

Modular & Offsite Manufactured Buildings

Lighting Control Solutions



CP Electronics
A brand of **legrand**

CP Electronics – A leading force in lighting controls

CP Electronics, a brand of Legrand, understands the growing demand for the construction of low carbon, modular buildings within a variety of sectors and in demanding environments. From this understanding we have devised a range of products that are committed to ease of installation, energy saving qualities and are user friendly.

With an investment of twice the industry average in R&D we are confident we can meet the ever-increasing energy saving targets placed on organisations without compromising our reputation for outstanding quality. So sure are we of this quality that the entire range boasts a five year warranty.

Not only are we a leading manufacturer of lighting controls but our exceptional service, support and expertise within our field further enhance the benefits of installing CP Electronics products.

Building Information Modelling

We have integrated a number of ranges into the Building Information Modelling environment to assist all areas of project activity, from design and construction through to facilities management and beyond. For further information, please visit www.cpelectronics.co.uk/BIM.

**Controlling any light
source, any building,
any space.**



Plugging into modular and off-site manufactured buildings

As a growing population puts further strain on the demand for public services, schools and hospital places, public local authorities are turning to lower carbon modular buildings to meet demand quickly.

Modular buildings and lighting controls

Modular buildings can be quicker to construct than traditional building methods, allowing services to adapt their spaces to meet their unique requirements.

Modular buildings, typically manufactured offsite and pieced together, require an alternative approach when it comes to lighting control solutions. As demand continues to rise, modular buildings meet the requirements for public services versatility and immediacy of construction, delivering through shortened supply chains and reducing labour costs.

Education

Schools face greater than ever pressure to comply with legislation and guidelines around sustainability, most notably, Part L of the Buildings Regulations and BREEAM which stipulate that buildings must demonstrate good practice around **energy efficiency**. The Department of Education Output Specification provides further guidance. Since the introduction of the Building Information Modelling (BIM) mandate for government construction projects, all lighting control products used in the manufacture of modular buildings will need to have available a BIM file.



To learn more about solutions for Energy Efficiency in Buildings, [click here](#)



The Department of Education Output Specification

Options for specifiers

With traditional building methods, lighting control solutions and detectors must be manually hard-wired into a junction box, a relatively time and labour-intensive process. This leads to longer project times and therefore, additional cost. Plug and play solutions, lighting controls which can be installed with minimal labour and during the offsite manufacturing process can offer a real competitive advantage within the modular building sector.

There are many lighting control systems available but few offer the levels of functionality and efficiency which make them appropriate. One system that offers both of these benefits is the Vitesse Plus system, which offers a wide range of features making it the ideal solution for users and installers. Its built-in pre-set menu with up to four detectors enables users to configure and re-configure spaces quickly and efficiently for most scenarios.

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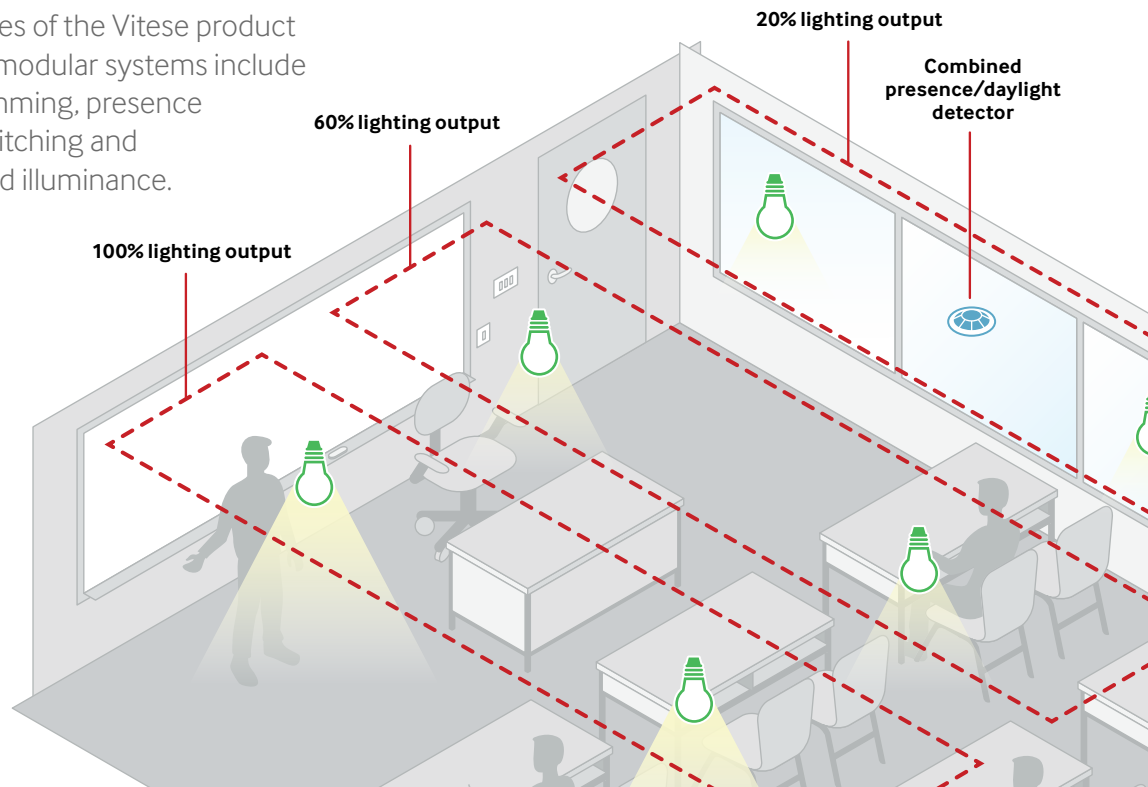
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The technological advantages of the Vitese product range by CP Electronics for modular systems include the following; graduated dimming, presence and absence detection, switching and Lux level sensing, maintained illuminance.

Graduated dimming

The lighting within a space dims progressively from the source of natural illuminance in response to changes in natural light levels. This maximises the use of daylight within a space and minimises energy consumption and over lighting of the space.



Presence and absence detection

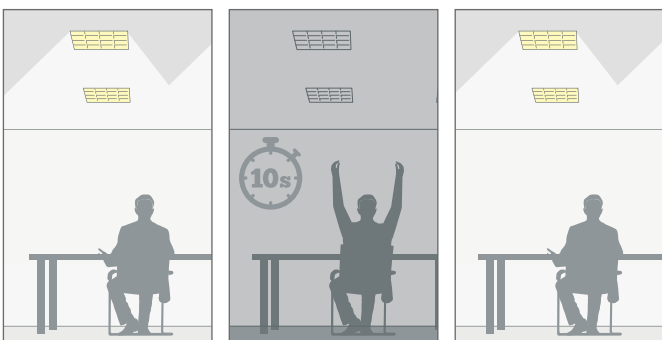
The choice between presence and absence detection for different spaces can make a big difference to the amount of energy saved and how user friendly the system is perceived to be.



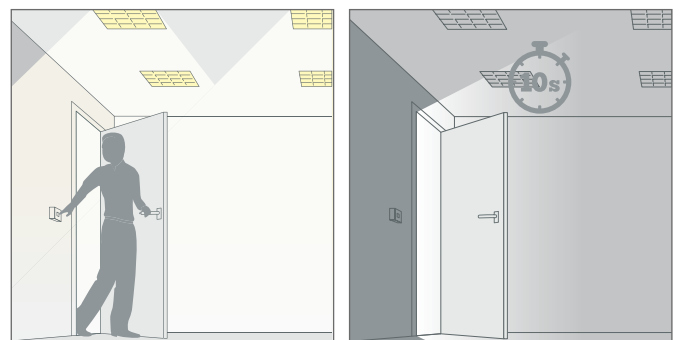
Presence detection: Detectors will switch on lighting automatically when a person enters the room, and switches off lighting automatically when no movement is detected.



Absence detection: Upon entering the room the person switches on the light as normal, but on leaving the detector switches off the lighting automatically. Lights can also be switched off manually.



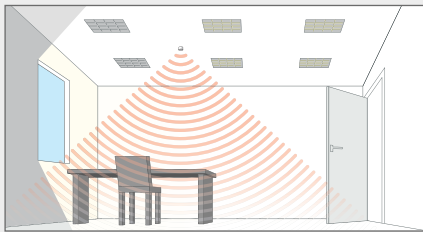
Absence recovery: After an occupancy time out period has elapsed in absence mode, the unit temporarily enters a presence mode for 10 seconds allowing the occupants movement to bring the lights back on.



