LUCECO

LPCMPIRM

Ceiling PIR presence/absence detector

Overview

The LPCMPIRM PIR (passive infrared) presence detector provides automatic control of lighting loads with optional manual control.
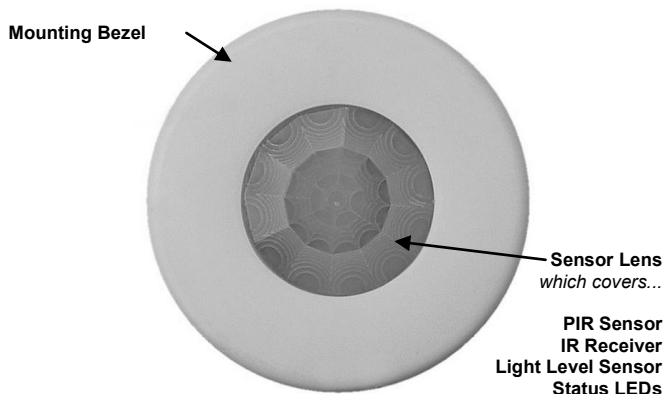
The output channel comprises a mains voltage relay capable of simple on/off switching.

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.

All functionality is fully programmable using an IR handset.

Features

Front features

Mounting Bezel

Sensor Lens
which covers...

PIR Sensor
IR Receiver
Light Level Sensor
Status LEDs

Back features

Retaining Spring

Switch Input Connector

Power Input & Switched Output Connector

Retaining Spring

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.

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

Status LEDs
The LED flashes **R**ed to indicate the following:

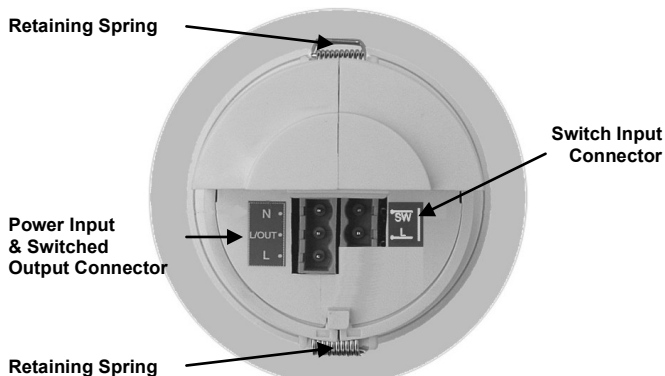|		
Walk Test LED active	🔴	*when movement is detected*
Valid setting received	🔴	

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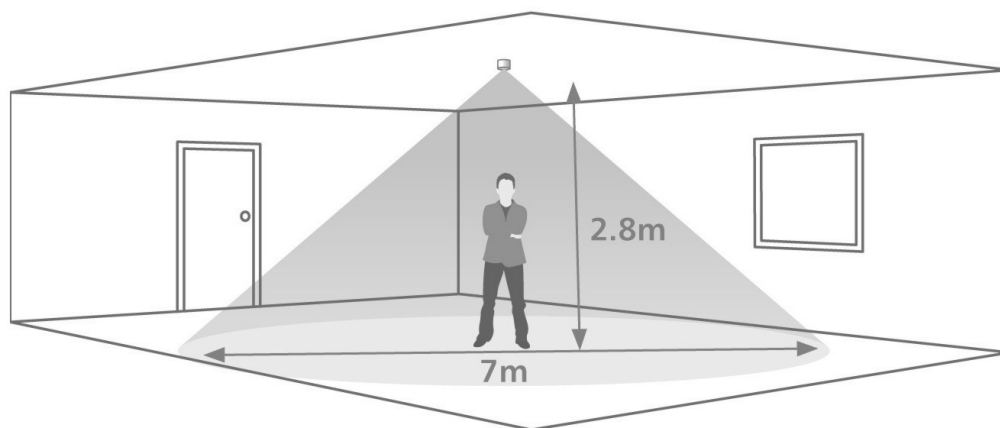Used to connect mains power to the unit and to connect a switched load.

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

Detection diagram

2.8m

7m

Area of high sensitivity   Area of lower sensitivity

Sensor functionality

Detection Mode
The Detection Mode can be set to behave in Presence or Absence mode:
- **Presence** When movement is detected the load will automatically turn on. When the area is no longer occupied the load will automatically switch off after an adjustable time period.
- **Absence** The load is manually switched on. When the area is no longer occupied the load will automatically switch off after the adjustable time period has elapsed.

