BUS/KNX SOLUTIONS

ACTIVE CONTROL OF LIGHTING, SHUTTERS, TEMPERATURE AND SOCKET OUTLETS

CATALOGUE PAGES → INSIDE

THE **GLOBAL SPECIALIST**
IN ELECTRICAL AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

NEW GENERATION LIGHTING MANAGEMENT

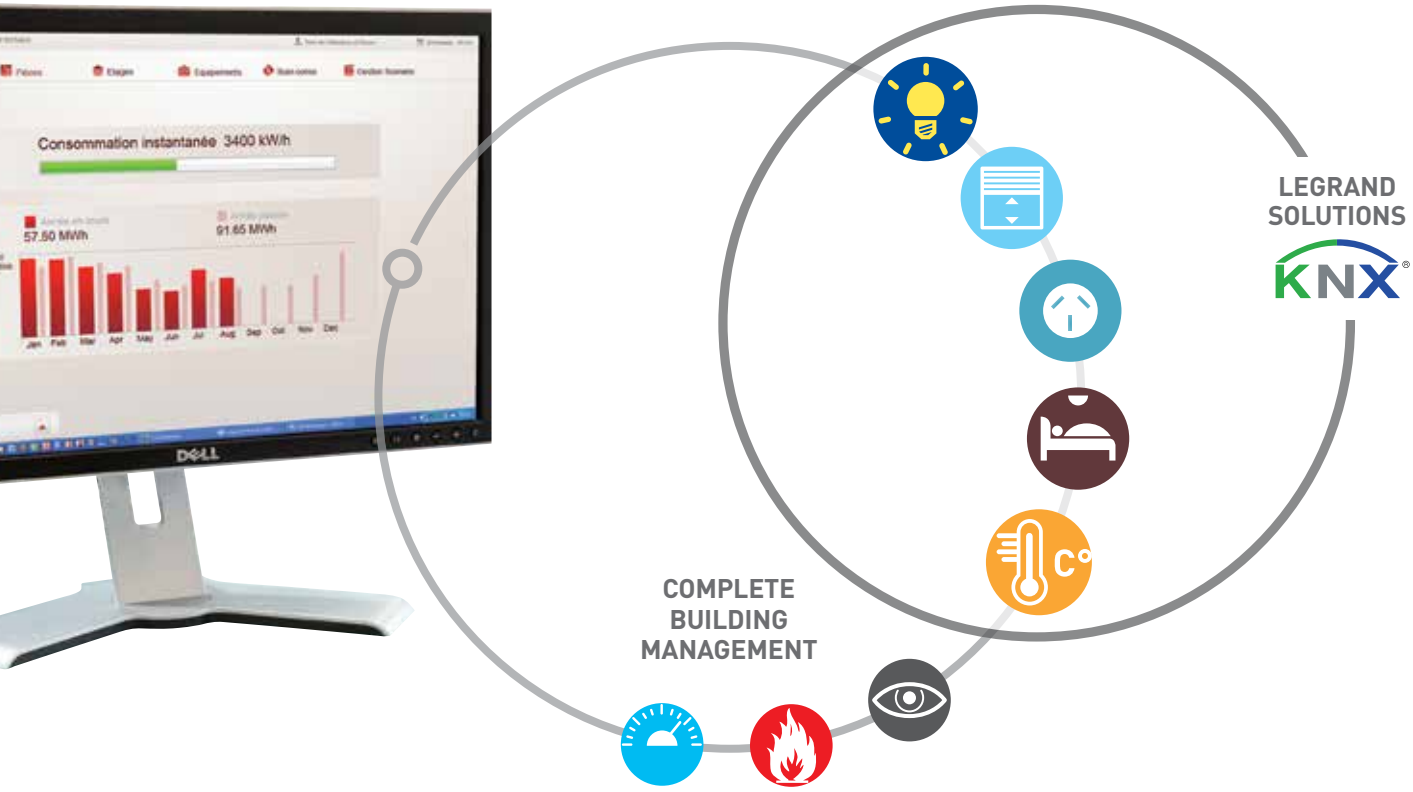
A global specialist in electrical infrastructures in buildings and a major force in new generation buildings, Legrand is developing its system to provide complete control of a building with BUS/KNX solutions.

THE NEW LEGRAND BUS/KNX RANGE MEETS THE SPECIFIC NEEDS OF COMMERCIAL SECTOR BUILDINGS

Optimised energy consumption
Designed ideally for low consumption accredited constructions, KNX solutions provide optimum management of lighting, shutters, socket outlets and HVAC combined with energy management and supervision solutions, these "Smart Grid Ready" solutions allow you to optimise operating procedures in your installation according to your consumption. Legrand therefore contributes to reducing a building's overall operating costs and meeting the requirements of Green Star buildings, etc. so that you can provide a perfect response to your customers' energy performance requirements.

Increased comfort
Legrand BUS/KNX solutions have the ability to manage all types of light sources (LEDs, DALI, 1-10 V ballasts, etc.) in response to different situations (daylight, presence/absence, dimming, scenarios) making the user's daily life easier by adapting to their needs and living/working habits.

Even greater flexibility
With simple programming, Legrand BUS/KNX solutions make it possible to reconfigure the installation in a building really easily: no need for additional wiring!



A worldwide protocol in building management systems, KNX is an open, interoperable standard providing any user with great freedom of use and long-life installations. Recognised by ISO/IEC 14543-3-x as the international standard for home and building control, KNX meets the requirements of two European standards, CENELEC EN50090 and CEN EN 13321-1.

COMPLETE BUILDING MANAGEMENT
Beyond providing optimum control of lighting and shutters, the KNX protocol is interoperable with all applications installed in commercial sector building (heating and ventilation, fire alarms, emergency lighting, etc.), whoever supplies them. It can therefore be integrated into an active general building management system, making it possible to display consumption or to be alerted when a fault occurs!

