# ZoneLite control unit

The new Flex Connectors ZoneLite is an intelligently configurable all in one lighting control solution for many commercial lighting applications.

Control can vary from ON/OFF/DIM, dependent on occupancy to light level detection.

The ZoneLite features 4 output channels, 1 maintained emergency feed output, 4 sensor inputs and 4 switch inputs. The 4 output channels can independently provide either DSI or DALI dimming protocols. Or the channel can be set to provide conventional switching.

The ZoneLite is available with 4, 16 & 20 socket outlets. The socket outlets are grouped into 4 independently controlled channel outputs. Each socket has a dedicated maintained emergency feed supply.

The ZoneLite provides 12 switch inputs via 4 switch drop leads. Each of the switch inputs (depending on the configuration) can perform a dedicated function. These can include switching, dimming or scene selection.

The ZoneLite features 4 independent sensor ports. That can be used to for the connection of multifunction sensors heads. The sensor head functions can include; PIR motion detection, daylight sensing and remote handset infrared operation. 1 master sensor head and up to 4 slave sensor heads can be connected (configuration program dependent) to any one of the sensor ports.

## Products available:

**FZl04T1111** Four socket, four channel control for DSI or DALI digital dimmable ballasts.

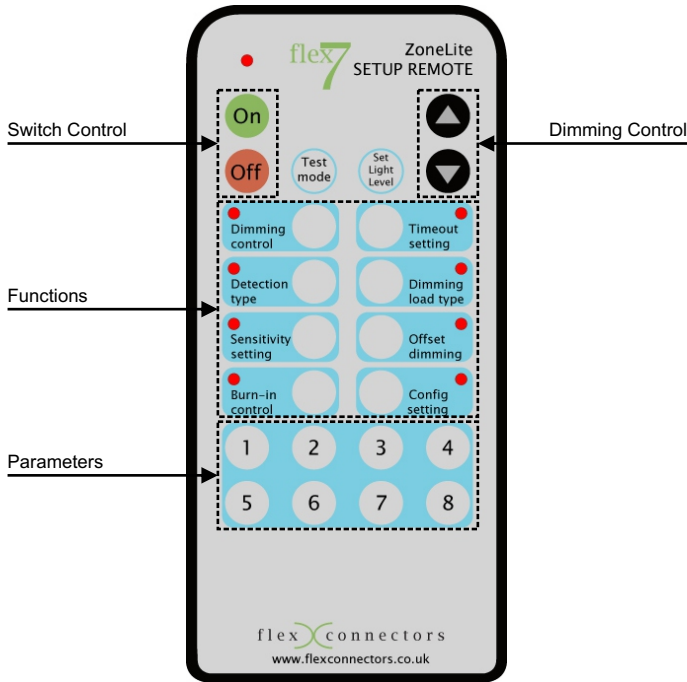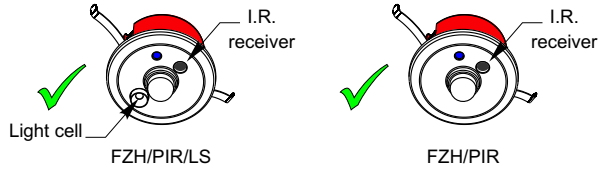**FZL16T4354** Sixteen socket, four channel control for DSI or DALI digital dimmable ballasts.

