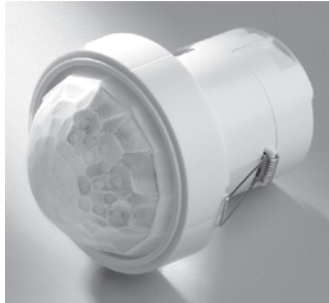


PIR presence detector for high bay applications - ON/OFF

Cat. No(s): 0 489 59

 www.legrandoc.com



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1. USE

This PIR (passive infrared) presence detector 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.

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.

The output channel includes a mains voltage switching relay for ON/OFF control of lighting.

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.

These units come complete with accessories that allow changes to the detection area and surface mounting

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:

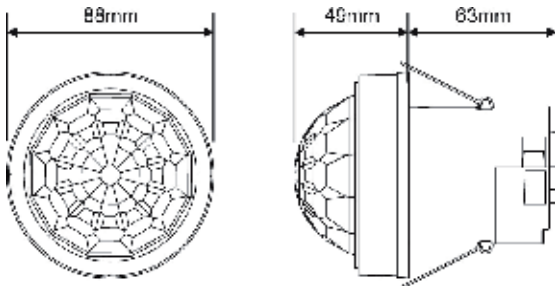
2. TECHNICAL CHARACTERISTICS (CONTINUED)

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

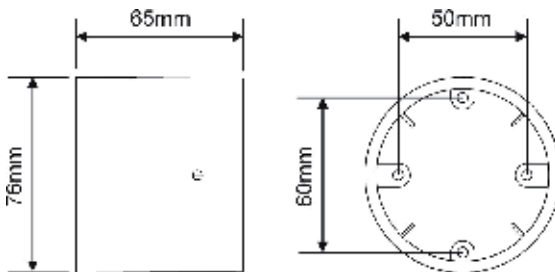
Dimensions	See dimensions section
Weight	0.2 kg (complete unit)
Power supply	230 VAC +/-10%
Frequency	50 Hz
Maximum load	6 A resistive and incandescent lighting 6 A fluorescent lighting 6 A compact fluorescent lighting 6 A low-energy lighting 6 A low-voltage lighting (switches transformer primary) 6 A fans and ventilation equipment
Power consumption	ON 822 mW, OFF 847 mW
Terminal capacity	2.5 mm ²
Operating temperature	-30°C to +35°C
Operating humidity	5 to 95% non-condensing
Material	Flame-retardant ABS and PC/ABS
Type	Class 2
Protection class	IP40 without gasket and IP65 with gasket

3. DIMENSIONS

Detector



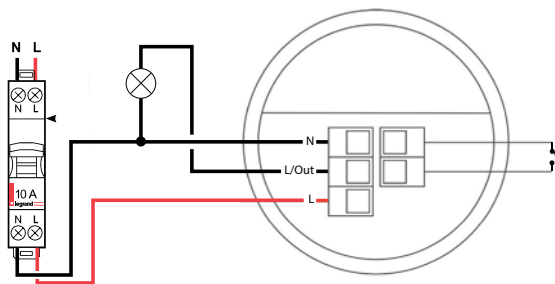
Surface mounting accessory



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.



Absence detection mode

To use absence detection, a push-button must be connected between the 2 terminals on the diagram (mains voltage switching). The unit ships with presence detection as default. To change to absence detection, press and release the push-button 5 times within a minute of power-up. The LED lights up for 30 seconds to indicate that absence detection mode has been selected. To change back to presence detection, repeat the above procedure: the LED flashes for 30 seconds to indicate that presence mode has been selected.

Note: The above adjustments can also be made using the infrared configurator.

5. INSTALLATION

The product is designed to be mounted on the ceiling (surface or flush mounting), using the accessory provided.

Use the supplied gasket to ensure IP65 rating (not compatible with surface mounting).