COMPLETE HIGH-PERFORMANCE SOLUTIONS

The new Legrand BUS/KNX offer with its complete high-performance solutions, meets the specific needs of a commercial building, so you can ensure that your customers have an optimised, flexible and open installation.

OPTIMISED CONTROL

An essential solution for special or customised applications, the Legrand BUS/KNX control unit manages lighting (ON/OFF, dimming, scenes), roller shutters (raise/lower/stop), awnings, and other devices.
A core business for Legrand, control is enhanced with multiple possibilities: lighting comfort, environment scenarios, combinations of multiple functions, etc.
Discover the Legrand BUS/KNX offer, combining performance, aesthetics, and comfort, for a full and optimised response to your customers' needs.

“Really clever, infinitely stylish!

MANUAL CONTROL UNITS

One offer, 17 finishes

Combining performance with aesthetics, control units are available in the Arteor range, in 17 elegant finishes.


MIRROR BLACK


GRAPHITE


MIRROR WHITE


PEARL ALU


STAINLESS STEEL


LIGHT OAK

A wide range of mechanisms for everyday comfort

There are several types of mechanisms available for users convenience.

PLAIN FASCIA

WITH LABEL HOLDER

TOUCH

Functional diversity

KNX control units provide multiple functions for managing lighting, shutters, scenarios, socket outlets and temperature.

"Basic" functions

Optimised ergonomics thanks to programming

- ON/OFF switching
- Dimming up and down
- Roller shutters: raise, lower, stop
- Scenario: send a scenario number, save scenario
- Send one or two values: lighting level, position of shutters/slats, etc.

TEMPERATURE CONTROL UNIT

"Advanced functions"

The Legrand plus!

As well as simple functions, Legrand offers you multi-control functions for a more comprehensive management of your installation:

- Send priority: ON/OFF locking and unlocking
- Send incrementing commands (by scrolling through the options): each press refers to a command. Example:
  1st press = comfort (command 1),
  2nd press = stand-by (command 2),
  3rd press = eco (command 3),
  4th press = comfort (command 1)
- Dual action transmission: send two commands. This function allows products which do not have a scenario function to be linked to a scenario
- Mode 1/Mode 2 conditional transmission: send a command or a second different command, depending on a condition being met. The control unit has the ability to send commands to different circuits depending on an event

MANUAL CONTROL UNITS

LEDs for clear information

All controls, whether a push-button or a touchplate, are fitted with RGB LEDs, each of which can produce twelve different colours: green, blue, white, orange, gold, yellow, turquoise, cyan, light blue, violet, magenta and purple.

Configurable using ETS software (see p. 16), LEDs display the load status and status feedback and can be used to customise the control unit status using colours, flashing, and brightness.

Status displays

- Status feedback from actuators/ controllers: ON or OFF
- System status feedback: context information indicated by the BUS. Examples: over-consumption, broken lamp, too much wind for roller shutters, etc.

Customizing the status

- Adjustment of the colour and behaviour through different modes. The default modes are:
  - ON = steady green
  - OFF = steady blue
  - Alarm = flashing red (not modifiable)
  - Control de-activated = steady orange
- Adjustment of brightness from 0 to 100% according to three values:
  - Normal (adjustable value)
  - Eco (adjustable value)
  - Stand-by (non-adjustable value)

Set colour and brightness according to needs

Wireless, no-battery controls

With one to four buttons and two or four inputs, they control lighting (ON/OFF, dimming) and shutters (raise/lower/stop).
With the KNX wireless interface, wireless controls without batteries can communicate with BUS/KNX controllers for even greater flexible and effective control!

THE +

It's the ideal solution for open-plan offices where the installation has to be easily adaptable in case the working area is re-configured:
- no vertical wiring
- installed in a suspended ceiling
- battery-free operation

WIRELESS SWITCH

KNX WIRELESS INTERFACE

Thermoregulation control

The temperature control panel is a flush mounted 1,6" backlit display with four push buttons to manage HVAC systems as fan coil unit or floor heating.

THE +

- in line with Legrand design
- Flexibility: can be combined with several types of HVAC controller

More advanced control

The 5.7'' touchscreen is an automation device able to manage up to 110 KNX functions. It is also able to receive and display system data such as an energy consumption profile (graph), temperature, dimming information and more.
By simply pressing a key on the multi-scenario touchscreen, pre-programmed scenarios are selected. Example: in a meeting room, the "Projection" scenario causes the screen to drop down, lowers the blinds and dims the lights.

THE +

- **Convenient to use: comprehensive, centralised management operated from a single control unit.**
- **Performance: controls and displays up to 110 standard functions as well as a number of special ones.**
- **Flexibility: ability to switch between manual and programmed control.**

DETECTORS

Energy performance and operating performance

A sustainable approach
Apart from simple ON/OFF and dimming controls, detectors provide access to the advanced automation functions required in any "green" building:
- stand-by/maintained dimming
- programmed lighting maintenance
- scenario triggering dependent on presence/absence, natural light levels or the time

Flexibility & Efficiency
- Detectors provide an installation with flexibility: their operation and programming can be adapted according to external parameters (over-consumption, alarm, etc.)
- Detectors constantly measure daylight levels. In combination with controllers they provide a better understanding of the detection area and makes it possible to adapt lighting in response to natural light levels.
  Note: several dimming levels can be set within a single space!

Supervision informations
KNX detectors provide any supervision system with useful key information:
- indication of presence
- load status and dimming level (as a %)
- light level in real time (in lux)

Three fixing systems for optimum flexibility of installation

Suspended ceiling
The detectors are installed using springs (supplied) or in a recessed box or can be surface mounted.