**FZL20T5465** Twenty socket, four channel control for DSI or DALI digital dimmable ballasts.
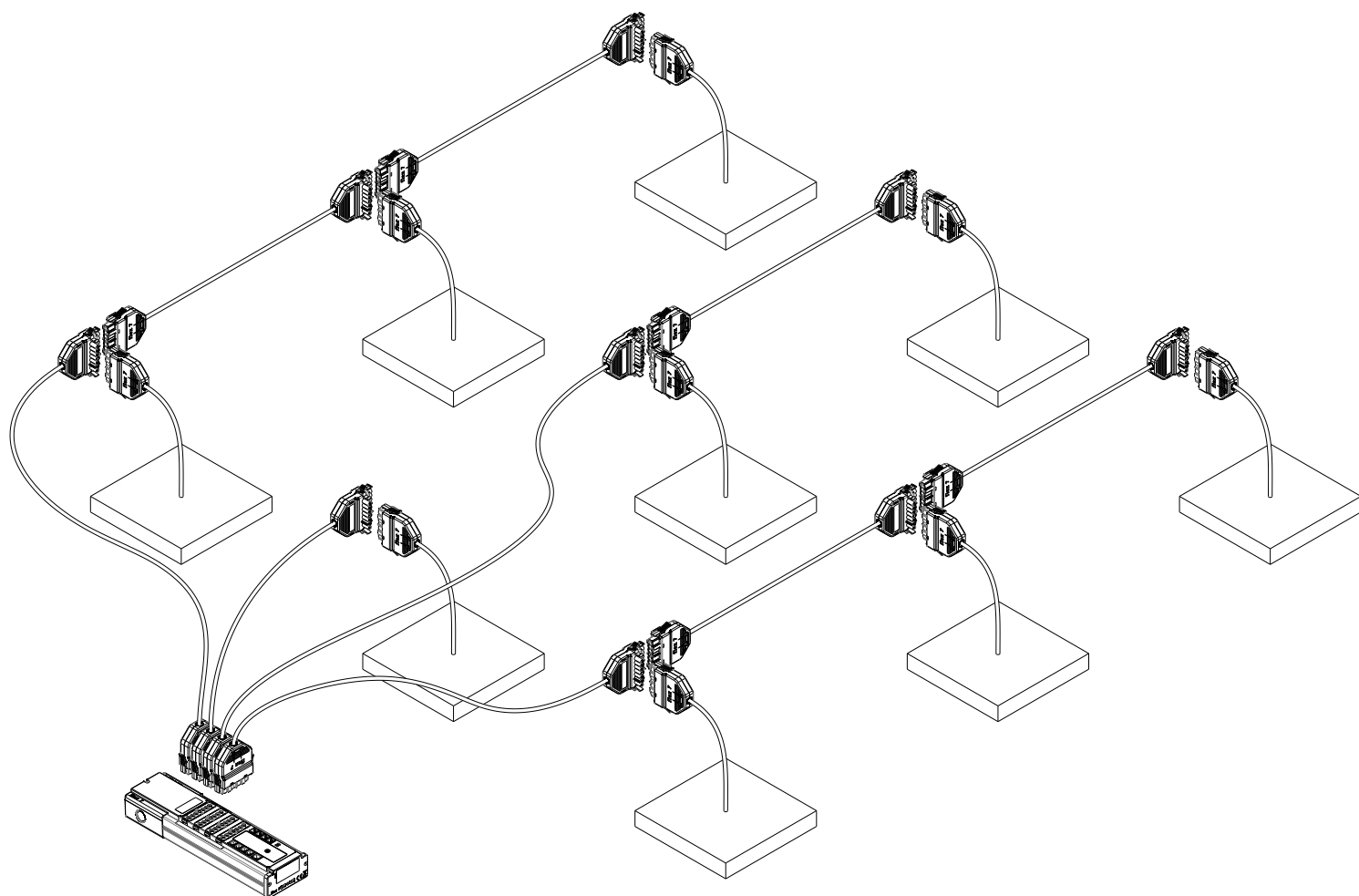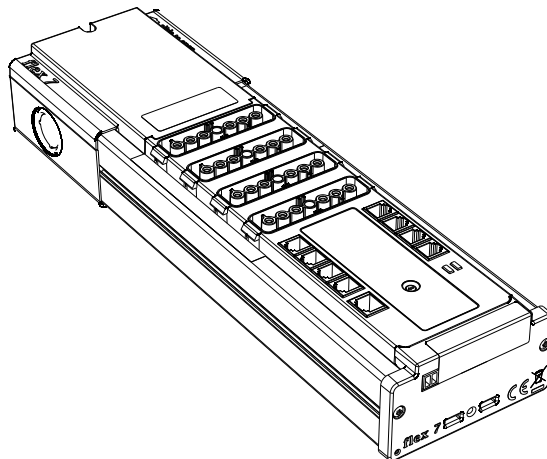
### Required components for remote handset control

Before starting ensure your sensor head is one of either the fzh/pir or fzh/pir/ls with the red outer casing. Check the sensor head is powered by observing the blue LED flashing whenever occupancy is detected.

