

High bay PIR occupancy switches

HB PIR ND HB PIR SP HB PIR WD

DANLERS High bay passive infra-red occupancy switches can be mounted directly onto solid ceilings or onto a range of different mounting boxes.

They incorporate a passive infra-red quad sensor to detect movement of a warm body within its 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 will switch 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 A).

If no more movement is detected within a pre-selected time, then the PIR will switch the load off. This time lag can be set via the TIME adjuster to 10 seconds, 20 seconds, 40 seconds, 80 seconds, 2 minutes 30 seconds, 5 minutes, 10 minutes, 20 minutes or 40 minutes (diagram A).

These high bay controls are available in three types - each with a particular detection pattern which is optimised for particular applications.

HB PIR ND: Narrow Detection version is ideal for covering storage aisles.

HB PIR SP: Spot Detection version is ideal for smaller areas, such as the entrances to storage aisles.

HB PIR WD: Wide Detection version is ideal for large open areas, such as factories, sports halls and entrance halls.

Loading

The switch should only 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.

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.
- Please contact DANLERS for further technical support.

Precautions and Warranty

This product conforms to BS EN 60669-2-1. Product complies to Class 2 insulation.

Please ensure the most recent edition of the appropriate local wiring regulations are observed and suitable protection is provided e.g. 6 amps over current, 1kV over voltage. 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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Installation procedure

- Please read these notes carefully before commencing work. In case of doubt please consult a qualified electrician.
- POSITIONING:** The 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 windy or drafty conditions (exposed lobbies, open ceiling voids or near ventilation fans) or near heat sources.
- The greatest energy savings will be made 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 D.
- Make sure the power is isolated from the circuit. The PIR should be connected as shown in diagrams C & D:
 - SL - Switched Line out.
 - L - Not used or Live in (alternative terminal)
 - L - Live in.
 - N - Neutral in.
 - SW¹ - Not used
- Knockout or drill the appropriate holes on the mounting plate (See diagram E) for attaching the plate to the ceiling or back box (if applicable). Feed cables through the appropriate (side or rear) entry hole. Screw the back mounting plate to the ceiling or back box via the mounting holes. Wire the cables into the sensor head block terminal. Push the sensor head onto the mounting plate and align the side clips with the slots on the sensor heads.

Start-up mode

When the PIR is powered up, it will switch on the load for 1 minute, the load will then switch off and the PIR will enter its Operating Mode. If a manual override-off switch is placed after the PIR (diagrams C & D, note 2) it will not enter the start-up mode each time.

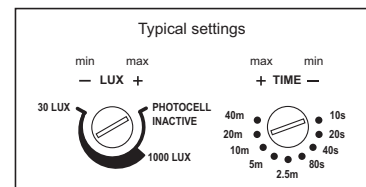
Time and Lux set up

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 A.

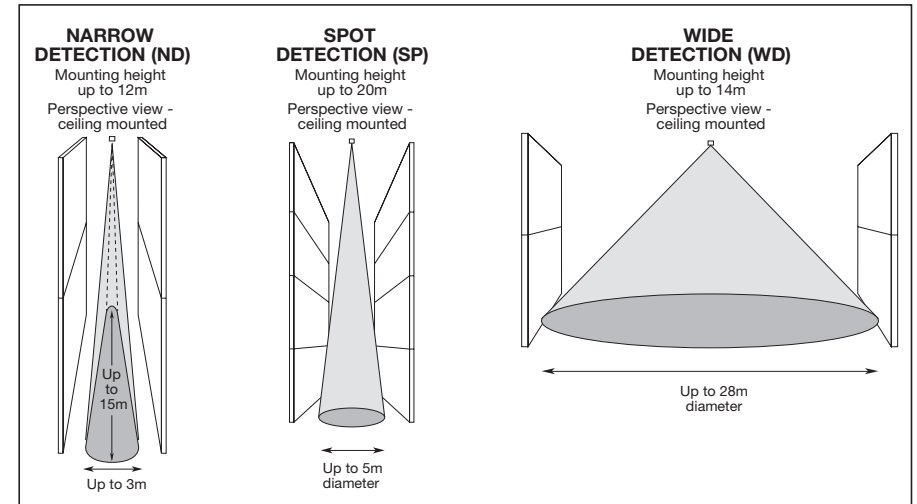
The LUX is best set up when the local ambient light is at approximately the minimum desired working light level, a lux meter placed on the surface under the PIR may help. With the LUX set fully clockwise wait for the PIR to switch off. Rotate the LUX adjuster slowly anticlockwise

(- to +), whilst waving your hand approximately 1m below the PIR, until the load switches on.

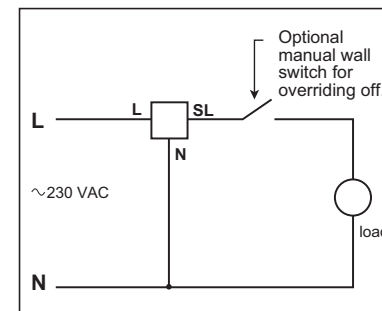
A: Adjusting time and lux



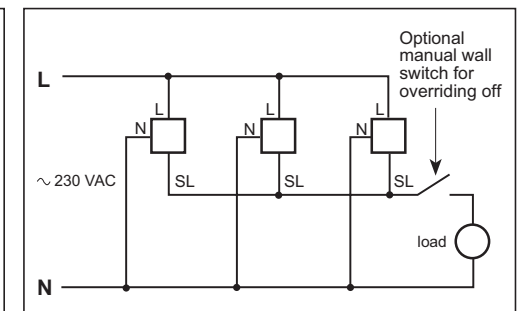
B: Detection diagrams



C: Wiring diagram, single PIR



D: Wiring diagram, multiple PIRs



E: Mounting plate fixing

