

**DGOZ-OS-PIR-360**



Designed in Australia to  
meet Australian Standards  
and installation conditions



## 1. Product Item

This guide provides user operation and product specification information for the RAPIX PIR Occupancy Sensor, item number **DOZ-OS-PIR-360**.

## 2. Product package contents

The PIR Occupancy Sensor package includes the following.

- 1 x PIR Occupancy Sensor
- 1 x eHub patch lead.

## 3. Important notes and safety information

- The PIR Occupancy Sensor is **only suitable for use with the RAPIX eHub**
- The PIR Occupancy Sensor **does not have a mains supply connection**
- The PIR Occupancy Sensor is **powered via a RAPIX eHub (12Vdc)**
- There are **no user serviceable parts** inside the PIR Occupancy Sensor. Do not attempt to disassemble or operate the device with any covers removed
- The PIR Occupancy Sensor is intended for **indoor use only**.

If you require information or assistance regarding the installation, configuration, or operation of the PIR Occupancy Sensor, contact Technical Services at Diginet Control Systems. Contact details are provided on the back cover of this guide and also at [www.diginet.net.au](http://www.diginet.net.au)

## 4. Product summary and capabilities

A compact, low profile 360° passive infrared (PIR) occupancy sensor for connection to a RAPIX eHub.

The sensor includes a detection lens which senses both Minor and Major Movement (as defined by NEMA Standard WD 7 - 2011 for Occupancy Motion Sensors).

Movement is detected via a sensor array with 864 fields of view, ensuring reliable operation to a distance of 7m diameter. The device also includes a light sensor for detecting ambient light levels.

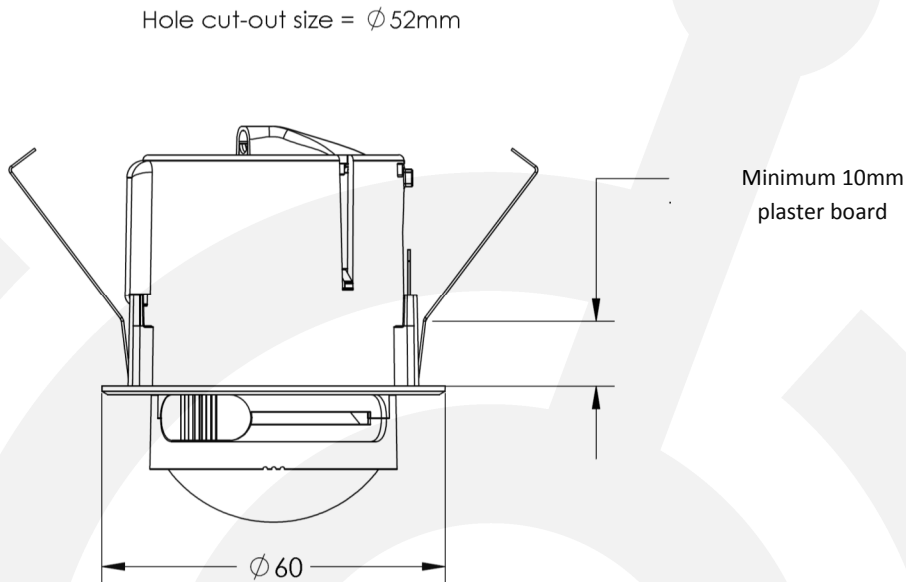
Adjustment sliders for time-out and light level are discreetly hidden in the patented sensor head which pops out providing easy configuration after installation, without any tools.

## 5. Product Features

- Connects directly to a RAPIX eHub (up to 2 sensors per eHub)
- High sensitivity 360° detection array designed for both minor and major movement applications
- Unobtrusive, 60mm diameter, flush-mount design
- Integrated light level detector to inhibit switch-on if there is sufficient natural light available
- Adjustment controls easy to read and set without a tool
- Hidden yet easily accessible sensor head adjustment controls for time-out and light level adjustment.

## 6. Mounting the PIR Occupancy Sensor

The sensor head is designed to be installed in plasterboard ceiling or ceiling tiles with a thickness of 10mm - 16mm thickness. A 52mm diameter cut-out is required to recess mount the sensor head. The diagram below shows a cross section through the sensor head. A cut-out template is provided on the sensor box for ease of making the cut-out.