I.R. receiver

Light cell

FZH/PIR/LS

I.R. receiver

FZH/PIR

**Switch Control**

flex7 ZoneLite SETUP REMOTE

On

Off

Test mode

Set Light Level

**Dimming Control**

**Functions**

Dimming control

Timeout setting

Detection type

Dimming load type

Sensitivity setting

Offset dimming

Burn-in control

Config setting

**Parameters**

1  2  3  4

5  6  7  8

flex connectors
www.flexconnectors.co.uk

The **ZoneLite** has some features that can be adjusted to further suite the application. These features can be adjusted using the **ZoneLite** setup remote handset. Details of the parameters that can be adjusted are listed on the following sections. Please see the individual function sections for more details.

- Dimming control,
- Timeout period setting,
- Sensor detection type,
- Dimming load type, (DSI or DALI)
- PIR sensitivity setting,
- Dimming offset amount,
- Burn-in control,
- Configuration settings

**To change a parameter:**

Firstly, press the desired function button from the 8 available functions (Dimming control to config. setting). The corresponding remote handset function LED will illuminate, to indicate that it is active.

Secondly, press the appropriate desired parameter button (1-8). When the button is released the green sensor head LED will flash the number of times according to the button pressed.
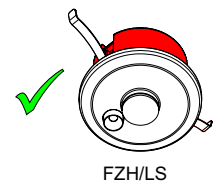
Replacement batteries: AAA x2

### Required components for Daylight linking & dependency:

Before starting ensure your sensor head is the fzh/pir/ls with the red outer casing. Check the sensor head is powered by observing the blue LED flashing whenever occupancy is detected.

IR receiver

Light cell

FZH/PIR/LS
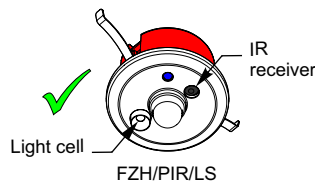
### Optional extra

To average the light level reading. Ensure your sensor head is the fzh/ls with the red outer casing.

FZH/LS

Use the 'on/off' or 'dim up/down' buttons to achieve the desired light level.

flex7 ZoneLite SETUP REMOTE

On

Off

Test mode

Set Light Level

Dimming

Daylight linking/ dependency setup button

### Daylight linking operation

Lights are automatically regulated to compensate for any changes in ambient light in order to maintain a constant light level (target level) under the sensor head.
Daylight linking can work in one of two ways:

Daylight linking to min (see) - Lights can only daylight link down to a minimum brightness (i.e. they do not switch OFF completely).

Daylight linking to off (see) - Lights can daylight link all the way down to OFF.
More precisely - if, after 5 minutes, of daylight linking at minimum brightness and the detected light is still significantly brighter than the target-level - the lights will switch OFF completely.

The lights will turn back ON again, if the detected light level subsequently falls below the target-level.

Before starting ensure your installation is complete, all lights are operational and preferably any furnishings are in their final positions.

### Daylight dependency operation

For ON/OFF channel control only (see)
Lights switch OFF - if, for a period exceeding 5 minutes:
Detected light level > target level + (the lights own contribution x 125%).
(5 seconds, if occupancy time-out is set to 'test 10 secs').

Lights switch ON - provided they would otherwise be ON with occupancy, if:
Detected light level < target level.

.Before starting ensure your installation is complete, all lights are operational and preferably any furnishings are in their final positions.

