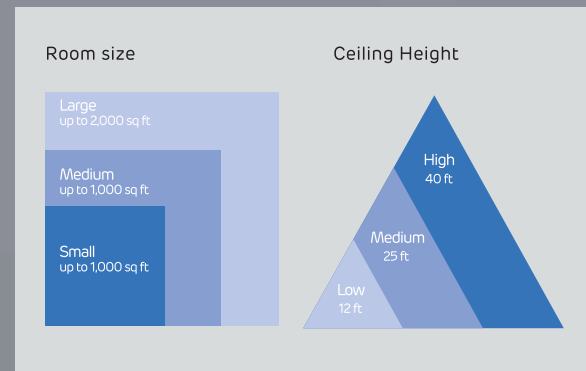
Choosing a Sensor

When selecting a sensor for a space, there are a few considerations that will impact your decision. Knowing the type of space and its function, the size and ceiling height, and the activity going on in the space are all factors that will help you choose the right sensor for each application.
One consideration in choosing a sensor is the size and ceiling height of the area. In general, you can choose from our .nxt™ range as below:

- Wall switch sensors are used for smaller rooms
- Ceiling sensors include options for areas up to 2,000 square feet
- Corner/ wall sensors are often chosen for long hallways or corridors.
- For warehouses or other environments with high ceilings, fixture - mounted sensors may be the best solution.

Your Bajaj sales representative can help you assess your situation and choose the right sensors for each area.

Room size

Large
up to 2,000 sq ft

Medium
up to 1,000 sq ft

Small
up to 1,000 sq ft

Ceiling Height

High
40 ft

Medium
25 ft

Low
12 ft

Technology

The design of the room and the amount of activity happening within the space will determine the level of sensitivity you need in your sensor. .nxt™ Occupancy Sensors are available in three distinct technologies, so that you can be sure to find the appropriate solution for your space.
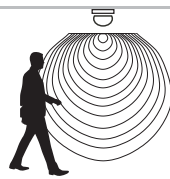
Passive Infrared (PIR)

Designed to detect motion from a heat-emitting source, PIR sensors switch lights on and off when a person enters or exits their field of view.

Ultrasonic

Ultrasonic sensors detect occupancy by emitting a high-frequency signal and interpreting changes in frequency as motion. Ultrasonic sensors do not require a direct line of sight, meaning they can "see" around corners and objects. They are also highly sensitive to motion – even minor hand movement.

Dual Tech

Dual Tech sensors combine PIR and ultrasonic technology. Lights are only activated when both sensors detect occupancy – eliminating false activation – and require one of the technologies to keep the lights on, significantly reducing the possibility of a false deactivation.

Photo
SENSORS

A key component of lighting control is maintaining a light level consistent with daylight. As natural light enters a space, .nxt™ Photo Sensors reduce artificial light levels. When the sun goes down, or on a cloudy day, light levels increase.

Including .nxt™ Photo Sensors as part of a complete control unit – like Rapid™ fully addressable Modular Lighting Control System – will yield the maximum flexibility and energy savings. Need a retrofit option? The .nxt™ Stand-Alone Photo Sensor wires directly to a 0-10V dimming ballast/driver with no need to connect to a centralized relay panel.

Applications: Offices with windows or skylight, large atrium, retail or manufacturing spaces with skylights and outdoor site lighting.

Products:

Indoor Photo Sensor: For interior spaces with windows

Atrium Photo Sensor: For atrium spaces with higher natural light levels

Skylight Photo Sensor: For areas with direct sunlight exposure

Outdoor Photo Sensor: For outdoor applications

Stand-Alone Photo Sensor: For retrofit applications (indoor use only)

Sensor Mounting

.nxt™ Occupancy Sensors come in four mounting options. The kind of sensor you choose depends on the type, size and function of the space. No matter your application, .nxt Occupancy Sensors can increase your efficiency and save on energy costs.

Ceiling

Ceiling Sensors attach directly to the ceiling in the center of a room. They work best in large, open spaces, spaces with obstacles such as partitions, and narrow spaces. Generally, ceiling sensors are used in rooms with a maximum height of 12 feet (3.65 meters).

Applications: Open office areas, conference rooms, hallways and corridors

Corner / Wall

Corner/Wall Sensors attach either directly to the wall or to a corner between two walls. Corner/Wall Sensors are used for similar applications to ceiling sensors, but sometimes offer a more convenient mounting location. Ceiling sensors may look out into a hallway from a door or window and be triggered by foot traffic, whereas a corner/wall sensor can be placed strategically to look away from unintended traffic areas. For areas up to 1,200 square feet.