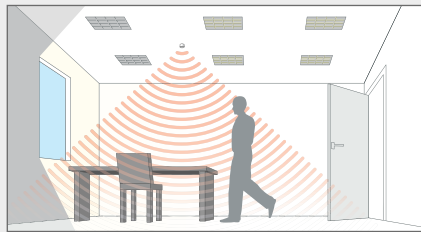
Switch detection time: This ensures that if a switch is activated and no movement is detected the lights will switch off after 10 seconds, minimising unnecessary lit space.

Switching with lux level sensing

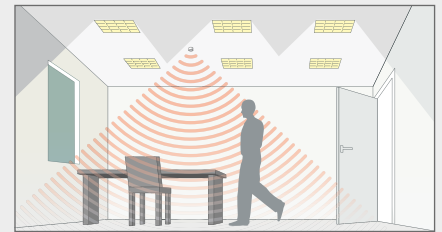
These presence detectors have built-in adjustable lux level sensors which will keep the lighting switched off if there is sufficient natural light.



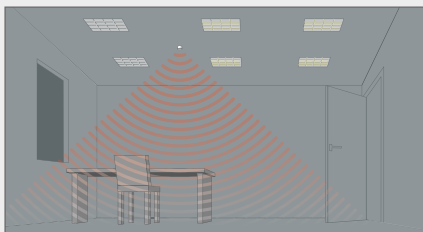
No presence detected, daylight, lights off.



Presence detected, sufficient daylight, lights off.



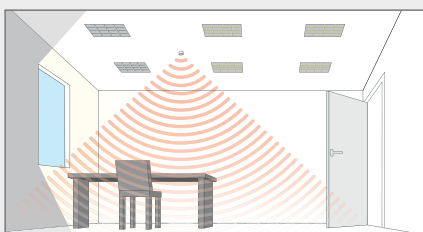
Presence detected, insufficient daylight, all lights on.



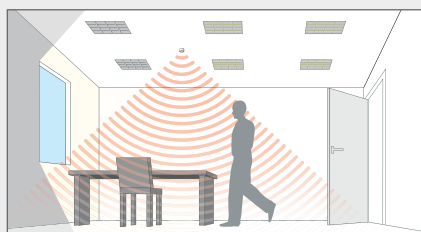
No presence detected, lights off.

Maintained illuminance with absence or presence detection

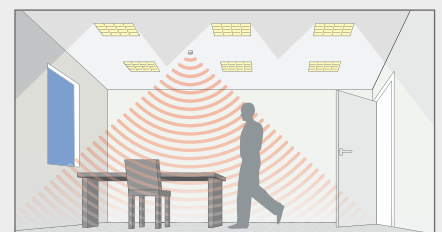
These presence detectors have an active built-in adjustable lux level sensor which will keep the lighting switched off if there is sufficient natural light.



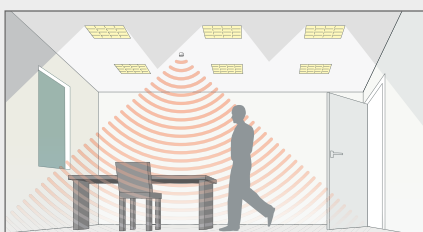
No presence detected, daylight, lights off.



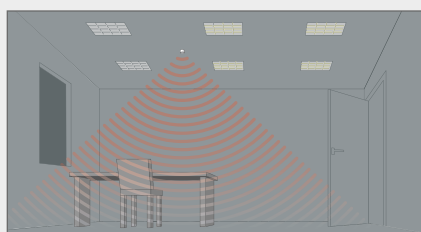
Presence detected, sufficient daylight, lights off.



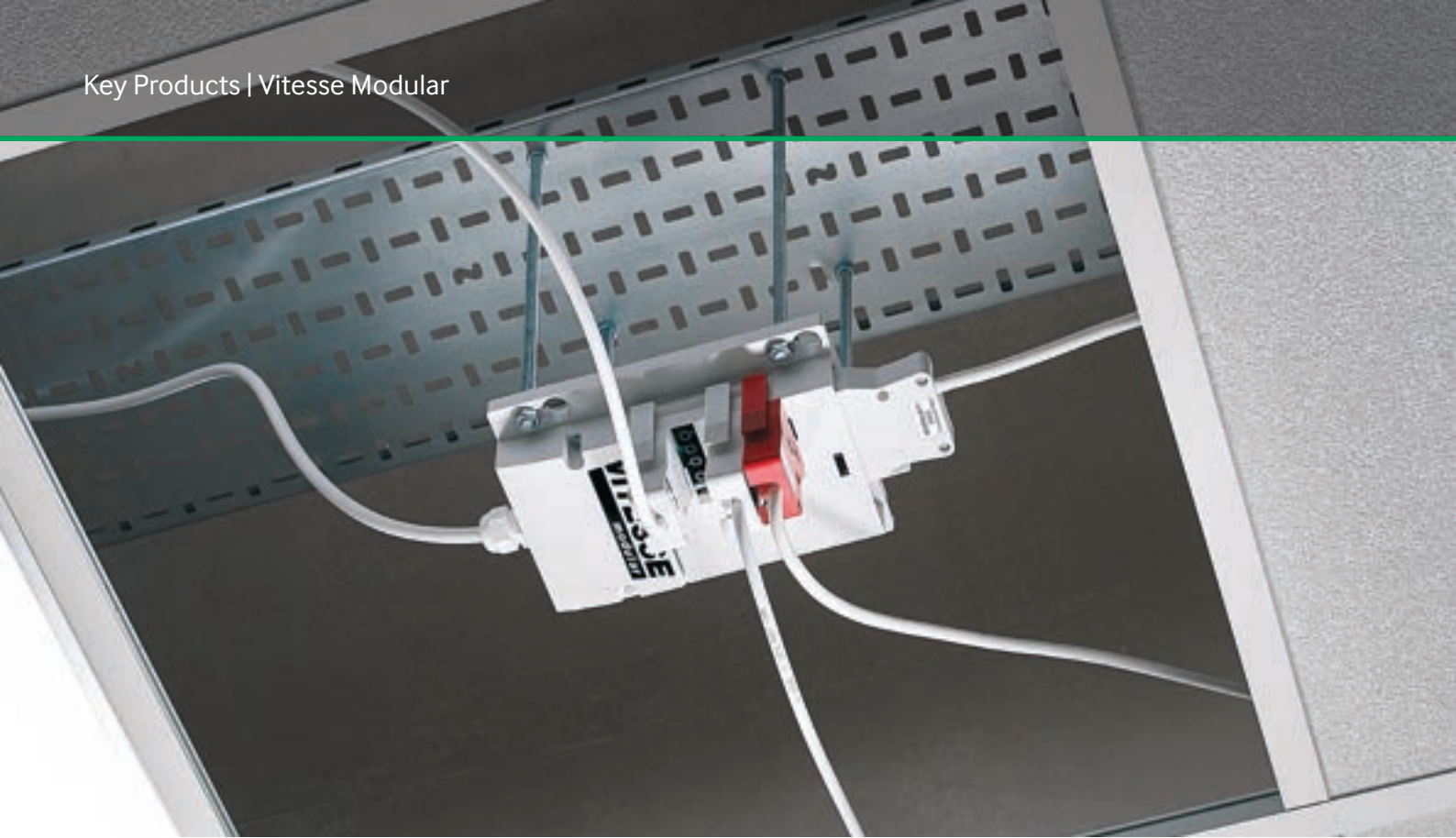
Presence detected, some daylight. Lights on and dimmed to maintain lux level.



Presence detected, insufficient daylight. Detector measures and implements maintained illuminance.



No presence detected, lights off.



Vitesse Modular

As its name suggests, Vitesse Modular relies on a modular design which means you simply add 'modules' as and when they are needed. Packed with innovative features, Vitesse Modular is a cost effective method of providing luminaire power and control for lighting installations in industrial, commercial and retail buildings.

Works in combination with CP Electronics presence detectors

Allows groups of luminaires to be controlled by a single detector.

It grows and adapts to suit the installation

From 2-way to 16-way using extender modules, it couldn't be simpler.

Once Vitesse Modular is installed, modules can be added (or removed) depending on future requirements.

Two-channel flexibility

Vitesse Modular 2-channel switching is ideal for installations that have essential and non-essential supplies.

Dedicated corridor solution

Vitesse Modular offers a dedicated corridor solution. Switching and dimming versions are available in a pre-wired (5 metres of cable) configurations enabling Vitesse starter modules to be easily connected together and controlled via a single detector.

Mounting options

Vitesse Modular provides easy installation options for all locations including slab mounting, channel nut mounting, BESA box mounting and strut clip mounting.

Key features

- Room by room, floor by floor lighting connection and control system
- Lux level sensing
- Switching or dimming
- Connection and control system
- Compatible with CP Electronics modular wiring solution
- 2 to 16-way configurations in steps of four

2-way



16-way





Starter modules

The system begins with a starter module. Once installed, modules can be added or removed to accommodate new layouts and uses.

