

Variants

CESRA PIR 10VDC: PIR occupancy switch (absence detection) with 10VDC daylight linked dimming (requires a momentary (retractive wall switch)).

Troubleshooting

The load will not switch on:

- 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).

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
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Installation notes

PIR occupancy switch with 10VDC dimming

CESR PIR 10VDC

DANLERS passive infra-red occupancy (presence detection) switches with closed loop control (CESR PIR 10VDC) can be used to control high frequency 10VDC dimmable ballasts.

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

CESR PIR 10VDC can be mounted directly onto solid ceilings or onto a range of different mounting boxes.

Functions

Upon detecting movement, CESR PIR 10VDC will switch the artificial lights ON to maximum value and start the closed loop control to maintain the preset lux level value (LUX) between 30 and 1000 lux (default value 1000 lux). See diagram C.

NO BACKGROUND ILLUMINANCE RUN ON TIME SET:

If no further movement is detected the lights will switch OFF after the set PIR hold timer (TIME) has expired. This time lag can be set via the TIME adjuster to 10 seconds, 20s, 40s, 80s, 2m30s, 5m, 10m, 20m or 40 minutes (default value 10 seconds). See diagram B.

BACKGROUND ILLUMINANCE RUN ON TIME SET:

If no further movement is detected the lights will FADE to minimum after the set PIR hold timer (TIME) has expired and stay at minimum until the background hold timer (RUN ON) has expired. The RUN ON time can be set via the RUN ON adjuster to 0, 1, 2, 5, 10, 15, 20, 30 minutes or infinite (default value is 0). See diagram C. If the PIR sensor is triggered while the background hold timer is counting down, the lights will switch ON at maximum and start the closed loop control to maintain the set lux level value.

Loading

They can dim up to 20 x 1-10V dimmable ballasts, assuming each ballast has a constant current output of 1mA.

These PIR switches can also switch up to:

- 6 amps (1500W) of dimmable fluorescent lamps.
 - 2 amps (500W) of CFL, LED Drivers and LED lamps and fittings.
- Minimum load 2W.

Installation procedure

- Please read these notes carefully before commencing work.
In case of doubt please consult a qualified electrician.
- POSITIONING:** The CESR PIR 10VDC should be installed to achieve correct coverage of the area, see diagram A. Avoid locating this product where it is exposed to drafty conditions (exposed lobbies, open ceiling voids or near fans) or near heat sources.
- Make sure the power is isolated from the circuit.
The PIR should be connected as shown in diagram D:
 SL Switched Line out
 L Live in
 N Neutral in
 DA - - control line (Polarity dependant)
 DA + + control line (Polarity dependant)
 SW₁ Not used
- Knockout or drill the appropriate holes on the mounting plate for attaching the plate to the ceiling or back box (if applicable). Feed cables through the appropriate (side or rear) entry hole (see diagram E). 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.

Time / Run-on / Lux set up

The LUX adjuster spindle on the side of the PIR is used to regulate the automatic daylight linked dimming function lux level (see diagram C opposite). This should be adjusted in situ by rotating the LUX adjuster slowly anticlockwise (+ to -) so that the desired level of brightness is achieved under the luminaire(s) being controlled.

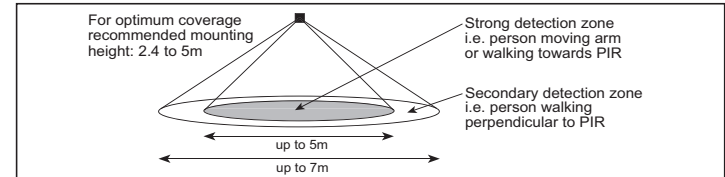
Once the correct level is achieved and there has been no further adjustment to the LUX spindle, CESR PIR 10VDC will go through a 30 second delay before the automatic closed loop control will start.

CESR PIR 10VDC incorporates a fixed 90 second fade rate from maximum to the set back level.

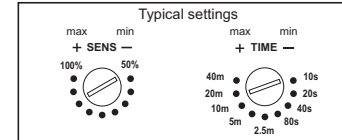
Sensitivity

CESR PIR 10VDC incorporates a sensitivity adjuster, labelled 'SENS', to reduce the range of detection from 100% to 50% in 9 steps (see diagram B opposite).

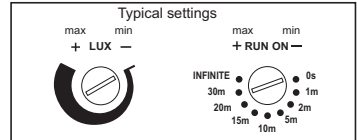
A: Detection diagram



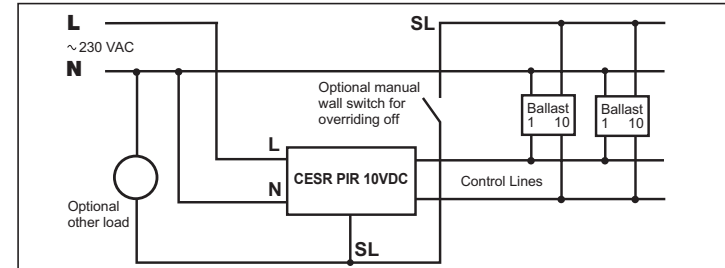
B: Adjusting SENSITIVITY and TIME



C: Adjusting LUX and RUN-ON



D: Wiring diagram, CESR PIR 10VDC controlling several 10VDC dimmable ballasts



E: Mounting plate fixing