### Achieving and setting the target level

Use a light meter held at arms length and at waist height so that the meter is pointing up at the sensor head (not directly into any one fitting). Adjust the lights to desired level (target level) using the 'ON / OFF' buttons or if dimmable fittings, the 'Dim up / Dim down' buttons. In the event that there is too much daylight and you can not get down to the desired illumination it may be necessary to close blinds / curtains etc. or to carry out the set up at night. Once satisfied with the light level, stand slightly away from the sensor and using the remote control press and hold the 'set light level' button until the LED on the sensor head stops flashing (usually after 5 seconds). Then release the button and the LED will flash just once more to confirm that a light level setting will be attempted. The sensor head now runs through a routine to record the light level under various conditions - this means the lights will turn 'ON' or 'OFF' and possibly dim down over a period of the next 5 - 10 seconds. The exact routine will vary depending on your type of channel control. Provided this sequence was observed the target level has now been set.
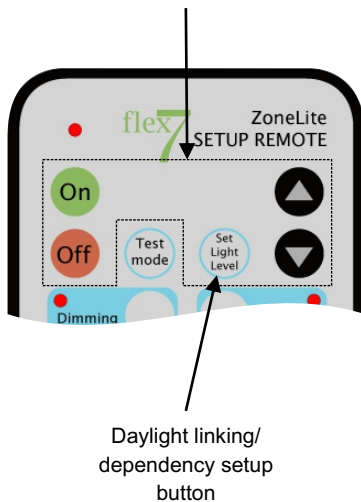
* Please switch lights off and on to initiate the new settings.

## Test Mode (walk test)
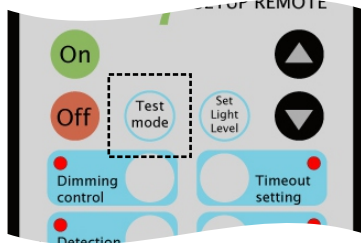
The **Zonelite** can be put into a test mode, to enable a walk test of the lighting installation. This mode will reduce all the timeout periods within the **ZoneLite** to 10 seconds.

**To put the ZoneLite into test mode:**
1. Press & hold the Test Mode button on the remote handset. The LED on the sensor head will rapidly flash.
2. When the LED stops rapidly flashing (usually after 5 seconds), then release the button. The LED will flash twice to confirm.

**To take the ZoneLite out of test mode:**
1. Briefly press the test mode button for 1 second. The LED will flash while the button is pressed, and will stop when the button is released.

## Switch feedback (indication)

Switch feedback/Fault LED
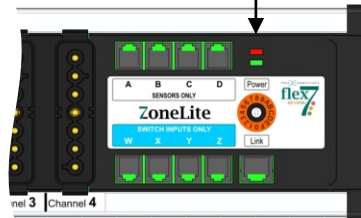
While in test mode the **ZoneLite** will indicate the last active switch input received. This will be indicated using the red LED on the **ZoneLite**. The red LED will flash according to the sequence listed in the table opposite to identify the last active switch input.
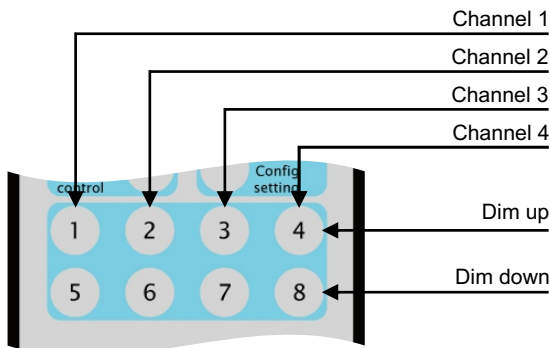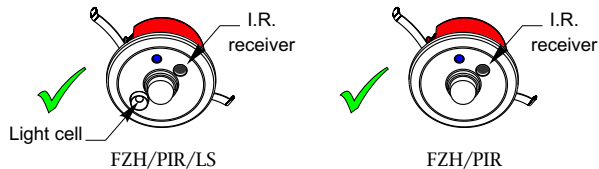
This is useful for identifying which port an installed switch is connected to when the physical connections can not be seen.

