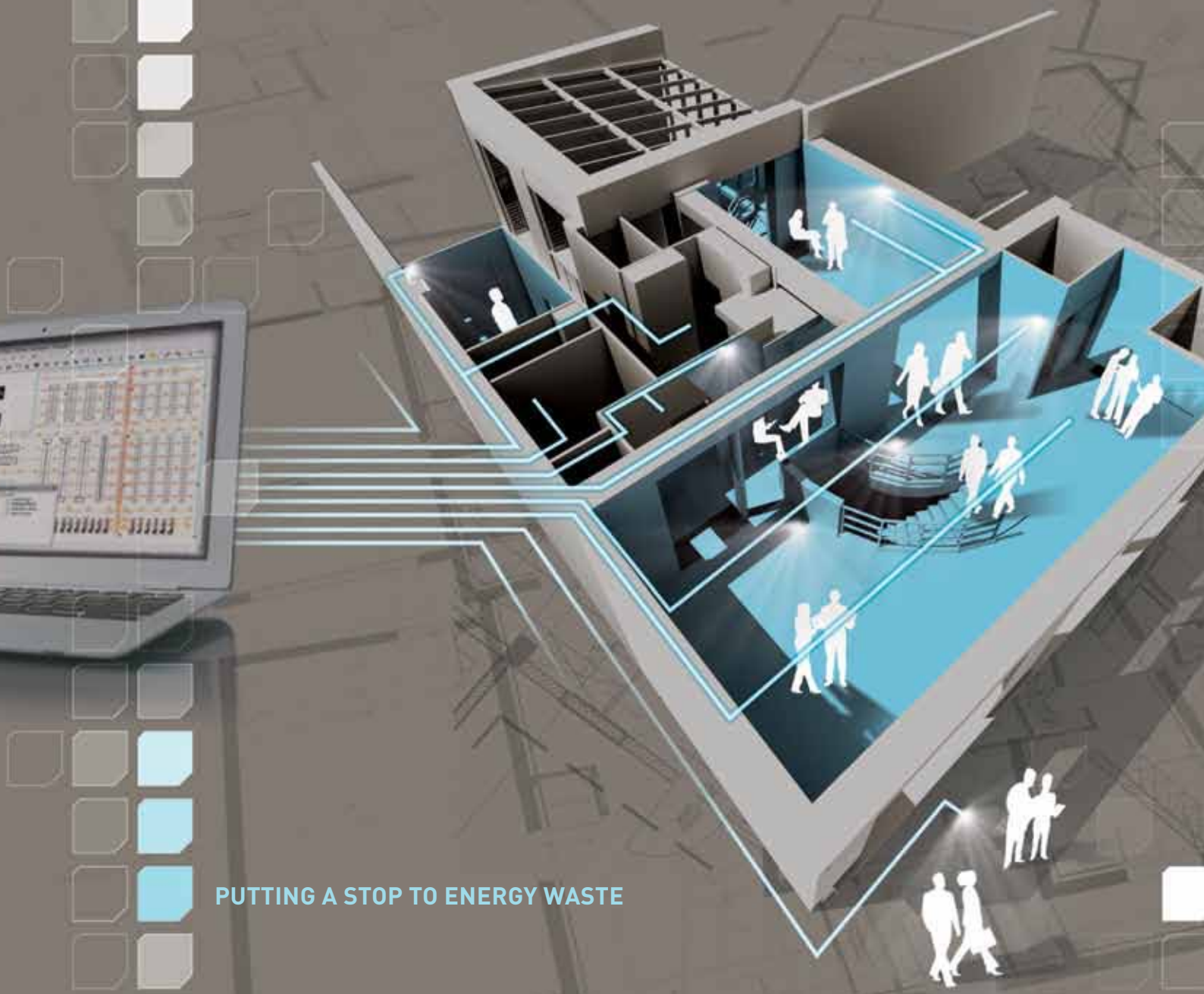
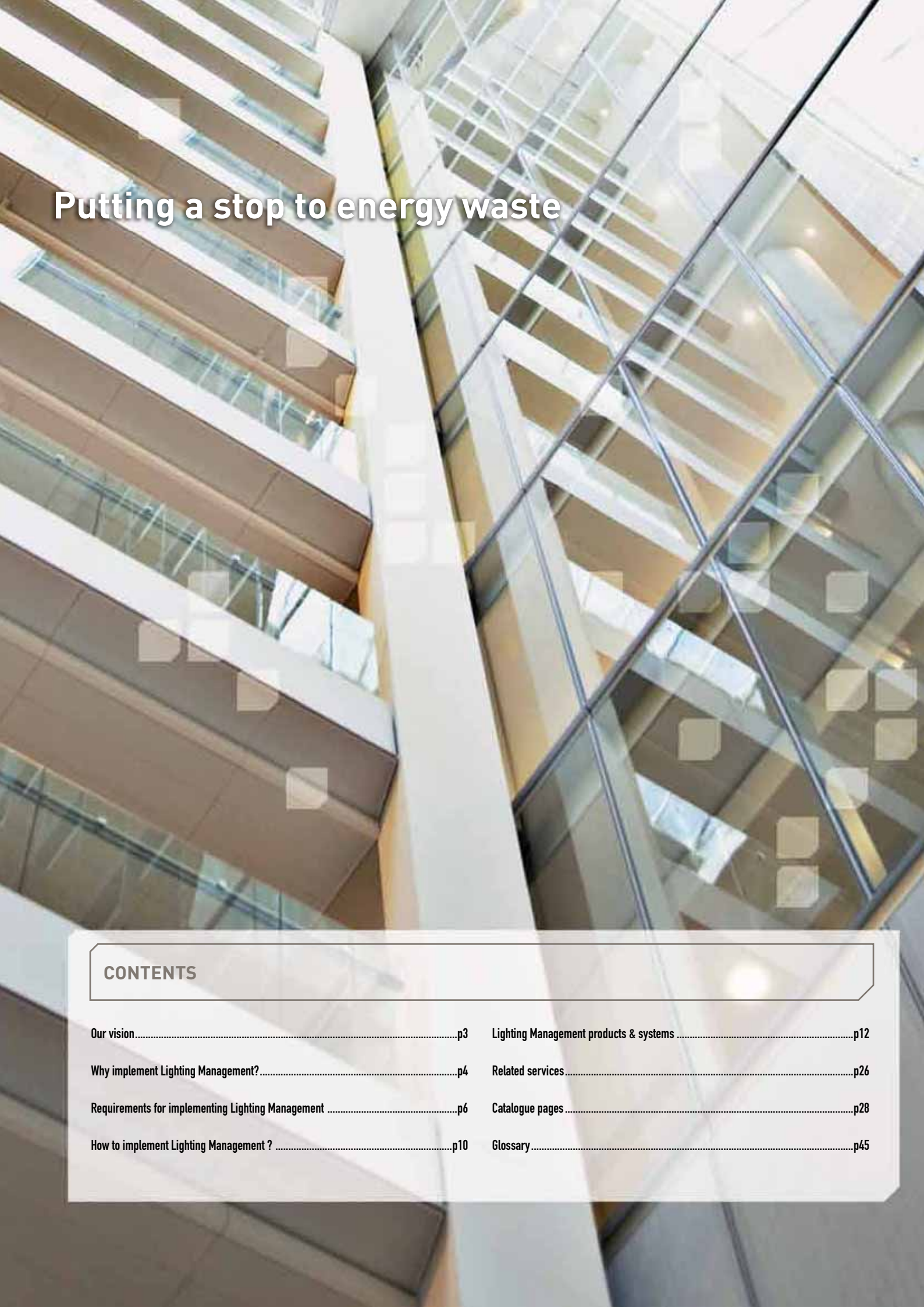
Lighting Management Solutions

Products & systems catalogue



PUTTING A STOP TO ENERGY WASTE

legrand®



Putting a stop to energy waste

CONTENTS

Our vision at Legrand is to provide products and services that make buildings more energy-efficient.
We are committed to putting a stop to energy waste.

Energy-efficient lighting management systems ensure there is just the right amount of light when and where you need it. They are reliable and easy to use, provide safety and security, reduce expenses and are code compliant, sustainable and environmentally friendly.

Legrand offers two types of solutions and proposes related services to ensure that your lighting management project saves energy and helps the environment.

Switch sensors

BUS | SCS systems

Lighting is a significant user of energy in commercial buildings

20% of total site energy is consumed by lighting.

Lighting is the first electricity end-user with up to 40% electricity consumed.*

*Energy end-use distribution varies greatly depending on the activity of the building and across geographical and climate regions (Source: Energy Information Administration, USA)

Together with heating and air conditioning, lighting accounts for the greatest energy consumption and costs of a building. These significant costs can be more effectively controlled through the use of lighting management.

Each year, increasing numbers of organisations implement lighting management because they recognise its wide range of benefits:

Energy savings

Perhaps the primary benefit is that of energy savings. Lighting management can result in energy savings of more than 30%, reducing building operating costs by 10% or more[1]. Energy waste can be eliminated by using automatic lighting management so that lights work intelligently: the right levels in the right locations, at precisely the right times.

Economic savings

Reduced lighting usage lowers operating costs, saves money and helps reduce Green House Gas (GHG) emissions. Additional savings stem from reduced AVC costs, lamp replacement, maintenance and reduction of power demand during peak hours.
Up to 55% savings based on EN15193 (with occupancy sensor + manual switch + daylighting sensor)[2]

Code compliance

European standard 15193 (Energy performance of buildings - energy requirements for lighting) is developing as a major standard for defining energy efficient lighting systems. This standard is likely to form a basis for most building codes around the world. The Legrand Group has chosen this standard as a basis for all its energy savings calculations so as to incorporate the largest shared-understanding on energy efficient lighting systems and provide reliable and credible energy saving ratios.

Sustainable building practice

Lighting management can be used in green building projects (i.e. LEED, HQE, BREEAM or GREEN STAR etc.) as energy-efficient solutions that can also enhance the comfort of occupants.

(1) Source: Energy Information Administration, USA
(2) The level of savings that can be achieved with sensors depends on the type of building and the type of room (activity)

Green sense is simply common sense

Sustainable building practices are rapidly gaining mainstream acceptance

In all developed countries, as well as in a growing number of developing countries, governments are adopting regulations and standards to improve the energy performance of buildings.

Mandatory requirements and voluntary programmes are multiplying. They have different scopes and levels of requirements, but they all share the same objective: to improve the energy efficiency of buildings.

Group approach:

The Legrand Group is an active member of many industry and energy efficiency oriented organisations.

By recognising the need to preserve the environment and conserve resources, Legrand works to adopt greener practices and to integrate our commitment to the environment into our strategic planning and decision making processes.

Mandatory requirements

There are a number of standards (non-binding energy standards) that promote best practice and are often used as guidelines for future regulations.

Standards on energy savings

Some standards also provide guidelines on the energy efficiency of specific installations. For instance, European Standard EN15193 provides guidelines for energy performance of lighting systems. Legrand has chosen this standard as a basis to demonstrate the energy performance of its lighting solutions.
This standard is widely recognised and provides a calculation methodology for energy savings according to the type of solution installed, the type of building and the type of room.
This is a recognised reference that contributes to building Legrand's rightful position on the energy efficiency market.

Building requirements in Australia

In Australia, the Building Code of Australia (BCA) sets the minimum technical and mandatory requirements affecting buildings.
The BCA specifies that artificial lighting must not exceed a certain illumination power density (W/M²) applicable to each building type. The maximum illumination power density can be increased when using lighting control devices such as movement sensors.
Refer to www.abcb.gov.au for further details.

The minimum technical and mandatory standard followed in New Zealand is NZS4243:Part2:2007.

Putting a stop to energy waste

By installing lighting management and other automated controls, energy waste is avoided and the building only consumes just the amount of energy it needs, when it needs it.
Legrand is committed to providing customers with comprehensive, transparent information on actual savings for its lighting management solutions: saving on energy + Green House Gas (GHG) emissions avoided.
You can find this information in our best practice literature.

Voluntary programs

Our approach to building is currently moving towards a more sustainable way of designing, constructing and renovating buildings.

Green Building is an approach to building that considers the overall environmental impact of a building as well as the health and well-being of its occupants.

Green Building programs

Various Green Building initiatives are being developed around the world, providing a framework for local development of Green Buildings.
These Green Building programs are voluntary, consensus-based programs that provide guidelines for building in line with sustainable criteria.
These programs generally have an associated rating tool for assessing the environmental performance of the building and certifying its compliance with the standard.
Green Building certification is awarded to differentiate sustainable building projects and give them credibility. Major Green Building programs include LEED, BREEAM, HQE and GREEN STAR.

Lighting management strategies

Lighting management strategies refer to the basic method that will be used to control lighting systems. This will include automatic operation of the lighting, taking into account the needs of the space's occupants.

Occupancy-based control

Lighting is switched on and off in response to the occupancy of a particular area. It is not dependent on time intervals or scheduled periods, but responds to the individual usage of a controlled area.

Vacancy-based control

Lighting is switched on and off in response to an area becoming vacant. It is not dependent on time intervals or scheduled periods, but responds to the individual usage of a controlled area.

Scheduled control

Lighting is managed according to time schedules based on when buildings are open/occupied and closed/unoccupied.

Dimming control

Lighting levels are adjusted to achieve the required lighting effects or appropriate light levels for the various activities of the occupants.

Light level control

This strategy involves adjusting the light output level in a number of ways to achieve specific objectives. The main types of light level control include:

Daylighting (daylighting setpoint)
In areas inside buildings that receive abundant natural light, this strategy uses that light to supplement and replace the use of artificial light.

Tuning (lighting profile)
This approach uses the adjustment of lighting levels to achieve appropriate light levels for the various activities of the occupants. For instance, an individual engaged in drawing or reading will require a higher light level than someone who is shelving merchandise.

Lumen maintenance
This strategy focuses on maintaining an even level of illumination throughout the lifespan of the lighting system lamps. To do so, it relies on reducing initial light levels at the outset of the lifespan, and gradually increasing light levels as lamps age.

Lighting management technologies

Lighting management technologies refer to the actual device that will be used to implement a specific strategy and the method the device will use to operate (passive infrared, ultrasonic or dual technology sensors, timers or dimmers).

Occupancy sensors

Occupancy sensors use a variety of technologies to detect occupants and send appropriate signals to area lighting.

PIR technology
Passive infrared technology detects occupancy by reacting to infrared energy sources, such as the human body, in motion. By identifying the difference between such energy sources and the background area, the sensor can locate occupants and signal lights to turn on. To operate effectively, PIR sensors require a direct line-of-sight view that encompasses the coverage area.

Ultrasonic technology
This type of occupancy sensor utilizes Doppler signalling to detect occupants. The sensor emits ultrasonic sound waves that bounce off objects in the area covered, and then measures the amount of time it takes for the wave to return. When there is movement in the area, these sound waves will return to the sensor's receiver at different frequencies, resulting in occupancy detection. This technology is ideal for applications where the sensor would not have line-of-sight views of occupants or where activity levels may be low.

Dual technology
Occupancy sensors that employ multiple sensing technologies are usually referred to as 'dual technology' or hybrid devices. They generally use PIR and ultrasonic technologies, where lighting is turned on when both technologies detect occupancy, and remains on as long as at least one of the sensing technologies continues detecting occupancy.

Daylighting setpoint
The light level feature keeps lighting OFF when the natural light levels rise above a pre-set level. This setting is adjustable and can be overridden. It is available in all Legrand ceiling sensors. This function is activated by default.

