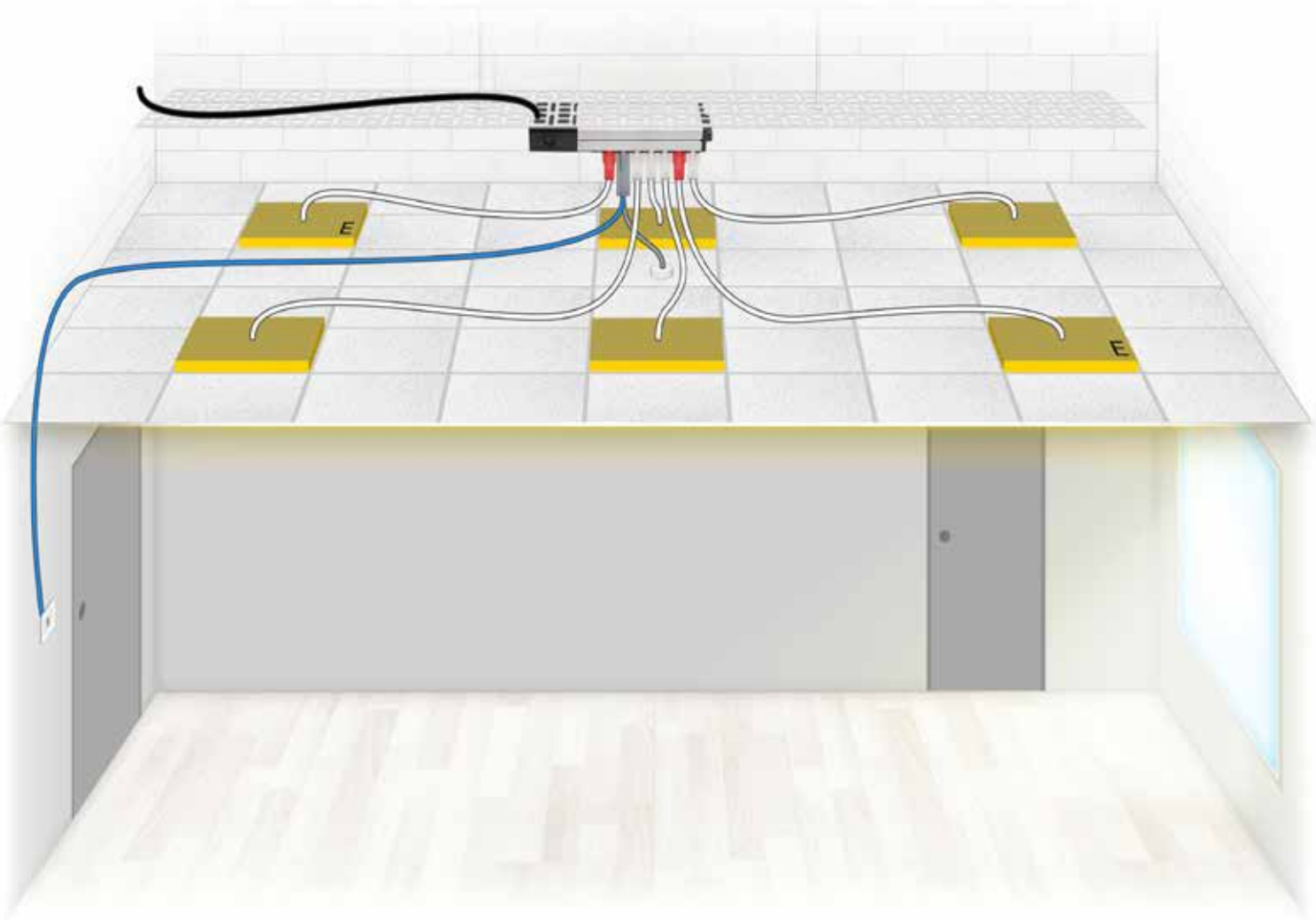
# Lighting connection & control applications

flex7



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# flex7 Applications

When you choose products from flex7 you can be certain that you've opted for a lighting connection & control system that offers unrivalled flexibility combined with the simplest of installation methods.

This brochure details a number of lighting control applications commonly found in commercial buildings, ranging from simple on/off switching, manual dimming, setting and recalling scenes, occupancy / absence control all the way through to daylight linking.

The scenarios may be diverse but regardless of which one suits your requirements, the only on-site terminations are the 4 conductors of your fixed wiring (Perm. Live / Em. Live / Neutral / CPC) at the Distribution Box terminals, allowing you to standardise your installation method time after time, whatever the final control type or its complexity.


## Modular Design

At the heart of our flex7 System is the fundamental of plug-in modularity which, as well as dramatically reducing installation time, also offers a trouble-free upgrade and maintenance path going forward. If requirements change or a device needs replacing, simply unplug the old one and plug in the new.

Manufactured in accordance with BS 5733, products can even be unplugged and plugged back in on load – no need to isolate the circuit and plunge multiple areas, and their occupants into darkness.

## Example Applications

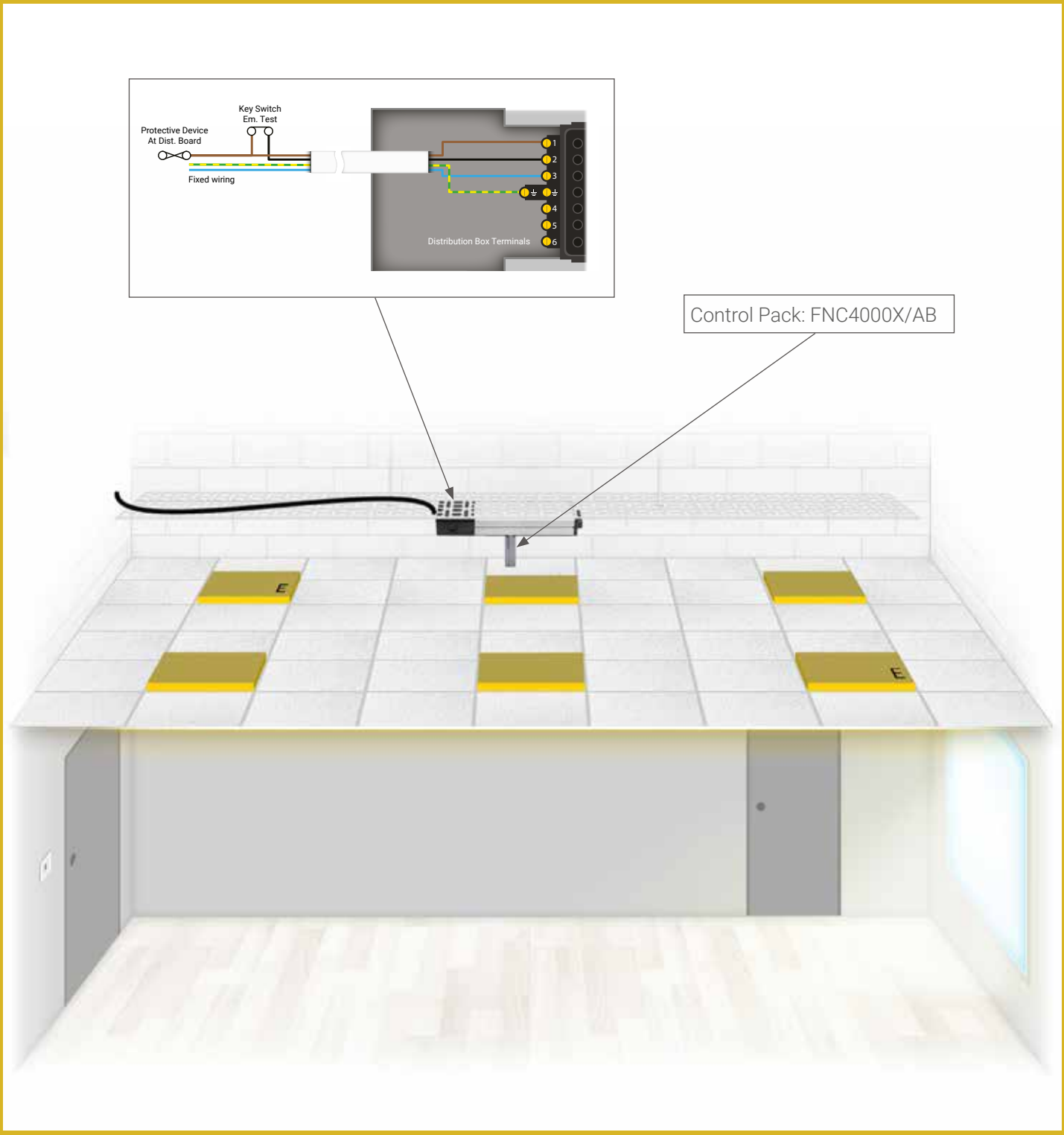
For each application we've included an image of a typical room, a device, operation and installation overview, and list of the flex7 products used. In many cases it's possible to combine features from one application with features from others.

There are more than 700 standard products that make up our flex7 System. This is merely a snapshot of what's possible using a limited basket of just 14 of them, so if the application you're looking for doesn't appear in this brochure please contact us on 020 8580 1066. Our Technical team will be able to advise as to the most appropriate products to use in order to achieve the result you're looking for.

# Simple Wiring

The following applications all use the same flex7 Distribution Box and Control Pack as their starting point. The fixed wiring terminations at the Distribution Box terminals are identical in every case.

The varying control scenarios are achieved simply by plugging different flex7 Peripheral Control Devices into the Control Pack and the choice of Luminaire Lead, either DALI or non-DALI.



# The only products used in the following applications are:

## FSU08

7-pole, 8 outlet Lighting Distribution Box.

## FNC4000X/AB

Control Pack.

## FNH400

PIR Sensor Head.

## FNH/AUX

PIR Sensor Head for extending coverage of FNH400.

## FWS01/K/AB/W/WP



White 1-gang Switch. 2 position centre return.

## FSS04/K/W/WP

White Scene Set Plate.

## FSL05

Sensor Link Lead.

## FSL10/BL

Switch Drop Lead.

## FSY/A

Y adaptor. For connecting multiple Sensor Heads or Switches to a single Control Pack .

## FL3100LSHF5/W

3-core Luminaire Lead for use with standard on/off fittings.

## FL4100LSHF5/R

4-core Luminaire Lead for use with maintained emergency fittings.

## FL5100LSHF5/BD

DALI Luminaire Lead for use with luminaire controlled by DALI protocol.