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.

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.
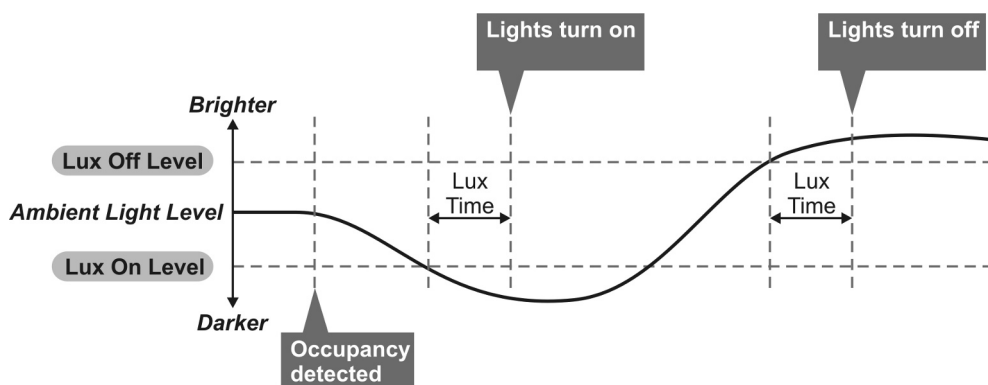
Choosing a Suitable Location

The LPCMPIRM is designed to be ceiling mounted and must satisfy the following criteria:

- Avoid positioning the unit where direct sunlight may enter the sensor element.
- Do not site the sensor within 1m of any lighting, forced air heating or ventilation.
- Do not fix the sensor to an unstable or vibrating surface.
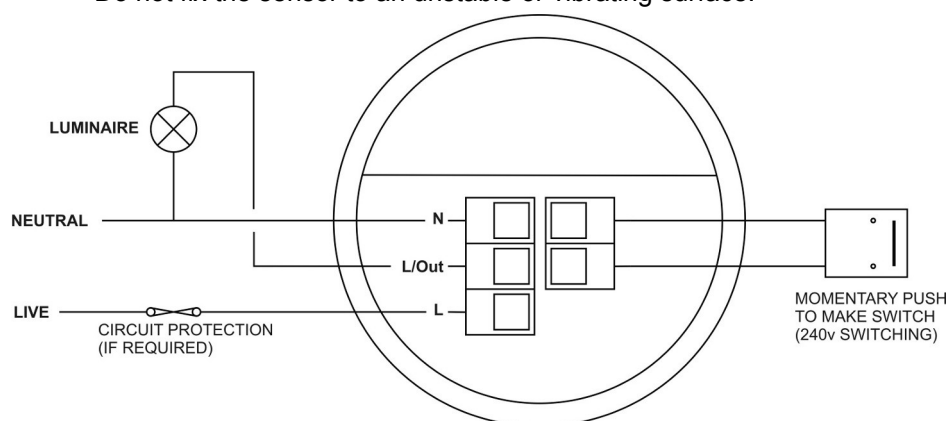
Absence detection

- To use absence detection a retractive (momentary) switch must be connected between the 2 terminals on the diagram. Note that this will be switching mains voltage.
- The unit ships with presence detection as default. To change to absence detection, press and release the external switch 5 times within the first minute of power up. The LED will turn on solid for 30 seconds to indicate absence mode has been selected.
- To change back to presence detection, repeat the above procedure—the LED will flash for 30 seconds to indicate presence mode has been selected.

Note: the above adjustments can also be made using the LPCUHC. See Programming.

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 .