The 2-way starter module offers a low cost entry point when only two outputs are required. The switching 4-pole and dimming 6-pole modules can be used as standalone units providing 4 or 6 outputs or can be extended to 8, 10, 12, 14 or 16 outputs making it adaptable to a wide variety of room layouts.



Extender modules

The extender module is used to increase the number of outputs for the 2-way or 4-way starter modules.

A total of three extender modules can be easily added to any starter module to create an up to 16-way lighting connection system. Vitesse Modular can be reconfigured at any time should requirements change.



Presence detectors

Presence detectors add functionality to Vitesse Modular and Vitesse Plus when required. Flush mounted ceiling PIR and Microwave presence detectors – includes compact, miniature and adjustable head versions.



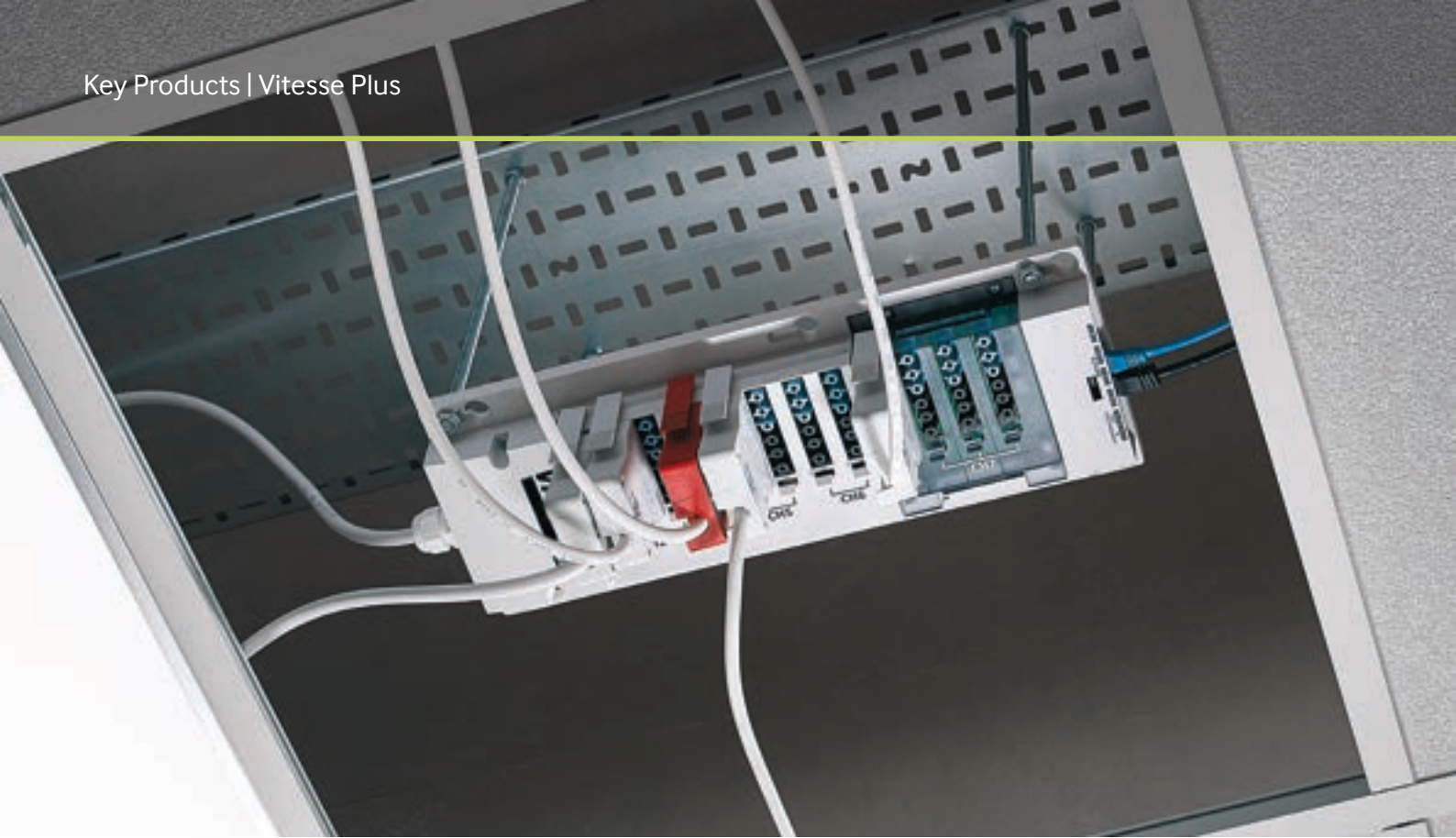
Leads and connectors

Pre-wired detector and luminaire leads reduce installation times and ensure reliability.

Individual connectors, extender leads, detector leads, tee modules and a ceiling rose kit provide additional flexibility.

All CP Electronics pluggable products use the industry standard, series 166 connector format for maximum compatibility.





Vitesse Plus

With its wide range of features, flexibility and simple commissioning Vitesse Plus is the perfect lighting control solution for classrooms, corridors, open plan offices and retail environments.

Time-saving pre-set configurations

The Vitesse Plus range with its unique built-in preset configurations provides simple commissioning and maximum flexibility.

Developed with 83 pre-set lighting control schemes which suit a wide range of requirements, simply match your application to one of our pre-sets and activate using the programming handset. Alternatively, you can customise elements individually to achieve a bespoke configuration. A sophisticated, lighting control system like Vitesse Plus offers a wide choice of configurations, making it fully adaptable to the building space.

For more information and to view the complete collection of pre-sets, please [click here](#).

Flexible and feature packed

LCMs can be linked to each other using RJ45 patch leads. This allows an input for one LCM (presence detector or switch input for example) to effect a change on another LCM.

Each Vitesse Plus LCM can monitor up to four detectors allowing it to switch or dim channels independently to provide maximum energy savings.

Vitesse Plus is also compatible with Vitesse Modular wiring solution to allow simple plug-and-play connectivity for each channel.

Key features

- Room by room, floor by floor lighting control system
- Presence or absence detection
- Lux level sensing
- Switching or dimming
- Graduated dimming
- Step down illuminance
- Emergency lighting test
- Open port function
- Compatible with modular wiring solutions
- Corridor hold
- SELV switch inputs
- Scene setting



Pluggable lighting control modules

VITP7 pluggable LCM provides 7 channels and 12 outputs. In addition it has 11 SELV connections and 4 detector inputs. The Vitesse Plus pluggable is particularly suitable for installations where a ceiling void is present.



Hardwired lighting control modules

The VITP7 hardwired module has 6 lighting control channels with SELV outputs and 4 detector inputs. They are ideal for installations where cabling is restricted to conduit, is concealed or inaccessible due to lack of suspended ceiling void.



Presence detectors

Presence detectors add functionality to Vitesse Modular and Vitesse Plus when required. Flush mounted ceiling PIR and Microwave presence detectors – includes compact, miniature and adjustable head versions.



Scene control

Scene selection allows the recall of pre-programmed lighting levels to create different moods or to suit different uses within an environment.

When used in conjunction with Vitesse Plus LCMs and suitable dimming luminaires, different lighting scenes can be achieved for applications such as classrooms and meeting rooms.



Leads and connectors

Pre-wired detector and luminaire leads reduce installation times and ensure reliability.

Individual connectors, extender leads, detector leads, tee modules and a ceiling rose kit provide additional flexibility.

All CP Electronics pluggable products use the industry standard, series 166 connector format for maximum compatibility.



Detector Products

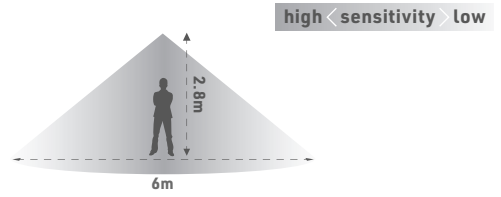
Our wide range of PIR detectors and microwave presence detectors are designed to reduce the amount of time lighting is left on unnecessarily, for example if an area is unoccupied or if there is sufficient natural light.