SOLUTIONS FOR CORRIDORS, OUTDOOR CAR PARKS, BASEMENTS AND WORK AREAS

Wall - flush-mounting
Products are installed in a wall box.

SOLUTIONS FOR SMALL PREMISES AND BATHROOMS

Wall surface-mounting
Products are installed in a surface-mounted frame and can be fixed in a corner in certain cases.

SOLUTIONS FOR OUTDOOR CAR PARKS, BASEMENTS, SMALL PREMISES, BATHROOMS AND WORK AREAS

“Perfect detection in any location!

The power of two detection technologies

Infrared detection (PIR)
Suitable for detecting wide amplitude movements such as walking, infrared technology provides optimum lighting management in passage areas such as corridors.

CAT.NO 0 489 21
PIR detection with
270° movable head
Range 20 m
IP 55
Wall or ceiling
surface mounting

CAT.NO 0 489 19
360° PIR double detection
Lateral range 2 x 12 m
IP 20
Ceiling mounted

PIR detection + with high density lens
Infrared technology is suitable to detect wide amplitude movements but with its high density lens this sensor is able to detect the tiniest movement and it is adapted for both passage ways and working areas.

CAT.NO 0 489 22
360° PIR detection
Range 8 m
IP 20
Ceiling mounted

EXCLUSIVE TO LEGRAND

Infrared + ultrasound detection (PIR/US)
The exclusive coupling of two technologies consolidates the presence information and guarantees the detection of smaller movements for greater effectiveness, which makes the difference in work areas.

CAT.NO 0 489 20
180° PIR/US detection
Front range 8 m
IP 42
Surface mounted on
the wall

CAT.NO 0 489 18
360° PIR/US detection
Range 8 m
IP 20
Ceiling mounted

Smart detection

Thanks to the combination of ETS and the 0 882 30 configuration tool, it is possible to set/modify detector parameters simply and quickly for optimum detection!

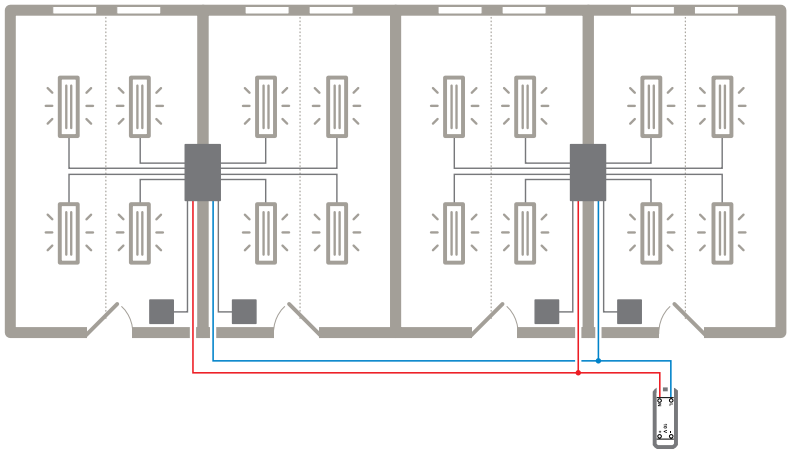
→ SEE PAGE 16/17

SIMPLIFIED INSTALLATION

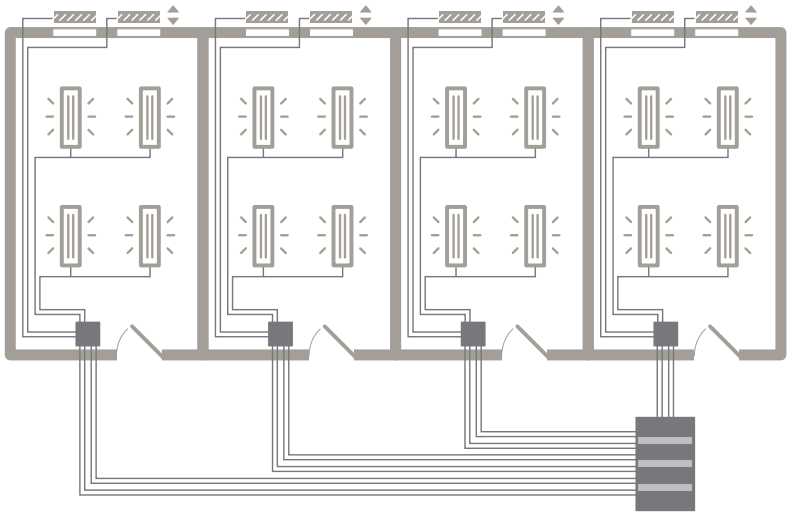
Equipped with different outputs, controllers (also called actuators) receive commands from the control units and act on lighting or shutter loads. Their installation may take one of two form factors.

DISTRIBUTED INSTALLATION

The controllers are installed in ceiling cavities, next to the loads they operate, but not in the main cabinet as usual



DECENTRALIZED SMART INSTALLATION



CENTRALIZED INSTALLATION

False ceiling controllers for dimming

These power units control lighting loads. In order to operate, they have to be linked to one or more detectors and/or remote auxiliary control units. Because they are situated near the loads to be controlled, they provide savings in the cables to be routed and in wiring time.
They also save space in the distribution board.

FOR DALI PROTOCOL,
4 OUTPUTS

FOR 1-10 V BALLASTS,
4 OUTPUTS

Quicker and easier cabling

Multi-application modular controllers

These modular controllers with integrated consumption measurement are fitted with output contacts for controlling:
- all types of ON/OFF loads (lighting, roller shutters, contactors, motors, etc.)
- a DALI dimming output (64 ballasts max.)
- an on-board energy meter

Loads are managed by the control units to which they are linked: either BUS/KNX control units, or wired connection input terminals (switches, push-buttons, voltage free contacts).
They also provide a wide range of functions: ON/OFF or dimming lighting control, DALI, roller shutter and ventilation control.