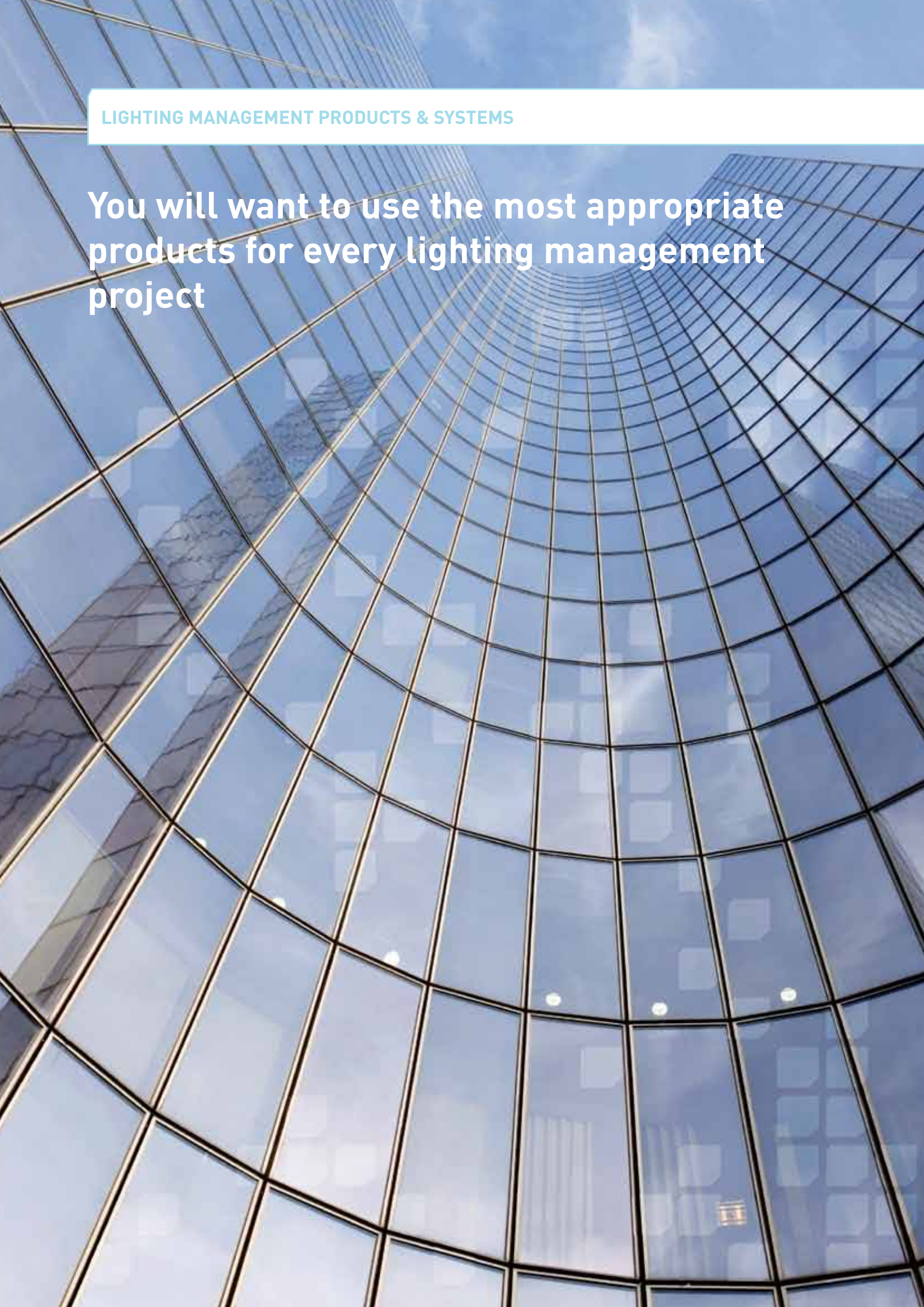
Time switches

These mechanical or electronic devices turn lights on or off after a specified interval. The interval can be varied to meet the needs of the occupant, usually from brief periods of five minutes up to intervals as long as 12 hours.
These switches can often replace conventional wall switches without the need for any additional wiring.
Practical uses for time switches are areas that are used frequently but only for short periods of time, such as utility or control rooms, storage areas, and library book stacks.

Dimming controls

For personal control of work areas, users can choose remote controls that switch lighting on, off, or dim light levels.
These types of control are particularly useful for task tuning, since the individual user can match the required light level to their specific work tasks.

You will want to use the most appropriate products for every lighting management project



Because different types of areas are best served by different control strategies, most projects require a number of solutions to maximise energy savings and occupant satisfaction.

Switch sensors

A simple, economical solution

This solution is ideal for managing single or multiple areas. It includes switch sensors that work on 100-240 Vac. These switch sensors are available in occupancy-mode and vacancy-mode lighting management strategies and use PIR, ultrasonic or dual technologies. In addition, all Legrand ceiling sensors have the daylighting setpoint feature. This keeps the lighting OFF when the natural light level rises above a preset level. This setting is adjustable and can be overridden.


Sensor


Sensor


Sensor

BUS | SCS systems

Complete solution for lighting management

This solution can manage a floor or a whole building. Equipment and lighting features, managed by actuators or dimmers, communicate by means of the BUS. The installation can be designed, monitored and supervised on a PC using our software suite.
The Legrand BUS/SCS system is compatible with all types of lighting features, including Dali.

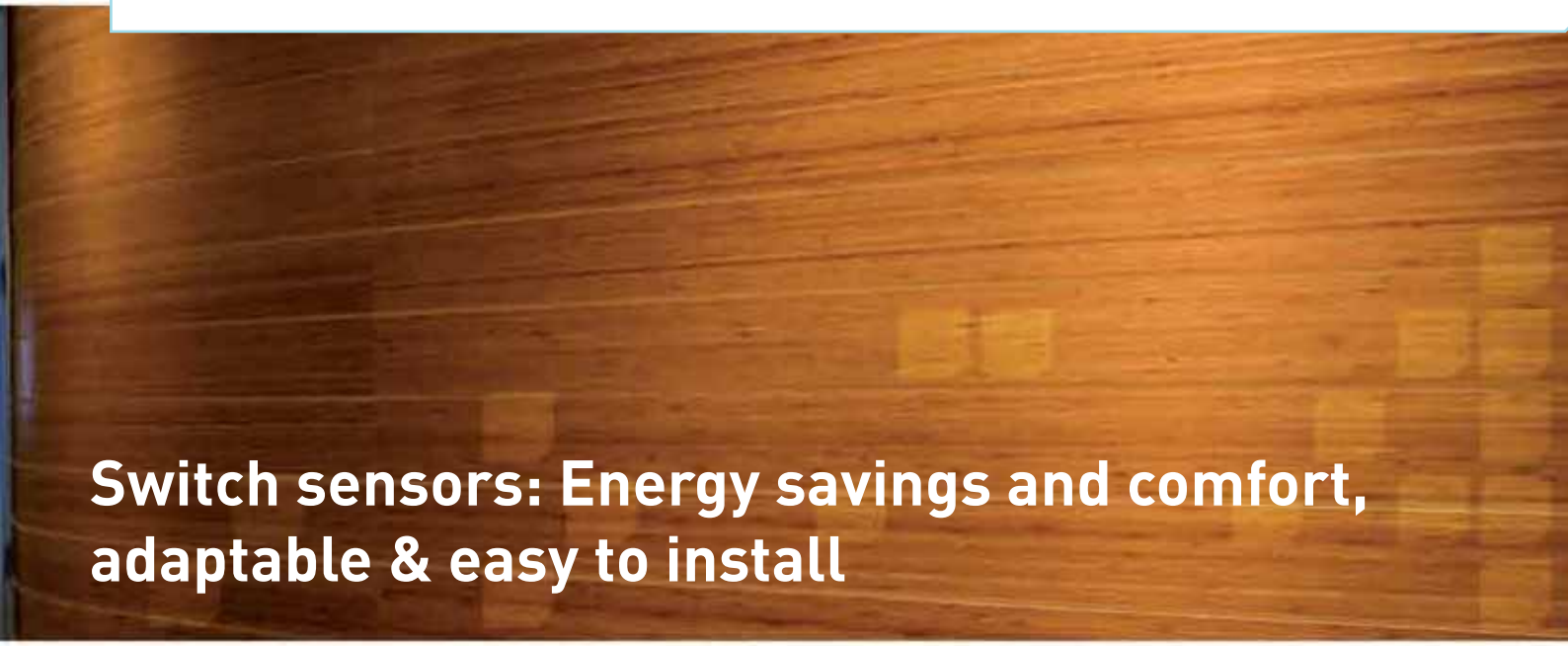

Control


SCS sensor


Room controller

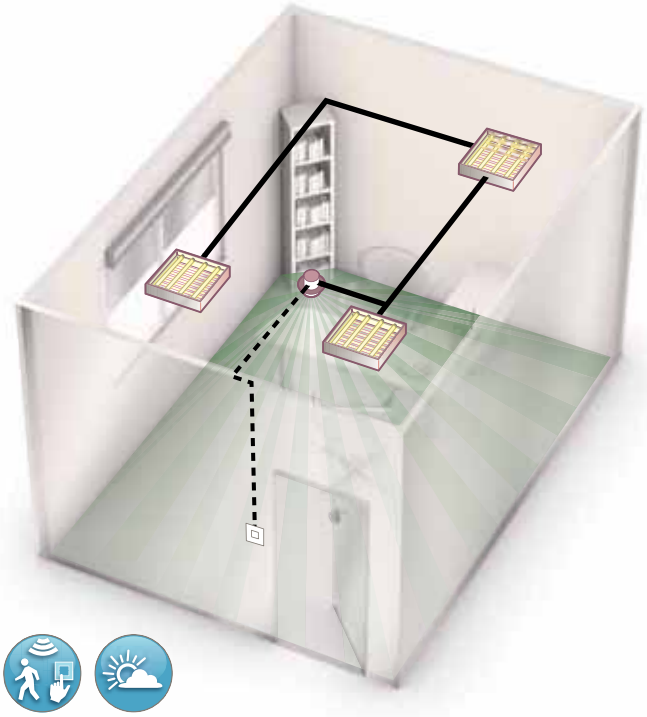

Dimmer


Software



Switch sensors: Energy savings and comfort, adaptable & easy to install

Solution & application
enclosed offices

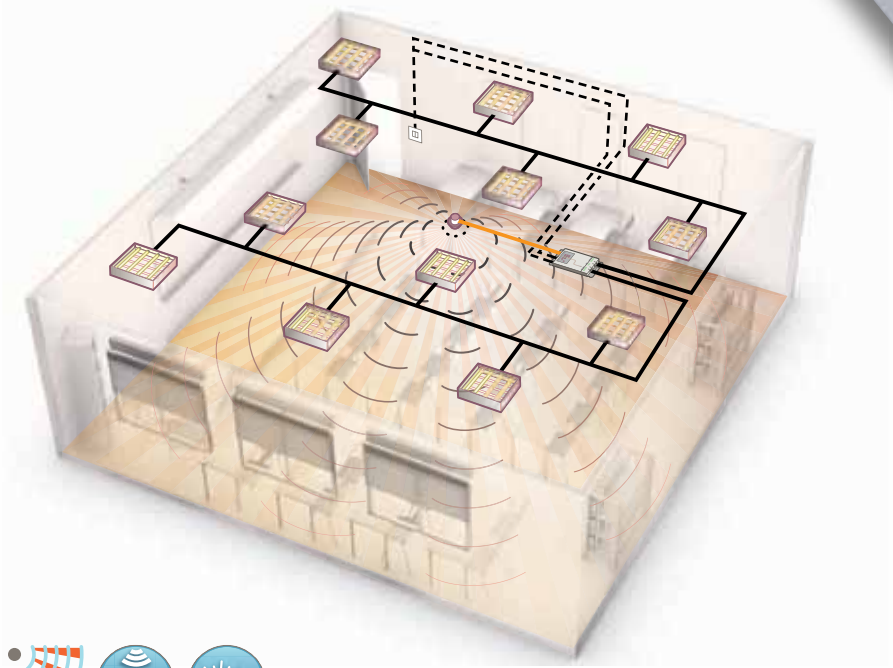


Cat.No 488 07: PIR (passive infrared technology) 360° ceiling mount switch sensor. Linked to a standard pushbutton to turn light "ON" manually. The PIR ceiling mount sensor can accommodate lower levels of activity without causing false triggers, as the room controller is small. This sensor is shipped with the time preset at 15 minutes and daylight at 500 lux. These settings can be modified using commissioning tools Cat.Nos 882 30/35.

Cat. No 488 07

Solution & application

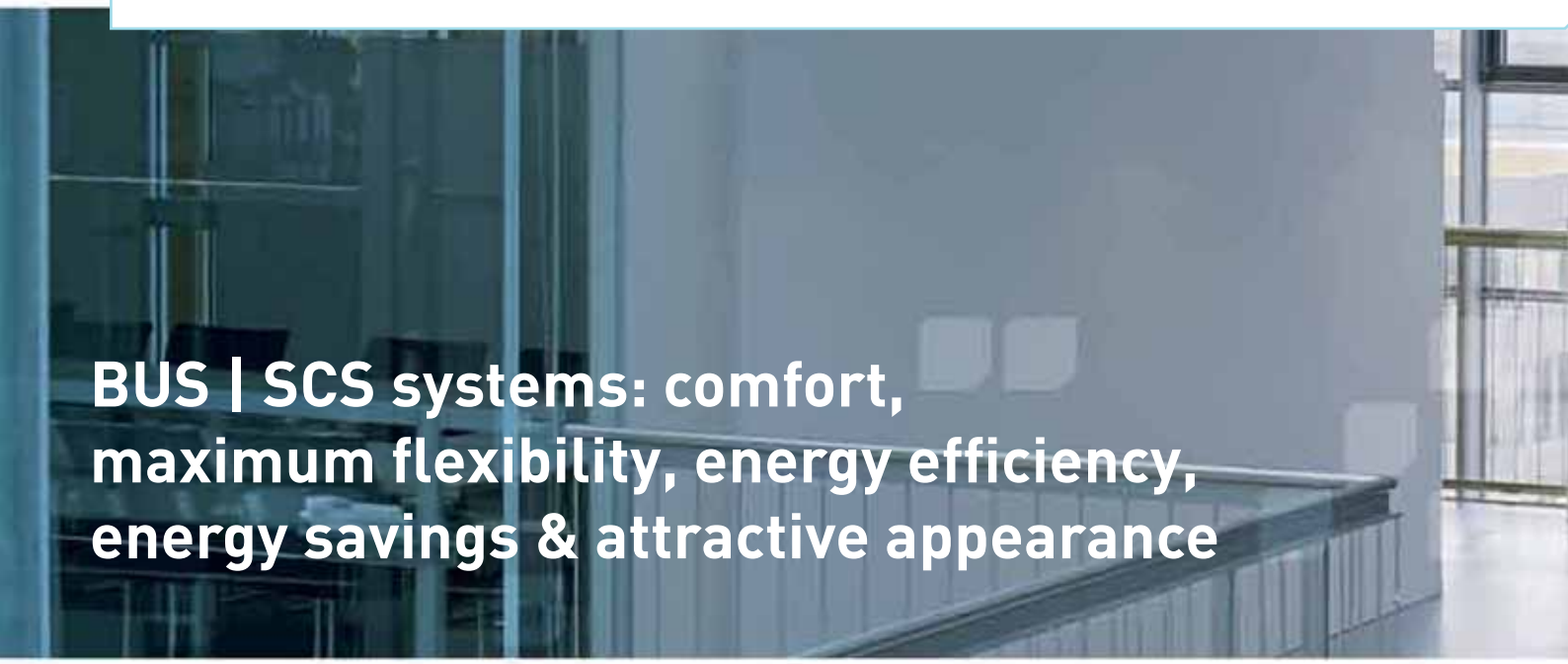
Classroom



Cat. No 488 50

Cat. No 488 22

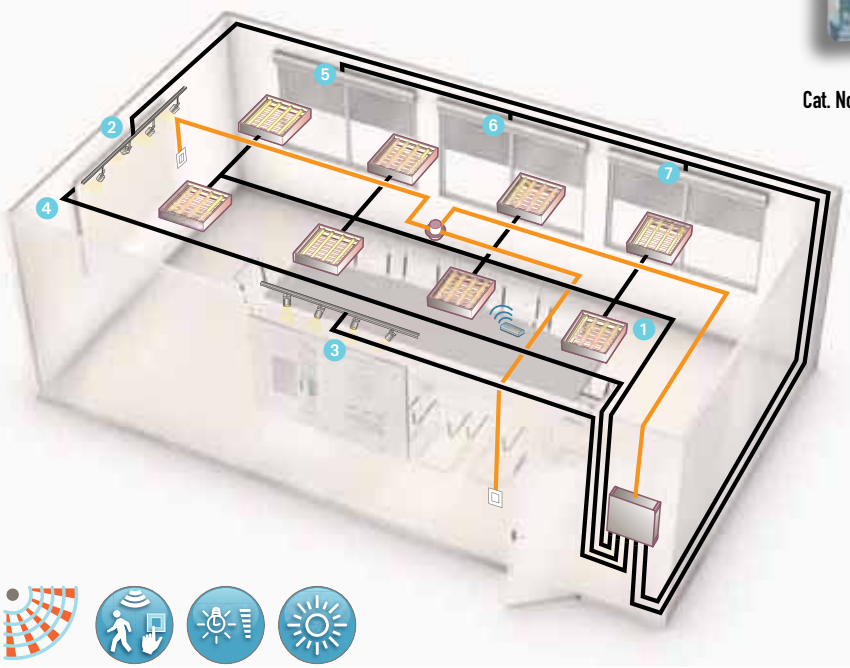
Cat.No 488 22 Dual Tech Bus sensor + 488 50 standard room controller.
The Dual Technology Sensor and standard room controller control 2 zones.
The Daylight function is only activated for output 2 as it controls zone 2.
The Bus sensor should be placed in the centre of the room.
Two standard pushbuttons are used to turn the light "ON" manually and for overrides. Useful when lights need to be turned off during presentations.
This sensor is shipped with the time preset at 15 minutes and daylight at 500 lux. Use commissioning tool Cat.No 882 30 or 882 35 to modify these settings if necessary.