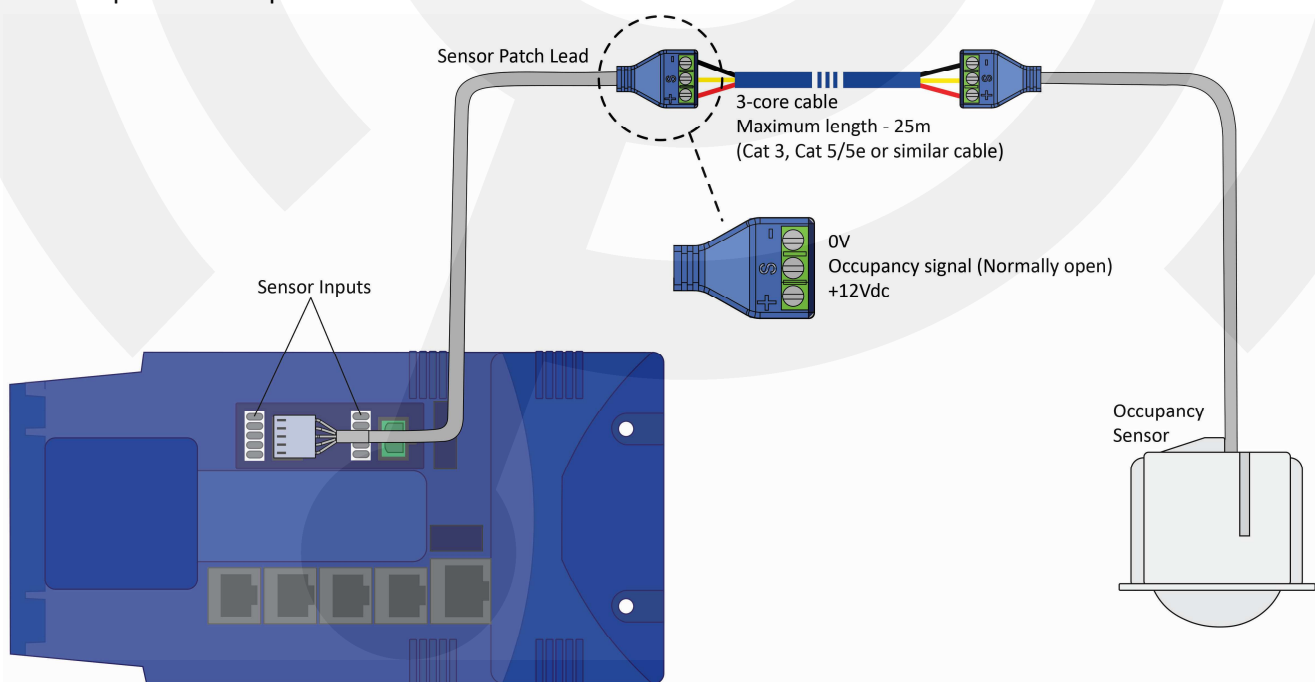


**Note:** Avoid placing the sensor in positions close to hot or cold air vents and where the field of view extends through doorways. This will reduce the risk of false triggering of the sensor.

## 7. Connecting the PIR Occupancy Sensor to a RAPIX eHub

The PIR Occupancy Sensor is **only suitable for use with the RAPIX eHub**.

The PIR Occupancy Sensor can be connected and powered from one of the two eHub sensor inputs. A sensor patch lead is provided and is connected to the eHub as shown below.



## 8. Operation and Configuration

Upon power-up the sensor performs an initialisation which takes approximately 45 seconds. Once the initialisation is complete, normal operation commences and full sensitivity is reached after a period of approximately 5 minutes.

When the sensor is powered and functional, green and red LEDs within the sensor head will indicate mode/operation as defined in the table below.

Mode	LED Indicator	Condition
Normal Operation	Green LED OFF	Ambient light below threshold setting
	Green LED ON	Ambient light above threshold setting
	Red LED ON	Manual override activated
Walk Test Mode	Green LED "Flashing"	Ambient light above threshold setting
	Red LED "Flashing"	Movement detected


### Setting time delay and light level threshold

The time delay and light level threshold settings are easily configured after installation by using the patented push-in-pop out mechanism. Press gently on the lens until a click is heard then release to access sensor adjustment sliders. Press gently on the head until click is heard to return to normal operating position.



The tables below detail the parameters for the time delay and ambient light level adjustable settings.

#### Settings for adjustable time delay

Position	Time Delay *	Typical Application
	5 Sec	<sup>†</sup> Walk test: test light level setting and to confirm effective field of view
5	5 Mins	Halls & passages
10	10 Mins	Store rooms
15	15 Mins	Tea rooms
20	20 Mins	Enclosed offices, meeting rooms, bathrooms
25	25 Mins	Open plan offices, reception areas

<sup>†</sup> In Walk Test Mode the output will activate for 5 seconds only

Note: The eHub can also set timing for the sensor, see the application note on the Diginet Web Site.

