

## CEFL PIRDD DSI Ceiling flush mounted PIR occupancy switch with daylight linked dimming

The CEFL PIRDD DSI is designed to control dimmable lamp ballasts which have a DSI control input. It is also fitted with an internal auxiliary relay to enable additional auxiliary loads to be turned ON & OFF. The relay contact can switch many types of load including electronic/electrical control gear. It cannot switch SON, Mercury or HID lamps.

The unit controls the dimmable ballast in the following way:

When the passive infra-red detector (PIR) detects the movement of a warm body within its detection zone, the auxiliary relay is switched 'ON' and the DSI signal is regulated as determined by the light level detected by the built-in photocell. The DSI signals are controlled until no movement has been detected for the time period set by the TIME control. The DSI signal then ramps down to minimum, then both the main lamps and auxiliary relay switch OFF after 2 minutes, this relay can control auxiliary or corridor lamps - allowing time for any occupant to vacate the area.

1. Read these notes before commencing work.
2. In case of doubt, consult a qualified electrical contractor.
3. **IMPORTANT - SITING.** The switch should be placed over the area where activity is expected. Avoid siting this product where it is exposed to windy or drafty conditions, such as in exposed lobbies or in ceilings open to roof voids. Some of the light emitted by each of the lamps controlled by the unit must fall onto the detection zone of the unit. The auxiliary lamp output should be less than 25% of the total artificial light within the detection zone of the unit.

4. The detection range is in the form of a cone approximately 5m to 7m in diameter at floor level with the unit mounted between 2.5m and 3.0m above the floor.

5. Make sure power is switched off from the circuits you are working on by removing appropriate fuses, or switching off appropriate isolating switches.

6. The wiring diagram is as opposite:

Wire identification for CEFL PIRDD DSI cable:

Brown - live

Blue - neutral

Black - switched line

Blue and Red Pair - DSI control lines

Notes: DSI ballasts allow the DSI control lines to be polarity independent, therefore it doesn't matter which way the blue and red DSI control wires are connected to the ballast terminals D1 and D2, however neither of the DSI control lines should be tied to any other line. The DSI system is single master, only one control per ballast or group of ballasts, the CEFL PIRDD DSI units cannot be wired in parallel and manual DSI ballast dimming cannot be combined.

7. Connect the switch according to the wiring diagram above. When the mains supply is initially connected to the PIR switch it turns on the DSI and auxiliary loads for 3 minutes during its start-up mode period. The PIR switch then turns off both lamp loads and enters its automatic mode. Movement near the switch will cause it to switch on (subject to the room brightness and photocell setting), and then, if there is no more movement, it will go off after the set time lag.

8. There are two adjustment spindles positioned on the side of the switch labelled TIME and LUX.

**TIME** The "TIME" adjustment setting determines how long the auxiliary and DSI dimmed lights (dependent on the ambient light level) remain on after the switch has last detected movement. This ranges from 10 seconds to 40 minutes in nine discrete steps as follows:- 10, 20, 40 seconds, 1.25, 2.5, 5, 10, 20, 40 minutes. (These times are approximate to +/- 20%.)

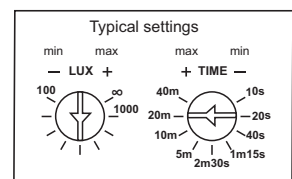
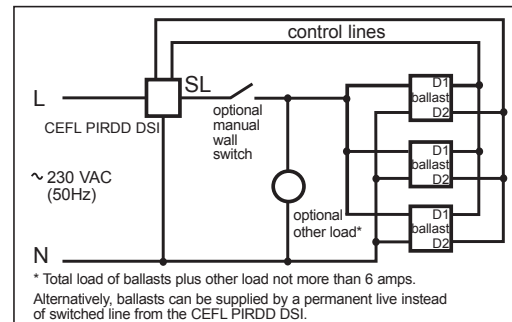
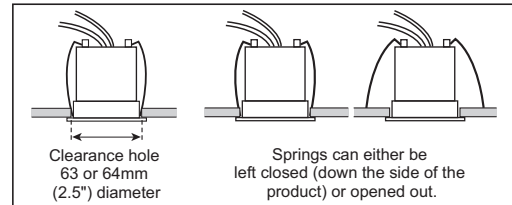
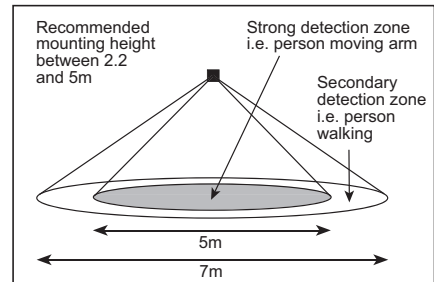
**LUX** The "LUX" adjuster should be set to the design lux level, which must be at least 80% of the maximum possible output of the auxiliary and DSI dimmed lamps. An LED is provided to aid the setting of the "LUX" level, which must take place when there is no natural light, i.e. at night or with blackout blinds in place:- Lower the unit from the ceiling, set the "LUX" setting to minimum and ensure the unit is pointing vertically down. Do not shade or otherwise interfere with the ability of the PIR to measure the lux level falling on the work surface below. Ensure the relevant Auxiliary and DSI dimmable lamps are fully ON, for the DSI lamps this is achieved by disconnecting both the D1 and D2 control lines and powering the DSI ballast. Slowly increase the "LUX" setting until the LED extinguishes, this is the approximate maximum lux from the lamps, a more accurate reading can be achieved by placing a lux meter on the working surface. If the design lux level is greater than the measured lux level more lamps will need to be installed. If the design lux level is more than 20% less than the measured level lamps will need to be removed, this helps increase lamp life and reduce running costs. Otherwise the "LUX" setting can be reduced by up to 20% to achieve the design LUX level.

### 9. ELECTRICAL RATING

Mains input: 230V ac +/- 10% 50Hz.

Load current: Up to 6amps rms, resistive and fluorescent lamp loads.

DSI loading: Up to 50mA (i.e. 20 ballasts at 2.5mA each)



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