



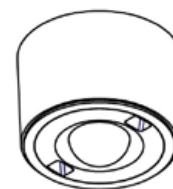
μDim PIR Sensors User Manual

Table of Contents	Page
Introduction	2
Technical data	3
Physical installation	7
Setup	8
Programming	9
Fault finding	10

μDim PIR Sensors Introduction

The μDim series of miniature PIR (passive infrared) presence detectors provide automatic control of lighting loads with optional manual control. The miniature size together with multiple mounting options make these products ideally suited for mounting in, or attached to, luminaires to provide local control of individual fittings. Two versions are available: switched and 1-10 V + switched, all of which will switch incandescent, fluorescent and compact fluorescent lighting. The 1-10 V variant controls 1-10 V dimming ballasts.

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 time out period.



Feature	SL-PIR-SW	SL-PIR-AN
5m PIR sensing	●	●
Lux sensor	●	●
Presence detection	●	●
Infrared remote setting	●	●
Push button adjustment*	●	●
Relay output	●	●
1-10 V Dimming output	-	●

*for lux, time and sensitivity

SL-PIR-SW µDim PIR Switching Sensor



The SL-PIR-SW presence detector provides automatic control of lighting loads with optional manual control. The miniature size makes it ideally suited for mounting in luminaires to provide local control of individual fittings. It will switch incandescent, fluorescent and compact fluorescent lighting.

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 time out period.

The product consists of the following :

- Sensor head with integral RJ11 sensor lead
- Power supply unit
- Flush mount bracket

Key Features

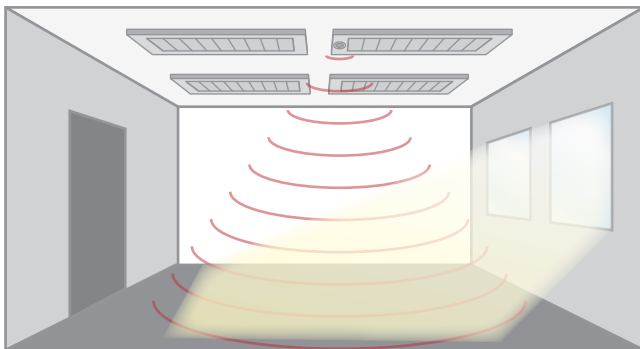
- Time delay function
- Switching with lux level sensing
- Presence / absence detection functionality
- Programmable using optional IR handset

Functionality

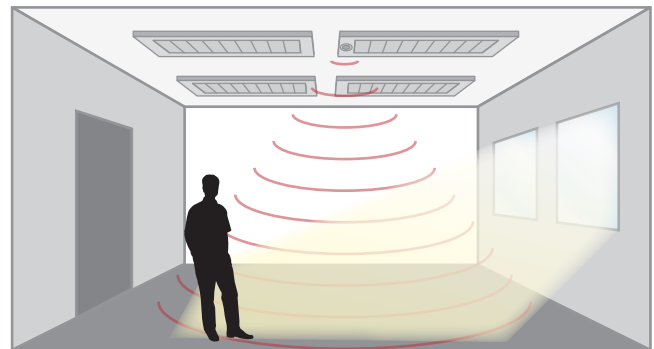
Presence detection: when movement is detected the load will automatically turn on; when the area is no longer occupied the load will automatically switch off after an adjustable time period.