Applications: Open office areas, conference rooms, hallways and corridors

Wall Switch

Ideally suited for On and Off control of small and medium spaces, .nxt™ Wall Switch Sensors are designed to replace a standard wall switch to provide enhanced automatic switching based on occupant motion. Wall switches are best for spaces free from obstructions of the line of sight from switch location, room orientation or furniture placement. For areas up to 1,000 square feet.

**Applications:** Individual offices, restrooms and break rooms

High-Bay Fixture Mount

High-Bay Series of Occupancy Sensors is specifically designed for high ceiling applications including warehouses, distribution centers and much more.

With well-developed PIR sensor technology and circuit design, these sensors are the perfect combination of high sensitivity and low false-trip occurrence. Options include 360-degree high-bay (up to 40 ft) and low-bay (up to 25 ft) lenses, and shields for end-of-aisle use. Installation is easy – just mount it directly on to any fluorescent or LED fixture.

With our range of Sensors from movement and dimming sensors, light level controls and retrofit sensors we can help you leverage the technology leap in saving energy and cost to lessen our environmental impact.

Applications: Commercial and industrial high-bay fixtures.
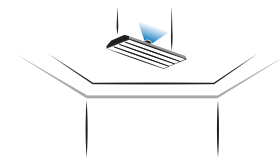
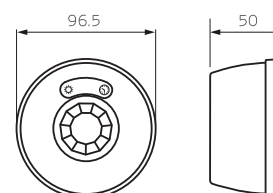# Occupancy Sensors

PIR Occupancy Sensor

Detects movement within the unit's detection range, allowing load control in response to changes in occupancy.

Code:

112616	Flush mounted PIR movement sensor with push button
112617	Surface mounted PIR movement sensor
112628	High sensitivity PIR presence/absence detector

96.5   50

Applications

Open plan office areas	Corridors	Individual cabins	Reception/ lobby	Huddle / waiting rooms
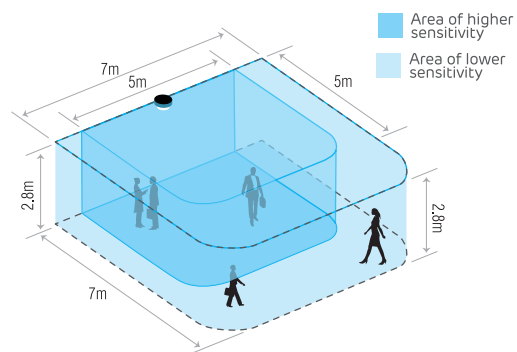
Area of higher sensitivity
Area of lower sensitivity

7m   5m   5m
2.8m   2.8m
7m

Features

PIR technology for advanced presence detection	7 m detection pattern under normal circumstances

((7m))

Enabled with remote control for 'on' & 'off' function

Light switches off automatically in bright ambience	Sensitivity level can be adjusted

Enabled for easy recommissioning when building use changes, with 2 way programming

Provision to adjust off delay timing	Maximum height for installation

2.8m
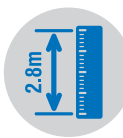
Customized for special applications with IP 55 Protection

* Detection diagrams and dimensions mentioned are indicative as they belong to the range and not to individual products whose codes are given.
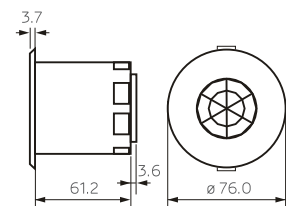
Photo Sensors

PIR Occupancy Sensors with Daylight Dimming

High performance, compact presence detector provides automatic control for lighting loads. It can be used for CFL/FTL with 1-10 V analogue dimmable ballast. Along with presence detection, this sensor has built-in adjustable photocell which regulates the lighting level as per availability of natural daylight in an area, thus maintaining uniform illumination.