16 INPUTS
16 OUTPUTS
12 MODULES
(Also available with 8 inputs, 10 outputs, 8 modules)

These DIN controllers offer the possibility of controlling several circuits (voltage free contacts included) within a reduced space, and include embedded automation: an ideal solution for hotel room management!
Installed in a modular cabinet, they are the ideal solution for small spaces (bedrooms, conference rooms, offices).

CENTRALIZED INSTALLATION

This consists of a traditional installation using modular products installed in the electrical panel.
Note: all controllers can be controlled for each output by a detector and/or a BUS/KNX control unit.

“ easy maintenance

Controllers

Modular controllers for dimming

- Flexibility in use DALI/KNX gateway manages a maximum of 64 connected ballasts per channel, the modular DALI controller can handle them individually or in groups (maximum of 16 groups per gateway).
- Control of all sources, universal dimming, full DALI dimming, multiple circuits.

FOR DALI PROTOCOL

Modular controller for shading

- Controls up to 4 venetian blinds or roller shutters.

Modular control for HVAC

- ON/OFF and 1-10 V controllers manage any kind of fan coil units.

Controller Cat.No 0 026 59 varies the level of two outputs of any LV or ELV loads.

FOR ALL LV AND ELV LOADS

Modular ON/OFF controllers

- 8 A FOR LIGHTING
- 16 A FOR LIGHTING, SOCKET OUTLETS AND ELECTRICAL EQUIPMENT

Modular controller for roller shutters

4 OUTPUTS

Modular FCU Controller

ON/OFF CONTROL (PWM)

Modular FCU Controller

0-10 V

KNX INFRASTRUCTURE PRODUCTS

Power supply

- 320 mA and 640 mA power supplies provide power for one BUS/KNX line. There is a built-in filter to prevent the short-circuit of messages from the BUS.
- The line coupler provides galvanic insulation between lines. This is necessary to extend the system over 64 devices.

640 mA POWER SUPPLY

LINE COUPLER

Connection

- BUS/KNX cables are available in a single pair version (red/black) or 2 pairs (red/black, yellow/white).
- The black/red BUS/KNX connector is used to extend, split the cable or simply connect the products.

Interface

- BUS/KNX interfaces - voltage free contact, available in a modular version or for flush-mounting, allow voltage free products (switches, pushbuttons, alarms, etc.) to be connected to BUS/KNX.
- A binary interface is also available allowing the connection of probes, sensors which need to distinguish between two levels of signal.

VOLT-FREE CONTACT BUS/KNX INTERFACE

Communication & Control

Legrand BUS/KNX modules can send/ receive commands to different controllers in the system.

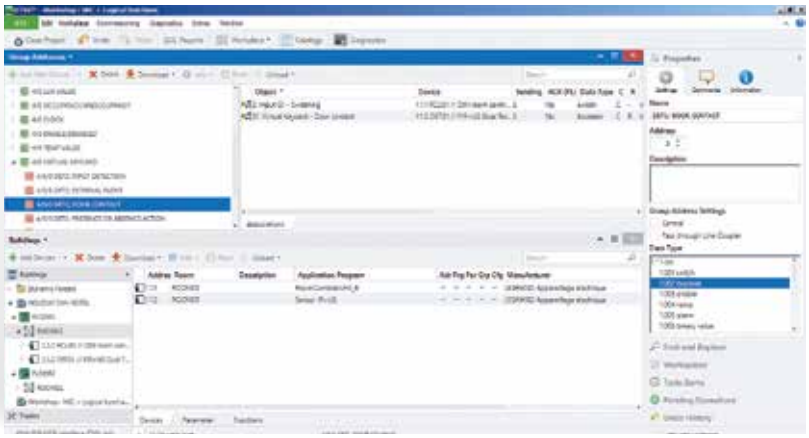
- A BUS/KNX - IP gateway allows operation from off site; it has two functions:
  - IP interface for making the links between the BUS/KNX infrastructure and the IP network remotely configure the installation with ETS.
  - a Web communication interface for a simple supervision via a dedicated Web page.
- The scenario module can control up to eight scenarios and eight program events.
- The IP/KNX router is a KNX network coupler enabling interconnection among different KNX networks via the IP infrastructure.
- The BUS/KNX - USB interface allows a PC to be connected to the BUS/KNX via the USB port to program or make a diagnostic on the system.

IP COMMUNICATION MODULE

FLEXIBLE, RELIABLE AND CONSISTENT CONFIGURATION

ETS5 SOLUTION

A standardised non-proprietary programming tool available in 15 languages, ETS5 software supports all KNX installations, whatever the medium used: twisted pair, radio frequency, Ethernet/IP, power line carrier.
It makes it easy to program all the KNX devices.



A configuration system accessible in three steps:

1. Acquire the ETS5 software from the KNX association.
2. Download the Legrand database from www.legrandoc.com.
3. Import all the products into ETS5.

LEGRAND SOLUTION

Configuration

As a complement to the ETS software, KNX detectors offer the possibility of local configuration.
This mobile configurator is used to interrogate, display and modify the detector parameters:
- light level threshold
- delay
- detection sensitivity

Note: parameters can be saved and then copied to other detectors.

THE MOBILE CONFIGURATOR:
AN ASSET FOR COMMISSIONING AND MAINTENANCE

For optimum supervision with complete simplicity, Legrand offers "Legrand Supervision Software" (LSS) which allows you to view and control the whole building very easily: the management of Legrand solutions is pre-configured; screens are generated automatically.

