Extra low voltage PIR detector - ON/OFF

Cat. No(s): 0 489 52

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1. USE

This PIR (passive infrared) presence detector provides automatic control of low voltage 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 timeout period.
The unit can also turn off the lights in response to ambient daylight.

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

All functionality is fully programmable using an infrared handset.

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
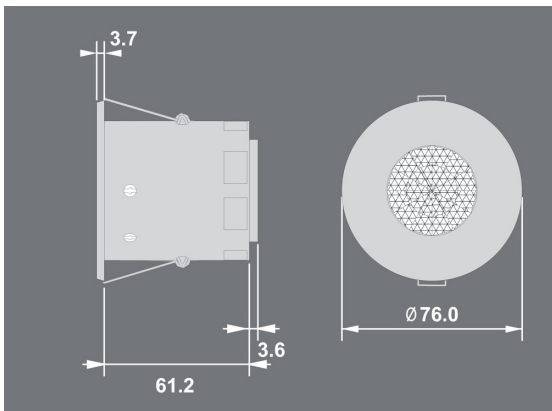The LED flashes red to indicate the following:

Walk test LED active	🔆R	*When movement is detected*
Valid setting received	🔆R	

Dimensions	See dimensions section
Weight	0.15 kg
Power supply	Min 11.5 VDC Max 36 VDC Min 10 VAC Max 26.5 VAC
Frequency	50 Hz
Power consumption	ON 640 mW, OFF 271 mW
Terminal capacity	1.5 mm2
Operating temperature	-10°C to +35°C
Operating humidity	5 to 95% non-condensing
Material	Flame-retardant ABS and PC/ABS
Type	Class 2
Protection class	IP40

①	②	③	④	⑤
24 V	8 A	8 A	6 A	3 A	8 A

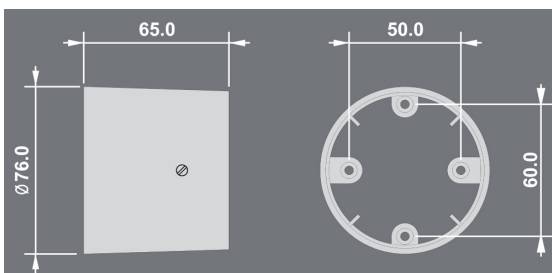| ⑥	⑦	⑧	⑨	⑩
24 V	6 A	3 A	3 A	3 A	3 A

1 - Halogen lamps
2 - ELV halogen lamps with separate ferromagnetic ballast
3 - Fluorescent tubes with separate ferromagnetic ballast
4 - Compact fluorescent lamps with separate ferromagnetic ballast
5 - ELV halogen lamps with separate electronic ballast
6 - Fluorescent tubes with separate electronic ballast
7 - Compact fluorescent lamps with built-in electronic ballast
8 - Compact fluorescent lamps with separate electronic ballast
9 - LED lamps with separate electronic ballast
10 - LED lamps with built-in electronic ballast

3. DIMENSIONS

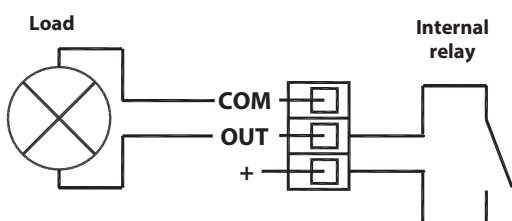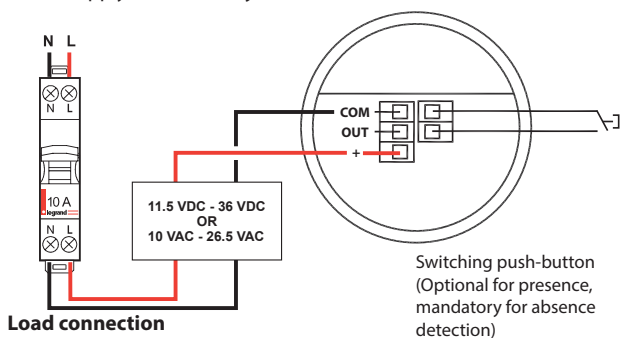**Detector**

Surface mounting accessory

4. CONNECTION

Wire the products as shown in the diagrams.