GEFL

Mid range, flush mounted,
PIR presence detector

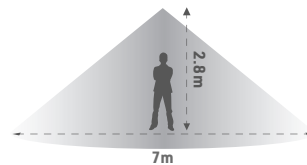
- Ideal for general purpose detection
- Detection with lux level sensing
- Pluggable
- Adjust time delay and lux settings via pots



GESM

Mid range, flush mounted,
PIR presence detector

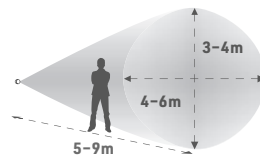
- Ideal for general purpose detection
- Detection with lux level sensing
- Pluggable
- Adjust time delay and lux settings via push buttons



SPIR-F

Mid range, wall mounted,
PIR presence detector

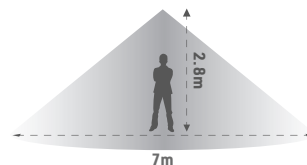
- Wall mounted
- Detection with lux level sensing
- Adjust time delay and lux settings via pots



SPIR-F/C

Mid range, flush ceiling mounted,
PIR presence detector

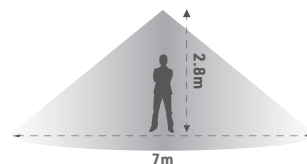
- Ideal for general purpose detection
- Detection with lux level sensing
- IP55 rated version available
- Adjust time delay and lux settings via pots



GESM-AC

Mid range, flush mounted,
PIR presence detector

- Compatible with most infrared controlled AC units
- Battery operated
- Lockable settings
- Adjust time delay via push buttons

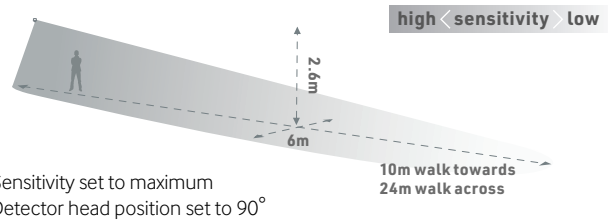




EBDRC

Long range, adjustable head, PIR presence/absence detector

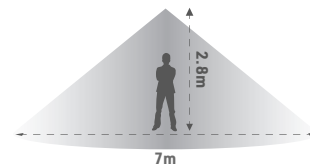
- Ideal for corridor applications
- Detection with lux level sensing
- Pluggable
- Adjust via infrared handset



EBDSPIR

Compact flush mounted, PIR presence detector

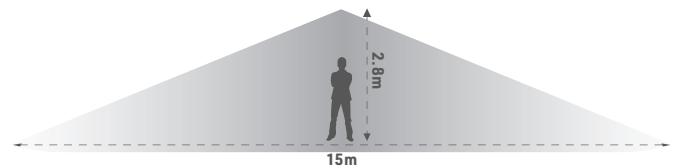
- Ideal for general purpose detection
- Detection with lux level sensing
- Pluggable
- Adjust via infrared handset



EBDMR

Mid range, flush mounted, PIR presence detector

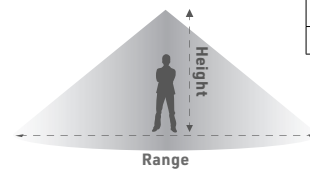
- Dome lens for wider coverage
- Detection with lux level sensing
- Pluggable
- Adjust via infrared handset



EBMHS

High Level, miniature PIR presence detector

- Unobtrusive and easy to fit
- Detection with lux level sensing
- Remote power supply, pluggable
- Adjust via infrared handset
- Suitable for up to 7m



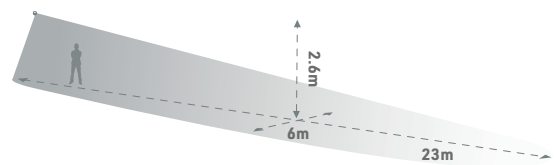
Height	Range
2.8m	9 x 9m
7m	16 x 16m



MWS3A

Adjustable head, long range, flush mounted, microwave presence detector

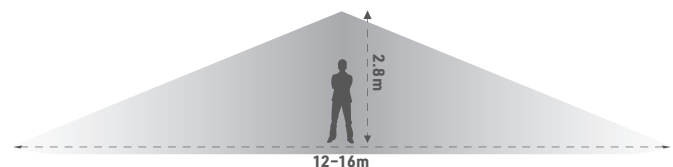
- Unique adjustable head
- Detection with lux level sensing
- Locking mechanism
- Ideal for corridor applications



MWS6

Compact, flush mounted, microwave presence detector

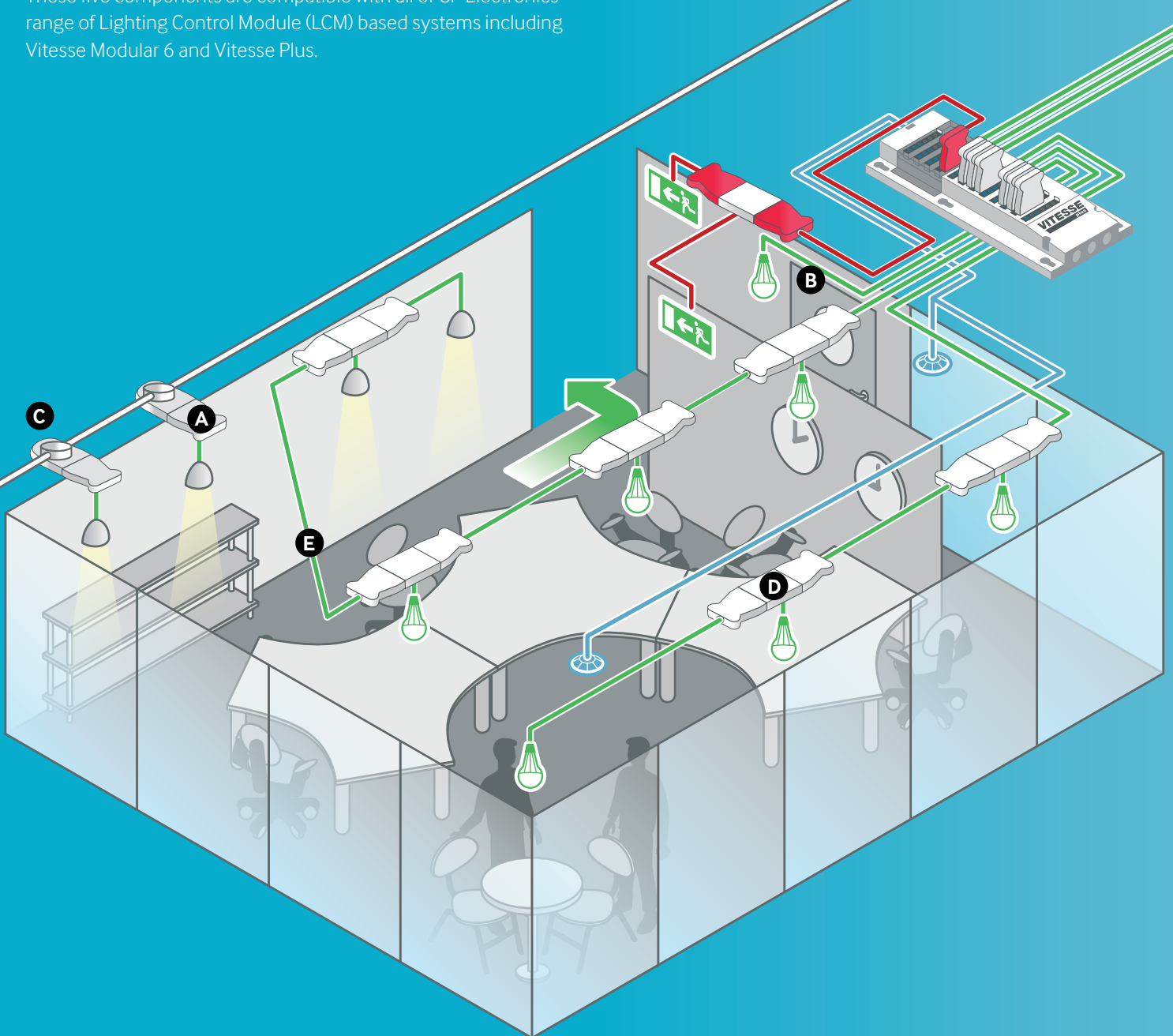
- High sensitivity general purpose detection
- Detection with lux level sensing
- Pluggable
- Adjust via infrared handset



Modular Wiring Solutions

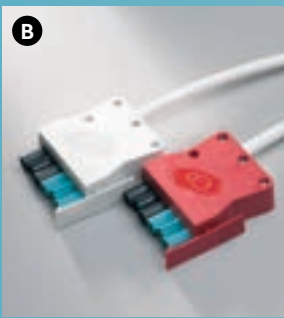
Using just five key components our modular wiring system allows any lighting installation to be completed in minimal time.

These five components are compatible with all of CP Electronics range of Lighting Control Module (LCM) based systems including Vitesse Modular 6 and Vitesse Plus.



A**Connectors**

The range of connectors available can be supplied in both male and female, with black/blue or black/grey coding and with either red or white covers.

B**Luminaire Leads**

All luminaire connections use the industry standard GST style system with a side latch and low profile hood.

C**Ceiling Rose**

Our 6 pole ceiling rose can be used when there is a need to take power and a dimming signal from a conduit box. It has significant termination space.