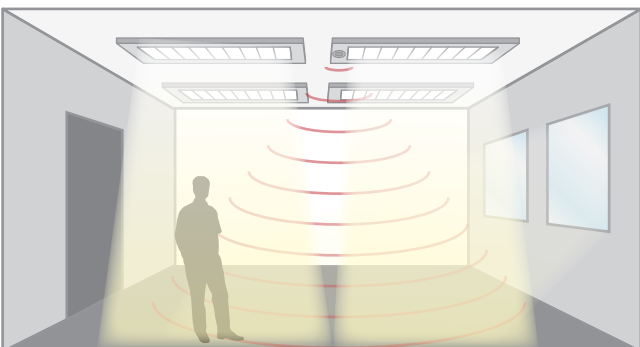
2. Technical Data



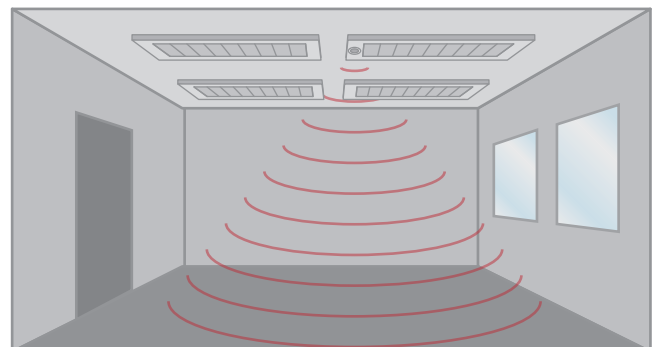
1) No presence detected, daylight, lights OFF



2) Presence detected, sufficient daylight, lights OFF



3) Presence detected, insufficient daylight, lights ON



4) No presence detected, night time, lights OFF

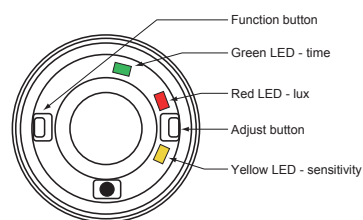
SL-PIR-SW µDim PIR Switching Sensor

2. Technical Data

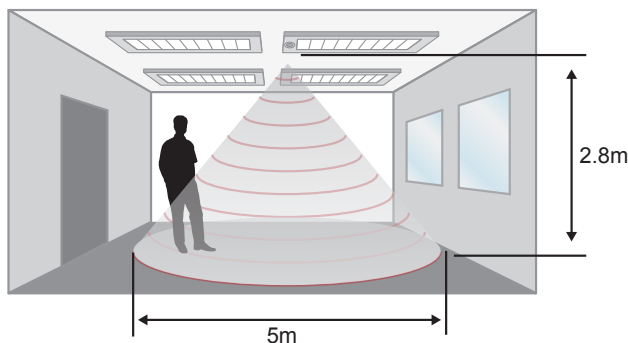
Technical specifications

- Supply voltage 220 - 240 V AC, 50 Hz
- Max load capacity 2 A, INC, ELV, FL, and CFL
- Light level Light to dark
- Connections Integral RJ11 cable between supply unit and sensor head
- Terminals (supply unit) 1.5mm² (solid core cable only)
- Material Sensor head — PA (polyamide)
Side mounting bracket — PA
Power supply — PA
Flush holder — flame retardant ABS
Lens — PMMA (Clear acrylic)
Power supply unit housing — flame retardant polycarbonate
- Type Class 2
- Operating Temperature -10°C to 50°C
- Conformity EMC-89/336/EEC
LVD-73/23/EEC

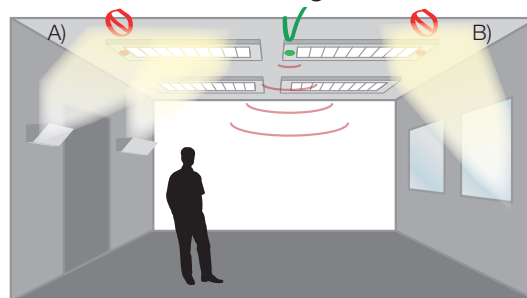
Sensor head



Detection area



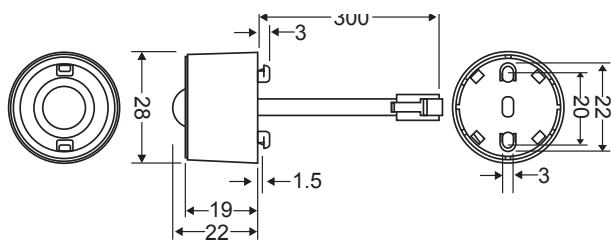
Recommended mounting location



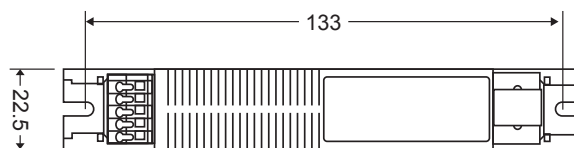
- A) Do not mount sensor in direct line of artificial light sources e.g. lamps, uplighters.
- B) Do not mount sensor in direct sunlight

Dimensions (mm)