| Switch Port input | | Flashes |
|---|---|---|
| **W** | Red core | 1 pause 1 |
| | Green core | 1 pause 2 |
| | Yellow core | 1 pause 3 |

| Switch Port input | | Flashes |
|---|---|---|
| **X** | Red core | 2 pause 1 |
| | Green core | 2 pause 2 |
| | Yellow core | 2 pause 3 |

| Switch Port input | | Flashes |
|---|---|---|
| **Y** | Red core | 3 pause 1 |
| | Green core | 3 pause 2 |
| | Yellow core | 3 pause 3 |

| Switch Port input | | Flashes |
|---|---|---|
| **Z** | Red core | 4 pause 1 |
| | Green core | 4 pause 2 |
| | Yellow core | 4 pause 3 |

## Setting up a scene using the ZoneLite setup remote handset

Required components for User control:
Before starting ensure your sensor head is one of either the fzh/pir or fzh/pir/ls with the red outer casing. Check the sensor head is powered by observing the blue LED flashing whenever occupancy is detected.

I.R. receiver
Light cell
FZH/PIR/LS

I.R. receiver
FZH/PIR

Channel 1
Channel 2
Channel 3
Channel 4

Dim up
Dim down

The brightness of each of the available channels (provided dimming is enabled) can be adjusted by the ZoneLite setup remote parameter buttons.

**1**. While none of the function buttons are active. (All function LEDs are unlit).
**2**. Use the parameter buttons 1 - 8 as illustrated in the diagram, opposite. To brighten or dim the lights on each available channel to your desired levels.
**3**. use either the Flex7 user remote (see above) or preset switch input, (if configured, see chosen configuration) to store the scene.

Note: You can only dim the channels that the targeted sensor head is configured to operate.

## Dimming Control
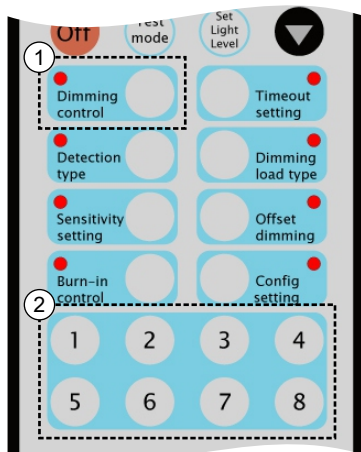
The dimming control settings can enable or disable Manual dimming and/or daylight linking feature for your chosen configuration. Adjustment of the dimming control setting will only alter the channels that the targeted sensor head is configured to operate. Please see your chosen configuration.

**Manual dimming:** The lights can be dimmed using either the appropriate switch drop input (provided your configuration has this feature) or via the remote control.
**Daylight link to Min:** The lights will dim according the natural light level in the area, ranging from maximum brightness down to the minimum brightness set in the **ZoneLite** (10% default)
**Daylight link to Off:** The lights will dim according the natural light level in the area, ranging from maximum brightness down to off.

① Select the Dimming Control adjustment mode by pressing the Dimming Control button.

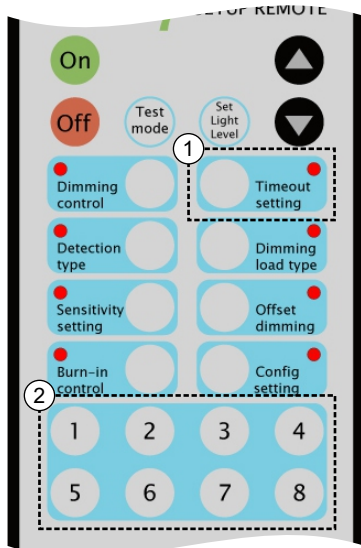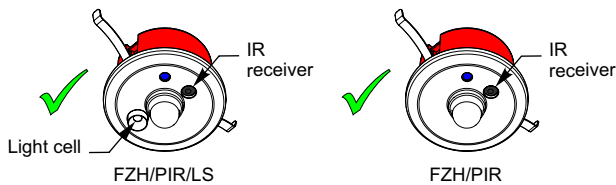② Use parameter buttons 1-6 to select the desired dimming control feature.