D**Tee Modules**

Used to provide a simple interlinking connection of lighting within fixed wiring installations.

E**Extender Leads**

Used for connection between tee modules.

Handsets and Test Switches

Infrared Handsets

Our range of infrared (IR) handsets have been designed to allow simple configuration, programming and maximum user convenience.



UNLCDHS



UHS5



UHS

Emergency Lighting Test Switch

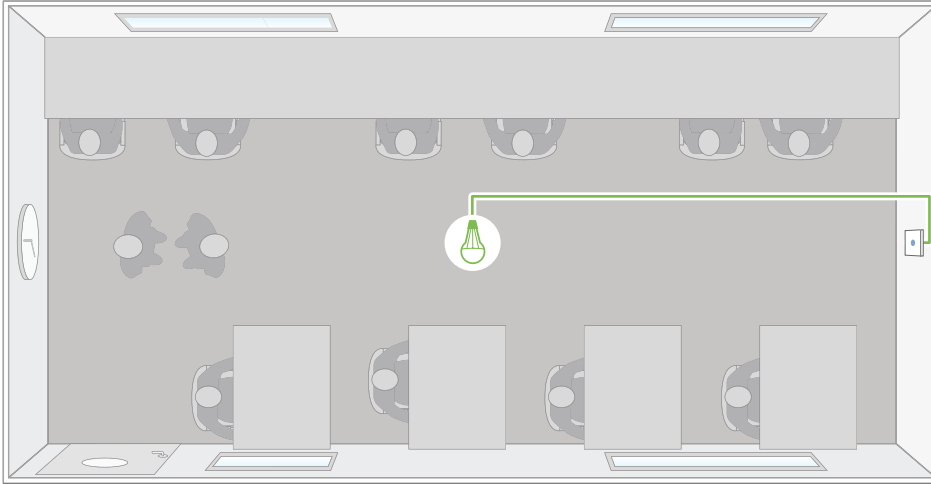
Automatic emergency lighting test switch, single channel



ELT10

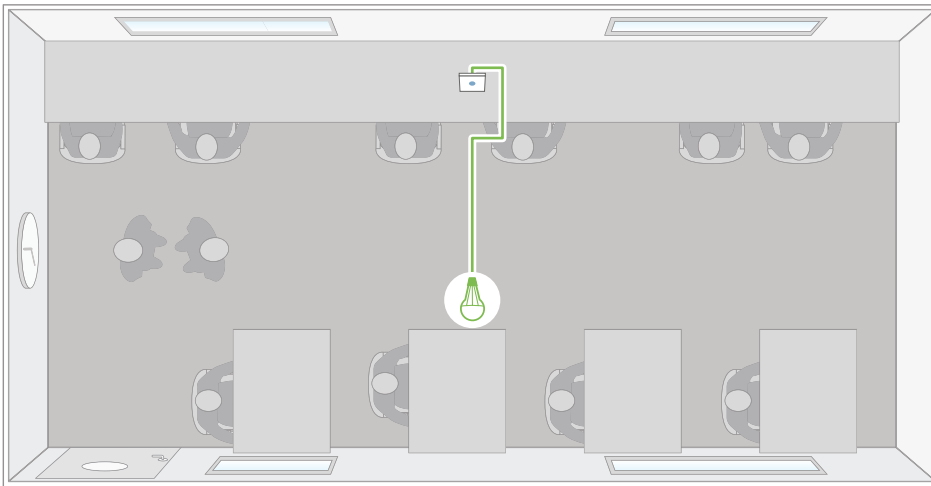
Typical Applications

Portable site cabins



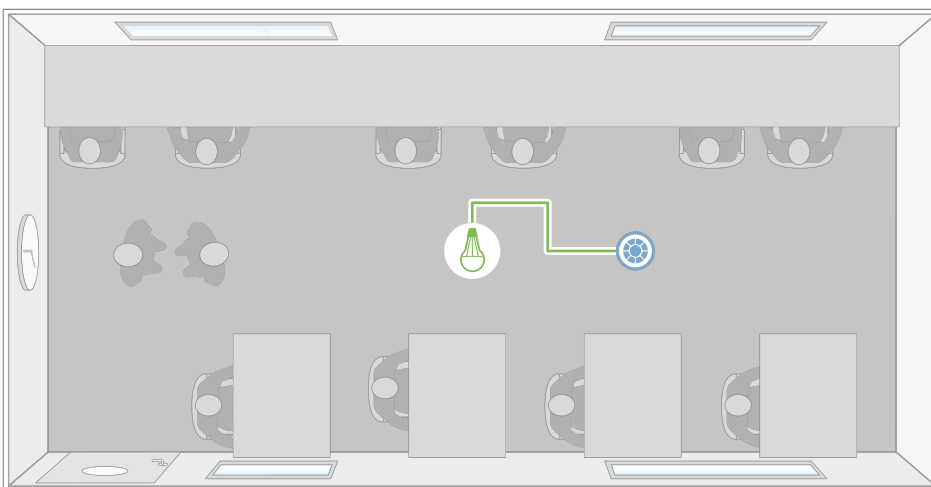
Wall mounted

Ideal for portable site cabin installation, the SPIR-F is a back box mounted occupancy PIR sensor that offers basic switching and covers the whole room. With a detection range of 5-9 metres, the SPIR-F meets the standard of most portable site cabins. Lux level sensing option available.

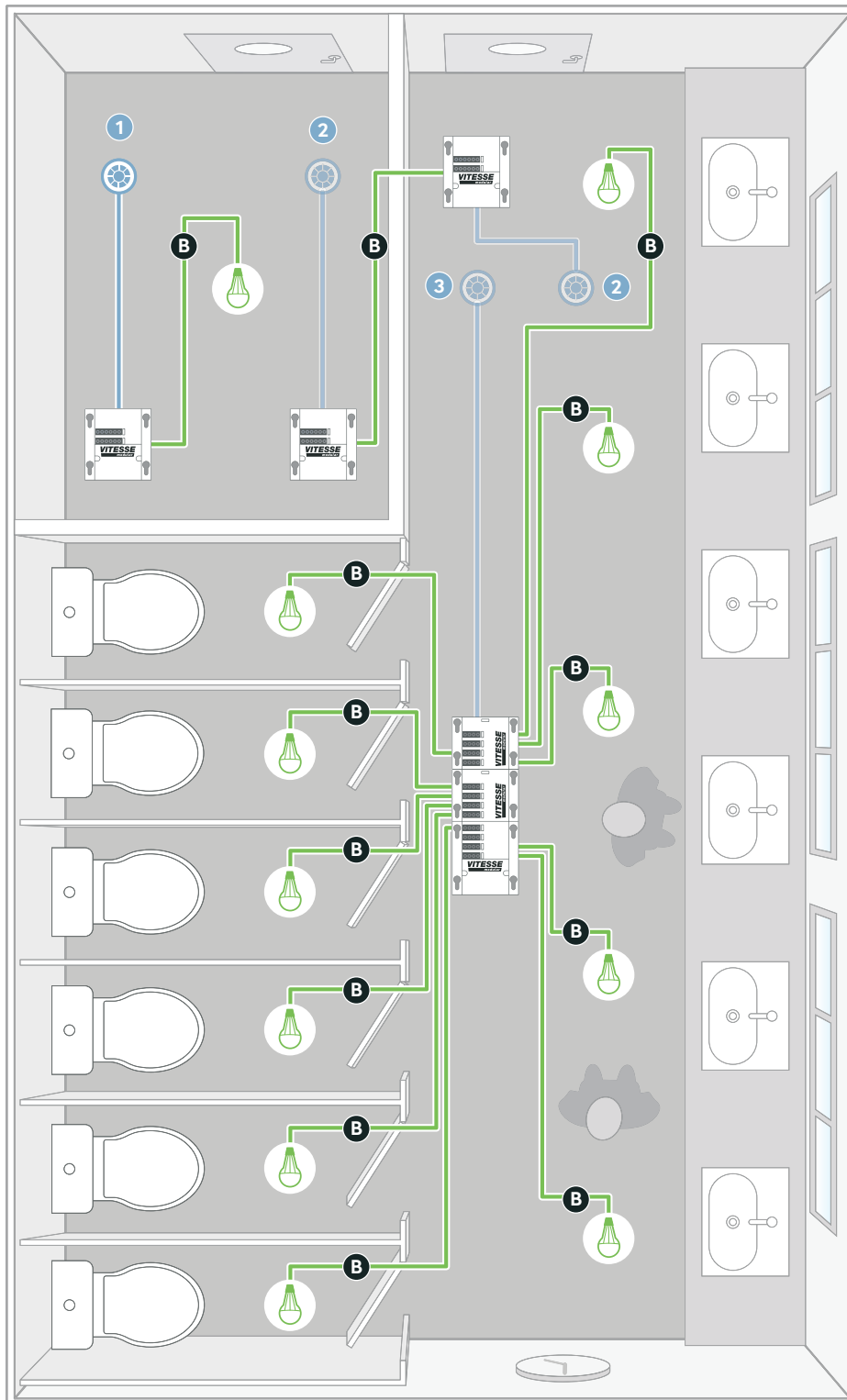


Ceiling mounted

Offering a ceiling mounted alternative option, SPIR-F/C, is a surface mounted movement sensor that can be easily mounted onto a single gang standard back box. Benefits include lux level sensing.