Code:

112618   Surface mounted PIR presence/absence detector with lux level sensing
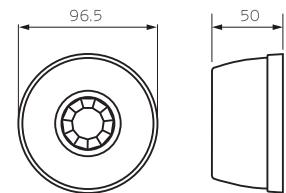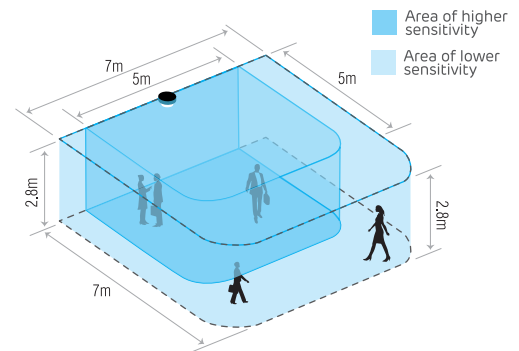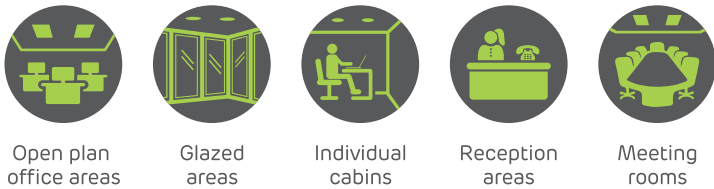
96.5   50

Applications

Area of higher sensitivity
Area of lower sensitivity

| Open plan office areas | Glazed areas | Individual cabins | Reception areas | Meeting rooms |

7m   5m   5m
2.8m   2.8m
7m

Features

PIR technology for advanced presence detection

((7m)) 7 m detection pattern under normal circumstances

Enabled with remote control for 'on' & 'off' function

Light lux level measure and maintain by regulating photocell to adjust luminaire ouput
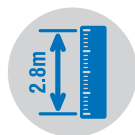
Sensitivity level can be adjusted

Enabled for easy recommissioning when building use changes, with 2 way programming

Provision to adjust off delay timing

2.8m   Maximum height for installation

* Detection diagrams and dimensions mentioned are indicative as they belong to the range and not to individual products whose codes are given.

Occupancy Sensors
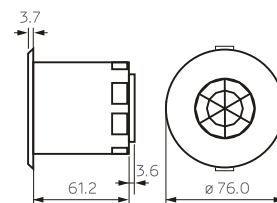
PIR Dual Circuit Occupancy Sensors

High performance, compact presence detectors with dual circuit control. The dimming channel can be used to control light output of luminaires. The photocell measures available natural daylight and maintains uniform lux level. The switching channel can be used to switch On/Off separate channel of standard non dimming luminaires.
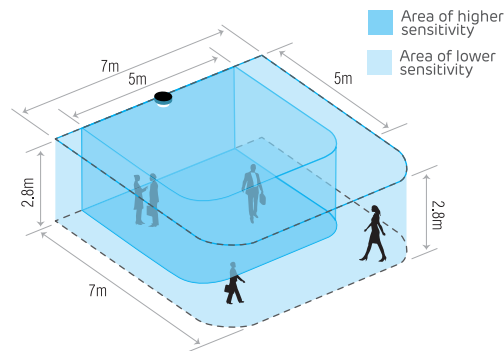
Code:

112620   Compact ceiling mounted PIR presence/absence detector 2-channel

3.7

61.2   3.6   ø 76.0

Applications

Area of higher sensitivity
Area of lower sensitivity

7m
5m   5m
2.8m   2.8m
7m

Open plan office areas

Small & Medium offices

Conference rooms

Manager cabins

Meeting rooms

Features

PIR technology for advanced presence detection	7 m detection pattern under normal circumstances	Enabled with remote control for 'on' & 'off' function
Light lux level measure and maintain by regulating photocell to adjust luminaire output	Sensitivity level can be adjusted	Enabled for easy recommissioning when building use changes, with 2 way programming
Provision to adjust off delay timing	Maximum height for installation	Switching and dimming in 2 separate channels

(7m)

2.8m

* Detection diagrams and dimensions mentioned are indicative as they belong to the range and not to individual products whose codes are given.

Photo Sensors

PIR Dual Circuit Occupancy with Daylight Dimming

High performance, compact presence detectors with dual circuit control. The dimming channel can be used to control light output of luminaires. The photocell measures available natural daylight and maintains uniform lux level. The switching channel can be used to switch On/Off separate channel of standard non dimming luminaires.