#### Settings for adjustable light level threshold

Position	Lux Threshold*	Typical Application
∞	Disabled	Test setting to confirm effective field of view
1	20 Lux	Halls and passages
2	40 Lux	Store rooms, tea rooms, bathrooms
3	80 Lux	Closed offices
4 (Factory default)	160 Lux	Open plan offices, meeting rooms
5	320 Lux	Reception areas

\* If the ambient light has exceeded the set threshold, the Occupancy Sensor will send an ON signal to the eHub

**Note:** The lux level threshold values shown above refer to the minimum light level incident on the sensor. Typical room light levels are considerably larger. Surfaces and materials in the space being controlled will determine the amount of reflected light onto the sensor head.

## 9. Presence/Occupancy Detection

The sensor head has two distinct detection sensitivity zone categories, major movement and minor movement.

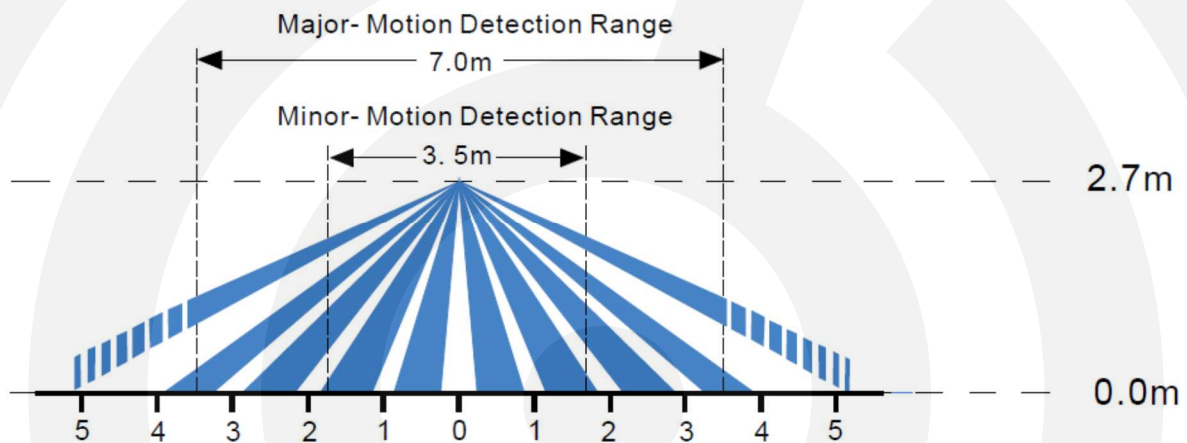
**Major Movement<sup>1</sup>** (Occupancy) is defined as a 60kg person, walking at >1m/s, across the field of view, with a background ambient temperature of 20°C.

The PIR Occupancy Sensor will detect *Major Movement* within a 7m diameter circular area of its position when mounted at 2.7m from the floor as shown below.

**Minor Movement<sup>1</sup>** (Presence) is defined as a hand and forearm at 0.9m from the floor moving through a 90° arc in <1.5 sec with a background ambient temperature of 20°C.

The PIR Occupancy Sensor will detect *Minor Movement* within a 3.5m diameter circular area of its position when mounted at 2.7m from the floor as shown below.

<sup>1</sup> Referenced from the NEMA Guide Publication WD 7-2011, Occupancy Motion Sensors Standard, National Electrical Manufacturers Association, Virginia, USA, 2012

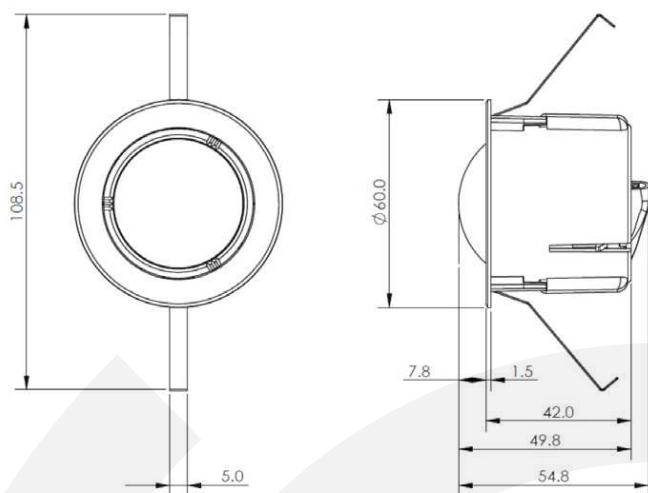


**Note:** Additional detection outside these areas may be noticed subject to external temperature, mounting height and movement activity.