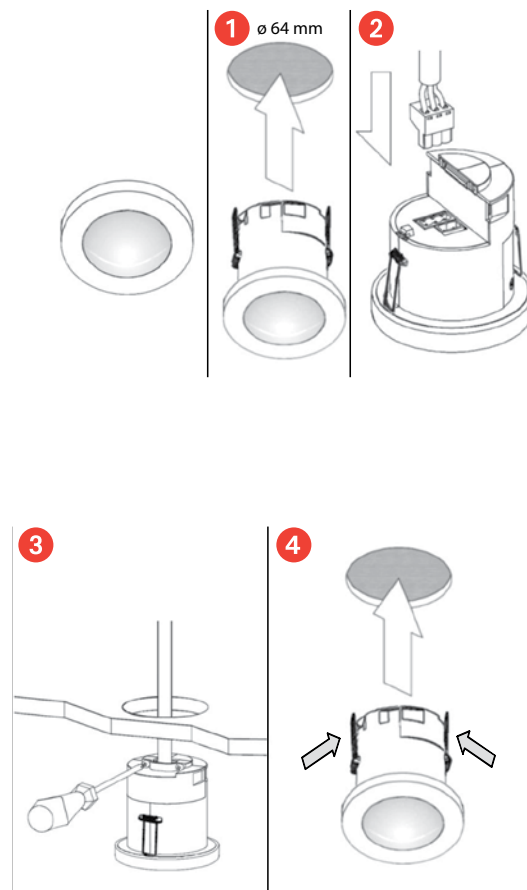
For optimum operation of the lux sensor, the lens must be shielded as much as possible from the light source.

Avoid direct sunlight being aimed at the sensor.

Do not site within 1 m of forced air heating or ventilation.

Do not fix to a vibrating surface.

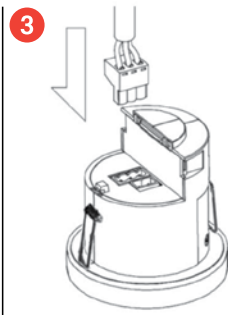
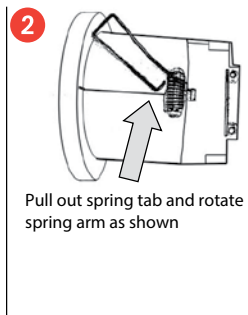
Flush mounting



5. INSTALLATION (CONTINUED)

Surface mounting

Take care not to bend the springs when fitting the unit



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.

5. INSTALLATION (CONTINUED)

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:

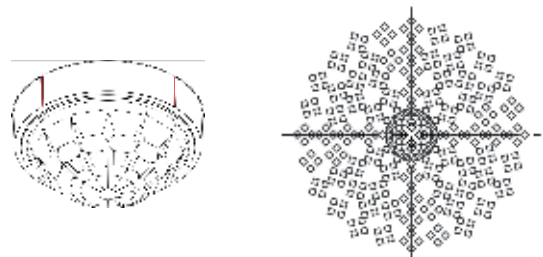
- Ensure that the area is left unoccupied for longer than the timeout period.
- Ensure that the detector is not affected by circulating air, heaters or lamps.

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

Alignment marks

The sensor head has 4 alignment marks. These correspond to the 4 passive infrared sensors under the lens.

Use these marks to align with aisles and corridors to ensure the best detection characteristics.



Masking

The unit also ships with two clip-on masking shields to allow for precise masking of the detection shape.

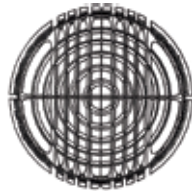
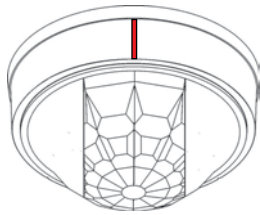
The masks can be easily shaped to produce detection patterns suitable for applications such as aisles and corners and for narrowing the detection diameter.

Important notes:

- **Ensure all infra-red (IR) programming is completed before affixing the masking shields to the detector.**
- **The masking shields may impair the light sensor and IR sensors by covering them. Ensure correct operation before completing commissioning. Ensure correct operation before completing commissioning.**

5. INSTALLATION (CONTINUED)

Masking shields trimmed for aisle-shaped detection



Marker No. 1 2 3 4 4 3 2 1

Marker No.	Masking shield % coverage
1	45%
2	32%
3	22%
4	11%

Align trimmed shields with the sensor head alignment mark and aisle.