Code:

112622   Compact ceiling mounted PIR presence / absence detector with Direct Dim DALI/DSI

3.7   3.6   61.2   ø 76.0

Applications

| Open plan office areas | Glazed areas | Individual cabins | Reception areas | Meeting rooms |

Area of higher sensitivity
Area of lower sensitivity

7m   5m   5m   2.8m   2.8m   7m

Features

PIR technology for advanced presence detection	7 m detection pattern under normal circumstances	Enabled with remote control for 'on' & 'off' function
Light lux level measure and maintain by regulating photcell to adjust luminaire ouput	Sensitivity level can be adjusted	Enabled for easy recommissioning when building use changes, with 2 way programming
Provision to adjust off delay timing	Maximum height for installation	Switching and dimming in 2 separate channels

* Detection diagrams and dimensions mentioned are indicative as they belong to the range and not to individual products whose codes are given.

.n›xt Lighting Control System
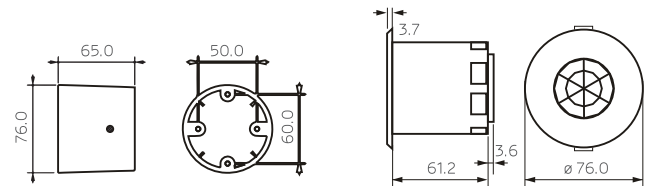
Ultrasonic Sensors

Microwave Occupancy Sensors with Lux Level Sensing

Highly sensitive, Microwave presence detectors provide automatic control of lighting. It works by emitting low power microwave signals and measuring the reflections as the signal bounce off moving objects.

Code:

112630 Surface mounted microwave presence / absence detector with lux level sensing

3.7
61.2
3.6
ø 76.0

Area of higher sensitivity
Area of lower sensitivity

7m
5m
12m
16m
2.8m
2.8m
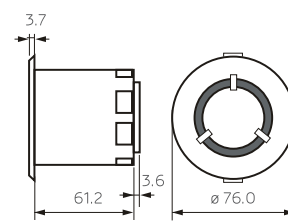
Applications

| Open plan office areas | Lobbies / waiting rooms | Classroom areas | Cafeteria areas | Meeting rooms | Gymnasium areas |
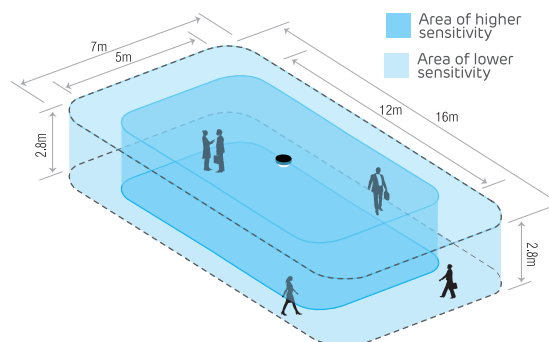
Features

PIR technology for advanced presence detection	16 m detection pattern under normal circumstances	Light switches off automatically in bright ambience
Light lux level measure and maintain by regulating photocell to adjust luminaire output	Sensitivity level can be adjusted	Enabled for easy recommissioning when building use changes, with 2 way programming
Provision to adjust off delay timing	Maximum height for installation	Switching and dimming in 2 separate channels
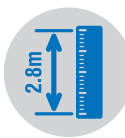
* Detection diagrams and dimensions mentioned are indicative as they belong to the range and not to individual products whose codes are given.

Occupancy Sensors

PIR Sensors with analogue dimming 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 Channel 2 provides dimmable control of 1-10V 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.

Code:

112623 Compact ceiling mounted PIR presence / absence detector with 1–10V analogue dimming output

112625 High sensitivity PIR presence / absence detector with 1–10V analogue dimming output

65.0   50.0   3.7
76.0   60.0   61.2   3.6   ø 76.0

Applications

Open plan office areas

Glazed areas

Individual cabins

Reception areas

Meeting rooms

Area of higher sensitivity

Area of lower sensitivity

7m   5m   5m

2.8m   2.8m

7m

Features

PIR technology for advanced presence detection

((7m)) 7 m detection pattern under normal circumstances
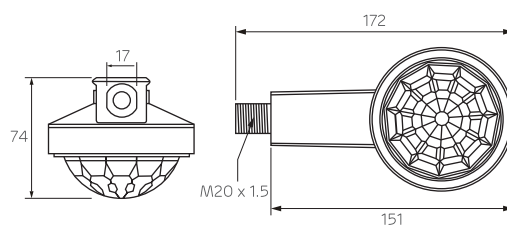
Enabled with remote control for 'on' & 'off' function

Light lux level measure and maintain by regulating photocell to adjust luminaire output

Sensitivity level can be adjusted

Enabled for easy recommissioning when building use changes, with 2 way programming

Provision to adjust off delay timing

2.8m   Maximum height for installation

Switching and dimming in 2 separate channels

* Detection diagrams and dimensions mentioned are indicative as they belong to the range and not to individual products whose codes are given.