Toilet Blocks




There are various installation options for toilet blocks.


Options:

- 1 The entrance lobby and toilet block individually controlled to work separately
- 2 Control of the entire toilet block using two detectors with LCMs interlinked
- 3 Offers a solution that uses two channel devices to control the fan and the luminaires. Typical use of one detector in the lobby and another detector in the lavatory connected to the LCM

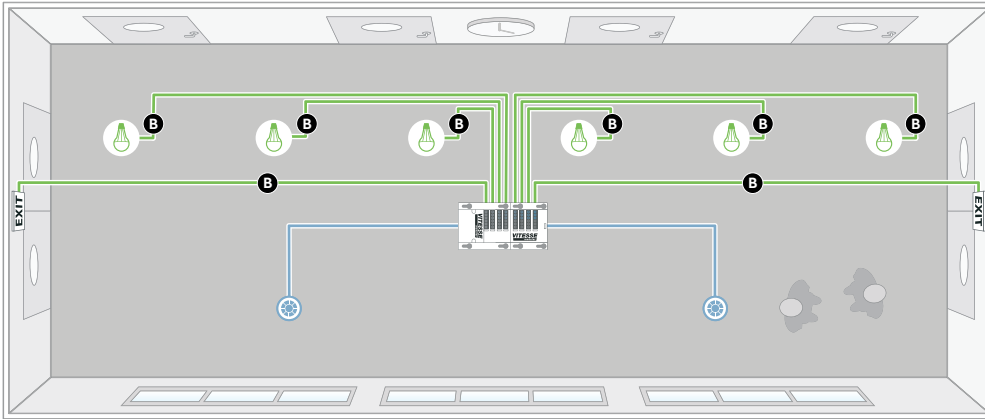
 Light Fittings

 Presence Detectors (pages 10–11)

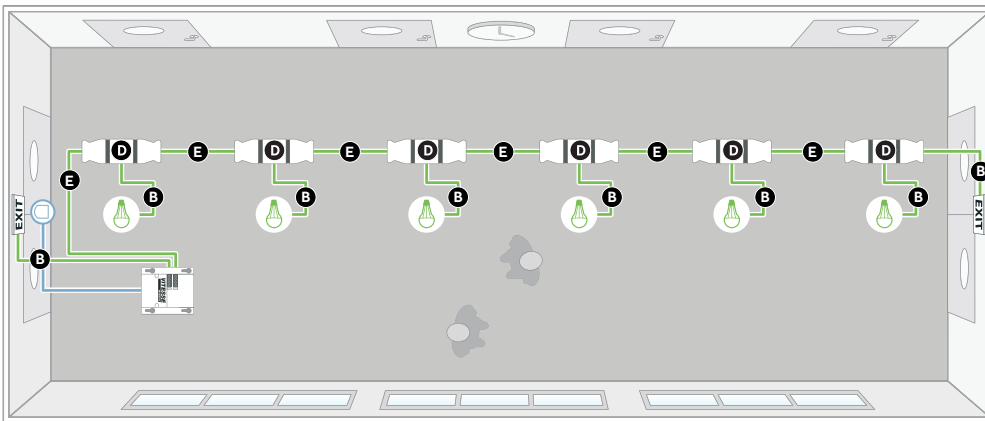
 Vitesse Modular (pages 6–7)

 Luminaire Leads (pages 12–13)

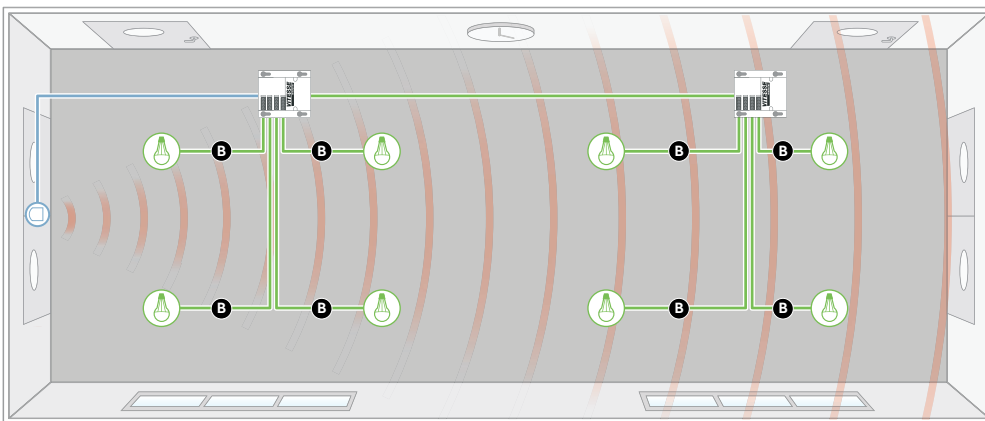
Corridors | Switching



Vitesse Modular LCM with a dual detector lead. This offers a larger detection area.



Using Vitesse Modular with a microwave detector at the end of the corridor such as MWS3A. Luminaires are connected via an easy-fit plug and play modular system.




Using Vitesse Modular with a microwave at the end of the corridor, such as the MWS3A. Luminaires are connected into Vitesse Modular LCMs to suit the installation.

 Light Fittings

 Presence Detectors (pages 10–11)

 Microwave Detectors (page 11)

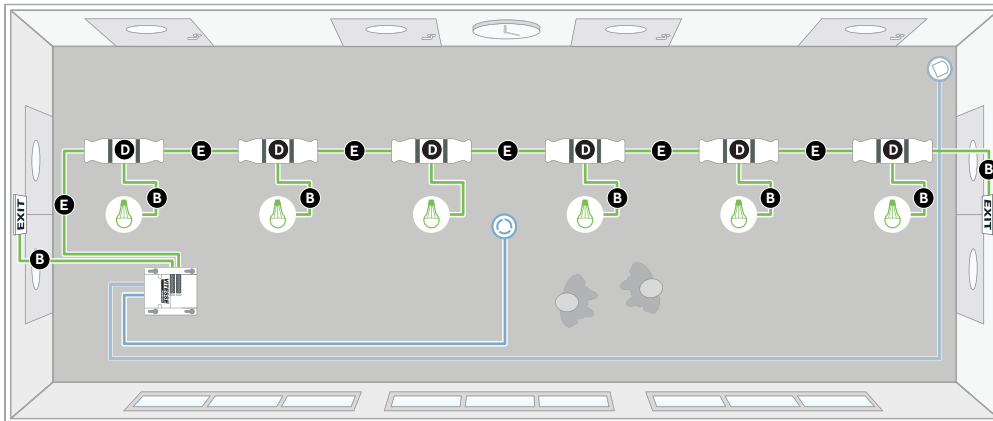
 Vitesse Modular (pages 6–7)

 Luminaire Leads (pages 12–13)

 Tee Modules (pages 12–13)

 Extender Leads (pages 12–13)

