

## Miniature PIR presence detector - ON/OFF

Cat. No(s): 0 489 54

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## 1. USE

This miniature PIR (passive infrared) presence detector provides automatic control of lighting loads with optional manual control. This model can be used for switching control of incandescent, fluorescent and compact fluorescent loads.

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 timeout period.

These units come complete with accessories allowing flush mounting in suspended ceilings or surface mounting on ceilings, or side mounting on a luminaire.

All functionality is fully programmable using an infrared configurator.

## 2. TECHNICAL CHARACTERISTICS

### 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 the infrared configurator.

### Light level sensor

Measures the overall Lux level in the detection area.

### LED status

The LED flashes red to indicate the following:

<b>Walk test LED active</b>		<i>When movement is detected</i>
<b>Valid setting received</b>		

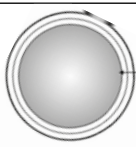

### RJ11 connector

The sensor head has an RJ11 socket for connection to the power supply.

### Power supply

This power supply has a 6 A relay. It also has connections for an auxiliary switch that can be used to turn on the lighting manually.

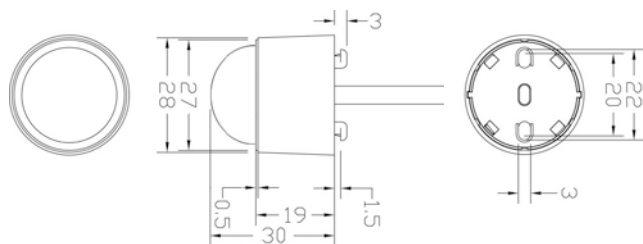
## 2. TECHNICAL CHARACTERISTICS (CONTINUED)

Sensor head	Power supply
	

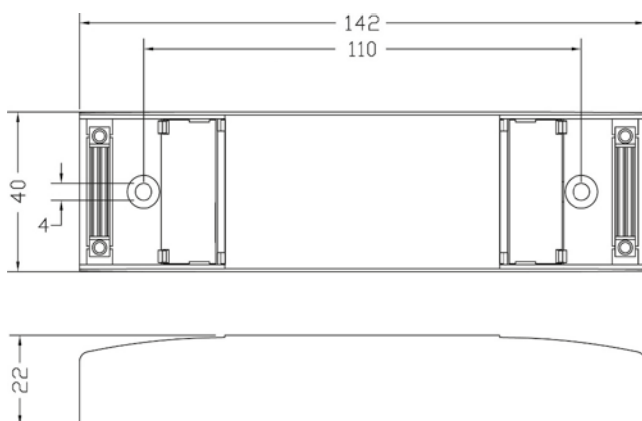
Dimensions	See dimensions section
Weight	Sensor head: 0.02 kg Power supply: 0.08 kg
Power supply	230 VAC +/-10%
Frequency	50 Hz
Maximum load	6 A resistive and incandescent lighting 3 A fluorescent lighting 2 A compact fluorescent lighting 2 A low-energy lighting 2 A low-voltage lighting (switches transformer primary) 1 A fans and ventilation equipment  NOTE: For fluorescent lighting, 6 loads maximum recommended. Total power factor correction capacitance must not exceed 40 µF
Power consumption	ON 816 mW, OFF 837 mW
Terminal capacity	1.5 mm <sup>2</sup>