## FL6100LSHF5/RD

DALI Luminaire Lead. Use with maintained emergency luminaire controlled by DALI protocol.

## FRC/SET

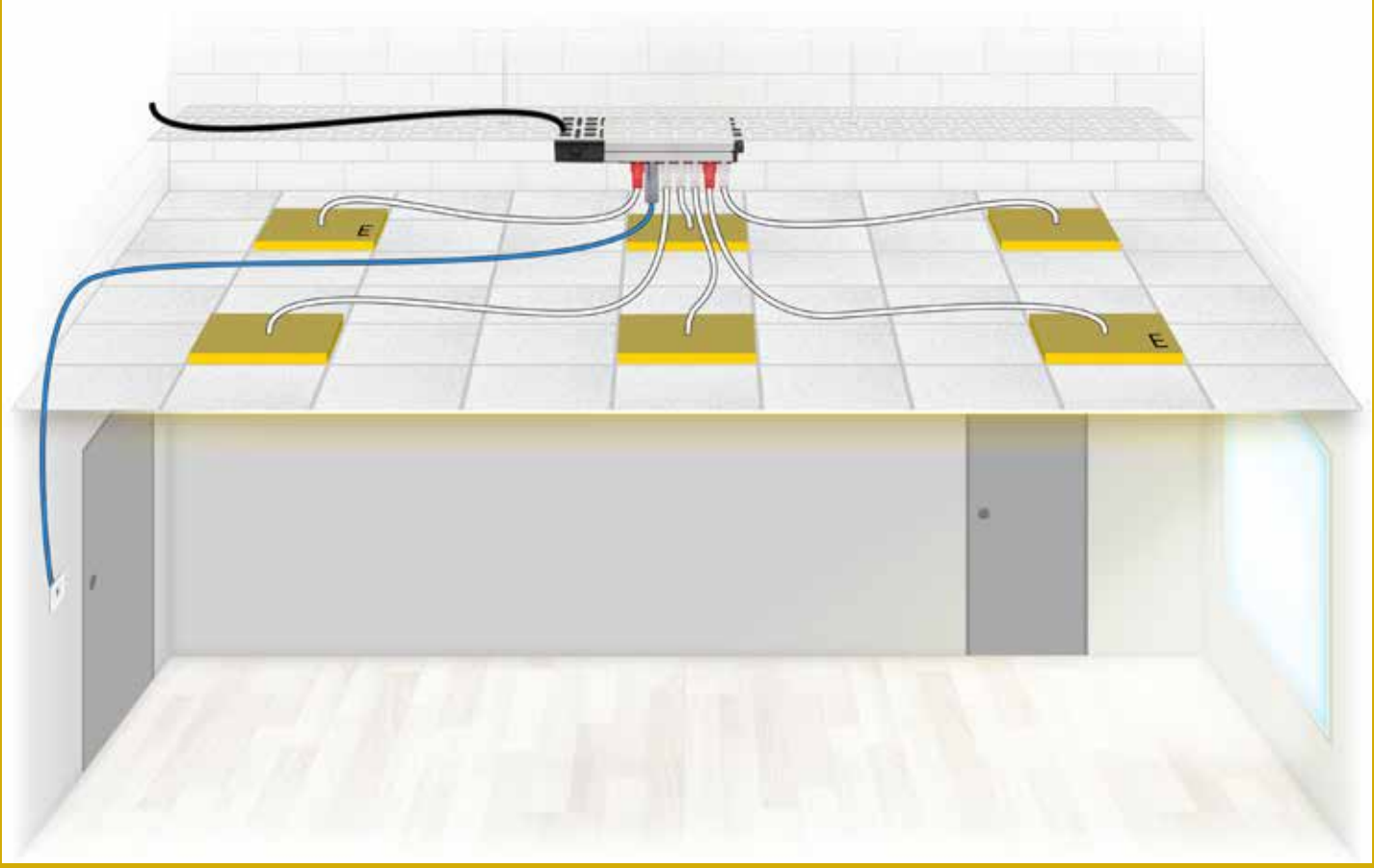
Setup Remote Control*

* Required to change PIR time-out from default 20 minutes, set target light level for daylight linking applications. Other parameters that can also be enabled/disabled with the FRC/SET include:

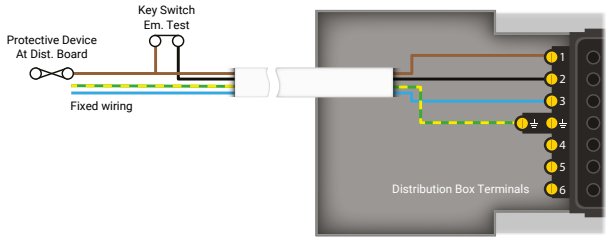
Presence/Absence
Daylight Dependency
Manual Regulating

1 x FRC/SET can be used to commission all installations (no need to purchase multiple units).

# Manual On/Off Switching



## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Switch | FWS01/K/AB/W/WP |
| 1 x Switch Drop Lead | FSL10/BL |
| 4 x Standard (on/off) Luminaire Lead | FL3100LSHF5/W |
| 2 x Maintained Emergency Luminaire Lead | FL4100LSHF5/R |

## Control Device Properties

Switch is a 2 position centre return type ie. it can be pulsed up/down but when released always returns to the centre position.

Switch operates at Protected Extra Low Voltage (PELV) - nominally 5V.

## Operation

Luminaires are all turned on/off manually using the flex7 Switch. Pulse in one direction to send an on signal and the other to send an off signal.

## Installation

1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the Switch - it mounts onto a standard 25mm deep single box with 60.3mm centres.
4. Plug the Control Pack into any outlet on the Distribution Box.
5. Plug one end of the Switch Drop Lead into the Control Pack.
6. Plug one end of the Switch Drop Lead into the Switch.
7. Plug the luminaires into any outlet on the Distribution Box.

## Tips and Tricks

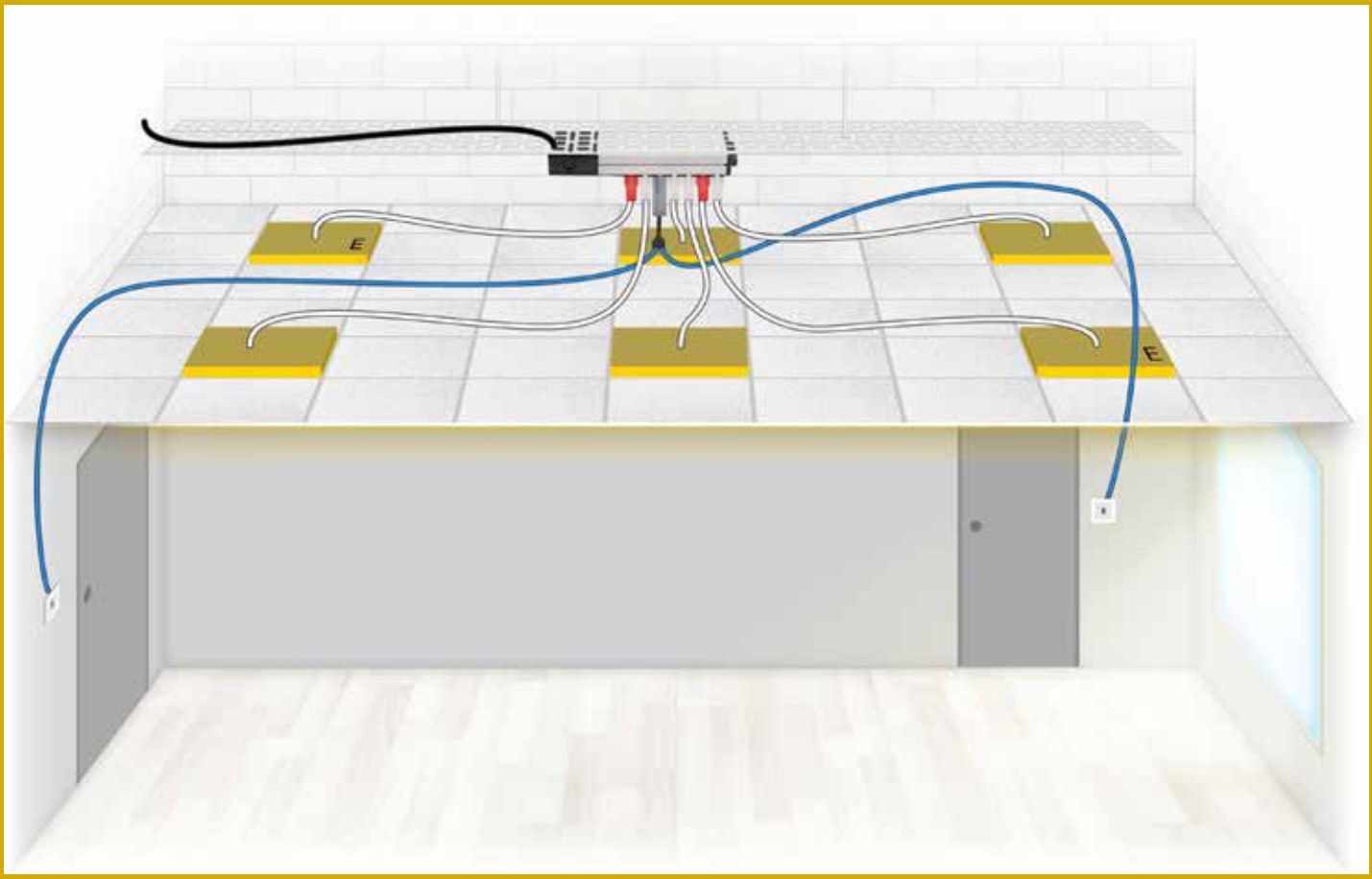
When using the Switch a 'pulse' should be ≤1 second.

Holding the Switch in one position > 1 second will have no effect in this particular scenario - if the lights are on they'll remain on and vice versa.

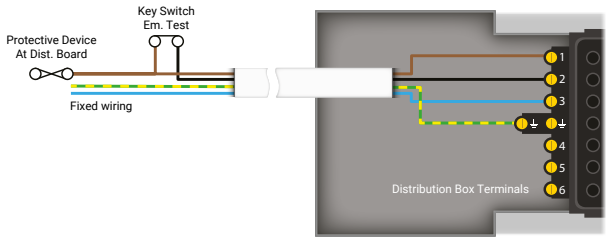
Because flex7 controls operate at Protected Extra Low Voltage, compliance with IET Wiring Regulation (BS 7671:2018+A2:2022) 522.6.204 is met in most cases without the need for earthed mechanical protection covering/enclosing the Switch Drop Lead or the addition of RCD protection of the particular circuit at the distribution board.