BUS | SCS systems: comfort, maximum flexibility, energy efficiency, energy savings & attractive appearance

Solution & application

Large conference room



Cat. No 038 42

Cat. No 882 31

Cat. No 488 22

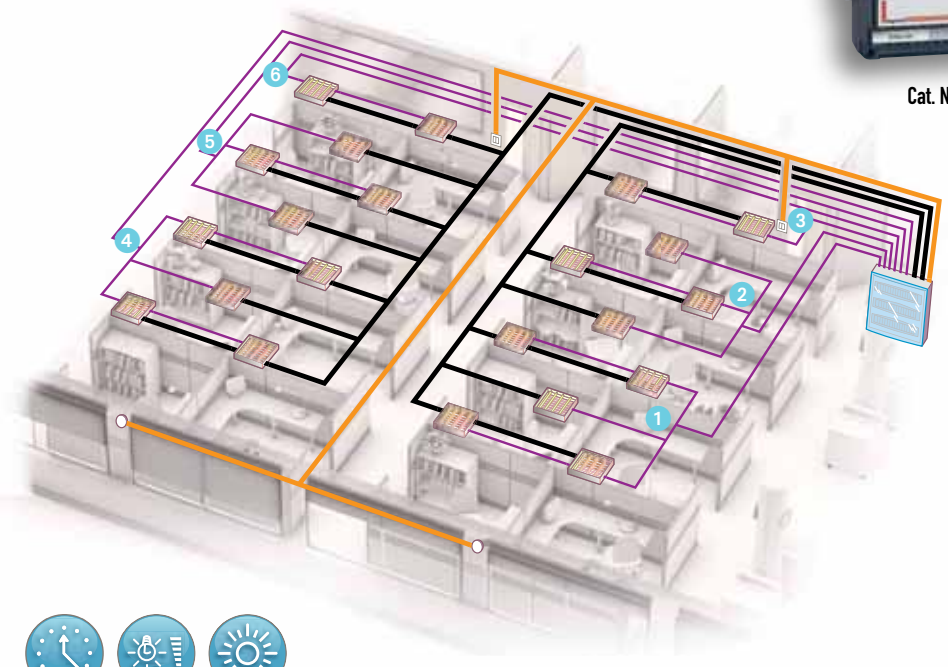
The DIN controller Cat.No 026 12 has 4 dimmable outputs. It controls the 3 lighting circuits. Control luminaires (Dim) + Screen luminaires (on/off) + whiteboard luminaires (on/off)
The 4 DIN controllers Cat.No 038 42 control the 3 blind motors and the screen motor.
The 2-way multifunction control Cat.No 573974 has 2 directions of operation. It controls (up/down/stop) the motors for the screen and the blinds.
The control Cat.No 573987 is used to turn on/off and manually dim +/- the light circuit above the whiteboard circuit.The remote control Cat.No 882 31 is used to set the connect sensitivity and time delays.

Solution & application

Open office

Cat. No 026 45

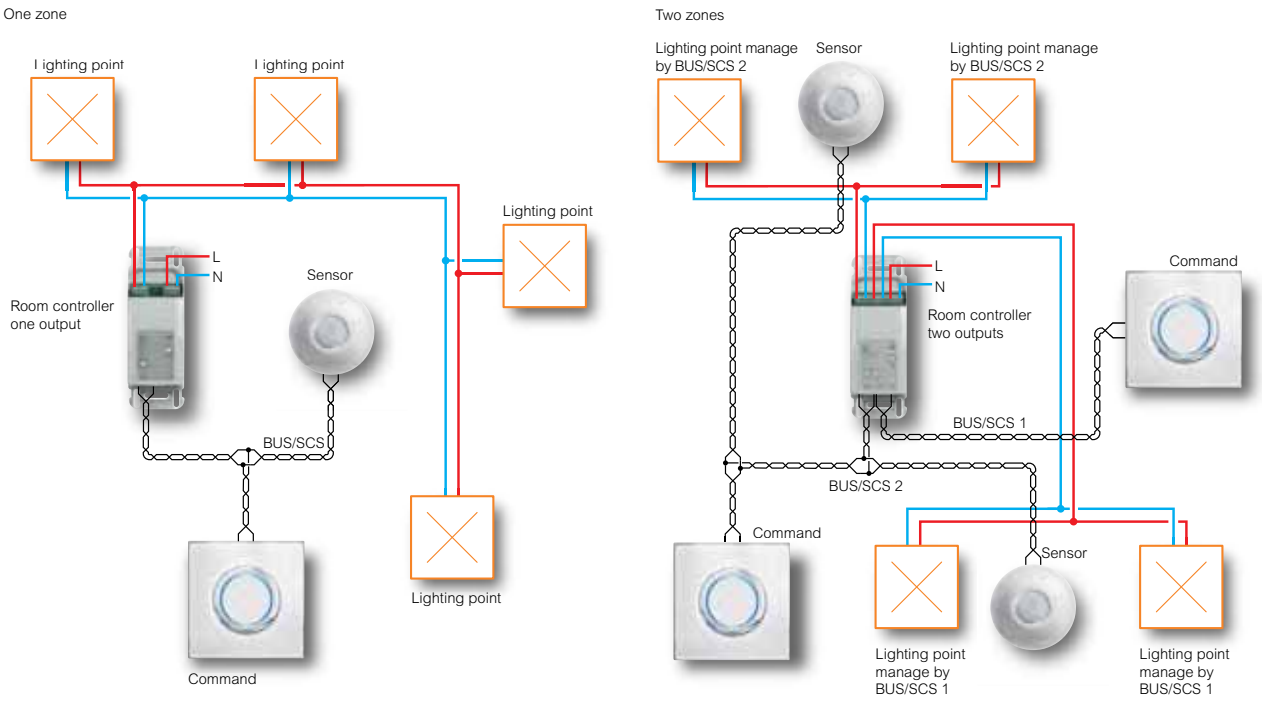
Cat. No 488 28



The lighting is controlled based on time schedules, manual control and daylighting. The area manager Cat.No 026 45 is used for automatically dimming 6 lighting zones based on available daylight. The 2 daylight sensors Cat.No 488 28 read the daylight level at the window and provide this information to the area manager Cat.No 026 45 and to the DIN Dali controller Cat.No 026 33.
The light of the luminaires is increased or decreased accordingly.
2 daylight photosensors are used for precise measurement.
After hours control is carried out using 2-way light control Cat.No 573987.
Lights are turned on manually and remain ON for 30 minutes.

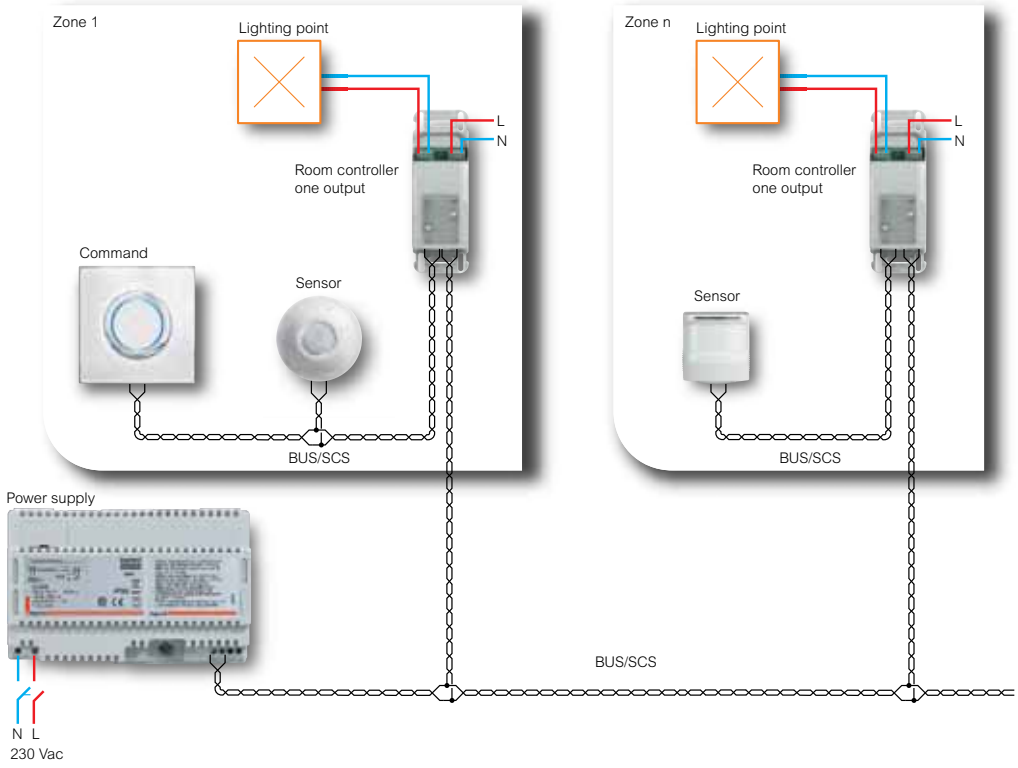
description of local management

One room controller (one zone & two zones)

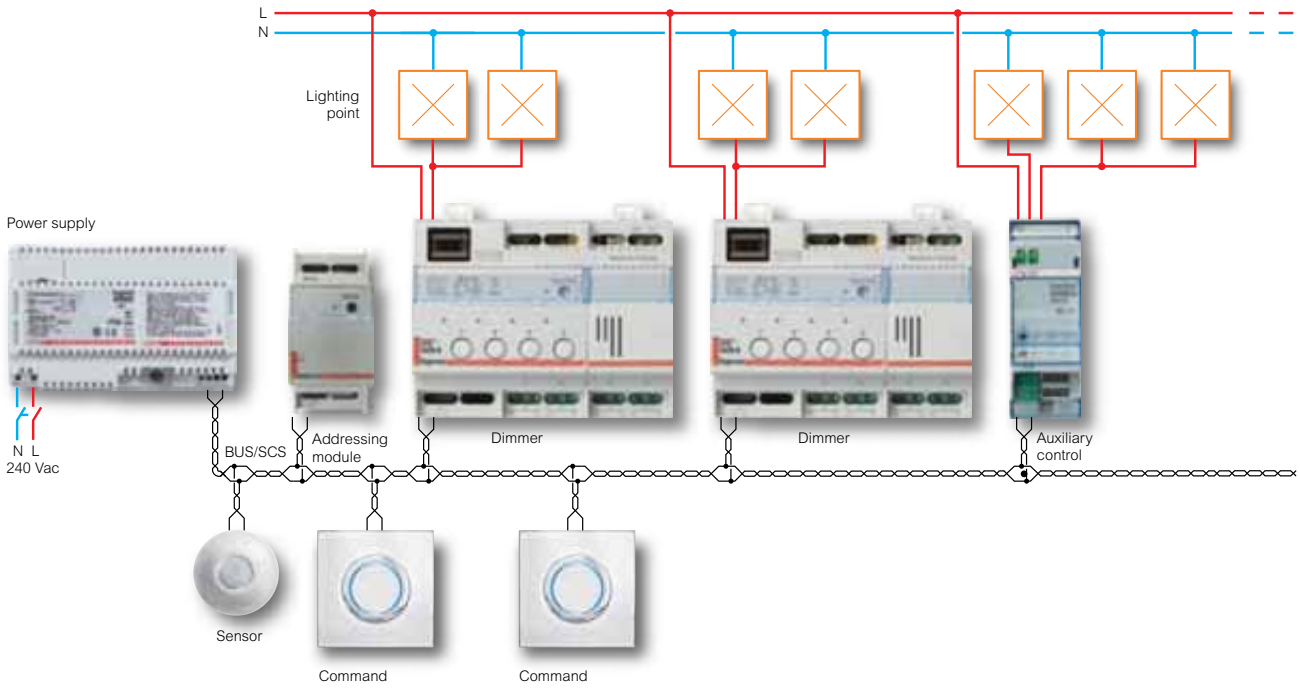


description of local management

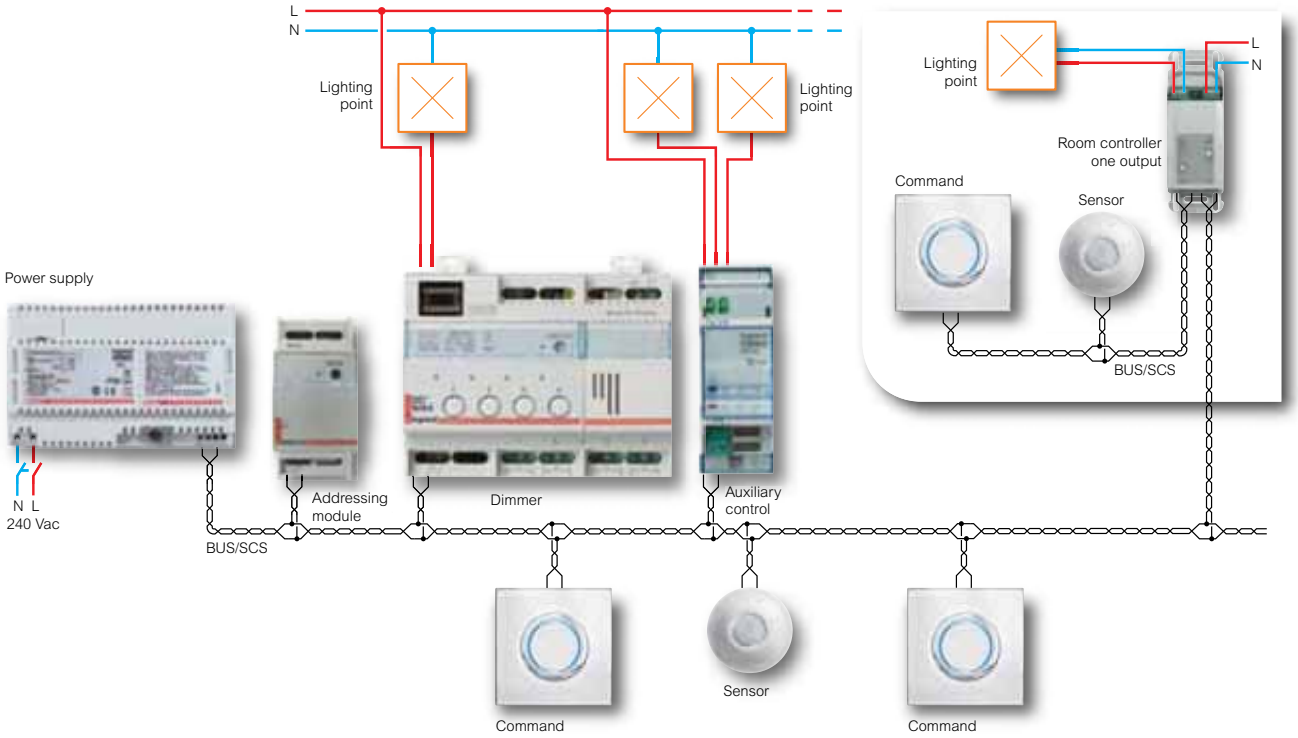
Two room controllers (with actuator)