### 3. DIMENSIONS

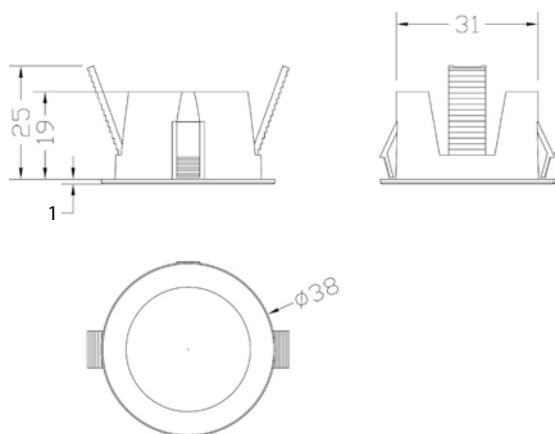
#### 3.1 Sensor head



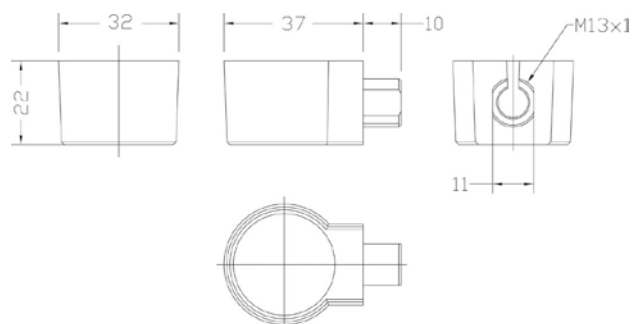
#### 3.2 Power supply



#### 3.3 Surface mounting accessory



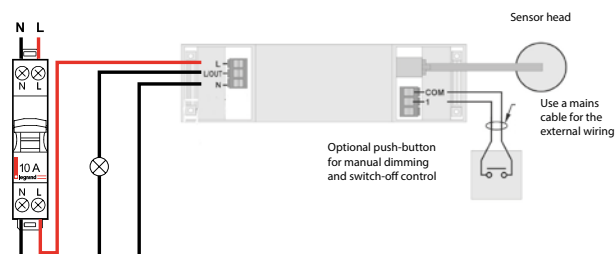
#### 3.4 Side mounting accessory



### 4. CONNECTION

Wire the products as shown in the diagram.

The auxiliary switch is optional. It can be used to switch the lighting on and off.



### 5. INSTALLATION

The product is designed to be surface mounted on the ceiling or flush mounted, and also directly on a luminaire.

The detector should be sited so that the occupants of the room are inside the detection area, at a recommended ceiling height of 2.8 m. The lower the sensor is installed, the smaller the detection range will be, subject to the parameters shown on the detection diagram.

- For optimum operation of the lux sensor, the lens must be shielded as much as possible from the light source.
- If flush mounting in a panel > 6 mm thick, remove the bottom of the retaining clips with a cutter.
- Avoid direct sunlight entering the sensor.
- Do not site within 1 m of forced air heating or ventilation.
- Do not fix to a vibrating surface.

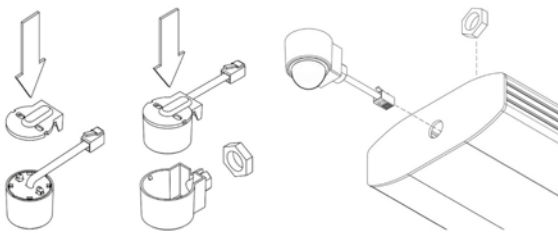
## 5. INSTALLATION (CONTINUED)

### Surface mounted on luminaire or the ceiling

Use the lugs on the back of the detector to secure it into thin sheet metal (1 mm max).



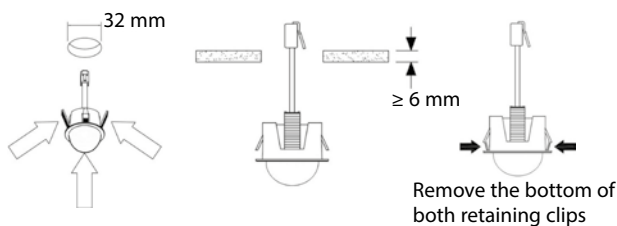
### Side mounting on luminaire



### Flush mounting

The product can be mounted using the flush mounting ring as shown. If flush mounting in a material > 6 mm thick, remove the bottom of the retaining clips with a cutter.

A 32 mm diameter hole will be required to insert the flush mounting ring.



### Power-up test procedure

When power is applied to the unit, the load will turn on immediately.