Installers must ensure compliance with BS 7671 in every instance.

# Manual On/Off Switching - 2 x Switches



## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 2 x Switch | FWS01/K/AB/W/WP |
| 1 x Y Connector | FSY/A |
| 2 x Switch Drop Lead | FSL10/BL |
| 4 x Standard (on/off) Luminaire Lead | FL3100LSHF5/W |
| 2 x Maintained Emergency Luminaire Lead | FL4100LSHF5/R |

## Control Device Properties

Switches are 2 position centre return type ie. they can be pulsed up/down but when released always returns to the centre position.

Switches operate at Protected Extra Low Voltage (PELV) - nominally 5V.

## Operation

Luminaires are all turned on/off manually using either of the flex7 Switches. Pulse in one direction to send an on signal and the other to send an off signal.

## Installation

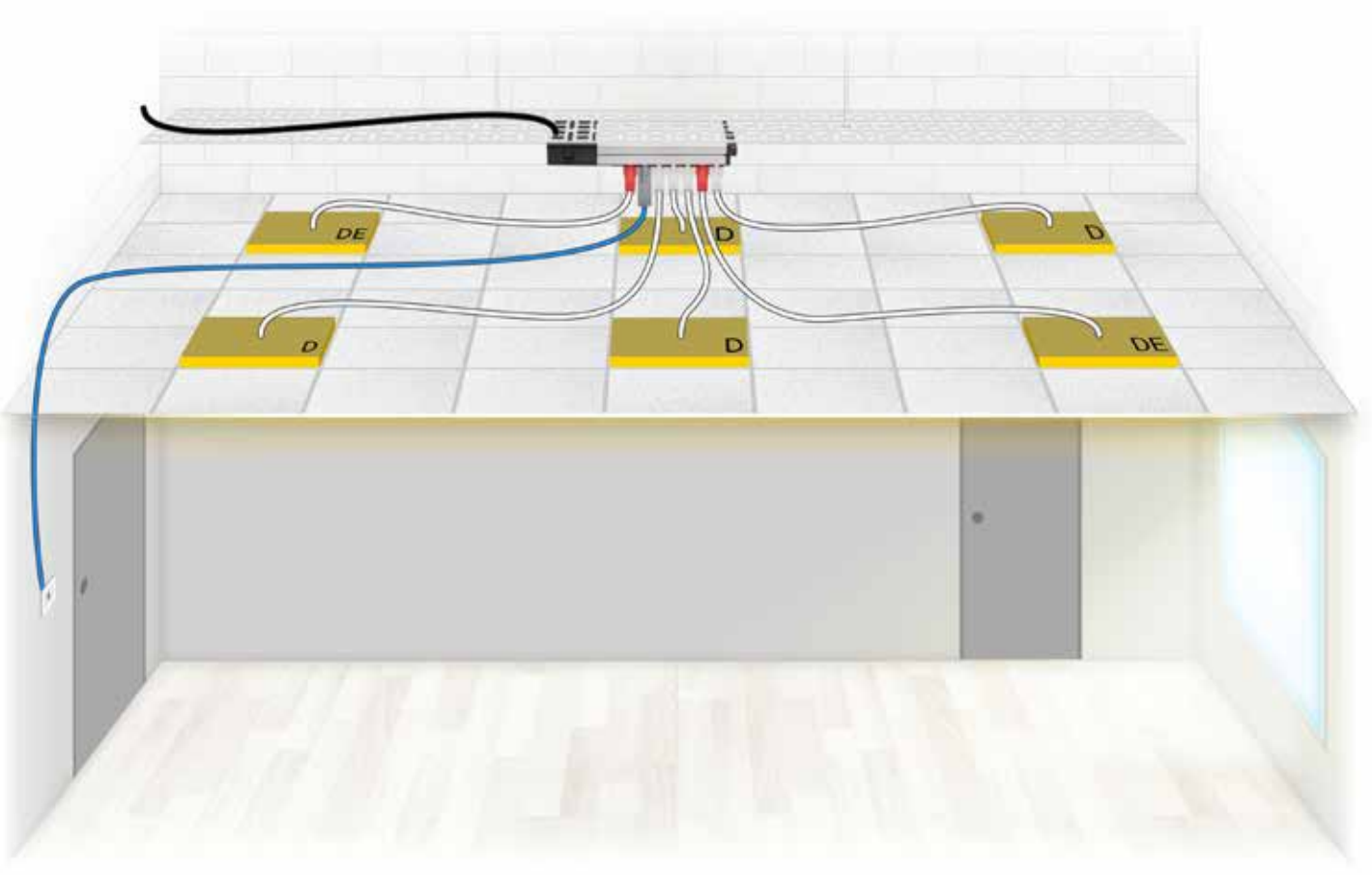
1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the Switches - they mount onto standard 25mm deep single box with 60.3mm centres.
4. Plug the Control Pack into any outlet on the Distribution Box.
5. Plug Y Connector into Control Pack.
6. Plug one end of each Switch Drop Lead into the Y Connector.
7. Plug one end of each Switch Drop Lead into a Switch.
8. Plug the luminaires into any outlet on the Distribution Box.

## Tips and Tricks

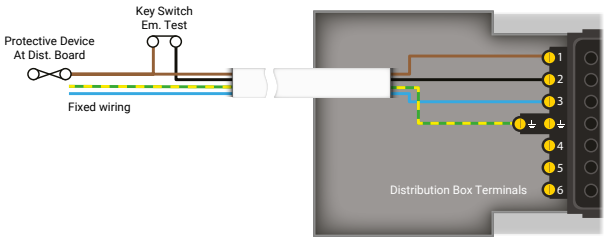
More Switch positions can be added as required simply by incorporating more Y Connectors, Switch Drop Leads and Switches into the installaton.

Because our system works using retractive type Switches to send on/off PELV signals rather than traditional latched Switches operating at mains potential, there's no need to incorporate strappers for 2-way / intermediate terminations - everything from flex7 plugs in.

# Manual On/Off Switching With Dimming




## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Switch | FWS01/K/AB/W/WP |
| 1 x Switch Drop Lead | FSL10/BL |
| 4 x DALI Luminaire Lead | FL5100LSHF5/BD |
| 2 x DALI Maintained Emergency Luminaire Lead | FL6100LSHF5/RD |

## Control Device Properties

Switch is a 2 position centre return type ie. it can be pulsed up/down but when released always returns to the centre position.

Switch operates at Protected Extra Low Voltage (PELV) - nominally 5V.

## Operation

Luminaires are all turned on/off manually using the flex7 Switch. Pulse in one direction to send an on signal and the other to send an off signal.

Whilst on, the light output of all luminaires can be increased or decreased by holding the Switch in the up or down position. Release the Switch when the desired light level is reached.

All luminaires must have DALI drivers / control gear.

## Installation

1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the Switch - it mounts onto a standard 25mm deep single box with 60.3mm centres.
4. Plug the Control Pack into any outlet on the Distribution Box.
5. Plug one end of the Switch Drop Lead into the Control Pack.
6. Plug one end of the Switch Drop Lead into the Switch.
7. Plug the luminaires into any outlet on the Distribution Box.

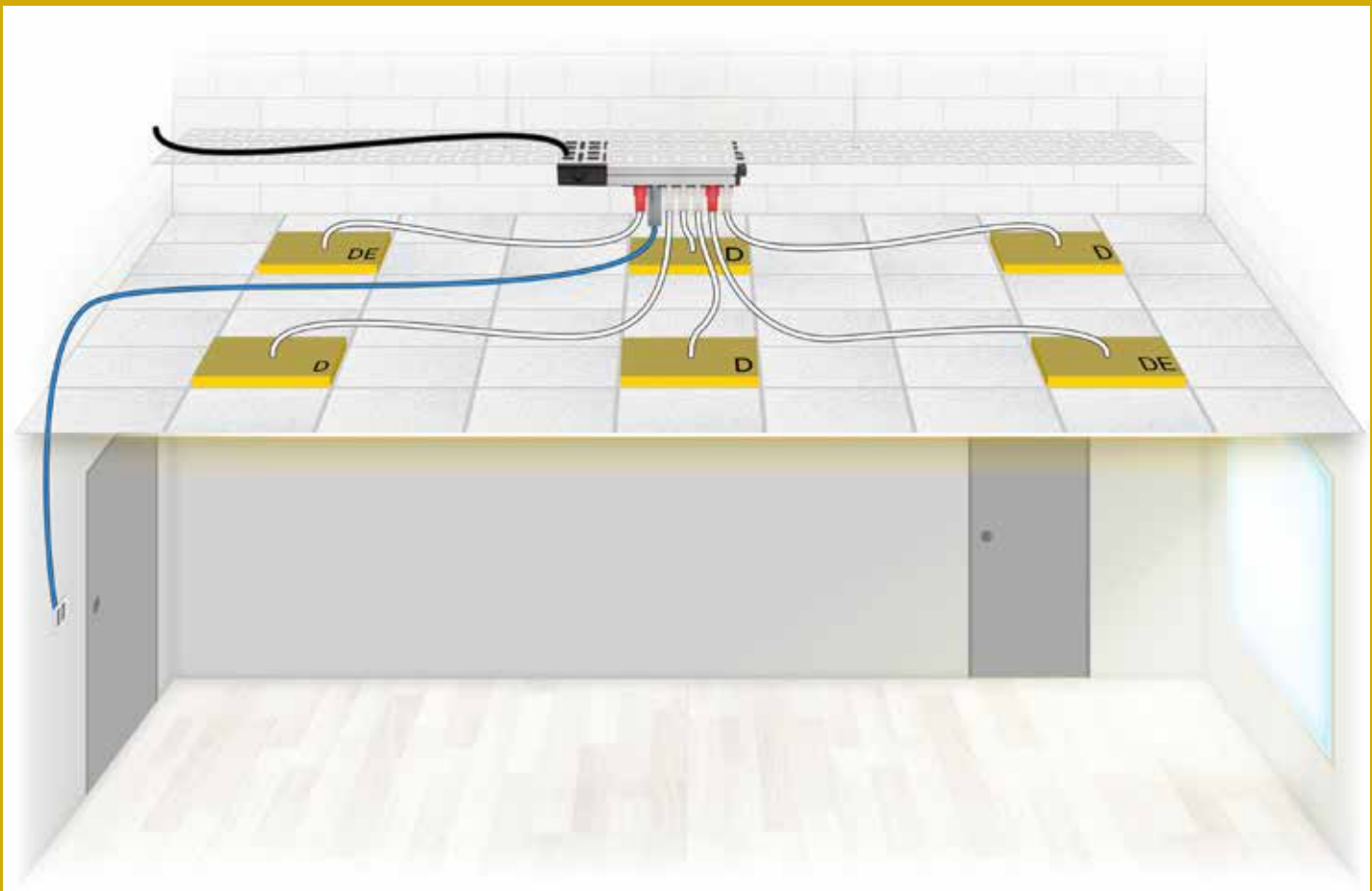
## Tips and Tricks

When using the Switch to turn luminaires on/off a 'pulse' should be ≤1 second.