solution
SCS system

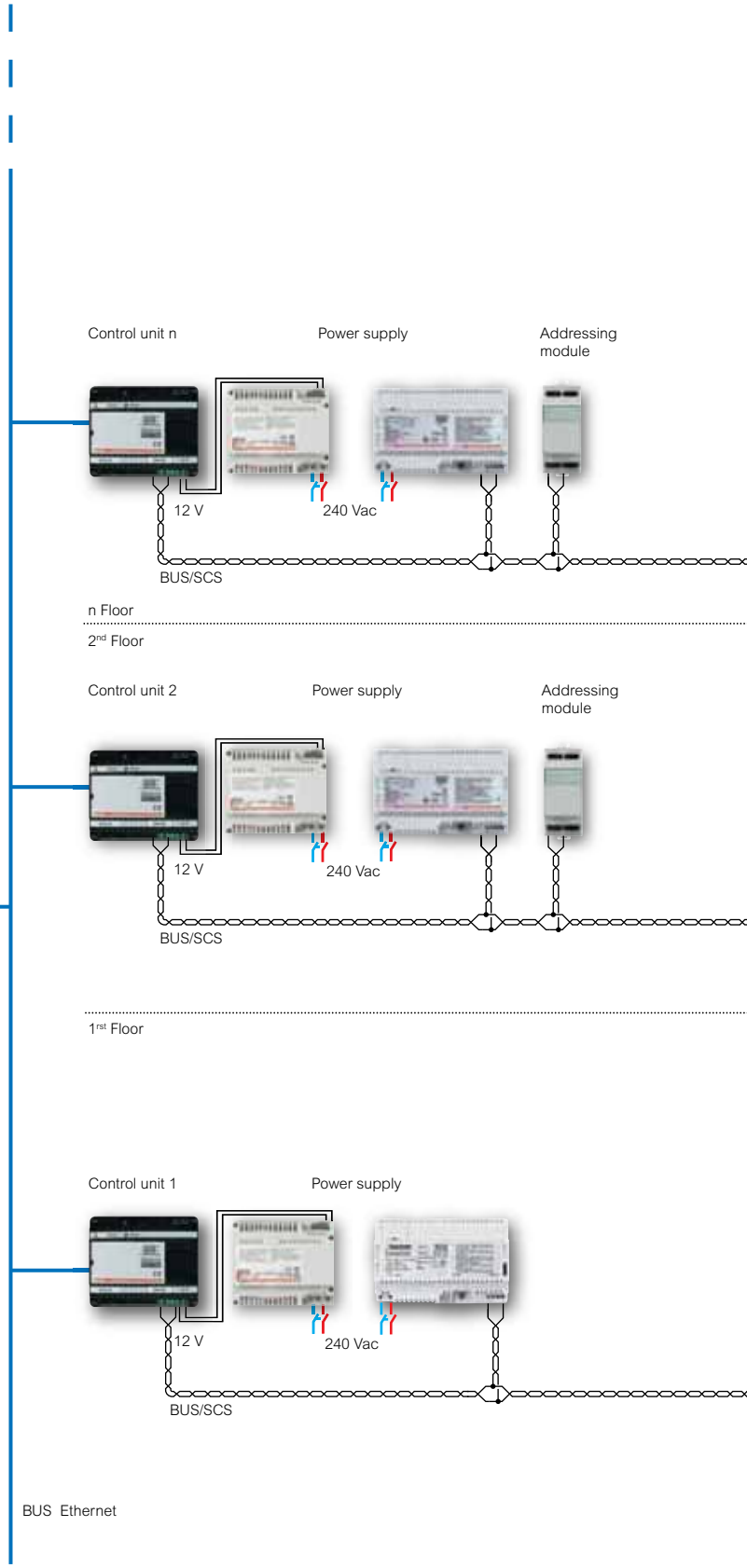


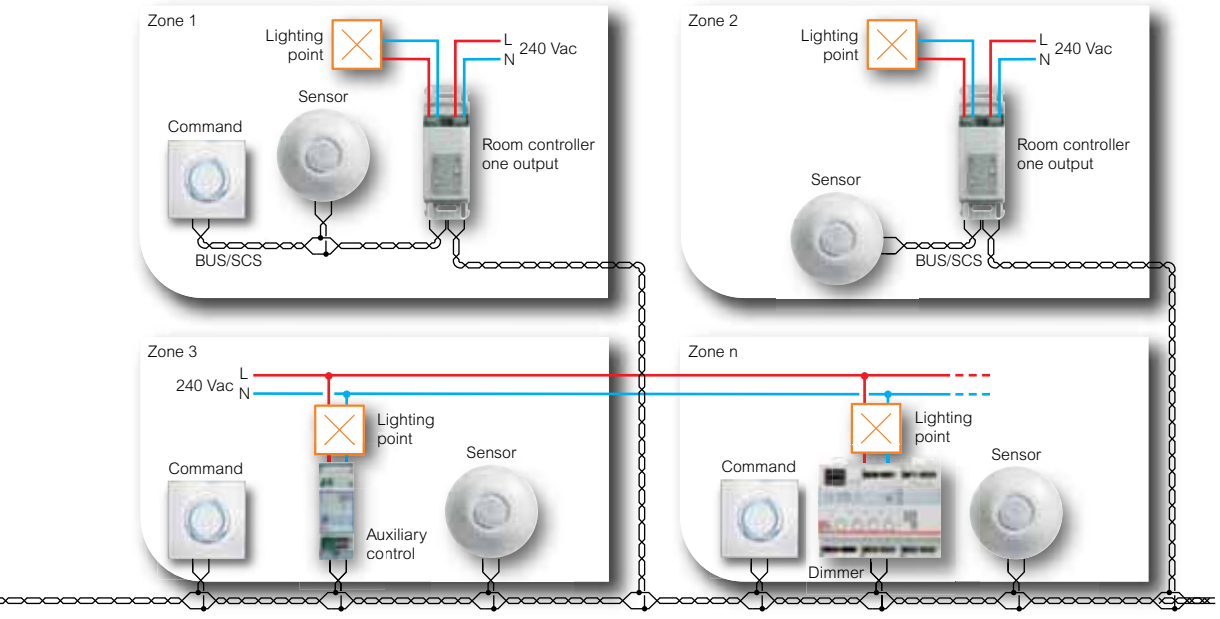
solution
SCS system & room controller

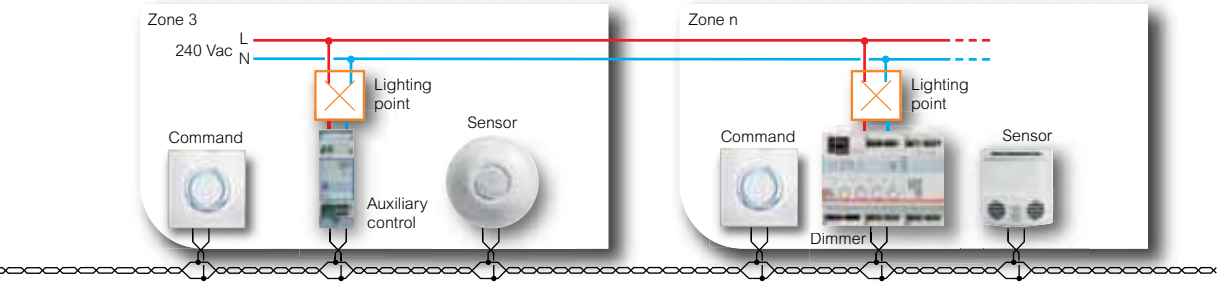


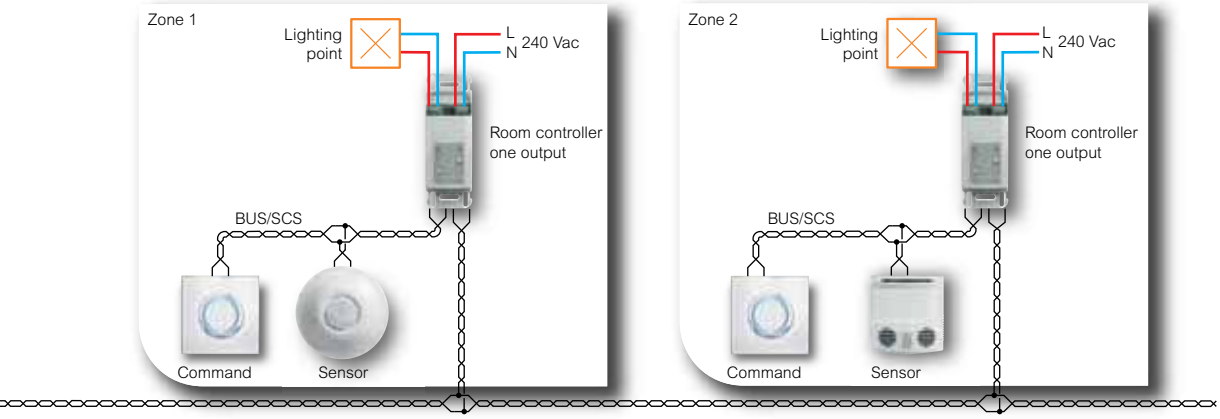
description of centralised management

Installation solution for an office building with 3 floors




Zone 1
Lighting point
L
N
240 Vac
Sensor
Command
Room controller one output
BUS/SCS
Zone 2
Lighting point
L
N
240 Vac
Room controller one output
Sensor
BUS/SCS
Zone 3
240 Vac
L
N
Lighting point
Sensor
Command
Auxiliary control
Zone n
Lighting point
Sensor
Command
Dimmer


Zone 3
240 Vac
L
N
Lighting point
Sensor
Command
Auxiliary control
Zone n
Lighting point
Sensor
Command
Dimmer


Zone 1
Lighting point
L
N
240 Vac
Room controller one output
BUS/SCS
Command
Sensor
Zone 2
Lighting point
L
N
240 Vac
Room controller one output
BUS/SCS
Command
Sensor

Configuration tools

Legrand offers three types of configuration for connecting our products to the BUS/SCS line:

1

Plug n' go

At initial installation, the room controller recognises the control which is directly connected to the input and sets its outputs accordingly. It can remain at this initial setup configuration, or it can be modified.

2

Push n' learn

The Push and Learn method is used to change or to adapt the default configuration between the control and the room controller.

3

Lighting Management Suite

With the Lighting Management Suite, all configuration work is carried out using the software, in OFFLINE mode, and then downloaded to the installation. Any modification and tuning can be carried out directly on or off-site.

Software suite

With the Lighting Management Suite, all configuration work is carried out using the software

Pre-sales

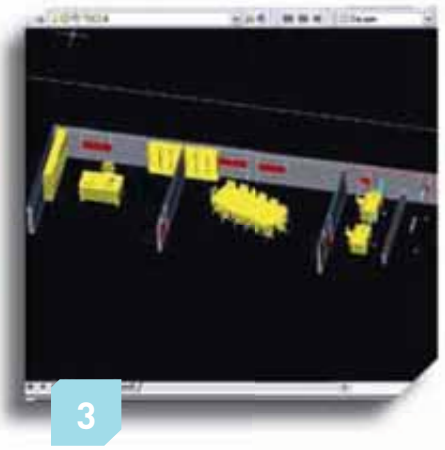
The LIGHTING PAYBACK software is used for quick, easy calculation of the benefits of the lighting management strategies chosen for a given project, evaluating the energy consumption and the economic return on the investment.

This software can be downloaded free of charge. It is not part of the 'Legrand Lighting Management Suite'.

Project

With YouPROJECT you can quickly obtain economic costings for a project, determining the list of equipment, its price and all the installation costs. Once the project has been validated, it can be used as a basis for designing the working documents.

YouPROJECT is part of the 'Legrand Lighting Management Suite'.



Design | Installation

The YouPROJECT software can be used with SPAC or AUTOCAD to create the whole installation design, from the wiring to addressing the products, right through to the initial OFFLINE configuration of the devices. An installation drawing can be printed out and given to the user.

4

Configuration

Once the products have been installed, using the installation drawing file created in the preceding step, the installer can use the VIRTUAL CONFIGURATOR software to download the actual configuration of the installation.

VIRTUAL CONFIGURATOR is part of the 'Legrand Lighting Management Suite'.

5

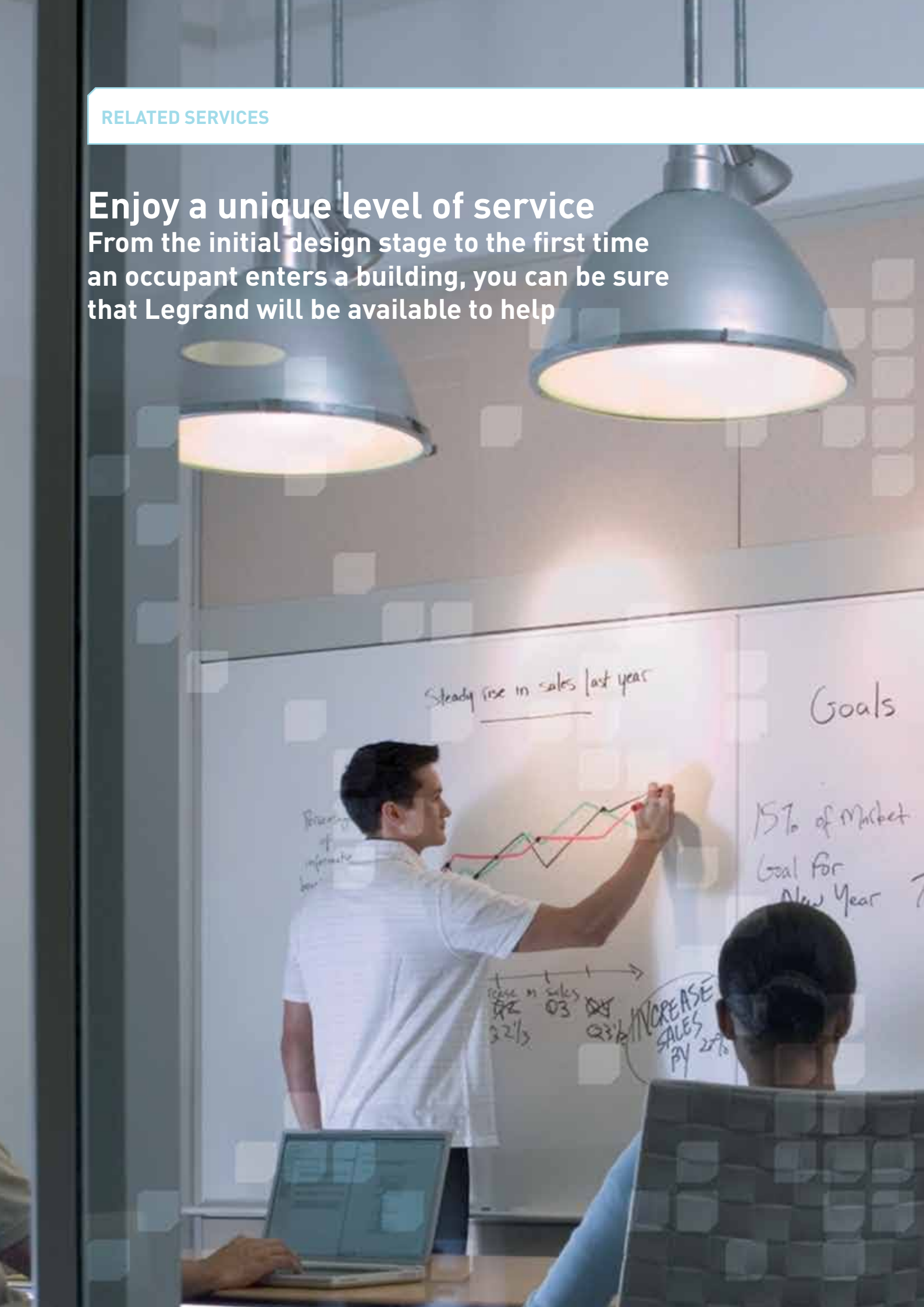
System Monitoring

SYSTEM UTILITIES & BM VISUAL are used to operate and supervise the project throughout its existence.