Set the timeout to 10 seconds, vacate the room or remain very still and wait for the load to switch off.

Check that the load switches on when movement is detected.

The unit is now ready for programming.

### Troubleshooting

If the load does not turn ON:

- Check that the live supply to the circuit is correct.
- Check that the load is functioning by bypassing the sensor (link terminals L and L/Out).
- If the detection range is smaller than expected, see the Performance section. Rotating the sensor slightly may improve the detection range.

If the load does not turn OFF:

- Ensure that the area is left unoccupied for longer than the timeout period.
- Ensure that the detector is not affected by circulating air, heaters or lamps.

In the event of "false tripping", reduce the sensitivity settings.

## 6. OPERATION

### Detection mode

- Presence: When movement is detected the load will automatically turn on. When an area is no longer occupied, the load will switch off automatically after an adjustable time period.

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

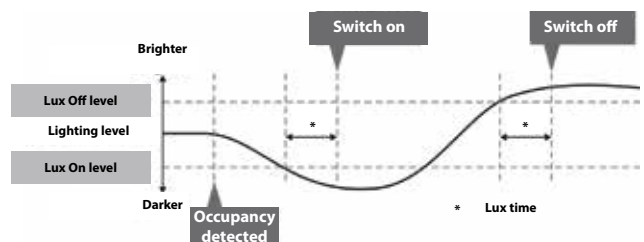
- Manual control: short press to turn on, short press to turn off, press and hold for dimming cycle.

In either case, sensitivity to movement of the PIR sensor can be adjusted using the Sensitivity parameter

**HINT:** To assist in setting the sensitivity, turn on the Walk test LED which will flash red when movement is detected.

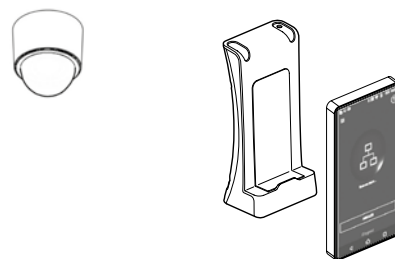
### Switching according to Lux level

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



## 7. SETTINGS

The detector functions are controlled by a number of parameters which can be changed or programmed by an infrared configurator.



In combination with configuration tool 0 882 40, the Legrand Close Up smartphone app can be used to view and modify all the detector parameters with online help.

Point the infrared configuration tool at the detector and send the necessary programming commands to the unit as indicated in the table below.

Valid commands will be indicated by a red flashing LED.