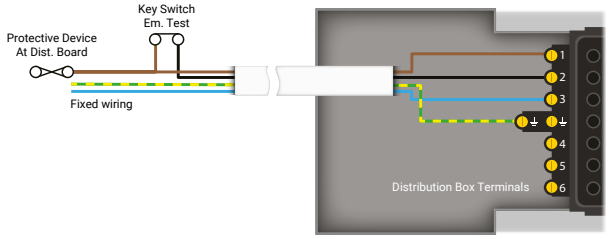
Holding the Switch in one position > 1 second when the luminaires are on will initiate the regulating feature ie. the luminaires' light output will increase or decrease accordingly.

In the scenario, luminaires will turn on at the same light level they were at when turned off.

# Setting/Recalling Scenes




## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Scene Set Plate | FSS04/K/W/WP |
| 1 x Switch Drop Lead | FSL10/BL |
| 4 x DALI Luminaire Lead | FL5100LSHF5/BD |
| 2 x DALI Maintained Emergency Luminaire Lead | FL6100LSHF5/RD |

## Control Device Properties

Scene Set Plate is a push button device.

Scene Set Plate operates at Protected Extra Low Voltage (PELV) - nominally 12V.

## Operation

Luminaires are all turned on at a particular light level by pushing one of the buttons marked 1-4 on the Scene Set Plate.

By default these are factory set at 100%, 75%, 50%, 25% but each can be reprogrammed at any time to any desired value.

Pushing the master button at the top right hand corner of the Scene Set Plate will turn all luminaires off.

All luminaires must have DALI drivers / control gear.

## Installation

1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the Scene Set Plate - it mounts onto a standard 25mm deep single box with 60.3mm centres.
4. Plug the Control Pack into any outlet on the Distribution Box.
5. Plug one end of the Switch Drop Lead into the Control Pack.
6. Plug one end of the Switch Drop Lead into the Scene Set Plate.
7. Plug the luminaires into any outlet on the Distribution Box.

## Tips and Tricks

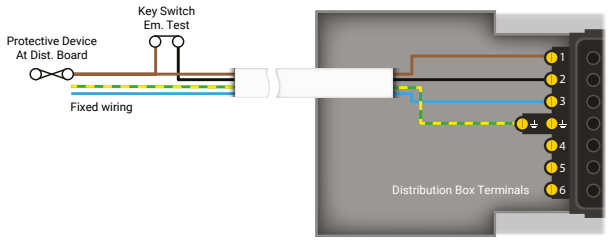
Using the numbered buttons on the Scene Set Plate it's possible to set a PIN so that the preset light levels cannot be changed inadvertently.

The up/down arrows on the Scene Set Plate allow a scene's light level to be temporarily raised or lowered. The next time that numbered button is pressed the preset scene will be recalled, not the temporary one.

For correct operation, ensure the LED Mode indicator (bottom right of Scene Plate) is NOT lit. Use the Mode button (bottom right of Scene Plate) to turn Mode LED off.

# Setting/Recalling Scenes With Absence Control


## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Scene Set Plate | FSS04/K/W/WP |
| 1 x Primary PIR Sensor Head | FNH400 |
| 1 x Y Connector | FSY/A |
| 1 x Switch Drop Lead | FSL10/BL |
| 1 x Sensor Lead | FSL05 |
| 4 x DALI Luminaire Lead | FL5100LSHF5/BD |
| 2 x DALI Maintained Emergency Luminaire Lead | FL6100LSHF5/RD |

## Control Device Properties

Scene Set Plate is a push button device.

Sensor Head is a passive infrared (PIR) device that detects movement within a defined area - 9m x 7m when mounted at a height of 2.5m

PIR Sensor Head also includes an integral light sensor that can measure variations in the available ambient light.

The Scene Set Plate and PIR Sensor Head both operate at Protected Extra Low Voltage (PELV) - nominally 12V.

## Operation

Luminaires are all turned on at a particular light level by pushing one of the buttons marked 1-4 on the Scene Set Plate. By default these are factory set at 100%, 75%, 50%, 25% but each can be reprogrammed at any time to any desired value.

Regardless of the scene selected, the PIR will monitor the area for occupancy. Once the area is vacated and the PIR Sensor Head has completed its time-out sequence the luminaires will automatically switch off.

Alternatively, pushing the master button at the top right hand corner of the Scene Set Plate will also turn all the luminaires off.

All luminaires must have DALI drivers / control gear.

## Installation

1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the Scene Set Plate - it mounts onto a standard 25mm deep single box with 60.3mm centres.
4. Fit the PIR Sensor Head - it requires a 32mm hole.
5. Plug the Control Pack into any outlet on the Distribution Box.
6. Plug the Y connector into the Control Pack.
7. Plug one end of the Switch Drop Lead into the Y Connector.
8. Plug one end of the Switch Drop Lead into the Scene Set Plate.
9. Plug one end of the Sensor Lead into the Y Connector.
10. Plug one end of the Sensor Lead into the PIR Sensor Head.
11. Plug the luminaires into any outlet on the Distribution Box.

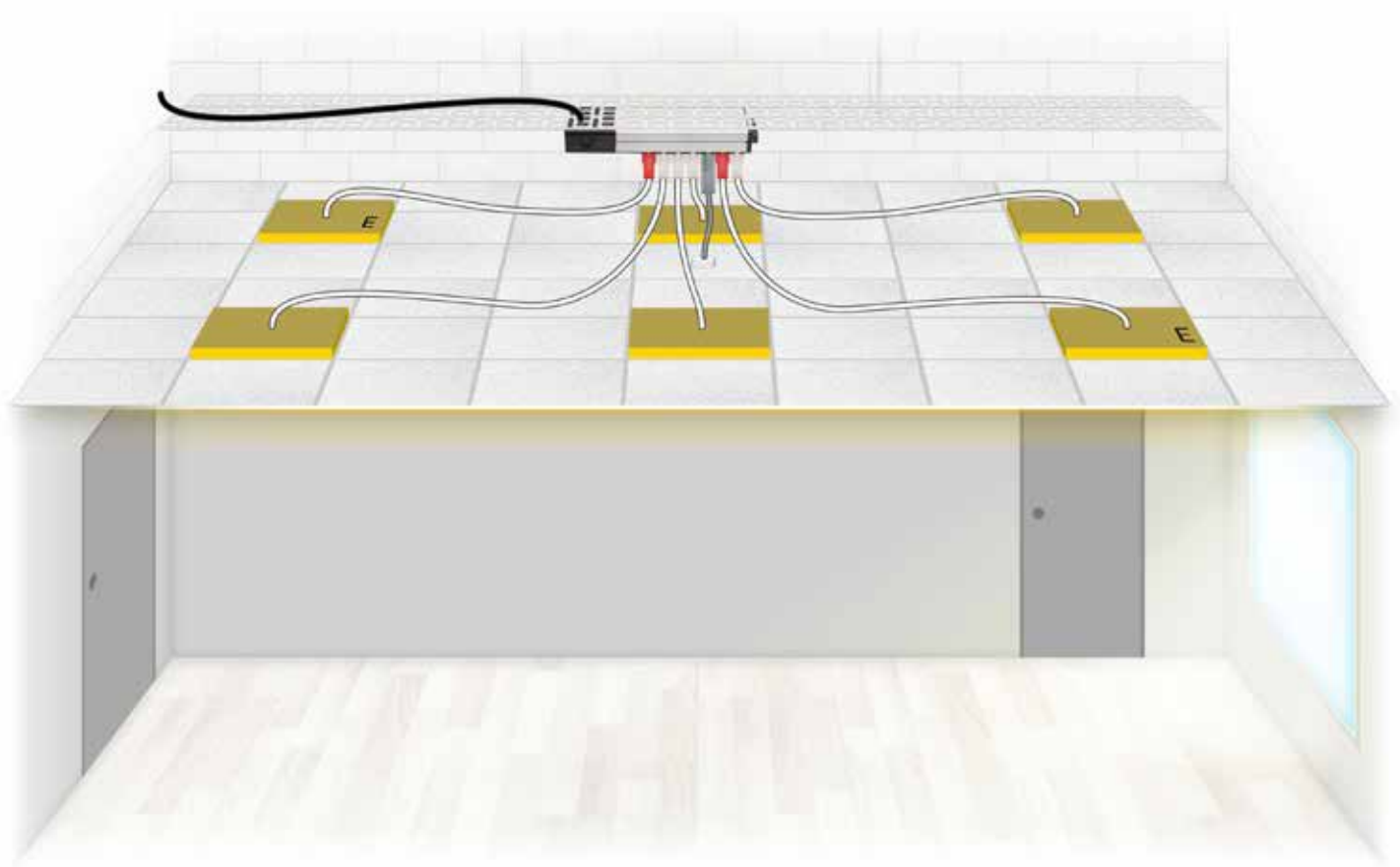
## Tips and Tricks

Do not set target light level for FHN400 as incorporating daylight linking or daylight dependency with scene set/recall applications is not advisable.

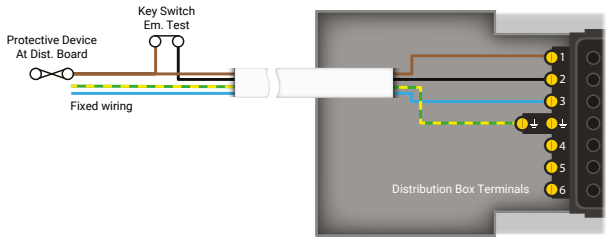
The PIR Sensor Head's default 20 minute time period can be changed to 2, 4, 10 or 40 minutes if required. One of our Setup Remote Controls (FRC/SET) will be needed for this task.