These two items of software are part of the 'Legrand Lighting Management Suite'.

Enjoy a unique level of service

From the initial design stage to the first time an occupant enters a building, you can be sure that Legrand will be available to help



Ranging from technical support and free design services, to field services for commissioning, our team of experts is available to assist you with all your lighting management requirements. With our team, you can be confident that your lighting management project will provide optimum performance and comply with any guidelines required for code compliance or sustainability.

Local support

Our sales representatives are available to assist with all aspects of lighting management projects. Services include building walk-through, training, payback analysis reports and product demonstrations.

Technical support

Telephone technical support from our dedicated team offers personal guidance for application-related questions, installation assistance or troubleshooting.

CATALOGUE

Our range provides you with the most appropriate solutions

Switch sensors

BUS/SCS system

lighting management switch sensors
1 output

	Cat.Nos		 **488 03**	 **488 01**	 **488 05**	 **488 06**	 **488 07**	**488 10**	 **488 11**
MAIN CHARACTERISTICS	**Installation type**		←	false ceiling	→			← surface mounting →	
	Operation		ON-OFF	ON-OFF	ON-OFF	ON-OFF	ON-OFF	ON-OFF	ON-OFF
	Type of operation		occupancy	←	vacancy & occupancy	→			occupancy
		Override	-	←	Push-buttons or mobile configurators	→			-
	Detector technology		PIR	PIR	US	PIR/ US	PIR	PIR	PIR
	Power supply		←	240 V/60 Hz	→				
	Operating temperature		←	-5°C to +45°C	→				
	IP		IP 20	IP 20	IP 20	IP 20	IP 20	IP 55	IP 42
	Cover L x W		45 m^2	45 m^2	150 m^2	90 m^2	45 m^2	180 m^2	45 m^2
	Diameter at 2.5 m		Ø 8 m	Ø 8 m	Ø 14 m	Ø 11 m	Ø 8 m	Ø 15 m	Ø 8 m
	Lux level		←	from 1 to 1275 lux	→				
	Time delay (mn)		from 20 s to 30 mn	←	from 0 s to 60 mn	→			from 20 s to 30 mn
FUNCTIONALITY	**Audible Alerts**		-	yes	yes	yes	yes	yes	-
	Walkthrough mode		-	yes	yes	yes	yes	yes	-
	Daylighting setting		-	yes	yes	yes	yes	yes	-
ADJUSTMENT	**Pre-settings**		time delay mini, lux maxi	←		15 minutes 500 lux	→	15 minutes 300 lux	time delay mini lux maxi
	Trim pot		yes	yes	-	-	-	-	yes
	Tool		-	882 35 882 30	←		882 35 882 30	→	-
DIMENSIONS	**Weight (g)**		114.5	150	159.1	162.2	114.2	205	266.6
	Connection type		auto terminals	auto terminals	auto terminals	auto terminals	auto terminals	auto terminals	auto terminals
	Depth (mm)	without auxiliaries	52.3	58.97	58.97	58.97	52.3	165.83	115.86
		with auxiliaries	55.6	62.27	62.27	62.27	55.6		
COMPATIBILITY WITH TYPE OF LIGHT	**Halogen light**	240 V	-	2500 W	2000 W	2000 W	2000 W	2000 W	2000 W
	ELV halogen with separate ferromagnetic or electromagnetic transformer	240 V	←	1000 VA	→				
	Fluorescent tube	240 V	←	10 x (2 x 36 W)	→				
	Fluorescent light with separate	240 V	1000 VA	1000 VA	1000 VA	1000 VA	1000 VA	1000 VA	1000 VA
	LED	240 V	500 W	500 W	500 W	500 W	500 W	500 W	500 W
	Compact fluorescent light with 1-10 V ballasts	240 V	500 W	500 W	500 W	500 W	500 W	500 W	500 W
	Contactors	240 V	←	max. W ≤ 2 A	→				

lighting management switch sensors
1 output


488 07


882 35


882 30


RJ 45 connectors


488 72


488 68

Pack	Cat.Nos	Ceiling sensors
		Fixed directly to a false ceiling with mounting claws (provided) or installed in Batibox flush-mounting box with depth of 50 mm
		Detection field 45 m²
		Ø 8 m Optimum distance between 2 detectors: 6 m Consumption 0.4 W on standby All load 8.5 A - 240 V
1	488 03	PIR ceiling mount switch sensor 360°, occupancy mode, automatic terminal connection
1	488 01	PIR ceiling mount switch sensor 360°, vacancy & occupancy mode (push-button override or mobile configurator), automatic terminal connection All load 10 A - 240 V
1	488 07	PIR ceiling switch sensor 360°, vacancy & occupancy mode (push-button override or mobile configurator), automatic terminal connection All load 8.5 A - 240 V
		Detection field 90 m²
		Ø 11 m Optimum distance between 2 detectors: 10 m Consumption 0.8 W on standby All load 8.5 A - 240 V
1	488 06	Dual ceiling mount switch sensor 360°, vacancy & occupancy mode (push-button override, or mobile configurator), automatic terminal connection
		Detection field 150 m²
		Ø 14 m Optimum distance between 2 detectors: 12 m Consumption 0.8 W on standby All load 8.5 A - 240 V
1	488 05	US ceiling mount switch sensor 360°, vacancy & occupancy mode (push-button override, or mobile configurator), automatic terminal connection

		Corner indoor sensors
		Supplied with fixing base
		Detection field 45 m²
		Maximum range 8 m Optimum distance between 2 detectors: 6 m Consumption 0.4 W on standby All load 8.5 A - 240 V
1	488 11	PIR corner mount switch sensor 170°, occupancy mode, automatic terminal connection

Pack	Cat.Nos	Outdoor sensors
		Detection field 180 m²
		Maximum range 15 m - IP 55 Consumption 0.4 W on standby All load 8.5 A - 240 V
1	488 10	PIR outdoor switch sensor 270°, vacancy & occupancy mode (push-button override or mobile configurator), automatic terminal connection

		Mobile configurators
		All detectors are pre-set in the factory - lighting threshold: 500 lux false ceiling, 300 lux surface-mounted - time delay: 15 minutes and walkthrough function activated The mobile configurators allow the pre-adjusted settings and the detection sensitivity to be readjusted
1	882 35	Step programming on pre-set buttons
1	882 30	Digital programming to the nearest decimal place Instant programming control Allows the settings of each detector to be displayed Option of putting adjustment settings in the memory and using them for other detectors

		RJ 45-BUS/SCS connectors
		Allow controller(s) and detector(s) to be connected directly using BUS/SCS wiring by branch connection
1	488 72	Male connector
1	488 73	Female connector

		RJ 45 doubler
10	488 68	Allows the number of controller inputs to be doubled

lighting management room controller
2 outputs

	Cat.Nos							
		488 50[1]	**488 20**	**488 21**	**488 22**	**488 23**	**488 24**	**488 30**
MAIN CHARACTERISTICS	**Installation type**	false ceiling cable ducting	← false ceiling →			← surface-mounting →		
	Operation	ON-OFF	ON-OFF	ON-OFF	ON-OFF	ON-OFF	ON-OFF	ON-OFF
	Type of operation	-	← vacancy & occupancy →					
	Override	-	← Push-buttons, or IR remote →					
	Detector technology	-	PIR	US	PIR/US	PIR/US	PIR	PIR
	Power supply	240 V	← 27 V powered by 488 50 →					
	Operating temperature	← -5 °C to +45 °C →						
	IP	IP 20	IP 20	IP 20	IP 20	IP 42	IP 42	IP 55
	Cover L x W	-	45 m²	150 m²	90 m²	90 m²	45 m²	180 m²
	Diameter at 2.5 m	-	Ø 8 m	Ø 14 m	Ø 11 m	Ø 11 m	Ø 8 m	Ø 15 m
	Lux level	-	← from 1 to 1275 lux →					
	Time delay (mn)	-	← from 0 to 255 h →					
FUNCTIONALITY	**Audible Alerts**	-	yes	yes	yes	yes	yes	yes
	Walkthrough mode	-	yes	yes	yes	yes	yes	yes
	Daylight setting	-	yes	yes	yes	yes	yes	yes
ADJUSTMENT	**Pre-settings**	-	← 15 minutes / 500 lux →			← 15 minutes / 300 lux →		
	Trim pot	-	-	-	-	-	-	-
	Tool	-	← 882 30 & 882 35 and software →					
DIMENSIONS	**Weight (g)**	272	95.5	143.1	147.8	241.7	237.5	205
	Dimensions L x W x H (mm)	190 x 70 x 51	55 X Ø 102	55 X Ø 102	55 X Ø 102	105 x 70 x 70	105 x 70 x 70	166 X 81 X 104
	Connection type	screw terminals	RJ 45	RJ 45	RJ 45	RJ 45	RJ 45	RJ 45
	Flush-mounted depth (mm)	-	← 50 →					
COMPATIBILITY WITH TYPE OF LIGHT	**Halogen light** 240 V	3600 W	-	-	-	-	-	-
	ELV halogen with separate ferromagnetic or electromagnetic transformer 240 V	1800 VA	-	-	-	-	-	-
	Fluorescent tube 240 V	1800 VA	-	-	-	-	-	-
	Fluorescent light with separate ferromagnetic or electronic ballast 240 V	500 W	-	-	-	-	-	-
	LED 240 V	500 W	-	-	-	-	-	-
	Compact fluorescent light with 1-10 V ballasts 240 V	1800 VA	-	-	-	-	-	-
	Contactors 240 V	relay output	-	-	-	-	-	-

(1) to be associated with Cat.Nos 488 20/21/22/23/24/30

lighting management room controller
2 outputs

488 50

488 20

488 22

488 23
(directional head)

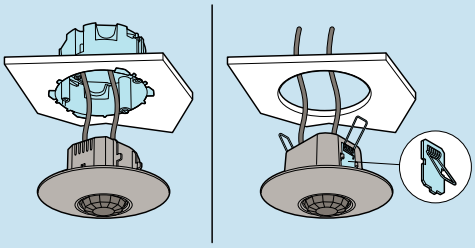
Pack	Cat.Nos	Room controller
		Allows 2 lighting circuits to be controlled in 2 different phases or 1 lighting circuit and 1 A/C circuit Ability to connect the detector(s) and push-button(s) on each circuit Fixed directly to the false ceiling via cable ducting Controller/detector output connection (up to 10 detectors Cat.Nos 488 20/21/22/30/24/23) by cord or RJ 45 cable (please refer to Legrand general catalogue) or BUS/SCS cable to be fitted with RJ 45 connector Cat.No 488 72 (p. 31) Power supply 100/240 V
1	488 50	Room controller 2 inputs 2 outputs 16 A

Pack	Cat.Nos	Ceiling SCS sensors
		Fixed directly to the false ceiling with mounting claws (supplied) or installed in deep Batibox boxes with depth of 50 mm Connect to 2 circuit controller Cat.No 488 50 by cord or RJ 45 cable or BUS/SCS cable fitted with RJ 45 connector Cat.No 488 72 (p. 31)
		Detection field 45 m² Ø 8 m Optimum distance between 2 detectors: 6 m Consumption 0.2 W on standby All load 10 A - 240 V
1	488 20	PIR ceiling mount switch sensor 360°, vacancy & occupancy mode (push-button override, or IR remote), RJ 45 connection
		Detection field 90 m² Ø 11 m Optimum distance between 2 detectors: 10 m Consumption 0.5 W on standby All load 10 A - 240 V
1	488 22	DUAL corner mount SCS sensor 360°, vacancy & occupancy mode (push-button override, or IR remote), RJ 45 connection
		Detection field 150 m² Ø 14 m Optimum distance between 2 detectors: 12 m Consumption 0.5 W on standby All load 10 A - 240 V
1	488 21	US ceiling mount SCS sensor 360°, vacancy & occupancy mode (push-button override, or IR remote), RJ 45 connection

Pack	Cat.Nos	Corner SCS sensors
		Supplied with fixing base Connect to 2 circuit controller Cat.No 488 50 by cord or RJ 45 cable or BUS/SCS cable fitted with RJ 45 connector Cat.No 488 72 (p. 31)
		Detection field 45 m² Maximum range 8 m - IP 42 Optimum distance between 2 detectors: 6 m Consumption 0.2 W on standby All load 10 A - 240 V
1	488 24	PIR corner mount switch sensor 180°, vacancy & occupancy mode (push-button override, or IR remote), RJ 45 connection
		Detection field 90 m² Maximum range 11 m - IP 42 With directional head Optimum distance between 2 detectors: 10 m Consumption 0.2 W on standby All load 10 A - 240 V
1	488 23	DUAL corner mount SCS sensor 180°, vacancy & occupancy mode (push-button override, or IR remote), RJ 45 connection
		Detection field 180 m² Maximum range 15 m - IP 55 Consumption 0.5 W on standby All load 10 A - 240 V
1	488 30	PIR corner mount SCS sensor 270°, vacancy & occupancy mode (push-button override, or IR remote), RJ 45 connection

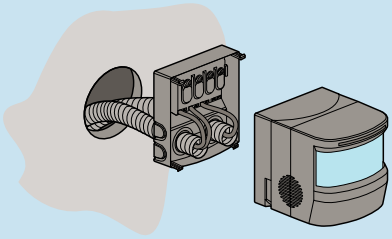
■ Ceiling mounting

All sensors have built-in bracket systems that enable ceiling mounting. Most sensors are suitable for standard EU boxes (diam 65) Cat No 80051. This is important for applications where the ceiling is unavailable for sensor installation. Only one Cat.No for two ways of mounting.



■ Wall mounting

Wall mount sensors have a mounting base. For easy and quick mounting the base has to be fixed against the wall,the wires connected to the automatic wiring block. Then the sensor part is fitted onto the base.



■ Settings

Most sensors feature Smart Factory Set technology, adjustments are typically not needed after installation.
If adjustments need to be made (due to last minute changes in furniture or fixture placement), sensitivity and time delays should match the activity levels of the monitored spaces.