Ultrasonic Sensors

Microwave Occupancy Sensors

Microwave occupancy sensors 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.

Code:

112629   Ceiling microwave presence/absence detector

112630   Surface microwave presence/absence detector
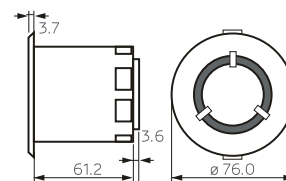
3.7
3.6
61.2
ø 76.0

Applications

| Open plan office areas | Long corridors | Classroom areas | Large offices | Aisle application |

Area of higher sensitivity
Area of lower sensitivity
7m
5m
2.8m
12m
16m
2.8m
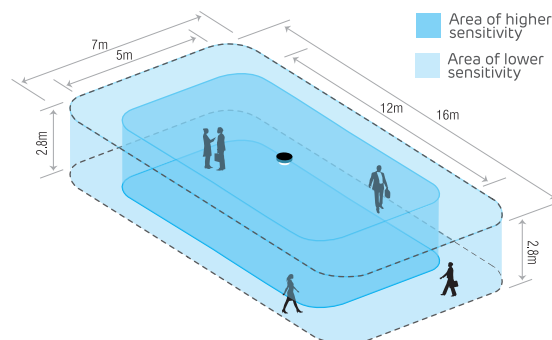
Features
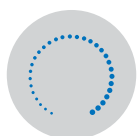
Microwave sensor
Detects movement within the unit's detection range, allowing load control in response to changes in occupancy.

IR Receiver
Receives control and programming commands from an IR (infrared) handset.
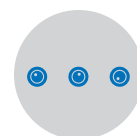
Status LEDs
The LED flashes Red to indicate Walk test LED active & when Valid setting received

Power Input & Switched Output Connector
Used to connect mains power to the unit and to connect a switched load.

Switch Input Connector
Two input terminals can be used to manually override the lights on or off.

((16m))
16 m detection pattern under normal circumstances
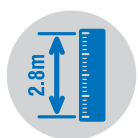
2.8m
Maximum height for installation

* Detection diagrams and dimensions mentioned are indicative as they belong to the range and not to individual products whose codes are given.

Occupancy Sensors

Highbay PIR Occupancy sensor with daylight dimming provides automatic control of lighting loads with optional manual control. It is a high sensitivity PIR detector suitable for high bay applications, such as warehouses and factories, and where high detection sensitivity is needed. It is specifically designed for mounting onto a batten style luminaire.

Code:

112627 Luminaire mount high bay PIR presence detector with lux level sensing, time delay and infrared override

172

17

74

M20 x 1.5

151

Applications

High bay applications

Warehouses

Factories

Area of higher sensitivity

Area of lower sensitivity

28m

15m

Height	Range Diameter
15m	40m
10m	26m
6m	16m
3m	8m

40m Diameter
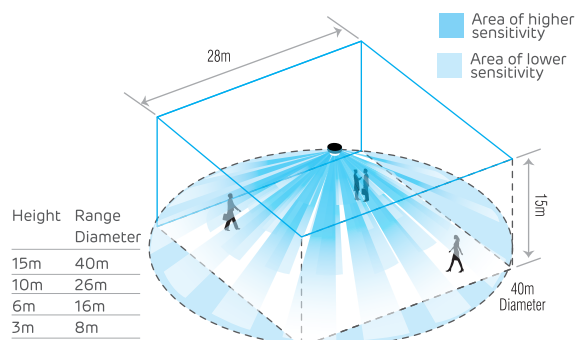
Features

PIR Sensor
Detects movement within the unit's detection range, allowing load control in response to changes in occupancy.

IR Receiver
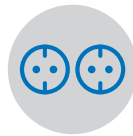Receives control and programming commands from an IR (infrared) handset.
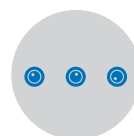
Status LEDs
The LED flashes Red to indicate Walk test LED active & when valid setting received

Light Level Sensor
Measures the overall light level in the detection area

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.