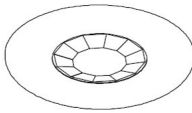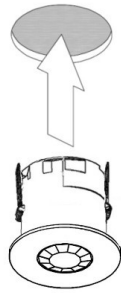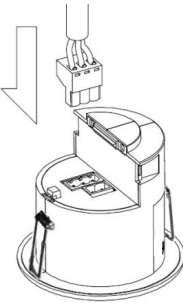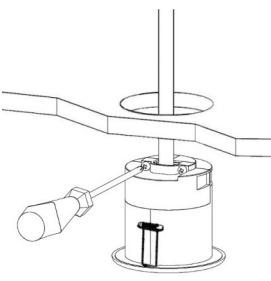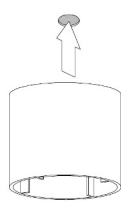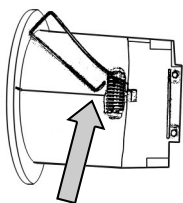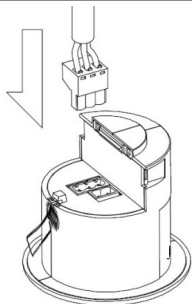Check that the load switches on when movement is detected.
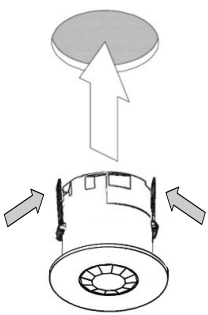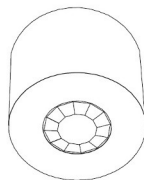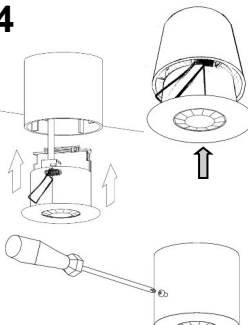
The unit is now ready for programming.

Installation

The LPCMPIRM is designed to be mounted using either:

- Flush fixing, or
- Surface fixing, using the optional Surface Mounting Box (part no. LPCLRCMBOX).

Both methods are illustrated below.

Flush Fixing	1	2	3	4
Warning - be careful bending springs when mounting unit.	Hole Ø64mm			

Surface Fixing	1	2	3	4
	50mm or 60mm fixing centres	Pull out spring tab and rotate spring arm as shown		

Wire stripping details

6 mm

35 mm
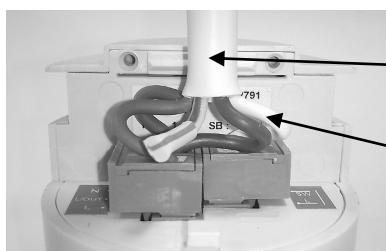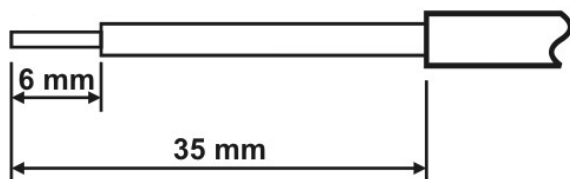
Important
Ensure that the cables are formed as shown before affixing the cable clamp. The clamp MUST clamp the outer sheath(s) only.

Bend cores as shown.
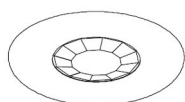
The functionality of the LPCMPIRM is controlled by a number of parameters which can be changed or programmed. For most basic programming operations the LPCUHC handset can be used and the following procedures are based on using this device.

Point the handset at the Sensor and send the required programming commands to the unit as shown below.

Valid commands will be indicated by a red LED flash. See page 1 for details of other LED responses. *Note: other functions on the LPCUHC which are not shown below are not applicable to this product.*

Parameter Name	Default Value	**0** SHIFT 1 / SHIFT 2	**1** SHIFT 1 / SHIFT 2	**2** SHIFT 1 / SHIFT 2	**3** SHIFT 1 / SHIFT 2	LPCUHC Handset Graphics	Description
		Number of Shift key presses					
		Button Activation					
On		On				ON/RAISE	Turn lights on.
Off		Off				OFF/LOWER	Turn lights off.
Walk test	Off	On	Off			OFF/ON WALK TEST	When set to On this causes a red LED to flash on the sensor when it detects movement. Use this feature to check for adequate sensitivity levels.
Time Out *(Time adjustment)*	20 mins	1, 10 & 20 minutes	5, 15 & 30 minutes	10 seconds		5/1 15/10 30/20 TIMEOUT MINUTES	Once the detector is turned on, this value sets how long the lights will stay on once movement has ceased.
Lux on level *(Switch level on)*	9	2, 5 & 7	4, 6 & 9			4/2 6/5 9/7 LUX ON LEVEL / LIGHT LEVEL	Lux level setting to prevent the luminaires being switched on if the ambient light level is sufficient (adjustable between 1 and 9). The luminaires will always be switched on at level 9.
Lux off level *(Switch level off)*	9	2, 5 & 7	4, 6 & 9			4/2 6/5 9/7 DALI LUX OFF LEVEL DSI	Lux level setting to switch the luminaires off during occupancy if the ambient light level goes above the setting (adjustable between 1 and 9). Level 9 will always keep the lights on. This setting can be used for "window row switching". *Note: the Lux Off Level value must always be greater than the Lux On Level value.*
Sensitivity	9	1, 5 & 9	3, 6 & 8			3/1 6/5 8/9 SENSITIVITY	Sensitivity level for detecting movement. 1 = low sensitivity 9 = high sensitivity
Defaults				D		D DEFAULTS	Returns the unit to the default settings.
Presence / Absence	Presence	Presence	Absence			A/P PRS / ABS	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.
Shift						SHIFT	Use this button to select the settings in red and blue signified by the 'Shift 1' and 'Shift 2' LEDs