Two commissioning tools can be used to adjust settings:

For standard configuration:

- Time level: 3, 5, 10, 15, 20 mn
- Lux level: 20, 100, 300, 500, 1000 lux
- Occupancy, occupancy walkthrough, vacancy, modes
- PIR & US detection sensibility: low, medium, high, very high
- test mode

Cat.No 882 35

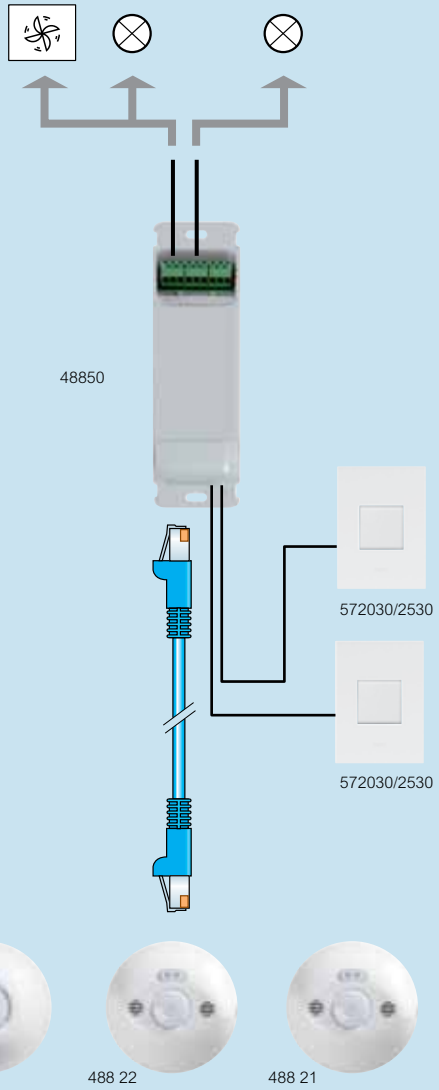
For advanced configuration:

This commissioning tool enables a very precise commissioning of your sensors.
- Time: from 0 seconds to 60 mn
- Lux: from 1 lux to 1275 lux
- Detection mode: occupancy, occupancy walkthrough, vacancy modes
- PIR & US detection sensibility: low, medium, high, very high
- It also provides access to advanced functions such as calibration, alarms, choice of mode of detection (initial detection, maintain detection, retrigger), daylight function
- It also allows downloading of sensor parameters, saving of these parameters in folders and their duplication

Cat.No 882 30

■ Room controller (2 outputs)

The room controller is a key component of the lighting control system. It provides low voltage power to SCS sensors.
Several sensors, can be linked (up to 10). Only one Cat.No for several applications.



488 20 488 22 488 21

Product features
> Screw terminal block
> Auxiliary input for manual control by simple push (48850 only)
> 1 RJ 45 input for SCS sensors
> 16 A outputs for lighting and FAN

* For support frames and cover plates refer to Arteor Catalogue.

784 73

5739 60

Individual or centralised controls for lighting management
Supplied with BUS/SCS connector Cat.No 492 22 (p. 42) for connection with the BUS/SCS cable with branch connection
• Connection:
- to the fixed ceiling controller via BUS/SCS cable fitted with connector Cat.No 488 72 (p. 37)
- directly to the BUS/SCS cable in the event of a modular controller control unit

Pack	Cat.Nos	"Push-button type" lighting control units
1	Arteor 5739 87	Used to control 1 controller  Arteor mechanism
1	Arteor 5739 74	"Switch type" multifunctional control units For controlling a group of controllers: ON/OFF, dimming, ventilation, rolling blinds  Arteor mechanism

Pack	Cat.Nos	Scenario management
		Allows several controllers to be operated **4 scenarios** 4 buttons allowing 1 scenario to managed per button Example: lighting level adjustment, lighting control with openings...
	Arteor	
1	5739 02	○ White
1	5739 03	● Magnesium
		Multiple scenarios Touch-screen control Allows manual or programmed control of lighting (lighting level), openings, fans and multimedia equipment
1	5739 60	Equipped with White and Magnesium surround To be installed in flush-mounting box Cat.Nos 892 79 or 893 79 To be fitted with plates Cat.Nos 5764 84 Mirror White, 5764 83 Mirror Black, 5764 86 Stainless Steel, 5764 80 Gold Brass and 5764 87 Woven Metal

For support frames, cover plates and wall boxes, refer to Legrand Catalogue or contact your local office.

lighting management BUS/SCS system
SCS sensors

							
	Cat.Nos	**488 20**	**488 21**	**488 22**	**488 23**	**488 24**	**488 30**
MAIN CHARACTERISTICS	**Installation type**	← false ceiling →			← surface mounting →		
	Operation	← ON-OFF & dimming + adjust →					
	Type of operation	← vacancy & occupancy →					
	Override	← Push-buttons, mobile configurators or software →					
	Detector technology	PIR	US	PIR/US	PIR/US	PIR	PIR
	Power supply	← 27 V powered by BUS/SCS or room controllers →					
	Operating temperature	← -5°C to +45°C →					
	IP	IP 20	IP 20	IP 20	IP 42	IP 42	IP 55
	Cover L x W	45 m^2	150 m^2	90 m^2	90 m^2	45 m^2	180 m^2
	Diameter at 2.5 m	Ø 8 m	Ø 14 m	Ø 11 m	Ø 11 m	Ø 8 m	Ø 15 m
	Lux level	← from 1 to 1275 lux →					
	Time delay (mn)	← from 0 to 255 h →					
FUNCTIONALITY	**Audible Alerts**	yes	yes	yes	yes	yes	yes
	Walkthrough mode	yes	yes	yes	yes	yes	yes
	Daylight setting	yes	yes	yes	yes	yes	yes
ADJUSTMENT	**Pre-settings**	← 15 minutes / 500 lux →			← 15 minutes / 300 lux →		
	Trim pot	-	-	-	-	-	-
	Tool	← 882 30 and 822 35 and software →					
DIMENSIONS	**Weight (g)**	95.5	143.1	147.8	241.7	237.5	205
	Connection type	RJ 45	RJ 45	RJ 45	RJ 45	RJ 45	RJ 45
	Flush-mounted depth (mm)	50	50	50	50	50	50


488 20


488 22


488 24


488 28


RJ 45 connectors


488 72

• Connection:
- to the controller by cord or RJ 45 cable (please refer to Legrand general catalogue) or BUS/SCS cable to be fitted with RJ 45 connector Cat.No 488 72 (p. 37)
- to the BUS/SCS directly by cord or cable to be fitted with RJ 45 / BUS/SCS connector Cat.No 488 72 (p. 37)
• Factory pre-set lighting threshold 500 lux for false ceiling detectors, 300 lux for surface-mounted detectors
• Factory pre-set time delay 15 minutes. Walkthrough function activated (short time delay of 3 minutes for 1 walkthrough)
• Site adjustment with mobile configurators Cat.No 882 30/35 (p. 42)
IR receivers

Ceiling SCS sensors

Pack	Cat.Nos	
		Fastened directly to a false ceiling with mounting claws (supplied) or installed in Batibox flush-mounting boxes with depth of 50 mm Connect to 2 circuit room controller Cat.No 488 50 by cord or RJ 45 cable or BUS/SCS cable to be fitted with RJ 45 connector Cat.No 488 72 (p. 37)
		Detection field 45 m² Ø 8 m Optimum distance between 2 detectors: 6 m Consumption 0.2 W on standby All load 10 A - 240 V
1	488 20	PIR ceiling mount switch sensor 360°, vacancy & occupancy mode (push-button override, mobile configurator or software) RJ 45 connection
		Detection field 90 m² Ø 11 m Optimum distance between 2 detectors: 10 m Consumption 0.5 W on standby All load 10 A - 240 V
1	488 22	DUAL ceiling mount SCS sensor 360°, vacancy & occupancy mode (push-button override, mobile configurator or software) RJ 45 connection
		Detection field 150 m² Ø 14 m Optimum distance between 2 detectors: 12 m Consumption 0.5 W on standby All load 10 A - 240 V
1	488 21	US ceiling mount SCS sensor 360°, vacancy & occupancy mode (push-button override, mobile configurator or software) RJ 45 connection

Corner SCS sensors

Pack	Cat.Nos	
		Supplied with fixing plate Connect to the 2 circuit controller Cat.No 488 50 by cord or RJ 45 cable or BUS/SCS cable to be fitted with RJ 45 connector Cat.No 488 72 (p. XXX)
		Detection field 45 m² Maximum range 8 m - IP 42 Optimum distance between 2 detectors: 6 m Consumption 0.2 W on standby All load 10 A - 240 V
1	488 24	PIR corner mount SCS sensor 180°, vacancy & occupancy mode (push-button override, mobile configurator or software) RJ 45 connection
		Detection field 90 m² Maximum range 11 m - IP 42 With directional head Optimum distance between 2 detectors: 10 m Consumption 0.2 W on standby All load 10 A - 240 V
1	488 23	DUAL corner mount SCS sensor 180°, vacancy & occupancy mode (push-button override, mobile configurator or software), RJ 45 connection
		Detection field 180 m² Maximum range 15 m - IP 55 Consumption 0.5 W on standby All load 10 A - 240 V
1	488 30	PIR corner mount SCS sensor 270°, vacancy & occupancy mode (push-button override, mobile configurator or software), RJ 45 connection

Lighting measurement cell

2011

1	488 28	2 usage options: - used in conjunction with detectors it allows synchronisation of lighting measurement - lighting management for 1 zone without detector The mobile configurator must be used to configure the lighting cell Cat.No 882 30 (p. 31) Connects to BUS/SCS cable with connector Cat.No 488 72

RJ 45-BUS/SCS connectors

		Allow controller(s) and detector(s) to be connected directly using BUS/SCS wiring by branch connection
1	488 72	Male connector
1	488 73	Female connector

lighting management BUS/SCS system
room controllers

	Cat.Nos							 
			488 40	488 41	488 42	488 43	488 44	488 45	488 47
MAIN CHARACTERISTICS	Installation type		← fixed false ceiling and cable ducting →						
	Type of operation		← ON-OFF →		← dimming →				ON-OFF dimming + automation
	Number of outputs		1	2	2	4	4	2	2 lighting + 2 automation
	Power supply		← 240 V →						
	Operating temperature		← -5°C to +45°C →						
	IP		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
	Dimensions (mm) L x W x H		207 x 71 x 48	207 x 71 x 48	207 x 97 x 48	257 x 148 x 51	257 x 148 x 51	257 x 148 x 51	257 x 148 x 51
	Weight (g.)		255	265	337	380	424	458	430
	Connection type		screw terminals	screw terminals	screw terminals	screw terminals	screw terminals	screw terminals	screw terminals
COMPATIBILITY WITH TYPE OF LIGHT	Halogen light	240 V	3600 W	3600 W	3600 W	3600 W	-	2000 W	3600 W
	ELV halogen with separate ferromagnetic or electromagnetic transformer	240 V	3600 W	3600 W	3600 W	3600 W	-	2000 VA	3600 VA
	Fluorescent tube	240 V	1 x 1000 VA	2 x 1000 VA	2 x 1000 VA	4 x 1000 VA	-	-	2 x 1000 W
	Fluorescent light with separate ferromagnetic or electronic ballast	240 V	1 x 1000 VA	2 x 1000 VA	2 x 1000 VA	4 x 1000 VA	-	-	2 x 1000 VA
	LED	240 V	1 x 500 W	2 x 500 W	-	4 x 500 W	-	-	2 x 500 W
	Compact fluorescent light with 1-10 V ballasts	240 V	1 x 1000 VA	2 x 1000 VA	2 x 1000 VA	4 x 1000 VA	-	-	2 x 1000 VA
	DALI Ballast		-	-	-	-	4 x 16 ballasts	-	-
	Motors		-	-	-	-	-	-	500 VA

488 47

488 42

• Connection:
- to the detector by cord or RJ 45 cable or BUS/SCS cable BUS/SCS to be fitted with RJ 45 connector Cat.No 488 72 (p. 37)
- to the BUS/SCS directly by cord or cable to be fitted with RJ 45 / BUS/SCS connector Cat.No 488 72 (p. 37)
Can be controlled for each output by a detector and/or an individual or centralised BUS/SCS control
• Configuration with controls and detectors:
- intuitive by default - Plug n' go mode
- product customisation by touch support or by mobile configurator Cat.No 882 30 (p. 42) (via detectors) - Push n' learn mode
- via programming software Cat.No 488 80 (p. 42)
Install on false ceiling via cable ducting

Pack	Cat.Nos	Multi-application controllers	2011
1	488 47	2 on/off or 1-10 V dimming lighting outputs 2 electronic control box outputs for blinds or fans	

		Light dimming controllers	
		For DALI protocol	
1	488 44	4 outputs 16 ballasts maximum per output	
		For 1-10 V ballast	
1	488 42	2 outputs 1000 VA maximum per output	
1	488 43	4 outputs 1000 VA maximum per output	2011
		For LV and ELV halogen	
1	488 45	2 outputs 1000 W maximum per output	

Pack	Cat.Nos	ON/OFF lighting controllers
1	488 40	16 A on 1 output
1	488 41	10 A on 2 outputs

		RJ 45 doubler
10	488 68	Allows the number of controller inputs to be doubled

lighting management BUS/SCS system
dimming and actuators

	Cat.Nos							
			026 33	026 11	026 12	026 21	026 22	026 00
CHARACTERISTICS	Type of operation		← dimming →					ON-OFF
	Outputs		8	1	4	1	2	1
	Power supply		← 240 V →					
	No. of modules		10	6	10	6	6	4
COMPATIBILITY WITH TYPE OF LIGHT	Halogen light	240 V	-	-	-	1 x 1000 W	2 x 400 W	1 x 3600 W
	ELV halogen with separate ferromagnetic or electromagnetic transformer	240 V	-	-	-	1 x 1000 VA	2 x 400 VA	1 x 3600 W
	Fluorescent tube	240 V	-	-	-	-	-	1 x 1000 VA
	Fluorescent light with separate ferromagnetic or electronic ballast	240 V	-	-	-	-	-	1 x 1000 VA
	LED	240 V	-	-	-	-	-	-
	Compact fluorescent light with 1-10 V ballasts	240 V	-	1 x 1000 VA	4 x 1000 VA	-	-	-
	DALI Ballast		8 x 16 ballasts					
	Cat.Nos							
			026 01	026 02	026 04	038 41	038 42	038 44
CHARACTERISTICS	Type of operation		ON/OFF	ON/OFF	ON/OFF	← Multi-application →		
	Outputs		2	4	8	1	2	4
	Power supply		← 240 V →					
	No. of modules		4	6	10	2	2	2
COMPATIBILITY WITH TYPE OF LIGHT	Halogen light	240 V	2 x 3600 W	4 x 3600 W	8 x 3600 W	-	-	-
	ELV halogen with separate ferromagnetic or electromagnetic transformer	240 V	2 x 3600 W	4 x 3600 W	8 x 3600 W	-	-	-
	Fluorescent tube	240 V	2 x 1000 VA	4 x 1000 VA	8 x 1000 VA	-	-	-
	Fluorescent light with separate ferromagnetic or electronic ballast	240 V	2 x 1000 VA	4 x 1000 VA	8 x 1000 VA	-	-	-
	LED	240 V	-	-	-	-	-	-
	Compact fluorescent light with 1-10 V ballasts	240 V	-	-	-	-	-	-
	Motor		-	-	-	4 A x 1 output	2 A x 2 outputs	2 A x 4 outputs

lighting management BUS/SCS system
dimming and actuators


026 33


038 42


5739 93


035 62

Modular controllers and interfaces connected to the BUS/SCS by BUS/SCS cable. Each output is independent and can be used in conjunction with a control
Configuration with controls and detectors:
- intuitive with Cat.No 035 70 (addressing module)
- product customisation by touch support
- through programming software Cat.No 488 80 (p. 42)