| Dimming Control | | | |
|---|---|---|---|
| Button | Manual dimming | Daylight link to Min | Daylight link to Off |
| 1 | YES | NO | YES |
| 2 | YES | YES | NO |
| 3 | YES | NO | NO |
| 4 | NO | NO | YES |
| 5 | NO | YES | NO |
| 6 | NO | NO | NO |
| 7-8 | N/A | | |

\* Please switch lights off and on to initiate the new settings.
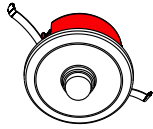
## Time-Out setting

IR receiver

IR receiver

Light cell

FZH/PIR/LS

FZH/PIR

### Note:

fzh/pir/sl does not require setting up, it inherits the occupancy time-out period from its parent fzh/pir or fzh/pir/ls sensor head connected in parallel.

Working in conjunction with the **fzh** series of sensor heads. The time-out period for the lights can be adjusted to suit the desired environment.

The sensor comes factory set to a 20 minute time-out period. If another time-out period (up to 60 minutes) is desired, then an **fzl/rc** remote control will be required. (ordered separately) 'The period of time set on a sensor that holds light/s on after the last movement is detected.'

Adjustment of the time-out setting will only alter the channels that the sensor head in question is configured to operate.

**On** / **Off** / Test mode / Set Light Level / ▲ ▼

Dimming control / **Timeout setting** (1)

Detection type / Dimming load type

Sensitivity setting / Offset dimming

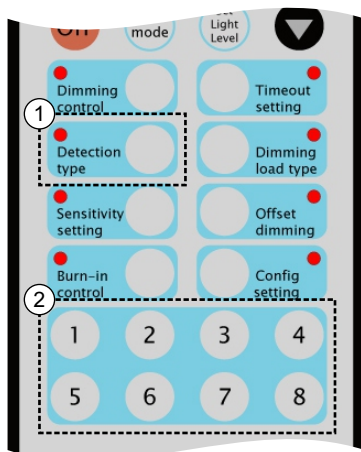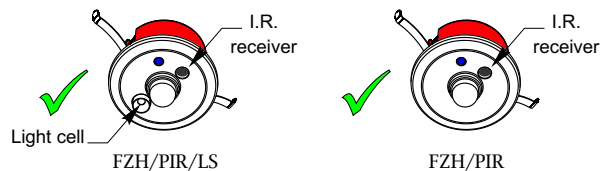Burn-in control / Config setting

(2) 1 2 3 4 / 5 6 7 8

(1) Select the Time-out adjustment mode by pressing the time-out setting button.

(2) Use parameter buttons 1-8 to select the desired time-out period.

| Time-out setting function | |
|---|---|
| Button | Parameters |
| 1 | 2 minutes |
| 2 | 5 minutes |
| 3 | 10 minutes |
| 4 | 20 minutes |
| 5 | 30 minutes |
| 6 | 40 minutes |
| 7 | 60 minutes |
| 8 | Disabled (Motion detection) |

## Detection type

I.R. receiver

I.R. receiver

Light cell

FZH/PIR/LS

FZH/PIR

Off / mode / Light Level / ▼

Dimming control / Timeout setting

(1) Detection type / Dimming load type

Sensitivity setting / Offset dimming

Burn-in control / Config setting

(2) 1 2 3 4 / 5 6 7 8

### Detection type
Working in conjunction with the **FZH** series of sensor heads and depending on the type of switch used. The detection type for the **ZoneLite** (channel/s) can be configured to be 1 of 3 types of motion detection.

Absence (Momentary switch input required)
The light/s will not switch ON, when motion is detected by the connected sensor head. The lights are initiated ON by the switch. When motion is no longer detected, the lights will switch OFF after the pre-selected time-out period.