## 10. Product Specifications

Parameter	
Input voltage	12Vdc (from RAPIX eHub)
Start-up time	45 sec initialisation (5 mins for full sensitivity)
Ambient operating temperature	-10°C to +45°C
Ambient storage temperature	-10°C to +60°C
Humidity	10% – 95% RH, non-condensing
Sensor head cable	Factory fitted – 0.45m
Maximum distance between sensor and eHub	25m (via Cat5/6 cable. See Section 7)
Ingress protection	IP20
Material	Flame retardant polycarbonate
Weight	178g
Ceiling cut-out	52mm diameter
Dimensions	Refer to Section 11

## 11. Product dimensions



## 12. Standards and compliance

The product is designed to meet/exceed the following Australian and International standards:

### Australian/New Zealand EMC and Electrical Safety Frameworks and Standards

Regulation	Standard	Title
EMC	AS/NZS CISPR 22:2009	Information Technology Equipment – Radio Disturbance Characteristics – Limits and Methods of Measurement
	CISPR15	
	AS/NZS CISPR 22-A:2010	

The product is in conformity with the essential requirements of the following EC Directives and accordingly carries the CE marking.

EC Council Directive	Title
2004/108/EC	Electromagnetic Compatibility (EMC)
2011/65/EU	Restriction of Hazardous Substances (RoHS) in Electrical and Electronic Equipment

### 13. Product warranty

The PIR Occupancy Sensor has a two-year warranty against manufacturing defects in accordance with the following terms:

1. Nothing in this Warranty affects any person's rights under the Australian Consumer Law. The benefits to any person under the Gerard Lighting Warranty are in addition to the rights and remedies available under any Consumer Guarantees.
2. Subject to the other clauses of this Warranty, Gerard Lighting warrants that the Goods will be free of manufacturing defects and will perform to Gerard Lighting's specifications.
3. The benefit of the Gerard Lighting Warranty extends only to the owner of the property in which the Goods are installed (the Owner) for two (2) years after the date of purchase (Warranty Period).
4. If within the Warranty Period the Goods fail to perform to Gerard Lighting's specifications as a result of some defect in material or workmanship in the Goods (Defect) then Gerard Lighting will, at its option, repair the Goods or supply replacement Goods free of charge.
5. The Gerard Lighting Warranty will not apply to Goods:
  - 5.1. installed by any person other than a qualified tradesperson; or
  - 5.2. subjected to misuse, neglect, negligence or accidental damage; or
  - 5.3. operated in any way contrary to any operating or maintenance instructions; or
  - 5.4. improperly handled, installed or maintained; or
  - 5.5. altered or modified prior to or after installation.
6. The Gerard Lighting Warranty does not apply to faulty or defective design of Goods unless Gerard Lighting has designed the Goods and Gerard Lighting expressly accepts responsibility for such design in writing.
7. In order to make a claim under the Gerard Lighting Warranty, the Owner must:
  - 7.1. contact Gerard Lighting to obtain a Returned Goods Authorisation Number for the Goods and to be notified of Gerard Lighting's return address for the Goods by:
    - 7.1.1. freecall **1300 95 DALI (3254)**; or
    - 7.1.2. post to **PO Box 314, Padstow NSW 2211**; or
    - 7.1.3. fax to **1300 95 3257**; or
    - 7.1.4. email to [sales@diginet.net.au](mailto:sales@diginet.net.au).
  - 7.2. return the Goods at the Owners expense to the return address notified by Gerard Lighting together with all accessories, instructions, specifications or other material supplied with the Goods and a notice in writing:
    - 7.2.1. stating the Returned Goods Authorisation Number for the Goods;
    - 7.2.2. describing in detail the defect or fault in the Goods;
    - 7.2.3. setting out the Owner's contact details (including postal address, email address and telephone numbers at which the Owner can be contacted during usual business hours).
  - 7.3. Gerard Lighting will not accept any returned Goods which have not been returned strictly in accordance with the above instructions.
8. Gerard Lighting will examine any returned Goods and if Gerard Lighting determines that they are defective through no fault of the Owner and are otherwise undamaged, Gerard Lighting will repair or replace the Goods free of charge.
9. Gerard Lighting will notify the Owner whether it accepts the Goods are defective within a reasonable time of return.
10. Gerard Lighting will not be responsible for any costs of de-installation, re-installation, returning Goods or for redelivery of the Goods (whether original or repaired and/or replacement Goods) by Gerard Lighting and any other related expenses of the Owner in claiming under the Gerard Lighting Warranty.
11. Gerard Lighting will not be responsible for any loss or damage to the Goods occurring while the Goods are in transit (either on return to Gerard Lighting or upon redelivery to the Owner of the original or repaired and/or replacement Goods).
12. Gerard Lighting will not be responsible (whether arising in contract or tort (including negligence) or under any statute) for any special, indirect, incidental, consequential or economic losses or damages (including loss of data, business, profits, revenue, anticipated savings, bargain, opportunity or goodwill) whether or not the possibility of those losses or damages being suffered had been brought to the attention of Gerard Lighting.

The Australian Consumer Law requires the inclusion of the following statement with the Gerard Lighting Warranty:

***Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.***



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