

# DANLERS

## Installation notes

### Variants

DANLERS also design and manufacture an extensive range of Ceiling Flush Mounted PIR Occupancy Switch variants some of which are listed below and coded by the following suffixes and applied in this order:

- 12V or 24V 12V or 24V (ac or dc) operation
- VF Volt Free contacts
- GOLD or LG Gold or Logic Gold contacts
- NC Normally Closed contacts
- 3M 3 Metre (or other) length flex

Please contact us for full details or more information.

### Troubleshooting

#### The load will not switch on:

- The LUX adjuster is set too low and is inhibiting the switch.
- 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 small cold room.  
Re-site the CEFLPIRSEALED.
- Please contact DANLERS for further technical support.

### 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

Please call for more information or a free catalogue, or visit our website.

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## Ceiling flush PIR occupancy switches

### CEFLPIRSEALED

DANLERS ceiling flush passive infra-red occupancy switches (PIR) can be flush mounted into suspended and plasterboard ceilings (diagram A). They include a 2 metre connecting flex to make installation quicker and easier. CEFLPIRSEALED is suitable for bathrooms, zones 2 and 3.

These PIR switches incorporate a passive infra-red quad sensor to detect movement of a warm body within their detection zone (diagram B) and a photocell to monitor the ambient light level.

Upon detecting movement, if the ambient light is dark enough, the PIR switch will turn the load on. The ambient threshold can be set by the user to between approximately 30 lux and 1000 lux and maximum (photocell inactive) at the PIR via the LUX adjuster (diagram D).

If no more movement is detected within a pre-selected time, then the PIR switch will turn the load off. This time lag can be set via the TIME adjuster to 10 seconds, 20s, 40s, 80seconds, 2m30s, 5m, 10m, 20m or 40 minutes (diagram D).

### CEFLPIR variants

CEFLPIR	Standard flush mounted PIR occupancy switch
CEFLPPIR	Includes a Klik-AX plug.
CEFLPIR10A	Up-rated to switch 10A resistive loads.
CEFLAPIR	Flush mounted PIR absence switch

### Loading

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.

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

## Installation procedure

1. Please read these notes carefully before commencing work. In case of doubt please consult a qualified electrician.
2. **POSITIONING:** The PIR occupancy switch (PIR) should be installed to achieve correct coverage of the area, see diagram B. 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 drafty conditions (exposed lobbies, open ceiling voids or near fans) or near heat sources. To cover large areas PIRs should be spaced in a 5 metre grid formation.
3. The greatest energy savings will be achieved if each PIR controls an independent set of lamps. They can be wired in parallel but this should ideally be limited to three, see diagram E.
4. Make sure the power is isolated from the circuit.  
The PIR should be connected as shown in diagrams C & E:  
Brown: L (Live in). Blue: N (Neutral in). Black: SL(Switched Line out).  
Terminate the mains cable with the supplied terminal block (terminal blocks must comply with EN 60998-1 or EN 60998-2-1 and be suitable for 0.75- 1.5mm<sup>2</sup> conductors). In order to comply with wiring regulations, the terminal block must be enclosed in a suitable wiring box (This should comply with EN 60670-1 or EN 60670-22).

## Start-up mode

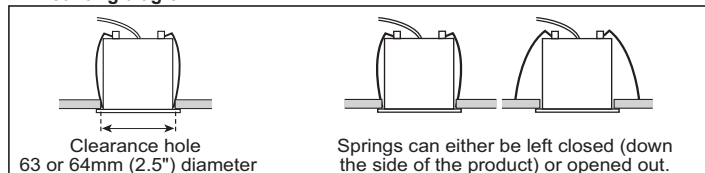
When the PIR is powered up, the PIR will switch on the lighting load for 1 minute then switch it off. After 2 seconds it will switch on again if it detects movement. With Time set to minimum the load will stay on for 10 seconds so the detection range can be easily assessed. If a manual override-off switch is positioned before the PIR in the circuit (diagrams C & 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 C & E, note 2) it will not enter the start-up mode each time.

## Time and Lux set-up

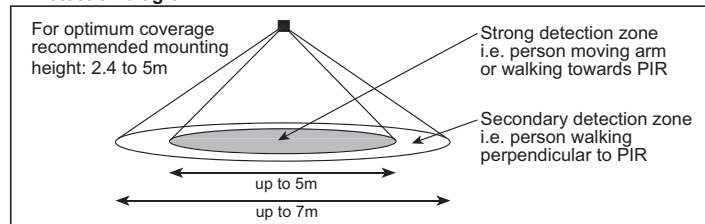
For convenience, ensure that the TIME is set to the minimum when setting up the LUX level. Afterwards set the TIME to a value suitable for the application, making reference to diagram B.

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

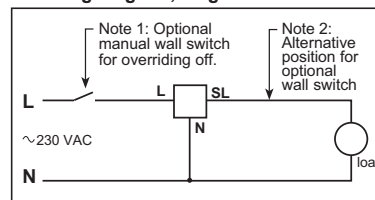
## A: Mounting diagram



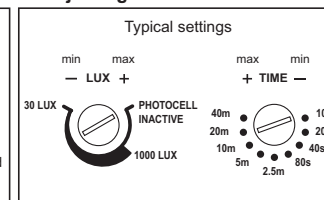
## B: Detection diagram



## C: Wiring diagram, single PIR



## D: Adjusting time and lux



## E: Wiring diagram, multiple PIRs