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

Power supply **and auxiliary switch connection**

11.5 VDC - 36 VDC
OR
10 VAC - 26.5 VAC

COM
OUT
+

Switching push-button
(Optional for presence, mandatory for absence detection)

Load connection

Load

Internal relay

COM
OUT
+

5. CONNECTION (CONTINUED)

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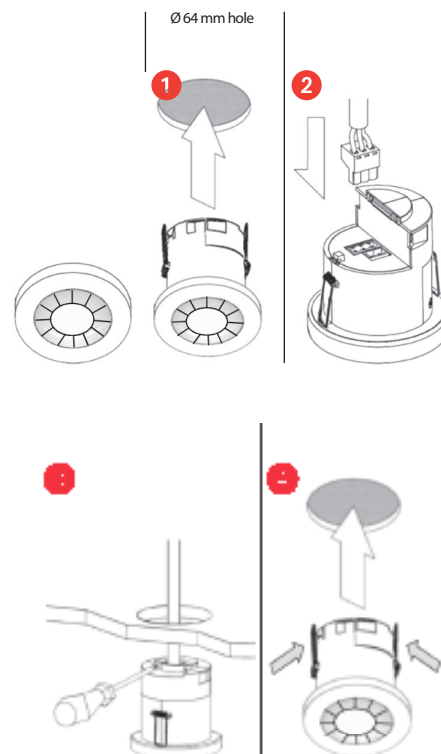
For optimum operation of the lux sensor, the lens must be shielded as much as possible from the light source.

Avoid direct sunlight entering the sensor.

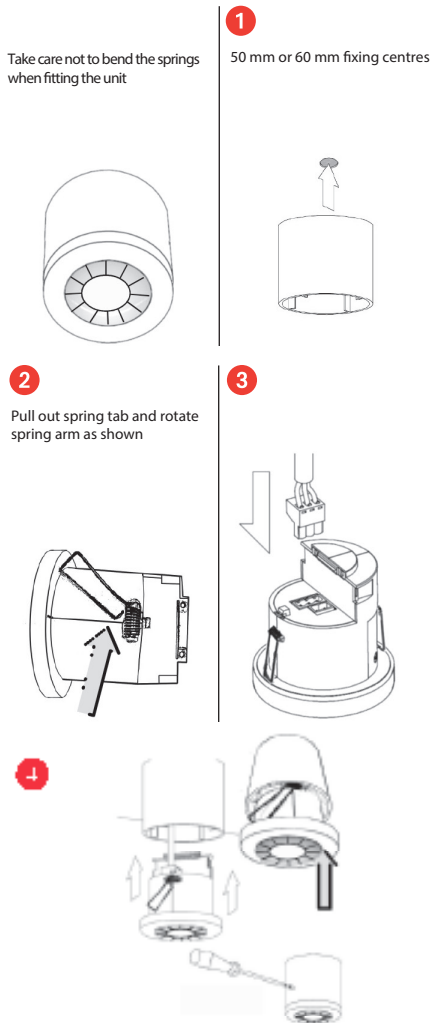Do not site within 1 m of forced air heating or ventilation.

Do not fix to a vibrating surface.

Flush mounting

Ø 64 mm hole

INSTALLATION (CONTINUED)

Surface mounting

Take care not to bend the springs when fitting the unit

1 50 mm or 60 mm fixing centres

2 Pull out spring tab and rotate spring arm as shown

3

4

Power-up test procedure

When power is applied to the unit, the load will switch 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.

6. OPERATION

Detection mode

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

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.
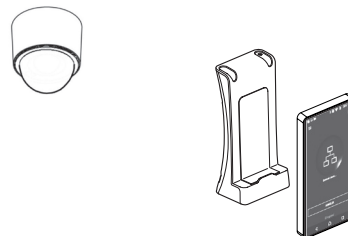
OPERATION (CONTINUED)

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.
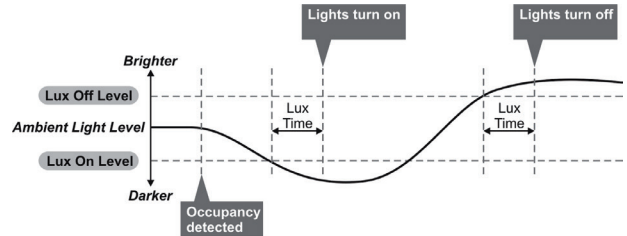
7. SETTINGS

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 for all read/write operations.

Valid commands will be indicated by a red flashing LED on the product, and the lighting switches off automatically for all read/write operations.