Occupancy (Presence)
The light/s will switch ON, when motion is detected by the connected sensor head. Provided the lights were previously switched off after the pre-selected time-out period. When motion is no longer detected, the light/s will switch OFF after the pre-selected time-out period.

Presence only - For specials (Momentary switch input required)
The lights need to be switched OFF by the switch. The light/s will not switch off automatically, when motion is no longer detected. When motion is detected by the connected sensor head, the lights will switch ON. Provided the lights were switched OFF by the switch & the pre-selected time-out period has finished.

(1) Select the detection type by pressing the detection type button.

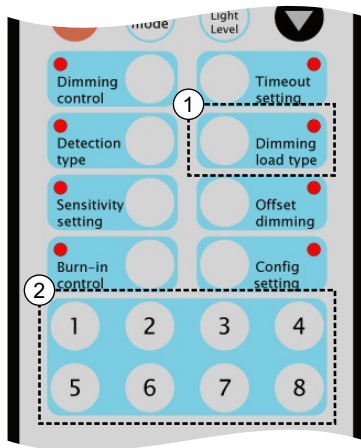(2) Use parameter buttons 1-3 to select the desired detection type.

| Detection type function | |
|---|---|
| Button | Parameters |
| 1 | Absence & Presence |
| 2 | Absence only |
| 3 | Presence only |
| 4-8 | n/a |

| Optional Extras - Increasing Occupancy Coverage - **FZH/PIR/SL** |
|---|

fzh/pir/Slave

Occupancy coverage can be increased by adding up to a maximum of 3 slave sensor heads (fzh/pir/sl) to your existing sensor head. The fzh/pir/sl can be ordered separately and comes complete with a 'Y' adaptor to facilitate connection. A connecting lead may also be required, part number fslXX (XX = length /5m).

## Dimming Load Type

The dimming output of each of the channels can be independently switched between DSI or DALI.



(1) Select the dimming load type mode by pressing the dimming load type button.

(2) Use parameter buttons 1-8 to switch the required desired channels to the desired dimming type.

| Dimming load type function | |
| --- | --- |
| Button | Parameters |
| 1 | Output 1 is DSI |
| 2 | Output 2 is DSI |
| 3 | Output 3 is DSI |
| 4 | Output 4 is DSI |
| 5 | Output 1 is DALI |
| 6 | Output 2 is DALI |
| 7 | Output 3 is DALI |
| 8 | Output 4 is DALI |

## Sensitivity setting
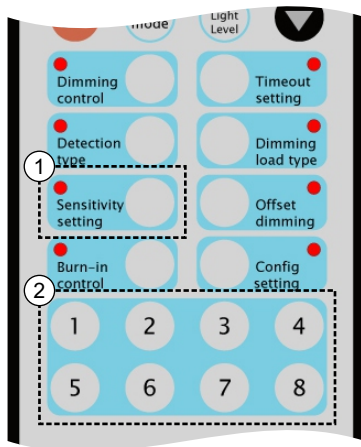
If required, the sensitivity of the fzh series pir motion detector can be adjusted. This is in aid of difficult installation situations. when the sensor head is positioned too close to a HVAC outlet.
*Please note adjustment of this feature can severely effect the operation of the sensor head.*



(1) Select the sensitivity mode by pressing the sensitivity setting button.

(2) Use parameter buttons 1-8 to select the desired sensitivity setting.

| Sensitivity setting function | | |
| --- | --- | --- |
| Button | Parameters | Sensitivity |
| 1 | Setting 1 | Increased |
| 2 | Setting 2 **(default)** | ↑ |
| 3 | Setting 3 | |
| 4 | Setting 4 | |
| 5 | Setting 5 | |
| 6 | Setting 6 | |
| 7 | Setting 7 | ↓ |
| 8 | Setting 8 | Decreased |
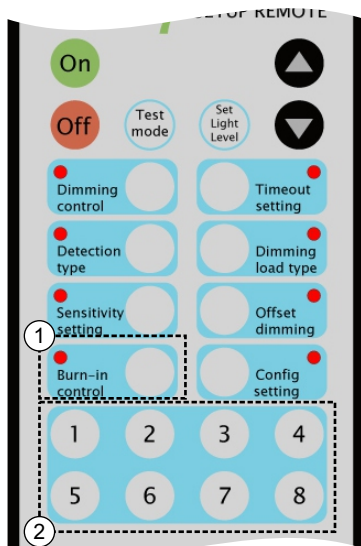
## Set-back control

On specific configurations. Set-back control can set 1 of 4 available set-back illumination levels or set-back delayed time-out periods.