Maintained Illuminance (daylight harvesting) - DD and AD variants only
The detector measures the overall light level in the detection area and calculates the correct output for the luminaires, to achieve a preset lux level (maintained illuminance or daylight harvesting).

(40m)
40 m detection pattern under normal circumstances
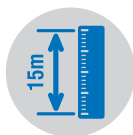
15m
Maximum height for installation

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.n›xt Lighting Control System

Ultrasonic Sensors

Microwave Occupancy Sensors with Adjustable Head

Microwave occupancy sensors with adjustable head 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. It has a unique adjustable sensor head that allows the area of detection to be optimized for the application.

Code:

112631   Adjustable head ceiling mounted microwave presence/absence detector
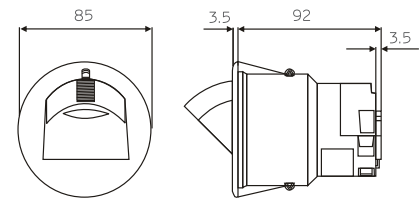
85   3.5   92   3.5

Applications

| Open plan office areas | Long corridors | Classroom areas | Large offices | Aisle application |

Area of higher sensitivity

Area of lower sensitivity

6m

30m

2.6m

Sensitivity set to maximum
Dectector head position set to 80⁰

Features

Microwave sensor
Detects movement within the unit's detection range, allowing load control in response to changes in occupancy.

IR Receiver
Receives control and programming commands from an IR (infrared) handset.
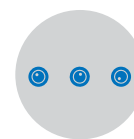
Status LEDs
The LED flashes Red to indicate Walk test LED active & when Valid setting received

Light Level Sensor
Measures the overall light level in the detection area

Power Input & Switched Output Connector
Used to connect mains power to the unit and to connect a switched load.

Switch Input Connector
Two input terminals can be used to manually override the lights on or off.

Dimmable Control Output Connector

((30m)) 30 m detection pattern under normal circumstances
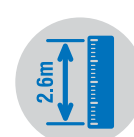
2.6m Maximum height for installation

* Detection diagrams and dimensions mentioned are indicative as they belong to the range and not to individual products whose codes are given.

Accessories

Programming Handsets

A range of handsets that are designed to allow the user to intuitively program a single device or system.
They range from the UHS5 that allows for quick programming of the essential detector settings, to the UNLCDHS that offers programming of all available parameters.

UHS4

An-10 infrared programming handset

UNLCDHS

Professional commissioning LCD programming handset

UHS5

Infrared programming commissioning handset

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

UHS7

Infrared (IR) User handset

* Detection diagrams and dimensions mentioned are indicative as they belong to the range and not to individual products whose codes are given.

Code No.	112616	112617	112618	112619	112620
Cat. Ref.	GEFL-PB	GESM	EBDSM-PRM	EBMINT-PRM	EBDSPIR-PRM-2CH
Category	Ceiling (FLUSH) Mounted PIR Movement Sensor	Surface-Mounted PIR Movement Sensor	PIR Occupancy Sensors with Daylight Dimming	PIR Occupancy Sensors	PIR Dual Circuit Occupancy Sensors

Code No.	112621	112622	112623	112624	112625
Cat. Ref.	EBDSPIR-PRM	EBDSPIR-DD	EBDSPIR-AD	EBMPIR-MB-PRM	EBDHS-AD
Category	PIR Occupancy Sensors	PIR Dual Circuit Occupancy with Daylight Dimming	PIR Sensors with Analogue Dimming Output	Batten Mount PIR Occupancy Sensor	PIR Sensors with Analogue Dimming Output

Code No.	112626	112627	112628	112629	112630
Cat. Ref.	EBDHS-DDt	EBDHS-MB-PRM	EBDHS-PRM	MWS6-PRM	MWS6SM-PRM
Category	PIR Dual Circuit Occupancy Sensor	Highbay PIR Occupancy Sensor with Daylight Dimming	Ceiling PIR HS Presence Detector	Microwave Occupancy Sensors	Microwave Occupancy Sensors with lux Level Sensing

Code No.	112631	112632	112633	112634	112635
Cat. Ref.	MWS3A-PRMt	UHS 4	UHS 5	UHS 7	UNLCDHS
Category	Microwave Occupancy Sensors with Adjustible Head	An-10 Programming Handset	Infrared Programming Commissioning Handset	IR - Infrared User Handset	LCD Programming Handset