Although the flex7 Scene Set Plate looks like a switch, it uses similar software to our PIR Sensor Heads. As such, the Switch Drop Lead must be plugged into the sensor port (via the Y Connector) at the Control Pack.

# Presence Control



## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Primary PIR Sensor Head | FNH400 |
| 1 x Sensor Lead | FSL05 |
| 4 x Standard (on/off) Luminaire Lead | FL3100LSHF5/W |
| 2 x Maintained Emergency Luminaire Lead | FL4100LSHF5/R |
| 1 x Setup Remote Control | FRC/SET |

## Control Device Properties

Sensor Head is a passive infrared (PIR) device that detects movement within a defined area - 9m x 7m when mounted at a height of 2.5m

PIR Sensor Head also includes an integral light sensor that measures variations in the available ambient light.

PIR Sensor Head operates at Protected Extra Low Voltage (PELV) - nominally 12V.

## Operation

Luminaires are all automatically turned on when movement is detected by the PIR Sensor Head.

Once the area is vacated and the PIR Sensor Head has completed its timeout sequence the luminaires will automatically switch off.

## Installation

1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the PIR Sensor Head - it requires a 32mm hole.
4. Plug the Control Pack into any outlet on the Distribution Box.
5. Plug one end of the Sensor Lead into the PIR Sensor Head.
6. Plug the luminaires into any outlet on the Distribution Box.
7. Using a Setup Remote Control (FRC/SET) enable presence.

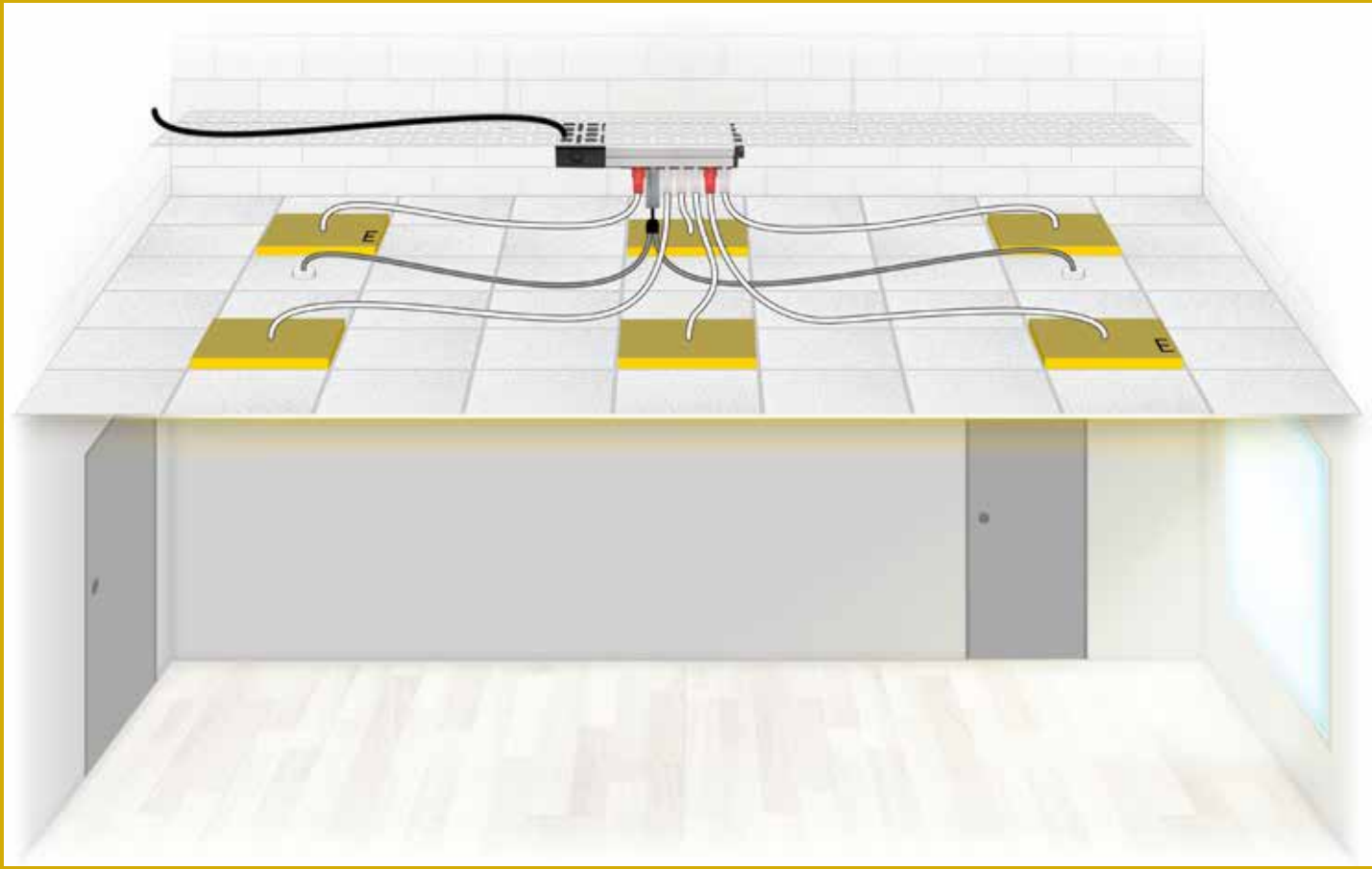
## Tips and Tricks

Because there is no manual switching device in this application you will need one of our Setup Remote Controls (FRC/SET) to change the Control Pack's default mode of Absence to Presence.

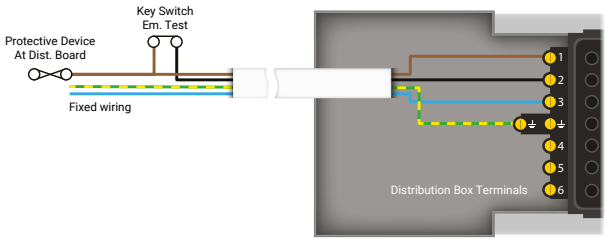
In Absence mode the luminaires must be switched on manually, but they will turn off automatically when the PIR Sensor Head's timeout period has elapsed.

In Presence mode the luminaires will turn on automatically as soon as the PIR Sensor Head detects movement, and turn off automatically when the PIR Sensor Head's timeout period has elapsed.

# Presence Control - 2 x Sensor Heads



## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Primary PIR Sensor Head | FNH400 |
| 1 x Auxiliary PIR Sensor Head c/w Y Connector | FNH/AUX |
| 2 x Sensor Lead | FSL05 |
| 4 x Standard (on/off) Luminaire Lead | FL3100LSHF5/W |
| 2 x Maintained Emergency Luminaire Lead | FL4100LSHF5/R |
| 1 x Setup Remote Control | FRC/SET |

## Control Device Properties

Sensor Heads are passive infrared (PIR) devices that detect movement within a defined area - 9m x 7m when mounted at a height of 2.5m.

PIR Sensor Head also includes an integral light sensor that can measure variations in the available ambient light.

PIR Sensor Heads operate at Protected Extra Low Voltage (PELV) - nominally 12V.

## Operation

Luminaires are all automatically turned on when movement is detected by either PIR Sensor Head.

Once the area is vacated and both PIR Sensor Heads have completed their individual timeout sequence the luminaires will automatically switch off.

## Installation

1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the PIR Sensor Heads - each requires a 32mm hole.
4. Plug the Control Pack into any outlet on the Distribution Box.
5. Plug the Y Connector into the Control Pack.
6. Plug one end of each Sensor Lead into the Y Connector.
7. Plug one end of each Sensor Lead into a PIR Sensor Head.
8. Plug the luminaires into any outlet on the Distribution Box.
9. Using a Setup Remote Control (FRC/SET) enable presence.

## Tips and Tricks

More PIR Sensor Heads can be added to ensure positive detection in larger areas or where occupants are mainly sedentary - desk based.

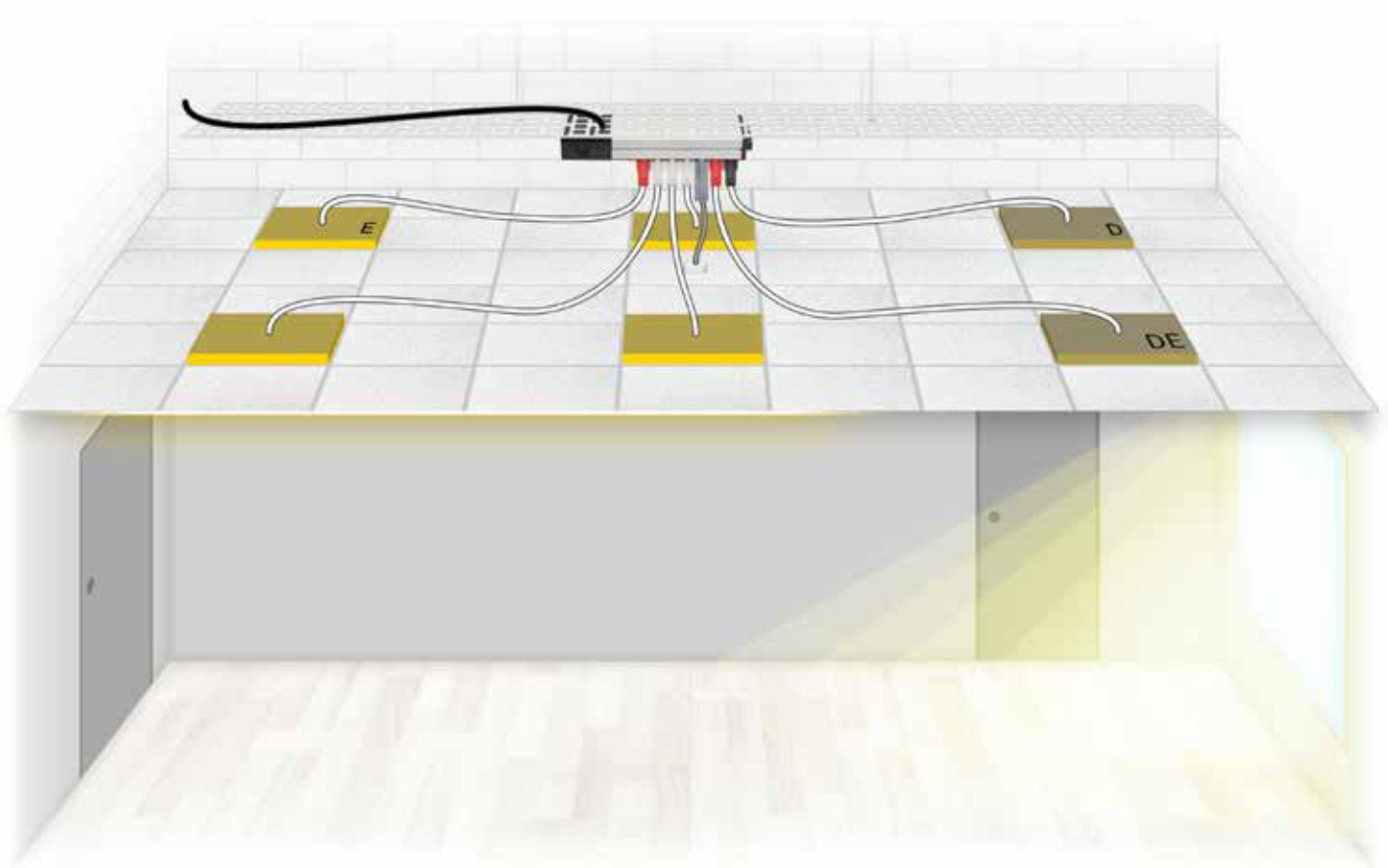
A maximum of 5 Auxiliary Adaptor Sensor Heads can be added to a Primary Sensor Head - 6 PIR Sensor Heads in total.