Example:

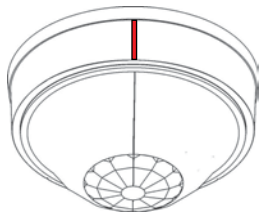
Fixing height = 6 m

Slot number = 2

Aisle detection width (walk across) = 16 m x 32% = 5.1 m

Aisle detection width (walk towards) = 12 m x 32% = 3.8 m

Masking shields trimmed for a narrow beam of detection



Diameter No: 1 2 3 4 5 5 4 3 2 1

Diameter No.	Masking shield % coverage
1	89%
2	63%
3	45%
4	32%
5	22%

Example:

Fixing height = 15 m

Diameter number = 3

Aisle detection width (walk across) = 40 m x 45% = 18 m

Aisle detection width (walk towards) = 30 m x 45% = 13.5 m

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.

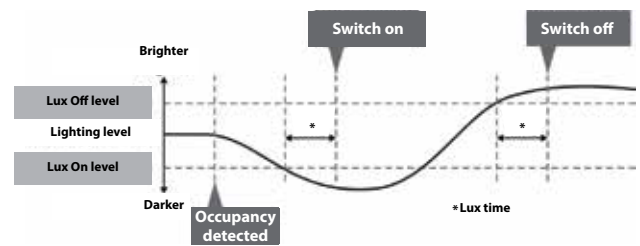
Manual control: short press to turn on, short press to turn off, press and hold for dimming cycle.

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.

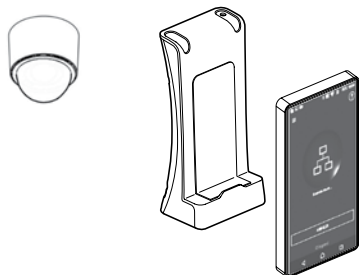
Switching according to Lux level

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.

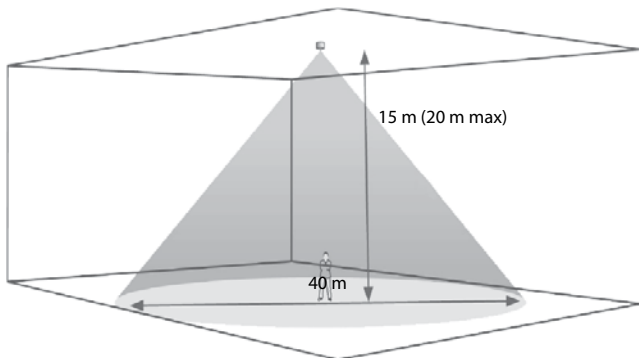
Parameter	Default value	Range/option	Description
Detection parameters			
LED operation test	Off	On or Off	When this option is activated, a red LED on the sensor flashes when it detects movement. Use this function to check that the sensitivity levels are suitable.
Timeout	20 minutes	0 to 99 minutes	Once 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. 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.

7. SETTINGS (CONTINUED)

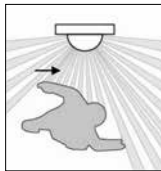
Parameter	Default value	Range/option	Description
Power-up state	On	On or Off	Select Off for a 30-second delay on start-up. If On is selected, there will be no delay on start-up and the detector will always power up detection.
Inhibit	4 seconds	1 to 999 seconds	When the detector turns off, a delay is instigated to prevent retriggering. In certain circumstances this delay may not be enough. This parameter allows the delay to be changed.
Verify	No	No or Yes	Requires two or more PIR detectors to detect simultaneously to turn on the lights.
Factory default	-	-	Restores the factory default settings.
User Modes			
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.
Channel 1 - Switching			
Lux On level	9	1 to 9 For a higher resolution a range of 101-199 is available	Sets a minimum light level below which the PIR sensor is enabled, allowing the lights to be turned on by movement. Note: The "Lux Off level" value must always be greater than the "Lux On level" value.
Lux Off level			Sets a maximum light level above which the PIR sensor is disabled, preventing the lights from being turned on by movement.

8. PERFORMANCE

Detection area

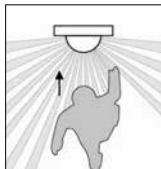


Walk across



Height	Diameter
15 m	40 m
10 m	26 m
6 m	16 m
3 m	9 m

Walk towards



Height	Diameter
15 m	30 m
10 m	20 m
6 m	12 m
3 m	8 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: CE

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