**7. SETTINGS (CONTINUED)**

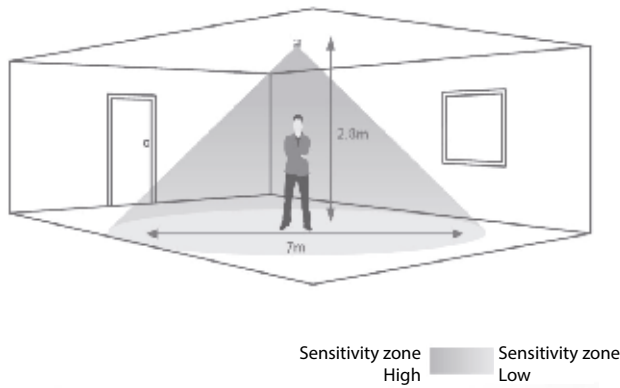
Parameter	Default value	Range/option	Description
<b>Detection parameters</b>			
LED operation test	Off	ON or Off	When this option is activated, a red LED on the sensor flashes when it detects movement. Use this function to check that the sensitivity levels are suitable.
Timeout	20 minutes	0 to 99 minutes	Once the detector is turned on, this value sets how long the lights will stay on once movement has ceased. Select 0 for a 10-second period (for commissioning only).
Manual timeout period	10 minutes	0 to 99 minutes	<p>When a manual operation occurs, either via the switch input or the infrared, it invokes the timeout period.</p> <p>Example 1: a detector in presence mode has a detector timeout of 15 minutes and a manual timeout of 3 minutes. When the user leaves the room, they press the off button. The sensor will revert to automatic mode after 3 minutes, then walking back into the room will turn the lights on.</p> <p>Example 2: using the settings above, the user turns the lights off (say for a presentation) but stays in the room. Every time a movement is detected, the manual timeout period is re-triggered, but if it doesn't pick up over a short period, the detector will revert to automatic mode. This means that the lights may come on inadvertently during the presentation, even if the occupants are still present during the manual timeout period, so adjust the timing carefully.</p>
Sensitivity On	9	1 (min) to 9 (max)	Sensitivity level for detecting movement when the detector is already on.
Sensitivity Off	9	1 (min) to 9 (max)	Sensitivity level for detecting movement when the detector is off.
Lux time	0	0 (disabled) 1 to 99 minutes	If the detector measures the Lux level and decides that the output needs switching on or off as a consequence, the Lux time must elapse first. If at any time during the timed delay the Lux change reverses, the process is cancelled. Lux time enables absence detection to be implemented with a Lux Off level set. When the button is pressed, the lights will go on, regardless of ambient light level. However, if there is sufficient ambient light, they will turn off again after the Lux time. Note that whenever an external switch is pressed, whether in absence or presence mode, if the lights were out because of the Lux level, they will be immediately turned on again for at least the Lux time.
Power-up state	On	On or Off	Select Off for a 30-second delay on start-up. If On is selected, there will be no delay on start-up and the detector will always power up detection.
Factory default	-	-	Restores the factory default settings.
<b>User Mode</b>			
Override On	-	-	If the lights are off, sending the IR command will turn them on immediately and revert to automatic operation after the manual timeout period.
Override Off	-	-	If the lights are on, sending the IR command will turn them off immediately and revert to automatic operation after the manual timeout period.
Cancel	-	-	Cancels the on or off override, returning the detector to normal operation.
<b>Channel 1 - Switching</b>			
Detection mode	Presence	Presence or absence	Presence mode allows the output to turn on when movement is detected and off when movement ceases. Absence mode allows the output to turn off when movement ceases, but must be manually turned on first.
Lux On level	9	1 to 9 For a higher resolution a range of 101-199 is available	<p>Sets a minimum light level below which the PIR sensor is enabled, allowing the lights to be turned on by movement.</p> <p>Note: The "Lux Off level" value must always be greater than the "Lux On level" value.</p>

7. SETTINGS (CONTINUED)

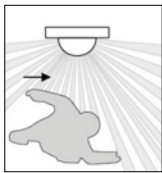
Parameter	Default value	Range/option	Description
Channel 1 - Switching			
Lux Off level	9	1 to 9 For a higher resolution a range of 101-199 is available	Sets a maximum light level above which the PIR sensor is disabled, preventing the lights from being turned on by movement.
Manual control modes			
Synchronised 1-position push-button	Default	-	Short press On, long press Off
Synchronised 2-position push-button	-	-	Short press On, short press Off

8. PERFORMANCE

Detection area

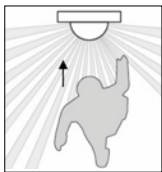


Walk across



Height	Diameter
7 m	16 m
2.8 m	9 m

Walk towards



Height	Diameter
7 m	10 m
2.8 m	5 m

9. CARE

Keep the lens clean, use a cloth to clean the surface.  
Do not use acetone, tar-removing cleaning agents or trichloroethylene.

**CAUTION: Always test before using other special cleaning products.**

10. STANDARDS

- Directive: EC
- Installation standards: NFC 15-100
- Product standards: NF EN 60730-1
- Environmental standards:
- European Directive 2012/19/EU: WEEE (Waste Electrical and Electronic Equipment)
  - European Directive 2011/65/EU: RoHS (Restriction of Hazardous Substances)
  - Decrees and/or regulations: Public buildings, workplace buildings, high-rise buildings
- Conformity
- EMC-2014/30/EU
  - LVD-2014/35/EU