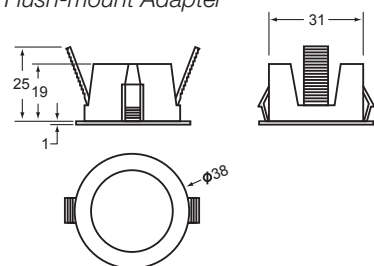
Sensor head



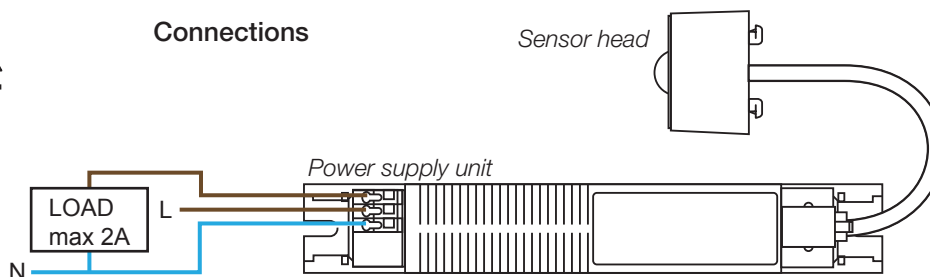
Power supply unit



Flush-mount Adapter



Connections



SL-PIR-AN µDim PIR 1-10 V Sensor



The SL-PIR-AN presence detector provides automatic control of lighting loads. The miniature size makes it ideally suited for mounting in luminaires to provide local control of individual fittings. It will switch incandescent, fluorescent and compact fluorescent lighting.

- The product consists of the following :
- Sensor head with integral RJ11 sensor lead
 - Power supply unit
 - Flush mount bracket

Key Features

- Dimming with lux level sensing
- Presence/Absence detection functionality
- Constant Light
- Programmable using optional IR handset

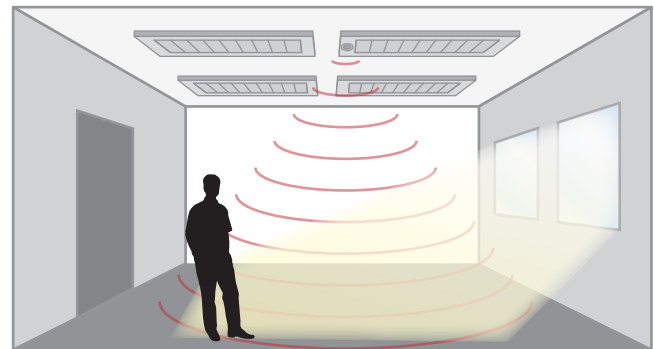
Functionality

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 time out period.

The 1-10 V output can be used to control the light output of luminaires that are fitted with dimming ballasts. The detector measures the overall light level in the detection area and calculates the correct output for the luminaires, to achieve a preset lux level (Constant Light).

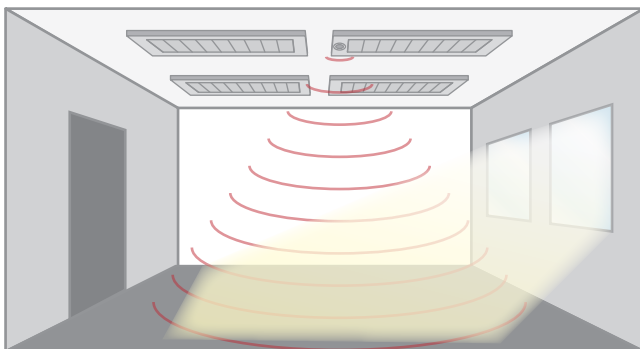


2. Technical Data

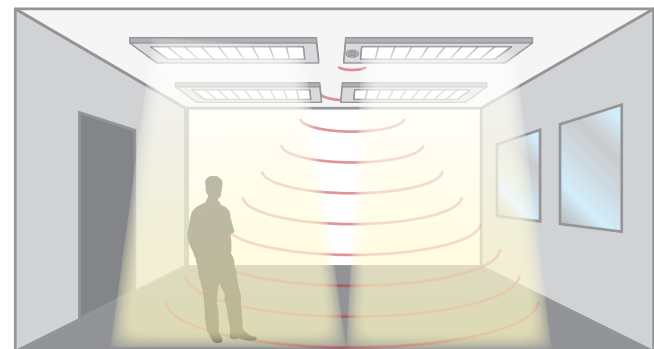


3) Presence detected some daylight.