Never connect 2 Primary Sensor Heads directly to a single Control Pack - the devices will not be damaged, but they will not operate as intended.

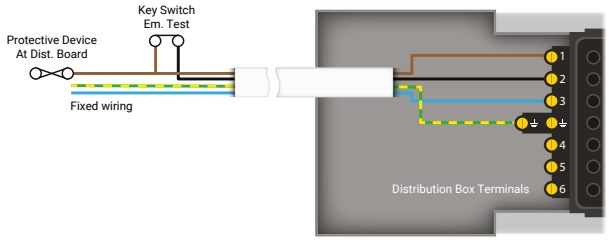
Auxiliary Sensor Heads (FNH/AUX) are supplied c/w a Y Connector (FSY/A).

Y Connectors can be plugged into Control Packs, PIR Sensor Heads or, where multiple Y Connectors are required, any combination of the two.

# Presence Control With Daylight Linking To Window Luminaires




## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Primary PIR Sensor Head | FNH400 |
| 1 x Sensor Lead | FSL05 |
| 3 x Standard (on/off) Luminaire Lead | FL3100LSHF5/W |
| 1 x Maintained Emergency Luminaire Lead | FL4100LSHF5/R |
| 1 x DALI Luminaire Lead | FL5100LSHF5/BD |
| 1 x DALI Maintained Emergency Luminaire Lead | FL6100LSHF5/RD |
| 1 x Setup Remote Control | FRC/SET |

## Control Device Properties

Sensor Head is a passive infrared (PIR) device that detects movement within a defined area - 9m x 7m each when mounted at a height of 2.5m.

PIR Sensor Head also includes an integral light sensor that can measure variations in the available ambient light.

PIR Sensor Head operates at Protected Extra Low Voltage (PELV) - nominally 12V.

## Operation

Luminaires are all automatically turned on when movement is detected by the PIR Sensor Head.

The integral light sensor measures the available ambient light and maintains the area's set target level by decreasing or increasing the light output of the luminaires adjacent to the window.

Non-dimming luminaires will be unaffected by the light cell's operation and remain on.

Once the area is vacated and the PIR Sensor Head has completed its timeout sequence the luminaires will automatically switch off.

Luminaires adjacent to the window must have DALI drivers/control gear.

## Installation

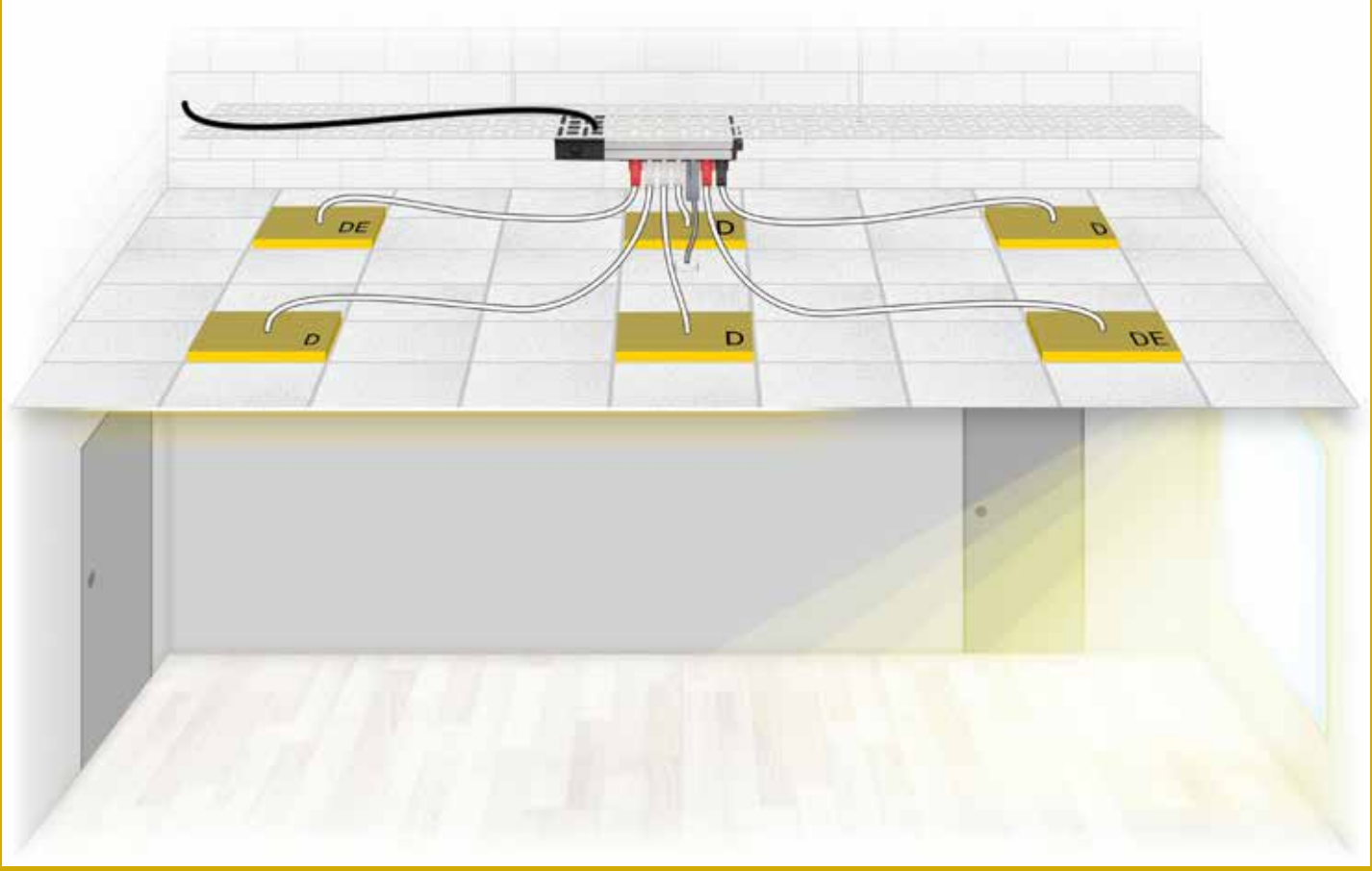
1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Plug the Control Pack into any outlet on the Distribution Box.
4. Plug one end of the Sensor Lead into the Control Pack.
5. Plug one end of the Sensor Lead into the PIR Sensor Head.
6. Plug the luminaires into any outlet on the Distribution Box.
7. Using a Setup Remote Control (FRC/SET) enable presence.
8. Using a Setup Remote Control (FRC/SET) set the desired target light level.

## Tips and Tricks

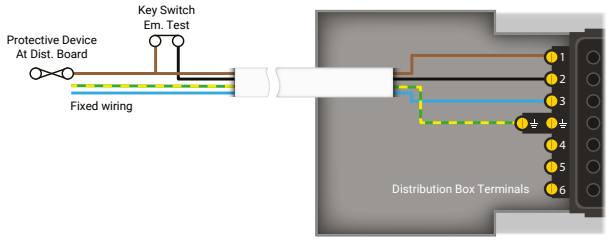
Luminaires will always turn on at full output before daylight linking commences.

One of our Setup Remote Controls (FRC/SET) is required to set the desired target light level - instructions are provided.

# Presence Control With Daylight Linking To All Luminaires




## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Primary PIR Sensor Head | FNH400 |
| 1 x Sensor Lead | FSL05 |
| 4 x DALI Luminaire Lead | FL5100LSHF5/BD |
| 2 x DALI Maintained Emergency Luminaire Lead | FL6100LSHF5/RD |
| 1 x Setup Remote Control | FRC/SET |

## Control Device Properties

Sensor Head is a passive infrared (PIR) device that detects movement within a defined area - 9m x 7m each when mounted at a height of 2.5m.

PIR Sensor Head also includes an integral light sensor that can measure variations in the available ambient light.

PIR Sensor Head operates at Protected Extra Low Voltage (PELV) - nominally 12V.

## Operation

Luminaires are all automatically turned on when movement is detected by the PIR Sensor Head.

The integral light sensor measures the available ambient light and maintains the area's set target level by decreasing or increasing the light output of the luminaires.

Once the area is vacated and the PIR Sensor Head has completed its timeout sequence the luminaires will automatically switch off.

Luminaires must have DALI drivers / control gear.