Fault finding

What if the load does not turn ON?

- Check that the live supply to the circuit is good.
- Check that the load is functioning by bypassing the sensor (e.g. link terminals **L** and **L/ Out** on Channel1).
- If the detection range is smaller than expected, check the diagram on page 2. Rotating the sensor slightly may improve the detection range.

HINT: *The Walk Test LED function can be used to check that the unit is detecting movement in the required area.*

What if the load does not turn OFF?

- Ensure that the area is left unoccupied for longer than the Time Out Period.
- Ensure that the sensor is not adjacent to circulating air, heaters or lamps.

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Technical data

Dimensions	See diagrams opposite
Weight	0.15kg
Supply Voltage	230VAC +/- 10%
Frequency	50Hz
Maximum Load	10A of lighting and/or ventilation including incandescent, fluorescent, compact fluorescent, low voltage (by switching the primary of transformer).
Power consumption	On 875mW, Off 895mW
Terminal Capacity	2.5mm^2
Temperature	-10ºC to 35ºC
Humidity	5 to 95% non-condensing
Material (casing)	Flame retardant ABS and PC/ABS
Type	Class 2
IP rating	IP40
Compliance	EMC-2004/108/EC LVD-2006/95/EC

CE

LPCMPIRM

3.7

3.6

61.2

Ø 76.0

LPCLRCMBOX

65.0

50.0

Ø 76.0

60.0
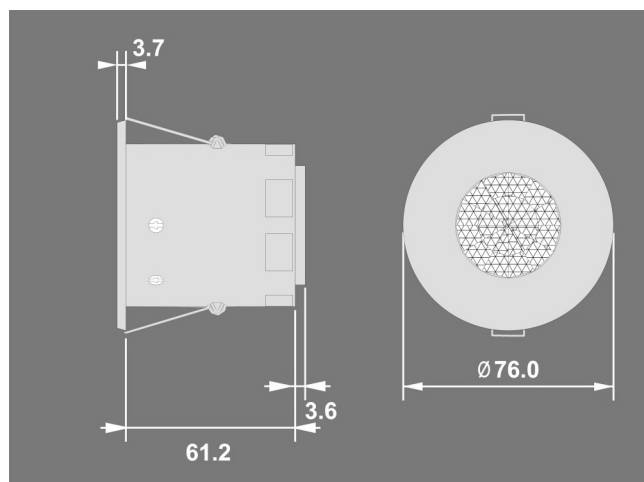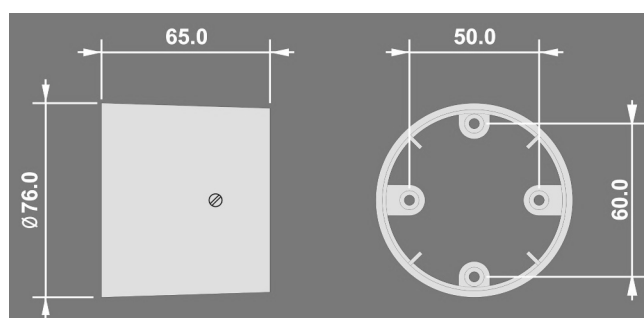
Part numbers

	Part number	Description
Detector	LPCMPIRM	Ceiling PIR presence detector
Accessories	LPCLRCMBOX	Surface mounting box
	LPCUHC	Programming IR handset

IMPORTANT NOTICE!
This device should be installed by a qualified electrician in accordance with the latest edition of the IEE Wiring Regulations and any applicable Building Regulations.

Due to our policy of continual product improvement Luceco reserves the right to alter the specification of this product without prior notice.

Ref: #WD754   Issue 1