Please see configuration for details on the set-back operation.



(1) Select the set-back mode by pressing the burn-in control button.

(2) Use parameter buttons 1-8 to activate or disable the burn-in function on the required channel output.

| Sensitivity setting function | |
| --- | --- |
| Button | Parameters |
| 1 | Set-back to 10% (minimum) |
| 2 | Set-back to 20% |
| 3 | Set-back to 30% |
| 4 | Set-back to 50% |
| 5 | Set-back delay disabled |
| 6 | 10min Set-back delay |
| 7 | 30min Set-back delay |
| 8 | 60min Set-back delay |

## Offset dimming
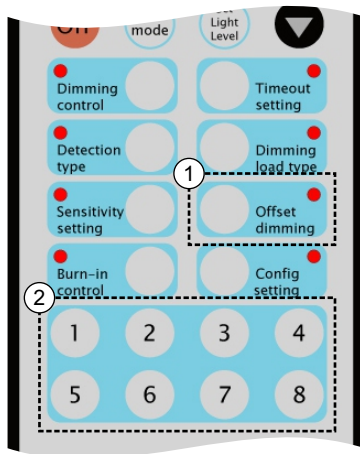
Provided the offset is enabled. If required, the offset amount can be altered using the offset dimming feature.

Adjustment of the Offset dimming control will only alter the channels that the sensor head in question is configured to operate.

(1) Select the offset mode by pressing the offset dimming button.

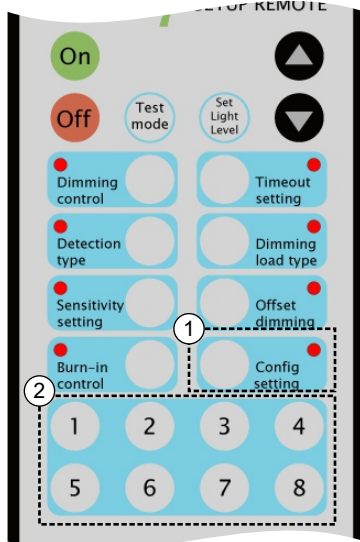(2) Use parameter buttons 1-8 to select the desired offset.

Offset Example

Row B is offset brighter than row A by a 10% offset. While row C is offset brighter that row B by 10% also.



| | | A |
| | | B |
| | | C |
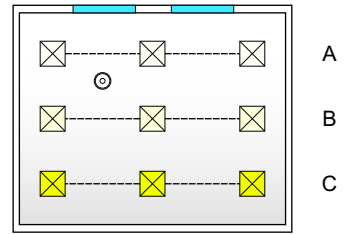
### Offset dimming function

| Button | Parameters |
|--------|-----------|
| 1 | 0% (No offset) |
| 2 | 10% Brighter |
| 3 | 20%Brighter |
| 4 | 30% Brighter |
| 5 | 40% Brighter |
| 6 | 50% Brighter |
| 7 | 60% Brighter |
| 8 | 150% Brighter (max brightness) |

## Configuration setting

Configuration setting:

(1) Select the configuration mode by pressing the config setting button.

(2) Use parameter buttons 5-8 to select the desired setting.

### Configuration setting function

| Button | Parameters |
|--------|-----------|
| 1-4 | n/a |
| 5 | ZoneLite Restart |
| 6 | Master mode off |
| 7 | Master mode on |
| 8 | Master reset (saved settings will be erased) |

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