SUPERVISION SOFTWARE

VIEWING AND CONTROLLING LIGHTING: OVERVIEW AND DETAILED VIEW BY AREA

CONSUMPTION DISPLAY WITH COMPARISON

VIEWING AND CONTROLLING GUEST ROOM: OVERVIEW AND DETAILED VIEW BY ROOM

	LIGHTING, SHUTTERS, SOCKET OUTLETS	MEASUREMENT	HOTEL GUEST ROOM MANAGEMENT
VIEW AND CONTROL	▪ Lighting status: overview and view by area ▪ Presence of persons ▪ Light level ▪ Status of shutters and socket outlets ▪ Control from the lighting, shutter and socket outlets supervision station, area by area ▪ Programming according to a day/month/year calendar	For each zone and circuit, and by usage, display: ▪ of consumption per day, month, year ▪ of the comparator with previous periods ▪ of the detail of electrical values (energy, power, voltage, current, etc.)	▪ Occupancy status: overview and view by room ▪ Ambiant temperature and status of thermoregulation operating mode ▪ Energy consumption level ▪ Control temperature setpoint, thermoregulation operating mode, shutter ▪ Launch scenes such as welcome, checkout, etc.
BE WARNED	▪ System fault display Example: loss of communication ▪ Change of status of lighting, of a shutter, etc.	▪ Over-consumption for the whole building	▪ Guest requirements: Make-Up-Room, Do Not Disturb ▪ SOS alarm ▪ "Green sensitive" guest

To personalise needs (screens, variables, equipment, etc.) the Legrand supervision software can be customised in order to create a tailor-made solution.
Open to KNX, Modbus, DALI and also Bacnet protocols, it requires an integrator to set this up.

FOR ACTIVE BUILDING MANAGEMENT

Customisable screens, with equipment shown on a plan

VIEW, CONTROL, BE WARNED

LIGHTING & SHUTTERS
Display on a plan of the location of lighting and window shutter

MEASUREMENT
Water and gas consumption display for the whole building

HVAC
Temperature adjustment, ventilation, etc.
Display of diagrams for monitoring

ACCESS CONTROL
Monitoring of building activity

INTERACT

Building manager decision maker PLC
Cat.No 0 035 44

Application examples with third-party systems (HVAC, access control, ...):

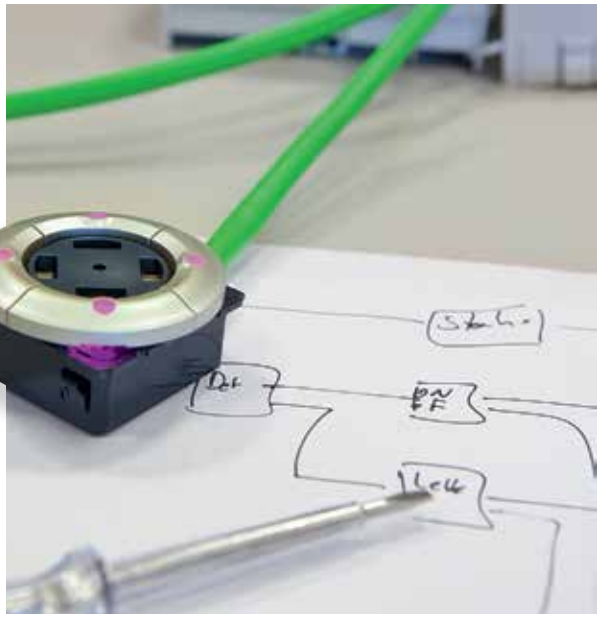
- automatic change to the right temperature depending on whether or not people are present
- supply to power sockets as soon as someone enters an office suite

LEGRAND
WILL ASSIST YOU

TRAINING

Legrand offers installers, operators, facility management and dedicated training, allowing them to increase their overall building management expertise.

→ FIND OUT ABOUT OUR ONLINE TRAINING OFFER AT WWW.LEGRAND.COM



APPLICATION EXAMPLES

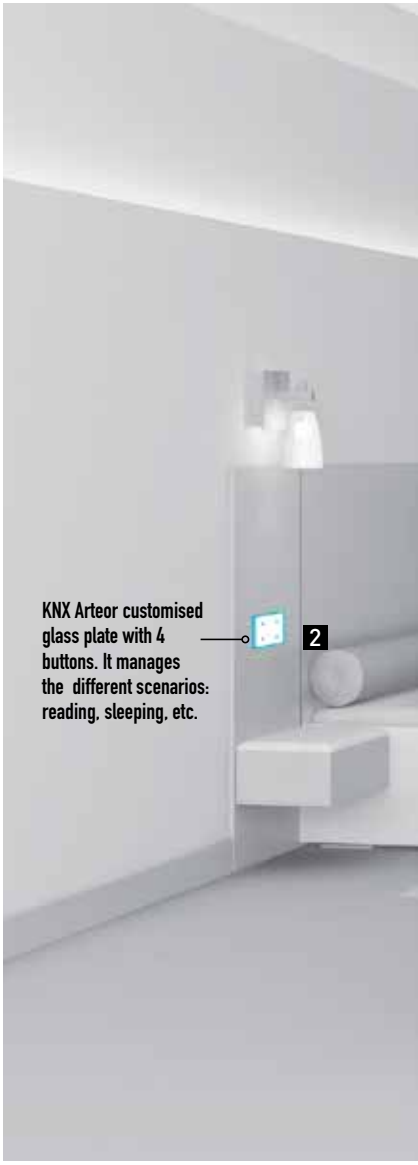
Dedicated **“hotel”** solution

Dedicated **“commercial sector buildings”** solutions

Hotel guest room

- Presence detection
- Temperature management
- Socket management
- Scenarios

In a hotel room there is the need to manage everything when the guest is present: lighting, sockets, HVAC.
When the guest enters the room the entrance lights are automatically turned ON and when they place their access card in the holder, the HVAC and the sockets are also enabled. The guest is able to manage everything through the different control units, choosing the conditions they prefer according to their mood or needs.