Pack	Cat.Nos	Dimming controllers 2011
		For DALI protocol
		10 x 17.5 mm DIN modules
1	026 33	8 outputs 16 ballasts maximum per output, frame steering
		For 1-10 V ballast
1	026 11	1 output - 1000 VA maximum 6 x 17.5 mm DIN modules
1	026 12	4 outputs - 1000 VA maximum per output 10 x 17.5 mm DIN modules
		For LV and ELV halogen
		6 x 17.5 mm DIN modules
1	026 21	1 output - 1000 W maximum
1	026 22	2 outputs - 500 W maximum per output

		ON/OFF lighting controllers
1	026 00	1 x 16 A output 4 x 17.5 mm DIN modules
1	026 01	2 x 16 A outputs 4 x 17.5 mm DIN modules
1	026 02	4 x 16 A outputs 6 x 17.5 mm DIN modules
1	026 04	8 x 16 A outputs 10 x 17.5 mm DIN modules

		Multi-application controllers
		NO contact For roller blinds and motors 2 x 17.5 mm DIN modules
1	038 41	1 x 16 A output
1	038 42	2 x 6 A outputs
1	038 44	4 x 6 A outputs

		Addressing module
1	035 70	To be used with controller for touch support customisation directly on the controller and the control unit 2 x 17.5 mm DIN modules

Pack	Cat.Nos	Konnex - BUS/SCS IP interface
1	5739 93	Requires power supply unit Cat.No 035 64 To be connected to zone management unit Cat.No 026 45 For operation requires software pack Cat.No 488 81 or supervision requires Cat.No 488 82 (p. 42) 6 x 17.5 mm DIN modules

		Zone management unit
1	026 45	Includes 2 functions: - manages scenario programming (e.g. time management, lighting, presence) - IP interface, links the BUS/SCS infrastructure and the IP network Requires power supply unit Cat.No 035 64 For operation requires software pack Cat.No 488 81 or supervision requires Cat.No 488 82 (p. 42) 6 x 17.5 mm DIN modules

		Extension gateways
		Allow the BUS/SCS to communicate with other systems
		Scenario module
1	035 51	Allows scenarios to be created through link with Arteor Cat.No 5739 60 without a software tool
		Konnex - BUS/SCS
1	035 63	Allows the on/off signal to travel between a Konnex installation and the BUC/SCS installation 2 x 17.5 mm DIN modules
		Wiring system - BUS/SCS
1	035 53	Used to connect traditional wiring systems (e.g. switch, timer, external sensor) 2 independent contacts 2 x 17.5 mm DIN modules

		BUS - BUS/SCS extension
1	035 62	Used to extend a line beyond 175 products and 500 m and therefore allows product identification in the same line Needs a power supply Cat.Nos 035 60/66 2 x 17.5 mm DIN modules

		Modular power supply units
		For BUS/SCS
1	035 60	240 V~ - 27 Vac - 1.2 A 8 x 17.5 mm DIN modules
1	035 67	240 V~ - 27 Vac - 500 mA 2 x 17.5 mm DIN modules
		For Cat.Nos 5739 93 and 026 45
1	035 64	240 V~ - 12 Vac - 1.2 A 6 x 17.5 mm DIN modules

lighting management BUS/SCS system software

Pack	Cat.Nos	Software packs
1	488 80	Pack 1: - quoting software - product setup on AutoCad installation diagram - system configuration (addressing and product interlinking)
1	488 81	Pack 2 **2011** - quoting software - product setup on AutoCad installation diagram - system configuration (addressing and product interlinking) - use (installation monitoring and maintenance with optimised energy consumption in the building) Option of installing remote control on the PC desktop
1	488 82	Pack 3: **2011** - quoting software - product setup on AutoCad installation diagram - system configuration (addressing and product interlinking) - use (installation monitoring and maintenance with optimised energy consumption in the building) Option of installing remote control on the PC desktop - supervision (surveillance and remote control of the installation)

lighting management BUS/SCS system accessories

882 35

882 30

Pack	Cat.Nos	BUS/SCS cables
		Supplied on a reel
1	492 31	Length 100 m
1	492 32	Length 500 m
1	492 33	Length 200 m Halogen free

Pack	Cat.Nos	Mobile configurators
		All detectors are pre-set in the factory - lighting threshold: 500 lux false ceiling, 300 lux surface-mounted - time delay: 15 minutes and walkthrough function activated The mobile configurators allow the pre-adjusted settings and the detection sensitivity to be readjusted
1	882 35	Step programming on pre-set buttons
1	882 30	Digital programming to the nearest decimal place using digital screen Instant programming control Allows the settings of each detector to be displayed Option of putting adjustment settings in the memory and using them for other detectors

Pack	Cat.Nos	BUS/SCS connectors
		Enables the BUS/SCS to be connected to a BUS/SCS control unit
10	492 24	Auto terminals **2011**
10	492 22	Screw terminals

lighting management Radio/ZigBee®
control units and false ceiling controllers

5738 49

5738 35

5738 62

Radio/ZigBee® 2.4 GHz, signal range 100 m
• Operation:
- in association with Radio/ZigBee® products - with BUS/SCS installation using BUS/SCS interface - Radio ZigBee® Cat.No 488 32 (p. 43)
To be fitted with Mosaic or Arteor plates (please refer to Legrand general catalogue)

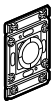
Wireless wall controls

Powered by 3V CR 2032 lithium batteries, supplied
Supplied with support, directly mounted on the wall without flush-mounting box
2 modules

Lighting control ON/OFF
1 way
Allows 1 Radio/ZigBee® product to be controlled (e.g. 1 controller)

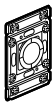
Pack	Cat.Nos	
	Arteor	
1	5738 34	○ White
1	5738 35	● Black

Lighting control ON/OFF
2 way
Allows 2 Radio/ZigBee® products to be controlled (e.g. 1 controller and a 240 V∿ control unit)



Pack	Cat.Nos	
	Arteor	
1	5738 36	○ White
1	5738 37	● Black

Lighting dimming controls
1 way
Allows 1 Radio/ZigBee® DALI, 1-10 V, LV and ELV halogen control unit to be controlled

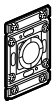


Pack	Cat.Nos	
	Arteor	
1	5738 38	○ White
1	5738 39	● Black

Pack	Cat.Nos	
	Arteor	
1	5738 42	○ White
1	5738 43	● Black

Wireless wall controls (continued)

4 scenario controls
Allow 4 scenarios to be managed using 4 buttons
Example: e.g. lighting level adjustment, lighting control with openings...as well as normal cut off



Pack	Cat.Nos	
	Arteor	
1	5738 48	○ White
1	5738 49	● Black

240 V∿ switches

Transmitter/receiver switches
For installation in flush-mounting box with depth of 50 mm recommended,2 module mounting frames.
Refer to Legrand Catalogue for further details.

Switches ON/OFF 1 way
With LED to see output control status
Max. load: 1 x 2500 W

Pack	Cat.Nos	
	Arteor	
1	5738 22	○ White
1	5738 23	● Black

Switches ON/OFF 2 way
With LED to see output control status
Max. load: 2 x 1000 W

Pack	Cat.Nos	
	Arteor	
1	5738 24	○ White
1	5738 25	● Black

Controllers for dimming

For 1-10 V ballast

Pack	Cat.Nos	
1	5738 66	1 output - 500 VA

For LV and ELV halogen

Pack	Cat.Nos	
1	5738 64	1 output - 600 W

ON/OFF lighting controller 2011

Pack	Cat.Nos	
1	5738 62	1 output - 2500 W, surface mounting

BUS/SCS interface - Radio/ZigBee®

Used to link a BUS/SCS installation and an additional Radio/ZigBee® installation

Pack	Cat.Nos	
1	488 32	BUS/SCS interface - Radio/ZigBee® Installs on false ceiling

Repeater 2011

Pack	Cat.Nos	
1	488 37	Used to increase the receiving distance from the radio signal Power supply 240 V∿

ZigBee®: ZigBee® certified product with Manufacturer Specific Profile

lighting management Radio/ZigBee® detectors and remote control units

488 14

882 32

Pack	Cat.Nos	Infrared 240 V~ detector switches	2011
		Power supply 240 V~ Recommended fixing height: 2.50 m	
		Detection field 90 m²	
		Ø 11 m	
1	488 35	Dual ceiling mount detector 360° This dual technology allows accurate presence detection from the point where the signal given by the detector is interrupted (e.g. : hand movement on a keyboard) Fixed directly to a false ceiling with mounting claws (provided) or in Batibox flush-mounting box with depth of 50 mm (please refer to Legrand general catalogue) Optimum distance between 2 detectors: 10 m	
		Detection field 180 m²	
		Maximum range 15 m - IP 55	
1	488 14	PIR surface mount detector 270° Dual side detection specially adapted for long narrow areas (e.g. corridors)	

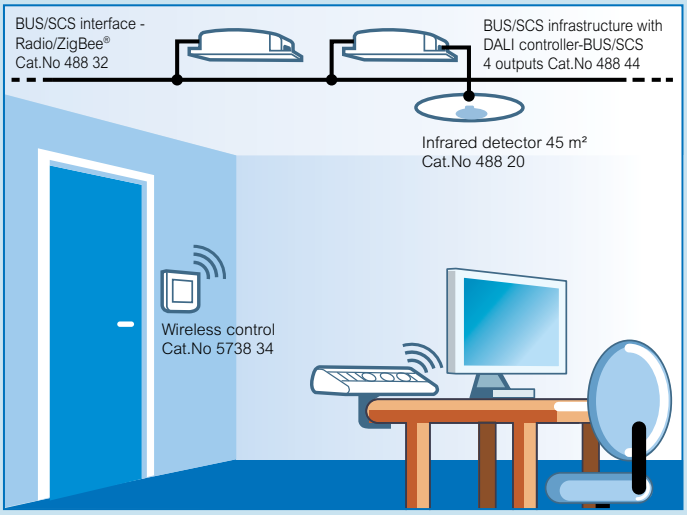
		Battery-powered infrared detector	2011
		Powered by two 1.5 V LR 03 alkaline batteries (supplied) Recommended fixing height: 2.50 m	
		Detection field 180 m²	
1	488 31	Ø 15 m - IP 55 PIR surface mount detector 270° Dual detection specially adapted for long narrow areas (e.g. corridors)	

		Remote control devices
		4 scenario controls 4 buttons allowing 1 scenario to be managed per button Example: lighting level adjustment, lighting control with openings... in the same way as normal cut off
1	882 31	IR control Powered by two 1.5 V LR 03 alkaline batteries (supplied)
1	882 32	IR/RF control Powered by two 1.5 V LR 03 alkaline batteries (supplied)

ZigBee®: ZigBee® certified product with Manufacturer Specific Profile

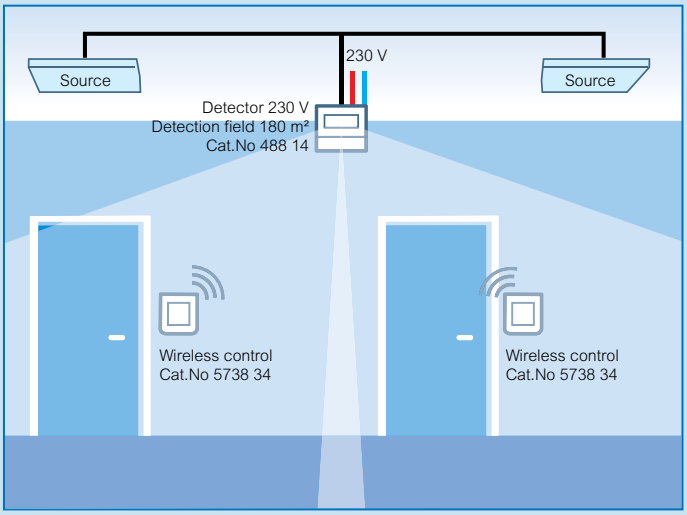
lighting management Radio/ZigBee® detectors and remote control units

■ Use case No 1: also using a BUS/SCS infrastructure



Where an office is fitted out completely in glass and the BUS/SCS cannot drop vertically, a wireless Radio/ZigBee® control unit can be installed at the door.

■ Use case No 2: using only Radio/ZigBee®



Manual on-switch and an automatic cut-off will maximise energy savings. In a building renovation for example, if a large area is fitted with self-contained presence detectors but the vertical connection cannot be made with its control points, Radio/ZigBee® wireless control units will be installed

GLOSSARY

ADDRESSING
Process at the end of which the products in a system are individually recognised and identified. Addressing can be carried out in various different ways (configurator, virtual configuration, automatic addressing, etc.).

ADDRESS MODULE
In Push n' Learn addressing mode, this product is used to assign one or more addresses to certain components in the system so that they can communicate with one another.
This module is not essential if the installation is created using a software tool.

ARTIFICIAL LIGHT
Light produced by electric lights.

ASTRONOMICAL CONTROL
A method of calculating dusk/sunset and dawn/sunrise times that change with the seasons of the year, based on global latitude/longitude position. This method can be used instead of photocell control as a basis for on/off control of exterior lighting.

AUDIBLE WARNING
An automated method of warning occupants of impending lighting shut-off by sounding a tone. Sometimes referred to as "beep warning".

AUTO ON/OFF
A control strategy used with occupancy sensors, turning lights on and off automatically. Off when an area is unoccupied and on whenever occupancy is detected. Also called 'occupancy mode'.

AUTOMATIC SHUTOFF
A scheduled shutdown of lighting by a lighting control system.

AUXILIARY INPUT
Connector enabling an override command to be sent to a product.

BACKBONE
LAN (IP) used to link several branches of the SCS network to one another via zone controllers.

BACNET
Communication protocol. BACnet, acronym for Building Automation & Control networks.
BACnet is a registered trademark owned by the ASHRAE association.

BALLAST
Component of a luminaire that is used to control the lamp.

BI-LEVEL SWITCHING
A control strategy that focuses on switching individual lamps within a luminaire, or groups of luminaires to achieve a reduced, balanced lighting level.

BISTABLE RELAY
Latching contact which does not require a permanent holding voltage.

BLINK WARNING
An automated method of warning occupants of an impending shut-off of lighting by blinking lights. Sometimes referred to as "flick warning".

BMS/BAS
Building management system/building automation system.

BUS
The bus is defined by the combination of a communication protocol and a transmission medium.
It is a means of transporting and exchanging data, information and commands. It can be physical (cable) or non-physical (radio or IR).

BUS TOPOLOGY
All devices are connected to a central cable, called the bus or backbone. Bus networks are relatively inexpensive and easy to install for small networks. Ethernet systems use a bus topology.

CENTRAL/CENTRALIZED CONTROL
A control method where the system control is located in one central location. Usually all control commands come from this location and wiring connections originate at this location.

CLOSED LOOP SYSTEM
A daylighting control system that measures and uses data on the total light level from all sources (i.e. natural and artificial light levels) in the controlled area to adjust artificial lighting levels.

COMMISSIONING TOOL
Device for assigning operating characteristics to the various products in the offer.

CONFIGURATION MODE
Products have a default operating mode.
This can be adapted: thumbwheels or configuration tools or software.

CONSTANT SETPOINT
Use of a single setpoint for daylighting controls. As daylight increases or decreases, the control attempts to maintain this setpoint.

GLOSSARY

CONTINUOUS DIMMING
Lighting control method that is capable of varying the light output of lamps over a continuous range from maximum to minimum output (also referred to as 'dimming').

CONTROL GROUP OR ZONE
See 'zone'.

CONTROL SCENARIO
A pre-programmed control strategy usually designed for common commercial or industrial applications.

COVERAGE PATTERN
The shape and size of an area throughout which occupancy is detectable by a sensor. The pattern is determined by the technology, the lens design (if applicable) and the mounting position of the sensor.

DAISY CHAIN, OR LINEAR, TOPOLOGY
A method of wiring devices where the wire runs in a straight line from one device to another.

DAYLIGHT
Light produced by solar radiation. This includes daylight components such as sunlight scattered by the atmosphere, light reflected from the ground and light reflected from interior surfaces of a building.