Before changing the settings, an initialisation operation must be performed as suggested in the Legrand Close Up configuration app:

1 - Click on "Scan product settings" 2 - Click on "Settings details/copy"

3 - In the menu at the top right (…) select "Initialise" 4 - Click on "Write product settings"

This operation allows predefined setting of certain parameters.

CONTENTS

SETTINGS (CONTINUED)

Parameter	Default value	Value after initialisation	Range/ option	Description
				General 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.
Inhibit detection	No	-	Yes/No	Disables presence/absence detection so that the detector does not control switching, only dimming. Use this mode for light regulation without automatic control according to occupancy.
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	When a manual operation occurs, either via the switch input or the infrared, it invokes the timeout period.
				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.
				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 anything 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.
On sensitivity	8	9	1 (min) to 9 (max)	Sensitivity level for detecting movement when the detector is already on.
Off sensitivity	8	9	1 (min) to 9 (max)	Sensitivity level for detecting movement when the detector is off.
On delay	0 minutes	-	0 to 99 minutes	The On delay allows the first channel to switch on after the second channel. A typical application for this would be when a detector is controlling lighting and air conditioning in an area. When the occupant is detected, the lighting will be turned on immediately, whereas the air conditioning may be turned on after 15 minutes. If the area is vacated before the detector times out, then the air conditioning will not have come on. The delay can be set for channel 1 only using this parameter.
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	999	200	1-950, 999: OFF dimming regulation	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	999	400	1-950, 999: disabled	Sets a maximum light level above which the PIR sensor is disabled, preventing the lights from being turned on by movement.
Lux On time	0	-	0 to 99 minutes	When the ambient light drops below the Lux On Level, this is the delay before the lights come on. If at any time during the timed delay the Lux level position is reversed, the process is cancelled. A minimum time of 15 seconds is defined for a value of 0. If you try to turn on the lights using a manual control, the lights will come on regardless of the ambient light level. However, if there is sufficient ambient light, they will turn off again after the Lux Off time.
Lux Off time	0	1	0 to 99 minutes	When the ambient light exceeds the Lux Off Level, this is the delay before the lights go out. If at any time during the timed delay the LUX level position is reversed, the process is cancelled. A minimum time of approximately 15 seconds is defined for a value of 0.

CONTENTS

SETTINGS (CONTINUED)

Parameter	Default value	Value after initialisation	Range/option	Description
Manual control modes				
Manual control mode	-	-	Shared 2-position push-button	A single centre-biased retractive switch will be used to control both channels at the same time.
	-	-	Separate 2-position push-button	-
	✔	-	Synchronised 1-position push-button	A single push-button controls both channels at the same time.
	-	-	Separate 1-position push-button	-

8. TROUBLESHOOTING

1. If the load does not switch on

- Check that the live supply to the circuit is correct.
- Check that the load is functioning by bypassing the detector (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.

2. If the load does not switch 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.

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

4. If the lighting loads never switch off

• Reduce and adjust the value of the "Lux Off level" parameter and the "Lux On level" parameter in steps of 5 to 40.
Example:
- Lux On level = 190
- Lux Off level = 380

5. If the lighting loads never switch on

• Increase and adjust the value of the "Lux Off level" parameter and the "Lux On level" parameter in steps of 5 to 40.
Example:
- Lux On level = 220
- Lux Off level = 420

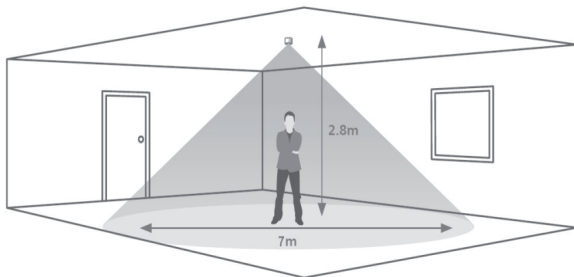**6. If the lighting loads switch on and off permanently**

• Increase the difference between the value of the "Lux Off level" parameter and the "Lux On level" parameter.
Example:
- Lux On level = 190
- Lux Off level = 410

9. PERFORMANCE

Detection area

High sensitivity area | Low sensitivity area

NOTE: The illustration shows an average of the walk across and walk towards figures below.

10. 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.

11. STANDARDS

Directive: CE

Installation standards: NFC 15-100

Product standards: NF EN 60730-1

Environmental standards:

–   WEEE (Waste Electrical and Electronic Equipment)

–   European Directive 2002/95/EC:<a>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