Legrand supervision software

KNX/IP gateway

Cat.No	Qty
0 035 43	1

> page 37

KNX 640 mA power supply

Cat.No	Qty
0 026 94	1 per KNX line

> page 37

4 5 6

Arteor 1-way push-button, white

Cat.No	Qty
572056	1 per room

Arteor Key fob switch badge holder, white

Cat.No	Qty
5 722 30	1 per room

Arteor double socket

Cat.No	Qty
AR777WE	6 per room

TRADITIONAL CABLING

BUS/KNX

7

KNX Multi-application controller

Cat.No	Qty
0 484 22	1 per room

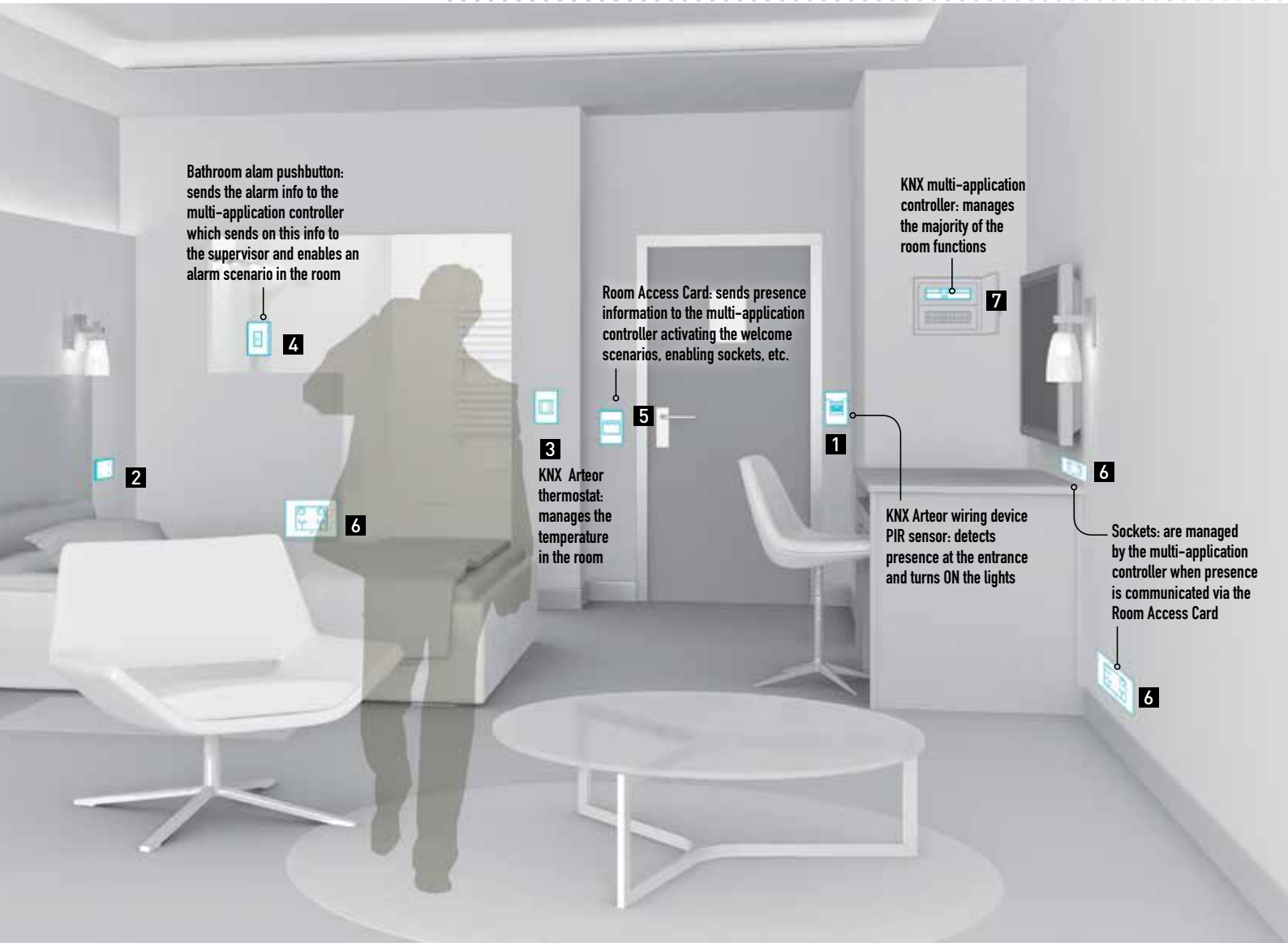
> page 36

KNX FCU controller

Cat.No	Qty
0 026 97	1 per room

> page 34

Common solution for several areas



1

KNX Arteor
PIR wiring
device sensor

Cat.No	Qty
5 740 37	1 per room

> page 35

2

KNX Arteor
4-button
glass plate, white

Cat.No	Qty
5 735 04	2 per room

> page 32

3

KNX
Temperature
control panel

Cat.No	Qty
0 674 64	1 per room

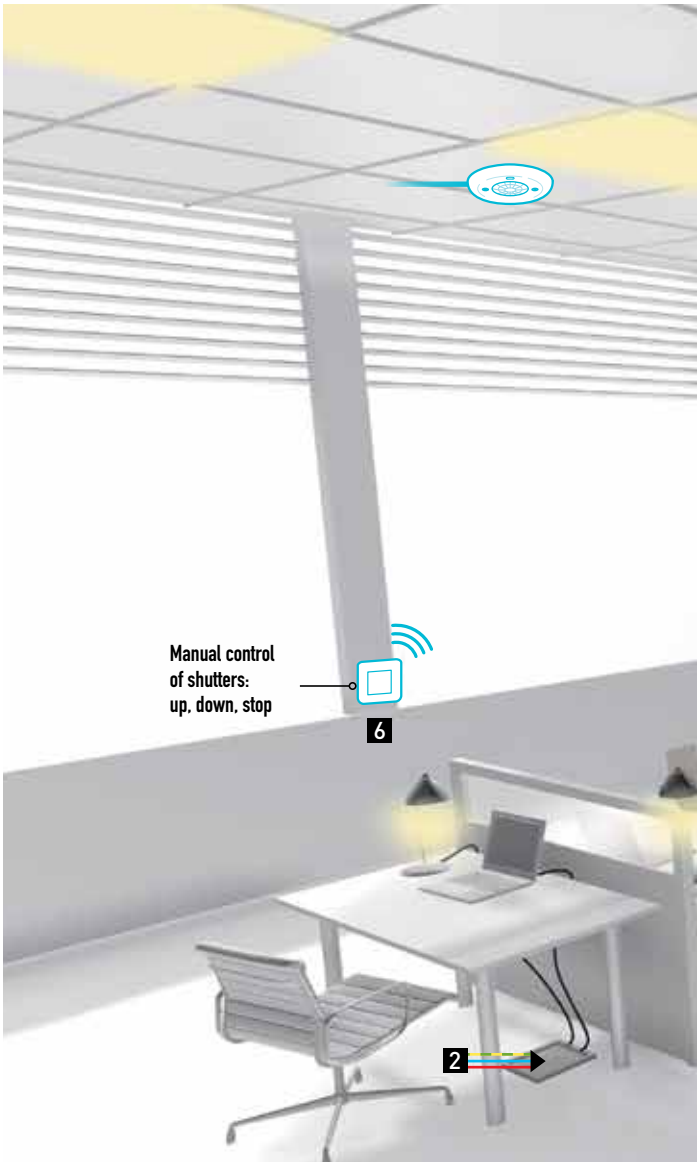
> page 34

Open space

- Presence detection
- Movement detection
- Light level measurement
- Dimming

BUS/KNX SOLUTIONS PROVIDING AREAS WITH FLEXIBILITY

In an office suite, you need to be able to control lighting to ensure occupants comfort. Linking detectors and control units to the luminaries allows for variations in natural daylighting throughout the day.



