

Troubleshooting

The load will not switch on:

- The LUX adjuster is set too low and is inhibiting the switch.
- The SENS adjuster is set too low.
- The moving body is not emitting more IR than the background.
(Person wearing insulating clothing in a warm environment)
- Person is too far from the PIR switch, see detection diagram.
- Person is moving unusually slowly (perhaps when testing).

The load switches on when nobody is present:

- Heater causing infra-red variations in a cold small room or ceiling void drafts, fans, or moving sealed doors causing air movement.

Precautions and Warranty

This product conforms to BS EN 60669-2-1 and BS EN 55015.

Please ensure the most recent edition of the appropriate local wiring regulations are observed and suitable protection is provided e.g. a 10 amp circuit breaker and voltage surge protection. Please ensure that this device is disconnected from the supply if an insulation test is made.

This product is covered by a warranty which extends to 5 years from the date of manufacture.

Products available from DANLERS

- PIR occupancy switches • Daylight linked dimmers • Manual high frequency dimmers
- Photocells • Radio remote controls • Time lag switches • Outdoor security switches
- Dimmers • Heating, ventilation and air-conditioning controls • Bespoke / O.E.M. products

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Installation notes

Ceiling Plug-in PIR occupancy switch

CELO

DANLERS Ceiling plug-in passive infra-red occupancy switches (CELO) plug into a Klik-AX lighting ceiling socket, either round or square (DANLERS codes: CESO or CESO SQ). These mount onto either a BESA box (DANLERS code: CEBO) or a standard back box.

The CELO incorporates a passive infra-red quad sensor to detect movement of a warm body within its detection zone (diagram A) and a photocell to monitor the ambient light level.

Upon detecting movement, if the ambient light is dark enough, the CELO will switch the load on. The ambient threshold can be set by the user to between approximately 100 lux and infinite lux (photocell inactive) via the LUX adjuster (diagram B).

If no more movement is detected within a pre-selected time, then the CELO will switch the load off. This time lag can be set via the TIME adjuster to 10 seconds, 20s, 40s, 1 minute 15 seconds, 2m 30s, 5m, 10m, 20m or 40 minutes (diagram B).

CELO also incorporates a sensitivity adjuster, labelled 'SENS', to reduce the range and sensitivity of detection (diagram B).

Loading

The CELO should be connected to a 230V 50Hz ac supply

These PIR switches can switch up to:

- 6 amps (1500W) of resistive loads.
- 6 amps (1500W) of fluorescent loads.
- 3 amps (750W) of electronic and wire wound transformer loads.
- 2 amps (500W) of CFL, 2D lamps, LED Drivers and LED lamps and fittings.
- 1 amp (250W) of fans

Minimum load 2W resistive, suitable for most energy saving lamps, LEDs and emergency fittings.

For larger loads, the PIR can be used to switch a contactor.

Installation procedure

- Please read these notes carefully before commencing work.
In case of doubt please consult a qualified electrician.
- POSITIONING:** The CELO should be installed to achieve correct coverage of the area, see diagram A. If the photocell override facility is required, the switch must be located above an area where daylight can give greater illumination than the artificial light. Avoid locating this product where it is exposed to windy or draughty conditions (exposed lobbies, open ceiling voids or near ventilation fans) or near heat sources. To cover large areas CELOs should be spaced in a 5 metre grid formation.
- The greatest energy savings will be made if each CELO controls an independent set of lamps. They can be wired in parallel but this should ideally be limited to three, see diagram E.
- Make sure the power is isolated from the circuit.
The Klik_AX socket should be connected as shown in diagram C:
L - Live in. N - Neutral in. A - Switched Line out.

Start-up mode

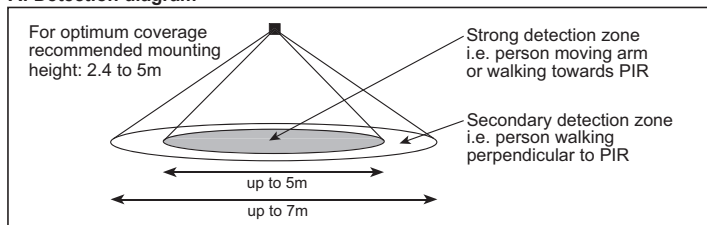
When the CELO is powered up, it will switch on the load for 1 minute, the load will then switch off and the CELO will enter its Operating Mode. If a manual override-off switch is positioned before the CELO in the circuit (diagrams D & E, note 1) it will do this each time the wall switch is switched on. Alternatively, if the wall switch is placed after the PIR (diagrams D & E, note 2) it will not enter the start-up mode each time.

Time and Lux set-up

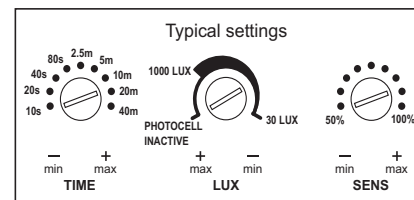
For convenience, ensure that the TIME is set to the minimum when setting up the LUX level. Afterwards set the TIME to a value suitable for the application, making reference to diagram B.

The LUX is best set up when the local ambient light is at approximately the minimum desired working light level. With the LUX set fully clockwise wait for the CELO to switch off. Rotate the LUX adjuster slowly anticlockwise (- to +), whilst waving your hand approximately 1m below the PIR, until the load switches on.

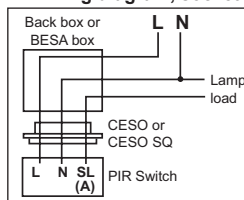
A: Detection diagram



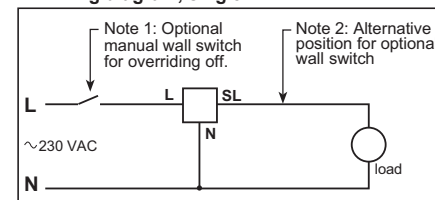
B: Adjusting time, lux and sensitivity



C: Wiring diagram, socket



D: Wiring diagram, single PIR



E: Wiring diagram, multiple PIRs