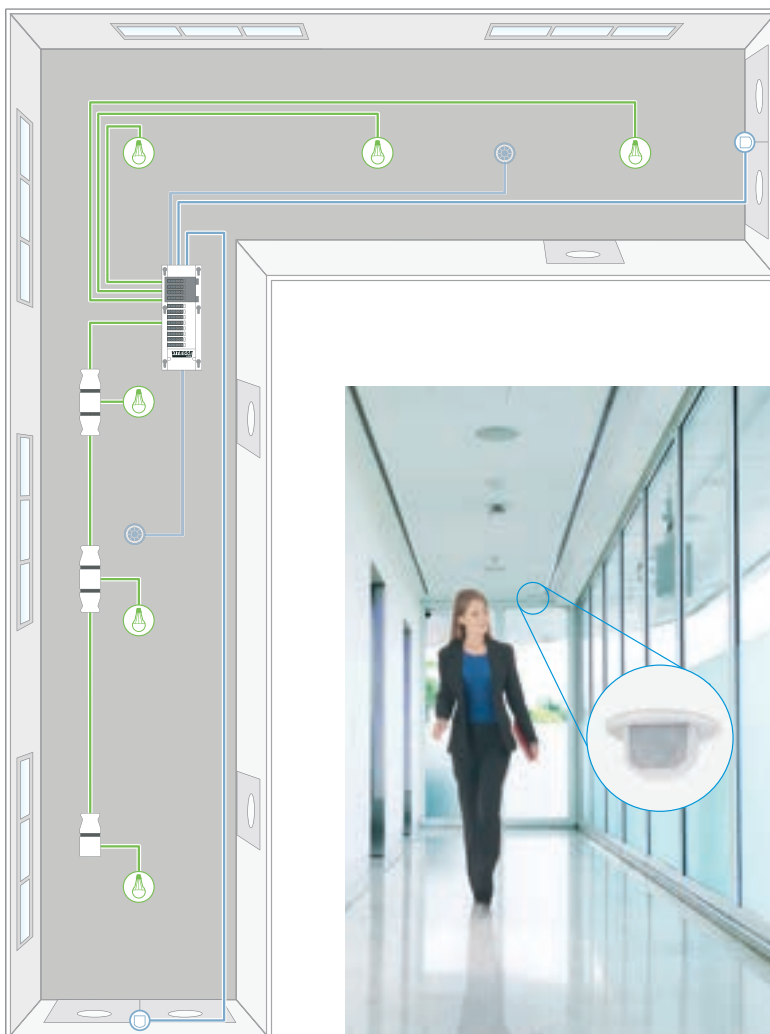
Corridors | Dimming



Using an easy-fit plug and play modular connection system, allows a dimming microwave detector (MWS3A-DD, MWS6-DD) or mid-range PIR (EBDMR-DD) to provide a single circuit dimming function.

Options:

- 1 End-of-corridor mounted microwave detector
- 2 Centrally mounted microwave or mid range PIR detector



Vitesse Plus LCM allows up to four detectors to be plugged in. It can switch (or dim) channels independently to provide maximum energy savings and safety for occupants of the corridor.

Vitesse Plus is also compatible with CP Electronics' Modular Wiring solution to allow simple plug and play connectivity for each channel.

Options:

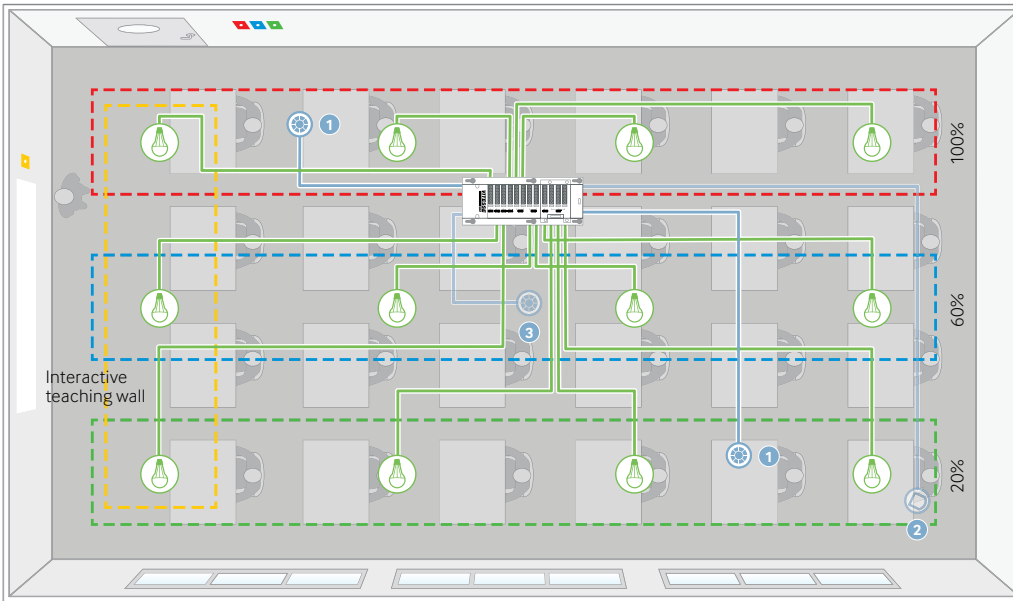
- 1 Two end-of-corridor mounted microwave detectors
- 2 Two centrally mounted microwave or mid-range PIR detectors

- Light Fittings
- Presence Detectors (pages 10–11)
- Microwave Detectors (page 11)

- Vitesse Modular (pages 6–7)
- Vitesse Plus (pages 8–9)
- Connectors (pages 12–13)

- Luminaire Leads (pages 12–13)
- Tee Modules (pages 12–13)
- Extender Leads (pages 12–13)

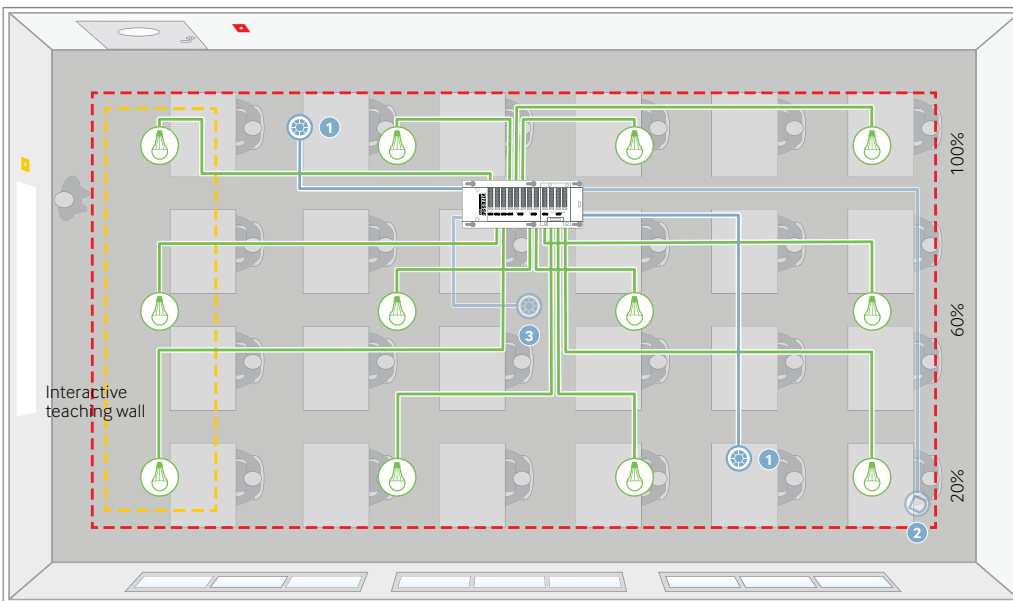
Interactive Learning Spaces



There are a variety of lighting control options for a classroom using three switches to control the three row of luminaires working in absence mode, as well as an interactive teaching wall independently switched. These are the three most common options.

Options:

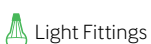
- 1 Two PIR detectors
- 2 One corner mounted microwave detector
- 3 One central mounted PIR detector or microwave detector



The three most common installation options for a classroom are shown on the adjacent diagram, with three rows of luminaires working in absence mode, with an interactive teaching wall independently switched.

Options:

- 1 Two PIR detectors
- 2 One corner mounted microwave detector
- 3 One central mounted PIR detector or microwave detector



Light Fittings



Microwave Detectors (page 11)



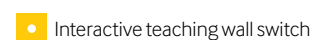
Main Switches



Presence Detectors (pages 10–11)

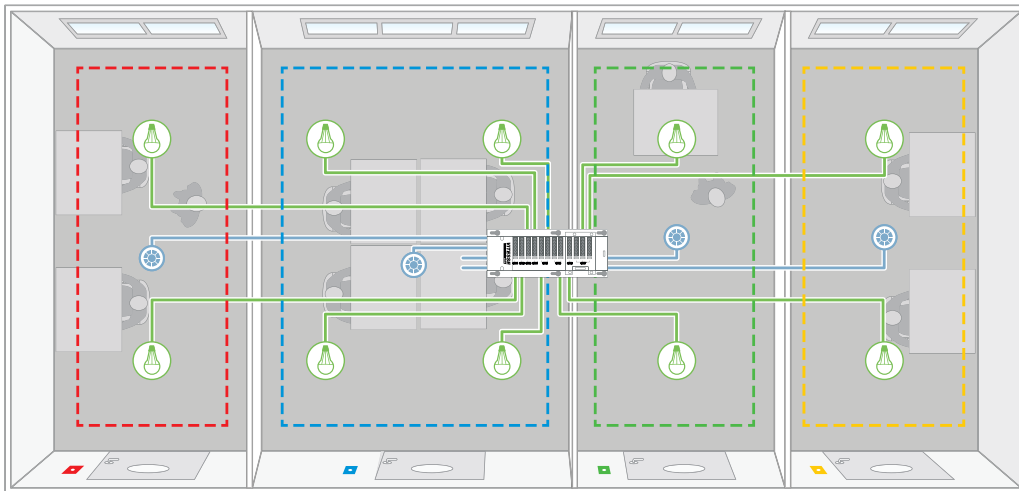


Vitesse Plus (pages 8–9)