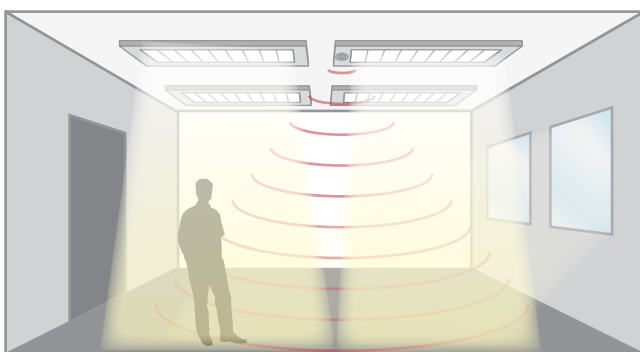
Lights on and dimmed to maintain lux level



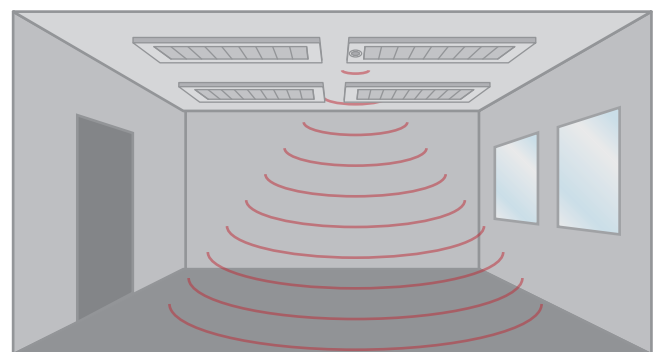
1) No presence detected, daylight, lights OFF



4) Presence detected, insufficient daylight. Detector measures and implements maintained illuminance



2) Presence detected, sufficient daylight, lights OFF



5) No presence detected, night time, lights OFF

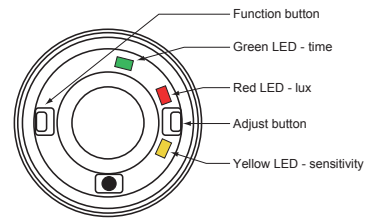
SL-PIR-AN µDim PIR 1-10 V Sensor

2. Technical Data

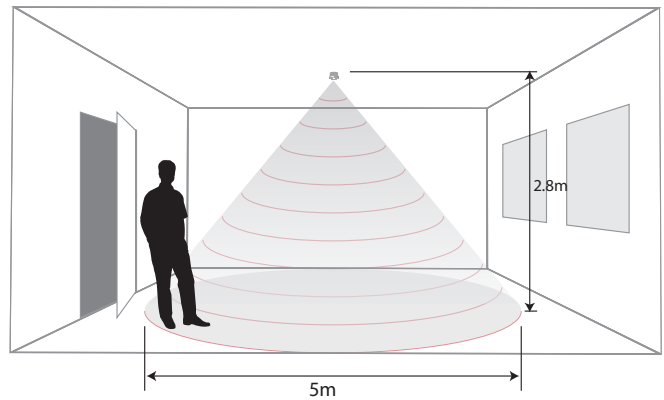
Technical specifications

- Supply voltage 220 - 240 V AC, 50 Hz
- Max load capacity 2 A – INC, ELV, FL, and CFL
4 x 1-10V ballasts
- Light level Light to dark
- Connections Integral RJ11 cable between supply unit and sensor head
- Terminals (supply unit) 1.5mm² (solid core cable only)
- Material Sensor head – PA (polyamide)
Side mounting bracket – PA
Power supply – PA
Flush holder – flame retardant ABS
Lens – PMMA (Clear acrylic)
Power supply unit housing – flame retardant polycarbonate
- Type Class 2
- Operating Temperature -10°C to 50°C
- Conformity EMC-89/336/EEC
LVD-73/23/EEC