BUS/KNX

BUS/KNX
power supply

Cat.No	Qty
0 035 12	1 for KNX line

> page 37

BUS/KNX DALI controller
for dimming

DALI BUS

Cat.No	Qty
0 026 98	1 for 64 ballasts max

> page 36

BUS/KNX controller for
shutters

Cat.No	Qty
0 026 91	1 for 4 shutters

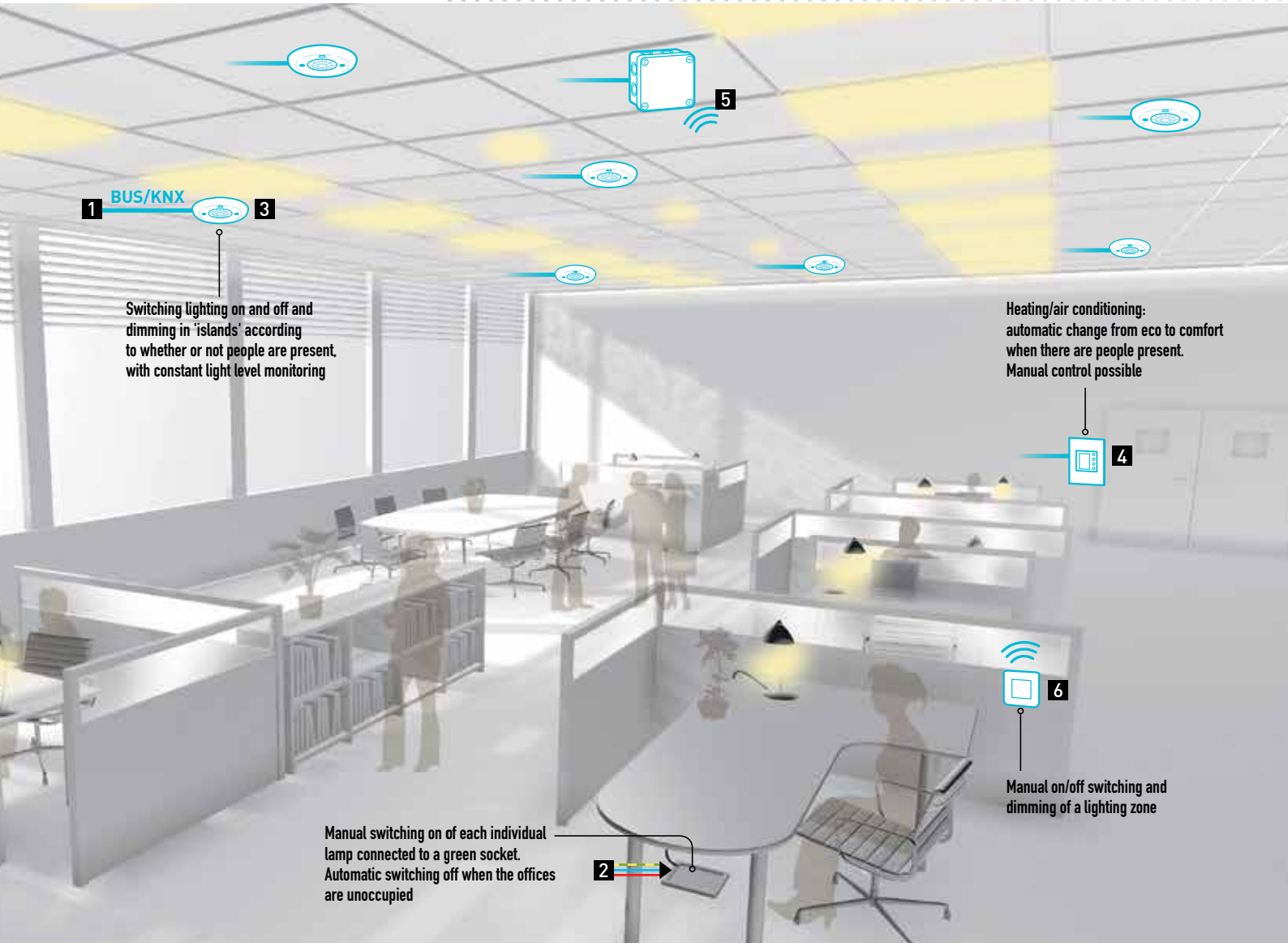
> page 36

KNX FCU controller

Cat.No	Qty
0 490 41	1 per room

> page 34

Common solution for several areas



ELECTRICAL PANEL

OFFICE SUITE

2

ON/OFF lighting controller with 4 outputs for lamps connected to green sockets

Cat.No	Qty
0 026 80	1 for 4 x 16 A sockets max

> page 36

3

360° KNX infrared + ultrasound lighting management sensor Range 8 m dia.

Cat.No	Qty
0 489 18	1 every 6 m

> page 35

4

Temperature control panel

Cat.No	Qty
0 674 64	1 for the office suite

> page 34

5

Zigbee/KNX gateway

Cat.No	Qty
0 488 77	1 for 16 control units

> page 34

6

Radio control unit without batteries with single push-button

Cat.No	Qty
0 784 61	1 per workstation

> page 34

Meeting room

- Presence detection
- Light level measurement
- Dimming
- Scenario control
- Manual switch-on
- Management of shutters, screens

In a meeting room, you need to be able to control the lighting but also the shutters, screen, HVAC, etc, individually or via programmed scenarios.

BUS/KNX - IP gateway

Cat.No	Qty
0 035 43	1

> page 37

BUS/KNX power supply

Cat.No	Qty
0 035 12	1 per KNX line

> page 37

BUS/KNX

1

BUS/KNX universal ON/OFF controller

Cat.No	Qty
0 026 61	1 for 4 circuits

> page 36

2

BUS/KNX universal dimming controller

Cat.No	Qty
0 026 59	1 for 2 circuits

> page 36

3

BUS/KNX controller for shutters

Cat.No	Qty
0 026 91	1 for 4 circuits

> page 36

Common solution for several areas

BUS/KNX

1 2 3

Power supply to light fittings, HVAC, shutters, screen, video projector: equipment in the electrical panel

4

On pressing the control unit at the entrance to the room, the lighting is automatically switched on/off or dimmed depending on whether or not there are people present and on the level of daylight.

During the meeting, priority control of scenarios.
Examples:
- start of projection
- end of projection
- full lighting

etc.
At the end of the meeting, automatic switch-off of lighting and HVAC

5

6

As soon as someone enters the room, manual switching on/off and dimming of ceiling and panel lights

CONTROLLED CIRCUITS

One ON/OFF lighting circuit for panel/screen
LEDs or halogen

2 dimming circuits: one panel side, one room side
Dimmable LEDs

2 shutter circuits: up/down/stop
1 screen circuit: up/down