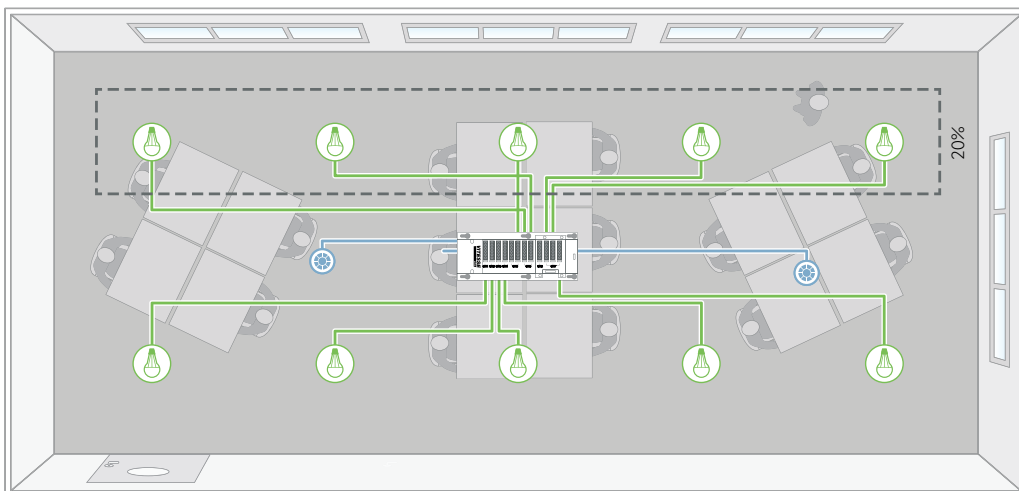


Interactive teaching wall switch

General Office Environments

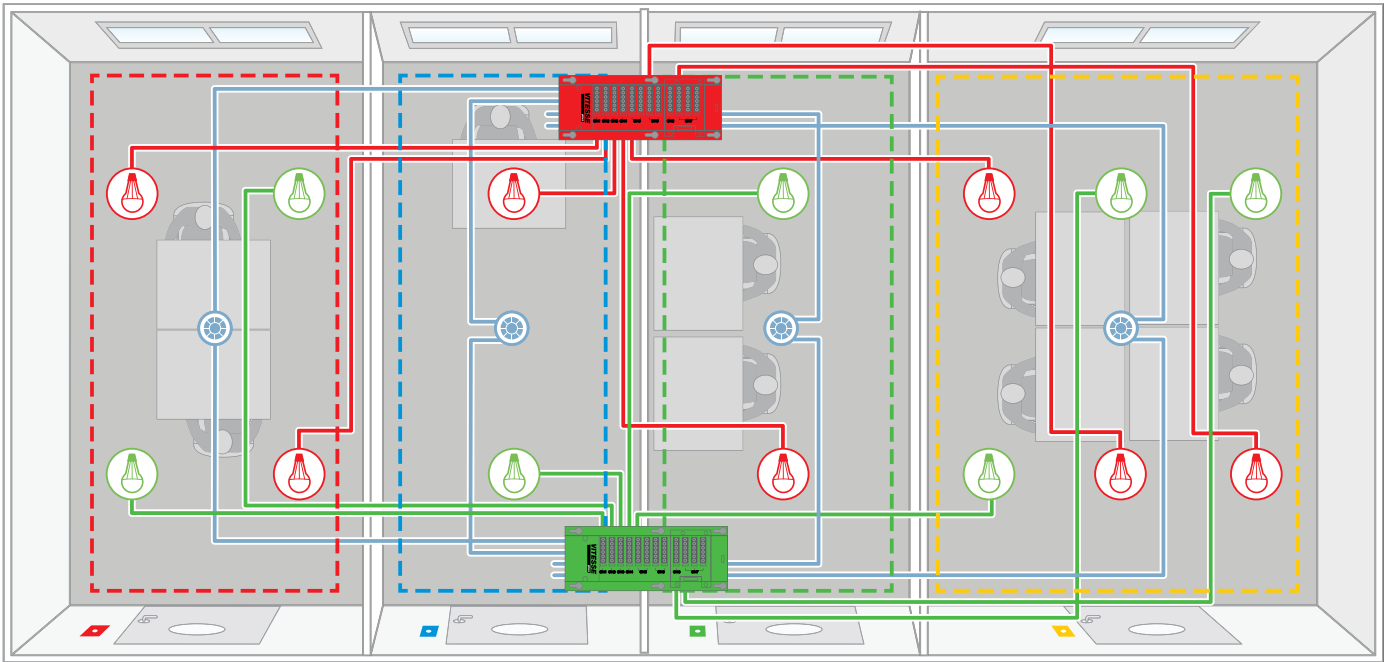


Four cellular offices individually controlled with a presence detector and/or a manual switch in each.



Open plan office working in presence mode with daylight dimming on perimeter window rows.

Hospital Cellular Offices – dual supply using two LCMs



Four cellular offices with dual supply working in absence mode with a detector and a manual switch in each. Window row dimming.

 Light Fittings

 Presence Detectors (pages 10–11)

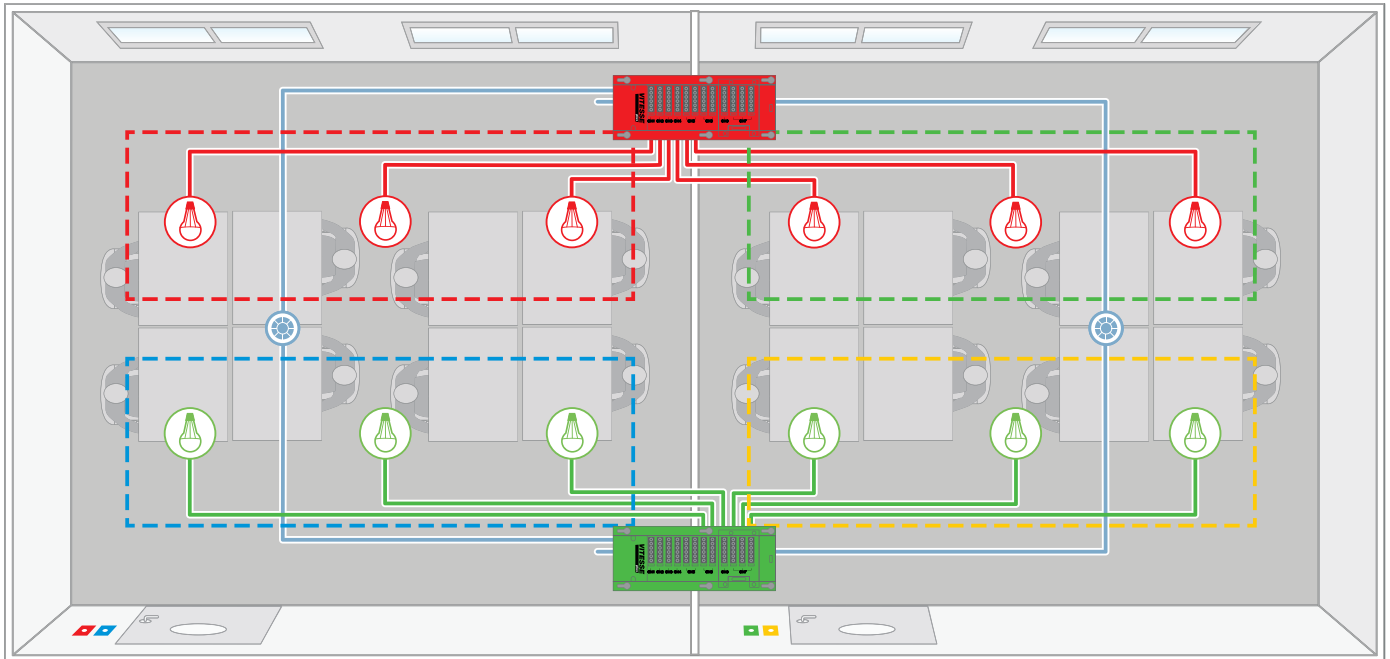
 Microwave Detectors (page 11)

 Vitesse Plus – Essential Supply (pages 8–9)

 Vitesse Plus – Non essential supply (pages 8–9)

 Main Switches

Hospital Cellular Offices – dual supply using two LCMs



Four cellular offices with dual supply working in absence mode with a detector and/or 2 gang manual switch in each. Window row dimming.

 Light Fittings

 Presence Detectors (pages 10–11)

 Microwave Detectors (page 11)

 Vitesse Plus – Essential Supply (pages 8–9)

 Vitesse Plus – Non essential supply (pages 8–9)

 Main Switches

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