Sensor head

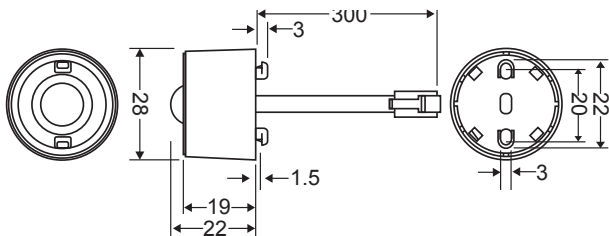


Detection area

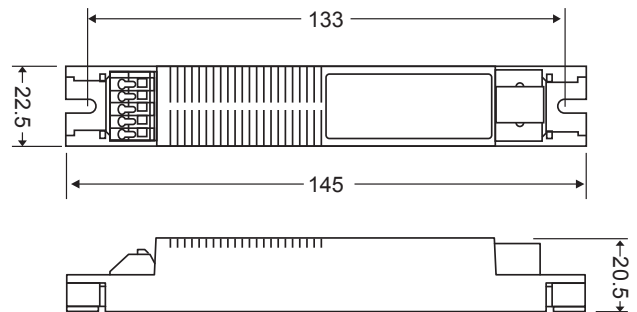


Dimensions (mm)

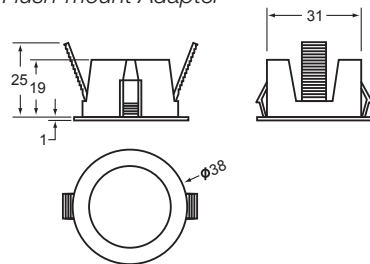
Sensor head



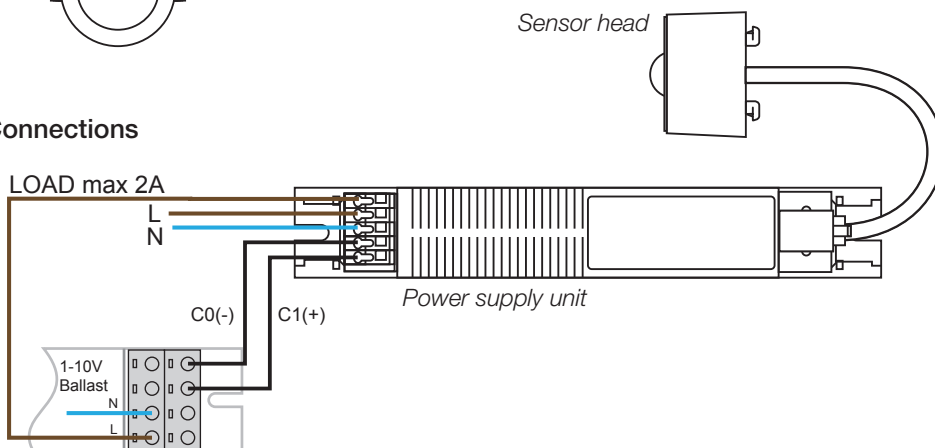
Power supply unit



Flush-mount Adapter



Connections

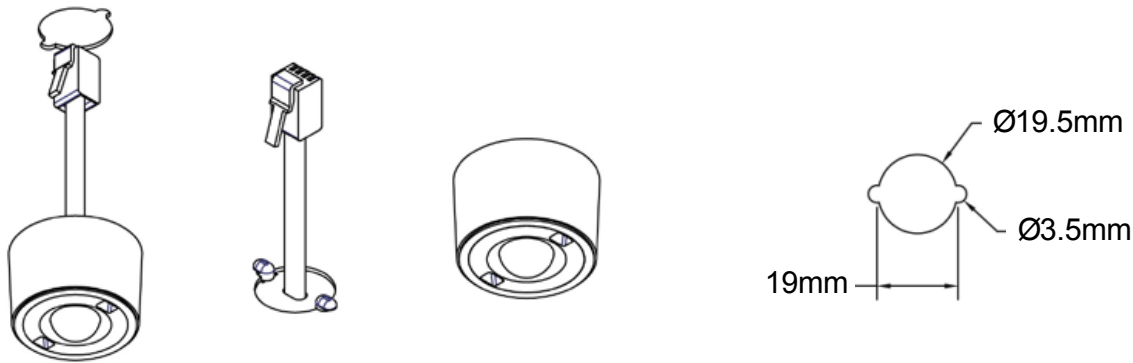


Installation

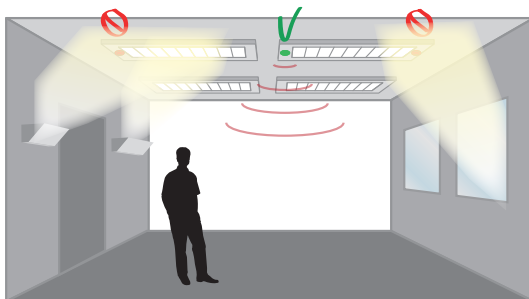
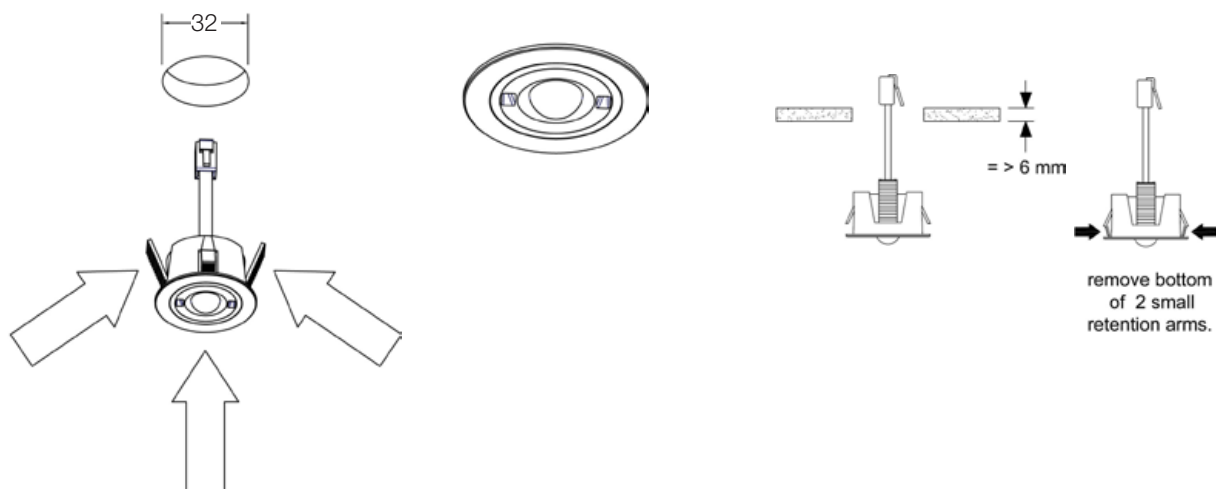
The product is designed to be mounted directly to a luminaire.

- the PIR lens must have a view outside the luminaire.
- for optimum operation the lens must be shielded as much as possible from the light source.
- If flush mounting in a panel >6mm thick, remove bottom of retention arms with side cutters.

Surface mounting



Flush Mounting



- A) Do not mount sensor in direct line of artificial light sources e.g. lamps, uplighters.
 B) Do not mount sensor in direct sunlight

Setup

Positioning

- The detector should be sited so that the occupants of the room fall inside the detection pattern shown in section 7, at a recommended ceiling height of 2.8m. Note that the lower the sensor is installed the smaller the detection range will be, subject to the parameters shown on the diagram.
- Avoid direct sunlight entering the sensor.
- Do not site within 1m of forced air heating or ventilation.
- Do not fix to a vibrating surface.

Settings

Time

Set the time period using the push button adjustment overleaf or the programming handset (see section 6). The factory default is 20 minutes.

Lux

SL-PIR-SW—switch level on lux setting determines the ambient light level at which the lights turn on. This can be set using the push button adjustment overleaf or the programming handset (see section 6). Setting to maximum ensures that lights always come on (this is also the default setting).

SL-PIR-AN—switch level on described above is available using the programming handset only. The push button lux adjustment determines the dimming output level and can be set using push button the programming handset light level and works as follows:

- During operation the output level varies very gradually. However when the level is changed the unit automatically enters setup mode: in this mode the output level varies rapidly. After the setup time the unit reverts to normal.
- When adjusting, allow the output level to settle by changing very gradually.
- To disable the constant light function completely, set the level to maximum.