## Installation

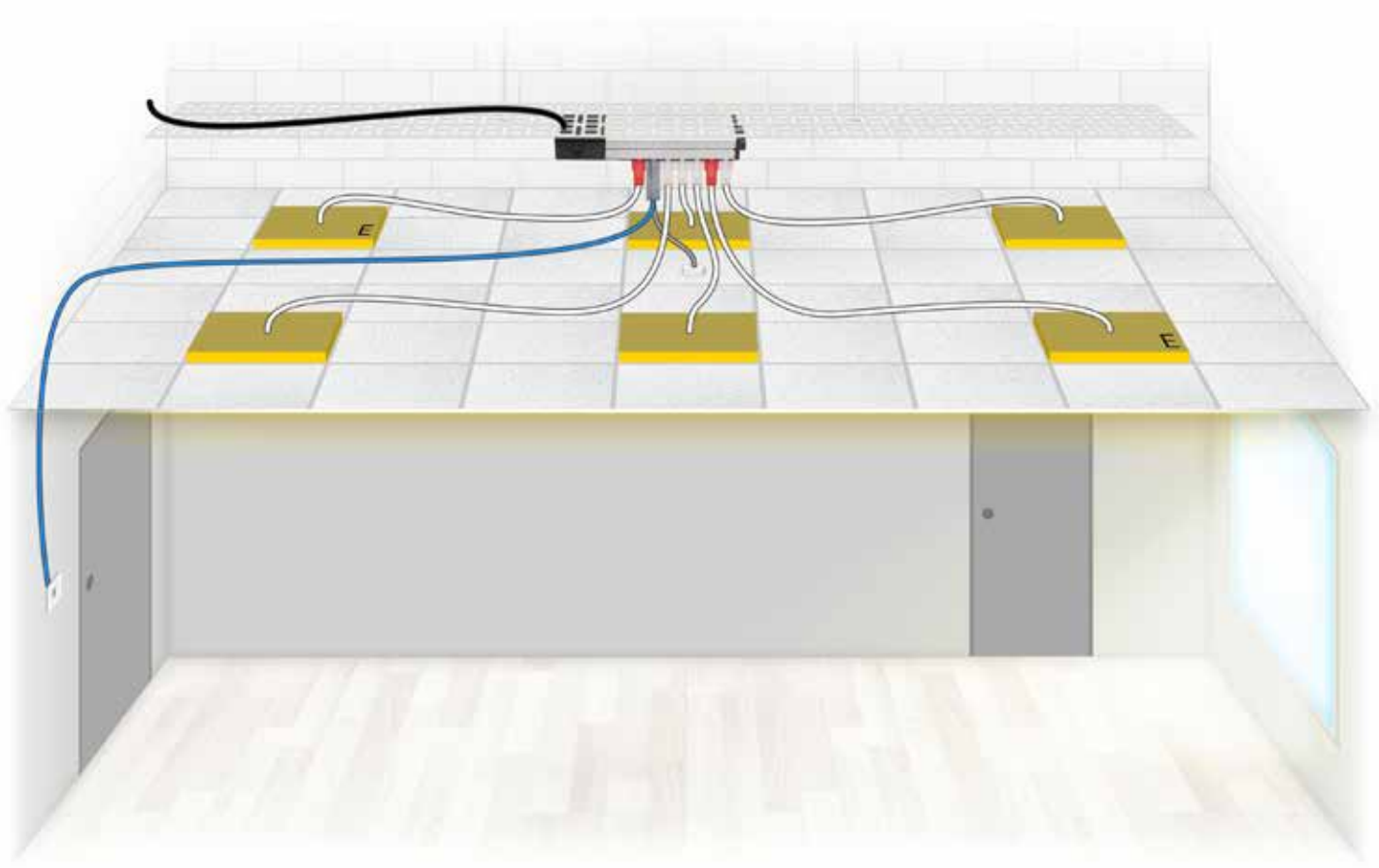
1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the PIR Sensor Head - it requires a 32mm hole.
4. Plug the Control Pack into any outlet on the Distribution Box.
5. Plug one end of the Sensor Lead into the Control Pack.
6. Plug one end of the Sensor Lead into the PIR Sensor Head.
7. Plug the luminaires into any outlet on the Distribution Box.
8. Using a Setup Remote Control (FRC/SET) enable presence.
9. Using a Setup Remote Control (FRC/SET) set the desired target light level.

## Tips and Tricks

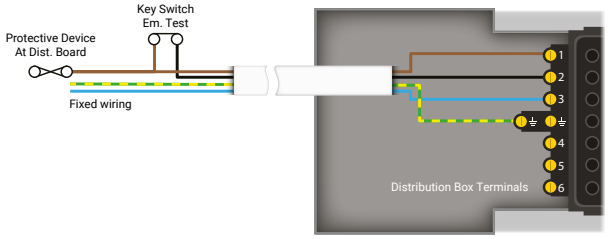
The green power LED on the top of the Control Pack will blink steadily to indicate one or more PIR Sensor Heads are connected to it. A solid green LED signifies the Control Pack is powered but has no connected PIRs.

If a target light level is not set, the luminaires will not daylight link and remain at full brightness whilst ever they are on.

# Absence Control



## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Switch | FWS01/K/AB/W/WP |
| 1 x Primary PIR Sensor Head | FNH400 |
| 1 x Switch Drop Lead | FSL10/BL |
| 1 x Sensor Lead | FSL05 |
| 4 x Standard (on/off) Luminaire Lead | FL3100LSHF5/W |
| 2 x Maintained Emergency Luminaire Lead | FL4100LSHF5/R |

## Control Device Properties

Switch is a 2 position centre return type ie. it can be pulsed up/down but when released always returns to the centre position.

Sensor Head is a passive infrared device (PIR) that detects movement within a defined area - 9m x 7m when mounted at a height of 2.5m.

PIR Sensor Head also includes an integral light sensor that can measure variations in the available ambient light.

Switch and PIR Sensor Head both operate at Protected Extra Low Voltage (PELV) - nominally 5V and 12V respectively.

## Operation

Luminaires are all turned on manually using the flex7 Switch. Pulse in one direction to send an on signal.

Once the area is vacated and the PIR Sensor Head has completed its timeout sequence the luminaires will automatically switch off.

Alternatively, pulsing the Switch to send an off signal will turn all the luminaires off before the timeout sequence has elapsed.

## Installation

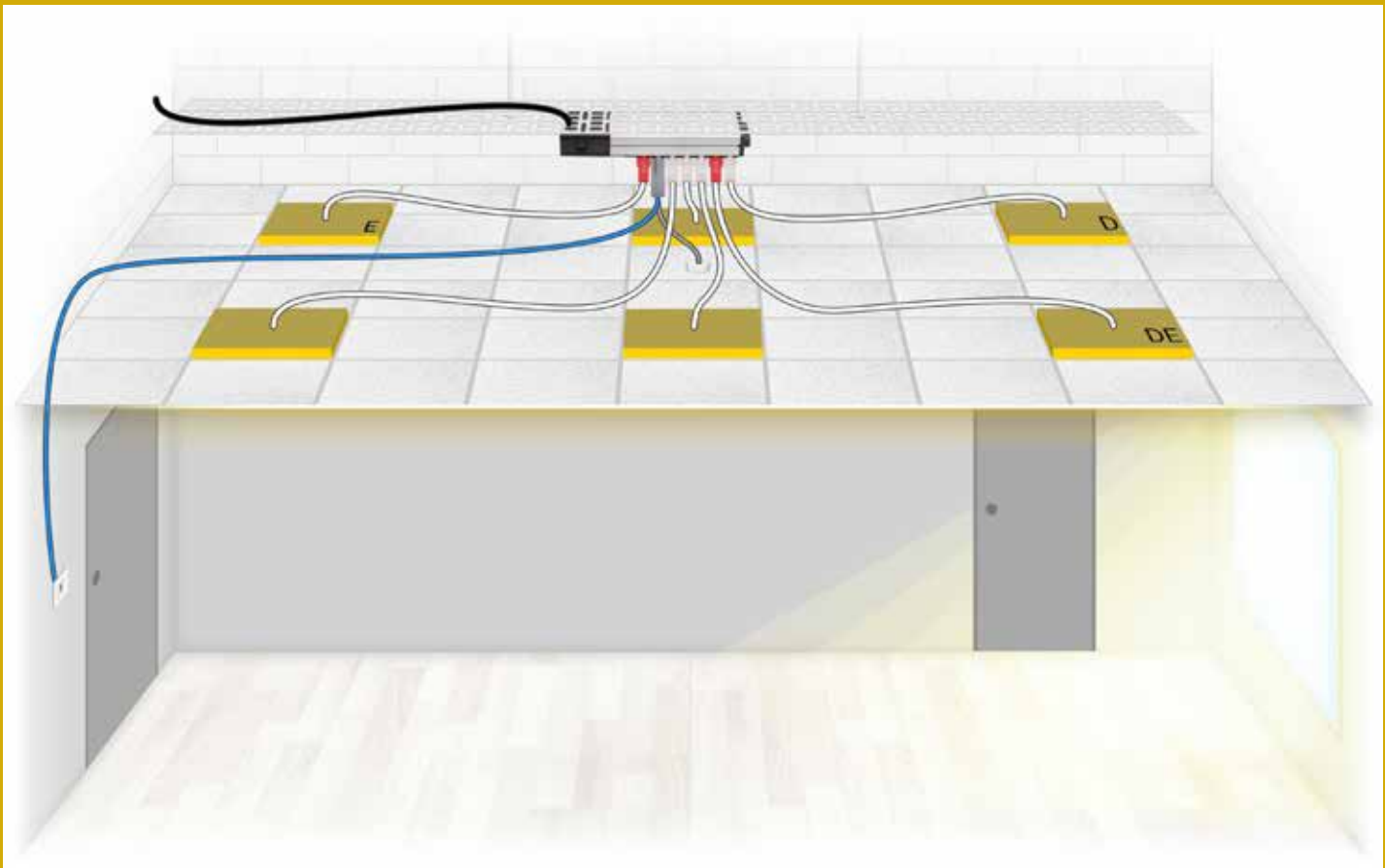
1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the Switch - it mounts onto a standard 25mm deep single box with 60.3mm centres.
4. Fit the PIR Sensor Head - it requires a 32mm hole.
5. Plug the Control Pack into any outlet on the Distribution Box.
6. Plug one end of the Switch Drop Lead into the Control Pack.
7. Plug one end of the Switch Drop Lead into the Switch.
8. Plug one end of the Sensor Lead into the Control Pack.
9. Plug one end of the Sensor Lead into the PIR Sensor Head.
10. Plug the luminaires into any outlet on the Distribution Box.