DAYLIGHT FACTOR
Ratio of daylight illumination on a horizontal point indoors to the horizontal illumination outdoors, expressed as a percentage, excluding direct sunlight.

DAYLIGHTING CONTROL
A lighting control method that changes the amount of light provided by lighting fixtures as the contribution of ambient sunlight changes.

DEADBAND
In daylighting control, a control margin above and/or below a fixed setpoint in which minute variations in light levels (footcandles) will not trigger an ON or OFF response from the daylighting controller. This prevents lamp cycling.

DEFAULT SETTING
Default product setting covering the most common uses.

DIMMING
See 'continuous dimming'.

DISTRIBUTED CONTROL
Where control for a device is located at or near the item being controlled. This is the opposite of centralised control. The benefits of this approach are often better modularity, convenience and reduced wiring costs.

DOPPLER PRINCIPLE
The apparent change of frequency of sound or light waves varying with the relative velocity of the source and the observer. This is used by ultrasonic sensors to detect occupancy.

DOUBLE CONNECTOR
Accessory enabling two RJ45 connectors to be connected on one input.

DRY CONTACT CLOSURE
Any pair of contacts that carry no live voltage.

DUAL TECHNOLOGY
The Legrand group has invented and patented Dual Technology to combine the best of both PIR and Active technologies. PIR and Active sensors provide optimum control for many areas, as some applications can be a problem for single technology products. Our Dual Tech sensors ensure maximum sensitivity and coverage in tough applications, providing optimum reliability and energy savings.

EGRESS TIME DELAY
A time delay specifically designed to keep lighting ON for a period of time after a control signal would otherwise have shut the lighting OFF, thereby providing illumination for occupants as they leave a building.

EIB/KONNEX/KNX
Communication protocol for building control, from the EIB (European Installation Bus) protocol.Konnex and KNX are registered trademarks owned by the Konnex association.

ELECTRICALLY HELD
Describes a type of switching device, contactor or relay which requires a constant electrical supply to maintain or hold it in ON or OFF state.

ELECTRONIC DIMMING BALLAST
A variable output electronic fluorescent ballast.

FADE RATE
The speed at which the output of lighting decreases in response to a control signal (also referred to as ''dimming rate''). The corresponding rate of increase in light output is referred to as ''ramp rate''.

FALSE TRIGGER
The erroneous switching of lighting by a sensor either in the presence or absence of occupancy, often due to poor placement, product selection or adjustment.

GLOSSARY

FAST CONNECT
Electrical connection system for products which saves time (no tools required), is simple to use and foolproof, and ensures high quality, appropriate connections.

FOOTCANDLE (FC)
A standard measurement of illumination, which represents the amount of illuminance over a one foot square surface on which there is a uniformly distributed flux of one lumen. The metric unit is the Lux (one fc = 10.764 lux).

FREE TOPOLOGY
A method of wiring devices that allows connections, wire runs and branching in any location and in any direction without compromising the reliability of the dataline communications.

FRESNEL LENS
The (Fresnel) lens is the facetted plastic optical component used to split the infrared ray by diffraction.
Detection by the system occurs when someone breaks several of these rays.

IP
Acronym for Internet Protocol. The IP address gives a product connected to the network an individual identification.

LAMP EFFICACY
The ratio of a lamp's light output to the electrical input power, expressed in lumens per watt (LPW).

LIGHT LEVEL THRESHOLD
Light level that is set at the factory or by the installer/user below which the measurement by the light level cell will trigger switching on of the light load.

LIGHT METER
An instrument, generally handheld, that is used for measuring light levels.

LIGHT SHELF
Horizontal architectural element positioned above eye level to reflect daylight onto the ceiling and into the area.

LINEAR TOPOLOGY
See 'topology'

LINE VOLTAGE
The AC supply voltage that provides the prime source of electrical power for a facility. In Australia, the line voltage is nominally specified as 240 volts AC, at 50 hertz.

LOOP TOPOLOGY
See 'topology'

LOW VOLTAGE
A stepped-down supply voltage, often 24 VDC, used to power devices such as sensors.

LOW VOLTAGE SWITCH
A switch capable of switching a remote device, such as a relay, by means of a low voltage signal.

LUMEN (LM)
Basic metric unit of luminous flux, or quantity of light.

LUMEN MAINTENANCE
An energy saving lighting control strategy which focuses on maintaining an even level of illumination throughout the lifespan of lamps. It relies on reducing initial light levels at the outset of the lifespan and gradually increasing light levels as lamps age.

LUMINAIRE
A complete lighting unit consisting of a lamp and ballast(s) (when applicable) together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply.

LUMINOUS FLUX
Value derived from the energy flux.

LUX (LX)
Metric unit of illuminance. One lux is one lumen per square metre and equals 0.0929 footcandles.

MAC ADDRESS
English acronym used to refer to the unique physical address given to each product connected to an IP network. This address, which is coded on 6 bytes, enables each product to be precisely identified. It is made up of a manufacturer ID part (00 04 74 for Legrand) followed by an order number (from 00 0000 to FFFFFF) in hexadecimal.

MANUAL ON/AUTO OFF
An energy saving lighting control strategy requiring an occupant to manually activate the lights. Required for selected applications under California Title 24 2005. Also called vacancy mode.

MANUAL OVERRIDE
A control feature allowing occupants to temporarily select lighting levels other than those programmed.

MECHANICALLY HELD (ALSO CALLED LATCHING)
Describes a type of switching device, contactor or relay that requires a momentary electrical signal to change the switch from one ON/OFF state to the other. After the state change, power is no longer required to keep it in the ON or OFF state.

GLOSSARY

MEMORY BACKUP
The capacity of a lighting controller to retain programming information and restore lights to an appropriate state following a power failure.

MINIMUM LOAD REQUIREMENT
The minimum electrical load required by certain devices to ensure proper operation.

MOTION SENSOR
A device controlling outdoor lighting systems that automatically turns lights off soon after an area has been vacated. When the device is used to control indoor lighting systems, it is termed an occupant sensor, occupancy sensor or occupant-sensing device.

NATURAL LIGHT/ARTIFICIAL LIGHT
A distinction is made between natural light from the sun and artificial light provided by lighting loads.

NETWORKING, NETWORK COMMUNICATION
A type of communication between lighting control panels and devices where electronic information is transmitted and received, usually over a pair of wires.

NORMALLY CLOSED
A relay or contactor whose manufactured design is to be closed in the resting state.

NORMALLY OPEN
A relay or contactor whose manufactured design is to be open in the resting state.

OCCUPANCY EMULATION
Ability to capture lighting usage over a specified period of time and repeat it, in order to simulate the effect of occupancy.

OCCUPANCY SENSOR
A device that switches light on and off, or dims and brightens lights, based on the presence or absence of people.

OCCUPIED/UNOCCUPIED
Strategy where control scenarios are based on whether a facility or specific facility or specific area within the facility is operating during normal business hours when occupants are in the facility, or a specific area within the facility is operating during normal business hours when occupancy is very low (Unoccupied). Sometimes called normal hours/after hours.

OFF DELAY
In daylighting control, the time interval between when the light level sensor detects an adequate level of light and when the controlled lights actually switch off. This interval prevents controlled lights from cycling on and off in response to transient light levels (i.e. lightning flashes, car headlights, glare etc).

ON DELAY
In daylighting control, the time interval between when the light level sensor detects an inadequate level of light and when the controlled lights actually switch on. This interval prevents false triggering, such as would occur with transient cloud cover.

OPEN LOOP SYSTEM
A daylighting control system that measures daylight only, in order to adjust artificial lighting levels.

OPENWEBNET
Proprietary communication protocol over IP accessible to all by means of a user community.

OVERLAPPING ZONES
Process consisting of defining the location of sensors in an area in such a way that their respective effective detection fields overlap. The purpose of this is to ensure that no zone is not covered and/or to provide the user with continuity of detection (example: the user moves from one lit zone covered by a sensor to another detection zone without having to pass through an unlit zone).

PIR/IR
This detects the difference between heat emitted from the human body in motion and the background area. It requires a clear line-of-sight or unobstructed view to detect movements and make 100% cut-off possible. This is most effective detecting large movements (i.e. walking) and works best with movement across the sensor.

PANIC MODE
An operational mode that causes selected lights to flash ON/OFF indicating that there is a panic situation.

PHOTOCELL
A device that senses the level of light, usually for the purpose of controlling internal or external lighting.

PHOTOCELL LOCKOUT
A control operation that keeps lighting off or "locks out" lighting because a photocell detects an adequate sunlight contribution.

PHOTOMETER
An instrument for measuring light intensity and distribution.

PHOTOPIC CURVE
A graphical representation of the visual sensitivity of the human eye under daylight, or bright light, conditions.

PHOTOSENSITIVE CONTROLS
ON/OFF or dimming control devices that sense levels of daylight and adjust artificial lighting levels, based on the adequacy of the available daylight.

GLOSSARY

PHOTOSENSOR
A self-contained daylighting control device that contains a photocell as well as the control logic component.

PILOT CONTACT
A switch that monitors the operation of a device in order to provide information on status of the device to a system or to monitoring apparatus. Also, a switch that directs the operation of another device.

PLENUM
A ceiling compartment or chamber to which one or more air ducts are connected and that forms part of the air distribution system.

PLUG N' GO
Setup mode for the Room Controller unit, consisting by default of adopting a factory-defined operating mode which corresponds to the majority of applications. This configuration is carried out each time the unit is switched on and only concerns products that have not yet been configured.

PUSH N' LEARN
Tool-free method for addressing products. Using a learn button on the products, they can be combined and made to work together.

POWER SUPPLY
A transformer or power conditioning circuit designed to provide the correct operating voltage for devices such as sensors, panels, etc.

PRESET
See 'scene'.

PROTOCOL
"Language" used by the elements of a network. It defines the communication rules that will be used for exchanging messages between products. There are many different protocols which are not all compatible with one another. To make two products using different protocols communicate with one another, gateways must be used which act as "translators" from one language to the other.

RAMP RATE
The speed at which the output of lighting increases or decreases in response to a control signal.

RECONFIGURATION
Reconfiguration of the operation of products, corresponding to a change in the work practices or requirements of the users of the areas.

REMOTE CONTROL
Product for controlling a function remotely. The remote control can be infrared, radio, or use the medium of the bus.

RETRIGGER
When "Retrigger" mode is activated, if the light goes out as a result of the occupant not moving during the time delay, any new detection within a period of 3 minutes after it went out will trigger the light to automatically switch on again.

RESET (FACTORY MODE)
Operation in which the product is returned to the standard factory settings.

RF CONTROL
Radio frequency control. Systems that use RF communication to propagate control messages between devices and/or throughout the system.

RFI
Radio frequency interference. Interference on the radio frequency band caused by other frequency-generating equipment or devices in the immediate area.

RING, OR LOOP, TOPOLOGY
Another type of daisy chain topology in which all devices are connected to one another in the shape of a closed loop, so that each device is connected directly to two other devices, one on either side of it.

RJ 45
Connection plug format from the world of telecommunications. It used used for quick, reliable, safe connection for low voltages.

ROOM CONTROLLER
A transformer and high current relay designed to provide the correct operating voltage (usually 24 VDC) to devices such as sensors.

SCCR
Short-circuit current rating.

SCENE
Light level settings established for a particular task that can be recalled by a dimming controller. Also referred to as ''preset''.

SCENE CONTROL
A control capability that uses dimming controllers to provide quick access to several different preset lighting settings.

SCHEDULING
An energy-saving lighting control strategy that employs time-based intervals at which lighting is automatically turned ON or OFF, such as time of day and day of the week.

SCS
Acronym for Simplified Cabling System. Name of the proprietary protocol used on the Legrand wired bus.

GLOSSARY

SENSITIVITY
Precision of the sensor. Depending on the detection technology used, it is possible set the precision of the product, i.e. to detect a close or distant object, or to exclude detection beyond a certain distance. (Example: I want the light to come on when I walk down the corridor, but there is no need for it to come on when someone moves around in the office that is a continuation of this corridor).

SETPOINT
User-defined thresholds for when control events will occur (i.e. light level parameters, time delays).

SHUTOFF/SWEEP OFF
A lighting control event that is intended to shut off lighting. Particularly designed for turning off lighting that has been left on and is not needed. Sometimes this event can be repeated at regular intervals to turn lighting OFF that may have been left ON.

SPATIAL SENSITIVITY
Description of how a photosensor reacts to light striking it from different angles.

SPECULAR SURFACE
Surface from which reflection is predominantly directional. Specular surfaces are mirror-like or shiny, as opposed to blurred.

STAR TOPOLOGY
See 'topology'.

STATUS LED
A light emitting diode that provides a visual indication of the state of a device.

SUSTAINABILITY
Efficient design practices that minimise construction-related impacts on the environment and decrease the ongoing demand for natural resources.

TCP/IP CONNECTIVITY
Data communication using Transmission Control Protocol/ Internet Protocol, the suite of communication protocols used to connect hosts on the internet.

TERMINAL WIRING
A space and time-saving method of making electrical connections.

TIME DELAY
A period of time when a load is energised or de-energised. At the end of the required time period the load changes state (i.e. ON or OFF).

TIME OUT SWITCH
An electronic or electromechanical control used to automatically turn lighting off at the end of a preset interval.

TOPLIGHTING
Daylight provided by skylights.

TOPOLOGY
The method in which nodes of a network are connected by links. When a certain topology is specified, correct wiring is essential to ensure reliable signals reach all devices. The following topologies are used in lighting control applications:

STAR TOPOLOGY
All devices are connected to a central hub.

TREE TOPOLOGY
Type of network topology in which a node is connected to one or more other nodes that are one level lower in the hierarchy.

TRUE OVERRIDE TIME PERIOD
A timed override of lighting that begins timing from the moment an occupant initiates the override until the override time expires. This is in contrast to an override that only continues until the next scheduled system event.

TUNING
An energy saving lighting control strategy in which the light output of an individual fixture or group of fixtures is adjusted to provide the correct amount of light for a local task.

USB INTERFACE
Connection for serial transfer of settings or data from one product to another using the USB protocol. The connectors can be type A or type B ("mini USB") and male or female.

ULTRASONIC
This type of detection works by transmitting a high frequency signal throughout an area and measuring the speed at which it returns. Movements by occupants change the frequency, resulting in occupancy detection. They do not require clear line-of-sight, are most effective detecting minor movements (i.e. arm movement), and work best with movements toward the sensor.

UNIVERSAL DIMMING
Dimmers that can operate a wide range of light sources, including incandescent, low voltage, neon, cold cathode and fluorescent loads.

GLOSSARY

VIRTUAL CONFIGURATION
This is an expert setting mode that consists of assigning addresses and particular types of behaviour to products or groups of products.
Virtual configuration requires the use of software tools.

WALKTHROUGH
Function available on motion sensors. If the function is activated and presence is detected for a period of less than three minutes, the switch-off takes place quickly. After three minutes, if the detection is confirmed, the normal time delay chosen by the user starts.

WATERTIGHT
Constructed so that moisture will not enter the enclosure under specified test conditions. See IP level chart.

WEATHERPROOF
Constructed or protected so that exposure to the weather will not interfere with successful operation. See IP level chart.

ZERO CROSS SWITCHING
A technique used by switching devices, relays, contactors, etc, that reduces wear and increases service life by switching the instant the AC voltage is zero.

ZIGBEE
Communication protocol using radio as the medium in the 2.4 GHz licence-exempt frequency band. ZigBee is a registered trademark owned by the ZigBee Alliance association.

ZONE
Geographical location inside which one or more control groups are located.

ZONE CONTROL
The ability to assign different fixtures to separate control groups, which have different lighting control objectives, for the purposes of lighting control. This accommodates different types of tasks as well as areas with different characteristics.

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