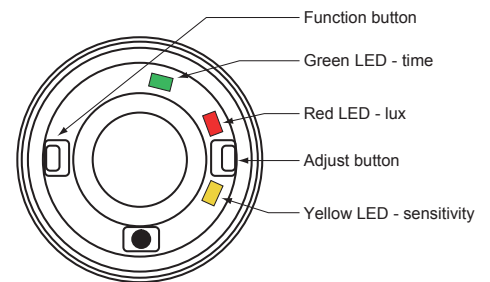
Programming handset

A host of other functions and settings are available using the programming handset—see section 5.

Push button adjustment

Time, Lux and Sensitivity

- Press and hold either button for at least 5 seconds then release: one of the LED's positioned behind the lens will flash to show which function has been selected.
- The LED will flash a number of times (between 1 and 7) to indicate the current setting (minimum = 1 flash, maximum = 7 flashes).
- To change between Time (green), Lux (red) and Sensitivity (yellow) press and release the function button until the required LED shows.
- When the function has been selected press the adjustment button to increase the setting by 1 step. Pressing the button after reaching 7 flashes will return the setting to 1 flash.
- Time settings are as follows: 1 flash = 1 minute; 2 flashes = 5 min.; 3 flashes = 10 min.; 4 flashes = 15 min.; 5 flashes = 20 min.; 6 flashes = 25 min.; 7 flashes = 30 min.



Lux settings























- SL-PIR-SW — 1 flash turns on when very dark ; 7 flashes turns on regardless of ambient light.
- SL-PIR-AN — 1 flash gives dim output level; 7 flashes gives maximum illuminance.
- Sensitivity: 1 flash minimum; 7 flashes maximum.
- After finishing adjustment, the LED will show the new setting 5 times and then return to operational mode.

Default settings

Pressing and hold both buttons together: after 3 seconds the green LED lights. Release immediately to restore the factory settings.

Programming

All the following functions can be programmed using the SA-IR-PROG handset:

Preset functions	Number of Shift key presses				Programmer Graphics	Description
	0  	1  	2  	3  		
	Button Activation					
On / Raise	On	Raise				Turn lights on or to raise lights.
Off / Lower	Off	Lower				Turn lights off or to lower lights.
Walk test	On	Off				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)	1, 10 & 20 minutes	5, 15 & 30 minutes	10 seconds			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)	2, 5 & 7	4, 6 & 9				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.
Light Level			2 (200) 5 (500) 7 (700)	4 (400) 6 (600) 9 (900)		Sets a target light level to be maintained by the lighting system.
Lux off level (Switch level off)	2, 5 & 7	4, 6 & 9				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".
Sensitivity	1, 5 & 9	3, 6 & 8				Sensitivity level for detecting movement. 1 = low sensitivity 9 = high sensitivity
Defaults			D			Returns the unit to the default settings.
Burn-in	0	50	100			Determines how long the output will be at 100% so that lamps 'burn-in'. The 'burn-in' time is not affected by power supply interruptions.
Presence / Absence	Presence	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.
Preset PRS	A	B				2 presets for Presence mode. See Product Guide for device to be programmed
Preset ABS	A	B				2 presets for Absence mode. See Product Guide for device to be programmed
Shift						Use this button to select the settings in red and blue signified by the 'Shift 1' and 'Shift 2' LEDs

Fault finding

LOAD DOES NOT COME ON

Check to see if the live supply to the circuit is good. Strap across the L and LIVE OUT (where used) terminal to turn the load on.

If the supply and wiring are good, check the LUX level setting. Increase the LUX level setting to allow the controller to turn on at higher ambient natural light level.

If the detection range is smaller than expected, check the diagram above. Rotating the sensor slightly may improve the range.

LIGHTS DO NOT GO OFF

Ensure that the area is left unoccupied for longer than the selected timer setting.

Make sure that the sensor is not adjacent to circulating air, heaters or lamps.

If the unit "false triggers" reduce the sensitivity using the sensitivity settings (see section 5 and 6).

Part numbers

SL-PIR-SW	Miniature PIR with switched (relay) output
SL-PIR-AN	Miniature PIR with 1-10V Analogue and switched (relay) output
Accessories	
SA-IR-PROG	IR programming handset

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 HU: +36 1 2393 136
 CN: + 86 512 6763 3078

IMPORTANT NOTICE!

This device should be installed by a qualified electrician in accordance with the latest edition of the IEE wiring regulations.

Product: µDim PIR sensors User Manual
 Doc No. T13 143 1B
 Issue 2