## Tips and Tricks

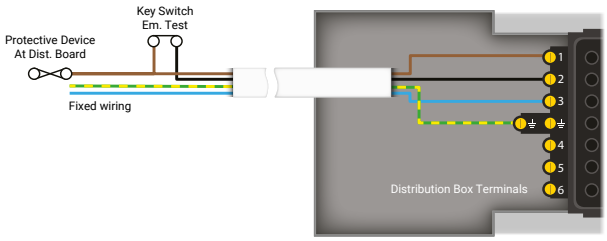
The Switch and Sensor Leads must be plugged into their own dedicated ports on the Control Pack - incorrect connection will not damage the devices but they will not operate as intended.

If the PIR Sensor Head does NOT detect presence within approximately 1 minute of the switch initially being pulsed on, the luminaires will turn off automatically.

# Absence Control With Daylight Linking To Window Luminaires




## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 1 x Switch | FWS01/K/AB/W/WP |
| 1 x Primary PIR Sensor Head | FNH400 |
| 1 x Switch Drop Lead | FSL10/BL |
| 1 x Sensor Lead | FSL05 |
| 3 x Standard (on/off) Luminaire Lead | FL3100LSHF5/W |
| 1 x Maintained Emergency Luminaire Lead | FL4100LSHF5/R |
| 1 x DALI Luminaire Lead | FL5100LSHF5/BD |
| 1 x DALI Maintained Emergency Luminaire Lead | FL6100LSHF5/RD |
| 1 x Setup Remote Control | FRC/SET |

## Control Device Properties

Switch is a 2 position centre return type ie. it can be pulsed up/down but when released always returns to the centre position.

Sensor Head is a passive infrared (PIR) device that detects movement within a defined area - 9m x 7m each when mounted at a height of 2.5m.

PIR Sensor Head also includes an integral light sensor that can measure variations in the available ambient light.

Switch and PIR Sensor Head both operate at Protected Extra Low Voltage (PELV) - nominally 5V and 12V respectively.

## Operation

Luminaires are all turned on manually using the flex7 Switch. Pulse in one direction to send an on signal.

The integral light sensor measures the available ambient light and maintains the area's set target level by decreasing or increasing the light output of the luminaires adjacent to the window.

Once the area is vacated and the PIR Sensor Head has completed its timeout sequence the luminaires will automatically switch off.

Alternatively, pulsing the switch to send an off signal will turn all the luminaires off before the timeout sequence has elapsed.

Luminaires adjacent to the window must have DALI drivers /control gear.

## Installation

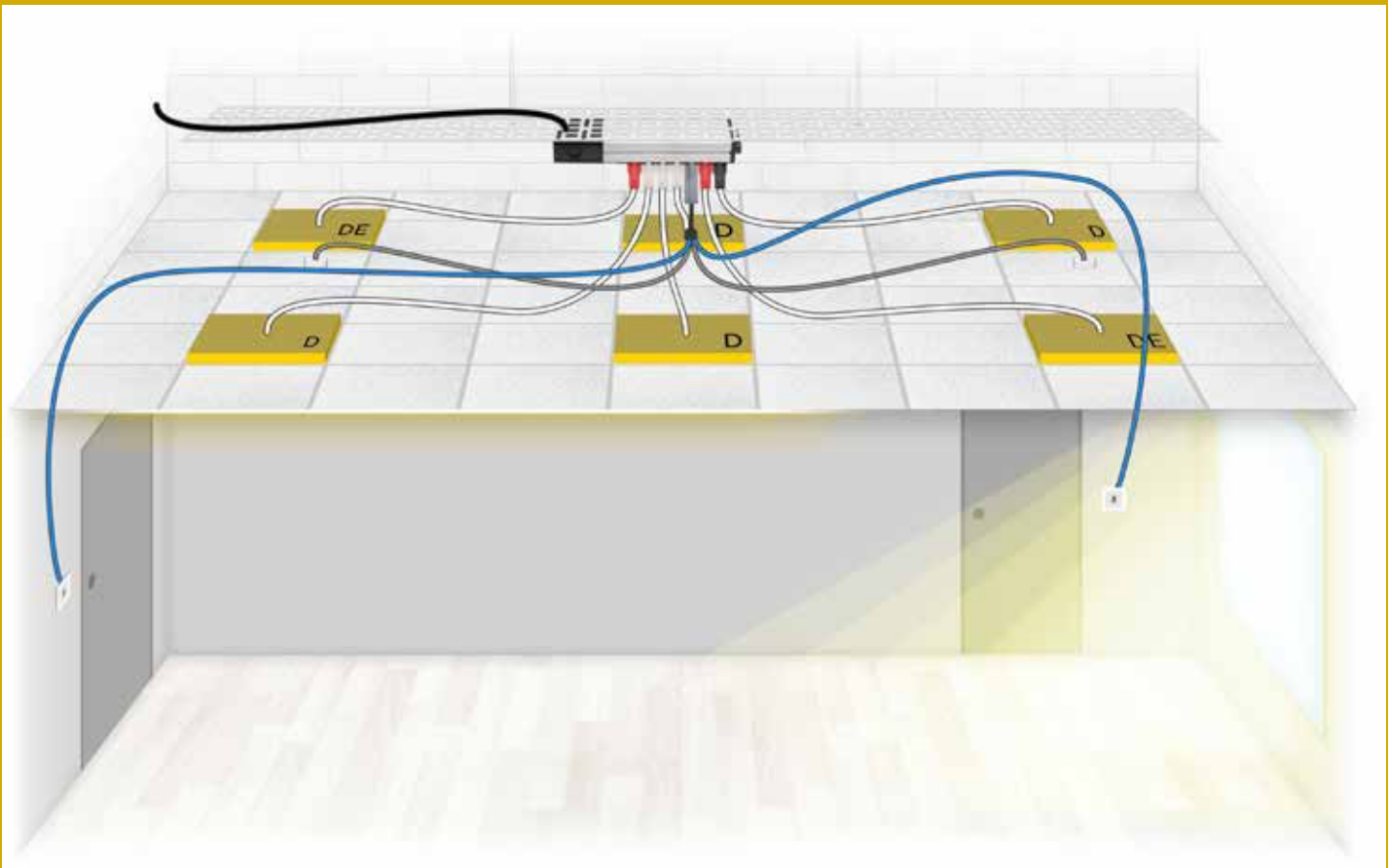
1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the Switch - it mounts onto a standard 25mm deep single box with 60.3mm centres.
4. Fit the PIR Sensor Head - it requires a 32mm hole.
5. Plug the Control Pack into any outlet on the Distribution Box.
6. Plug one end of the Switch Drop Lead into the Control Pack.
7. Plug one end of the Switch Drop Lead into the Switch.
8. Plug one end of the Sensor Lead into the Control Pack.
9. Plug one end of the Sensor Lead into the PIR Sensor Head.
10. Plug the luminaires into any outlet on the Distribution Box.
11. Using a Setup Remote Control (FRC/SET) set the desired target light level.

## Tips and Tricks

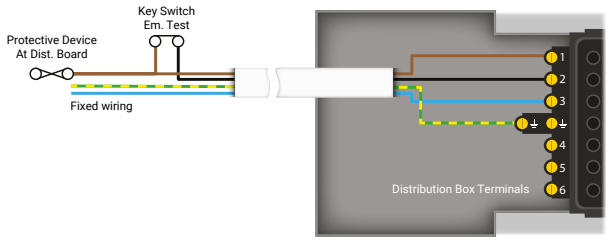
One of our Setup Remote Control (FRC/SET) is required to set the desired target light level - instructions are provided.

To stop daylight linking being interfered with from the switch, the FRC/SET can be used to disable manual dimming.

# Absence Control With Daylight Linking To All Luminaires - 2 x Sensor Heads & 2 x Switches




## Wiring Connection




| DESCRIPTION | PART NO. |
|---|---|
| 1 x Starter Distribution Box | FSU08 |
| 1 x Control Pack | FNC4000X/AB |
| 2 x Switch | FWS01/K/AB/W/WP |
| 1 x Primary PIR Sensor Head | FNH400 |
| 1 x Auxiliary PIR Sensor Head c/w Y Connector | FNH/AUX |
| 2 x Switch Drop Lead | FSL10/BL |
| 1 x Y Connector | FSY/A |
| 2 x Sensor Lead | FSL05 |
| 4 x DALI Luminaire Lead | FL5100LSHF5/BD |
| 2 x DALI Maintained Emergency Luminaire Lead | FL6100LSHF5/RD |
| 1 x Setup Remote Control | FRC/SET |

## Control Device Properties

Switches are 2 position centre return type ie. they can be pulsed up/down but when released always returns to the centre position.

Sensor Heads are passive infrared (PIR) devices that detect movement within a defined area - 9m x 7m each when mounted at a height of 2.5m.

The Primary PIR Sensor Head also includes an integral light sensor that can measure variations in the available ambient light.

Switches and PIR Sensor Heads both operate at Protected Extra Low Voltage (PELV) - nominally 5V and 12V respectively.

## Operation

Luminaires are all turned on manually using either of the flex7 Switches. Pulse in one direction to send an on signal.

The integral light sensor measures the available ambient light and maintains the area's set target level by decreasing or increasing the light output of the luminaires.

Once the area is vacated and both PIR Sensor Heads have completed their individual timeout sequence the luminaires will automatically switch off.

Alternatively, pulsing either switch to send an off signal will turn all the luminaires off before the timeout sequence has elapsed.

All luminaires must have DALI drivers/control gear.

## Installation

1. Install the Distribution Box using the fixing kit provided.
2. Terminate the fixed wiring into the Distribution Box terminals - see adjacent schematic.
3. Fit the Switches - they mount onto a standard 25mm deep single box with 60.3mm centres.
4. Fit the PIR Sensor Heads - each requires a 32mm hole.
5. Plug the Control Pack into any outlet on the Distribution Box.
6. Plug both Y Connectors into the Control Pack.
7. Plug one end of each Switch Drop Lead into the Y Connector.
8. Plug one end of each Switch Drop Lead into a Switch.
9. Plug one end of each Sensor Lead into the Y Connector.
10. Plug one end of each Sensor Lead into a PIR Sensor Head.
11. Plug the luminaires into any outlet on the Distribution Box.
12. Using a Setup Remote Control (FRC/SET) set the desired target light level.

## Tips and Tricks

One of our Setup Remote Control (FRC/SET) can be used to disable the Absence function if desired. This will mean the luminaires turn on immediately the PIR Sensor Head detects movement - the Switch doesn't need to be pulsed first.

The Switches can however still be used to temporarily override the PIR (either on/off) but when the timeout period elapses everything will return to normal operational state again.

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