1 HVAC circuit: comfort/eco

ELECTRICAL PANEL

OFFICE SUITE

4

BUS/KNX lighting management sensor
360° infrared + ultrasound
Range 8 m

Cat.No	Qty
0 489 18	1 every 6 m

> page 35

5

Touchscreen control

Cat.No	Qty
0 488 84	1 per room

> page 32

6

Control for 2 ON/OFF and dimming lighting circuits

Cat.No	Qty
0 675 71	1 per door

> page 32

Reception areas

- Presence detection
- Movement detection
- Light level measurement
- Dimming

In a reception area, you need lighting to come on automatically when there are people present and for it to adjust according to the natural light level.
In corridors you want lighting to come on only when human presence is detected and if the natural daylight is insufficient.

Legrand supervision software

BUS/KNX - IP gateway

Cat.No	Qty
0 035 43	1

> page 37

BUS/KNX power supply

Cat.No	Qty
0 035 12	1 per KNX line

> page 37

BUS/KNX

Common solution for several areas

Long corridor 1: depending on daylight, lights come on automatically when people pass by. Automatic switch-off

Reception area: lighting automatically switches on/off and dims depending on whether or not there are people present and on the level of daylight.

Power supply for wall lights and halogen spots

Long corridor 2: depending on daylight level, the lighting automatically comes on when a person enters the corridor (detection possible up to 20 m). Automatic switch-off

CONTROLLED CIRCUITS

Long corridor 1	Reception area	Long corridor 2
Flush-mounted LED spots	Wall lights and halogen spots	Wall lights

1

BUS/KNX lighting management sensor 360° infrared + ultrasound Range 8 m

Cat.No	Qty
0 489 18	1 every 6 m

> page 35

2

BUS/KNX controller in suspended ceiling for dimming DALI lamps

Cat.No	Qty
0 488 88	1 for 2 circuits

> page 36

3

BUS/KNX lighting management sensor 2 x 180° for long corridors Range 2 x 12 m

Cat.No	Qty
0 489 19	1 every 20 m

> page 35

4

BUS/KNX lighting management sensor 180° infrared + ultrasound Range 8 m

Cat.No	Qty
0 489 20	1 every 6 m

> page 35

ON/OFF or dimming 1-10 V BUS/KNX controller in suspended ceiling

Cat.No	Qty
0 488 87	1 for 4 circuits

> page 36

Class room

- Presence detection
- Light level measurement
- Dimming

In a classroom, you need to pay attention to students' comfort by adjusting the brightness of lighting according to whether it is on the window or the corridor side. The teacher controls the panel lighting. All lighting switches off when the room is unoccupied.

Legrand supervision software

BUS/KNX - IP gateway

Cat.No	Qty
0 035 43	1

> page 37

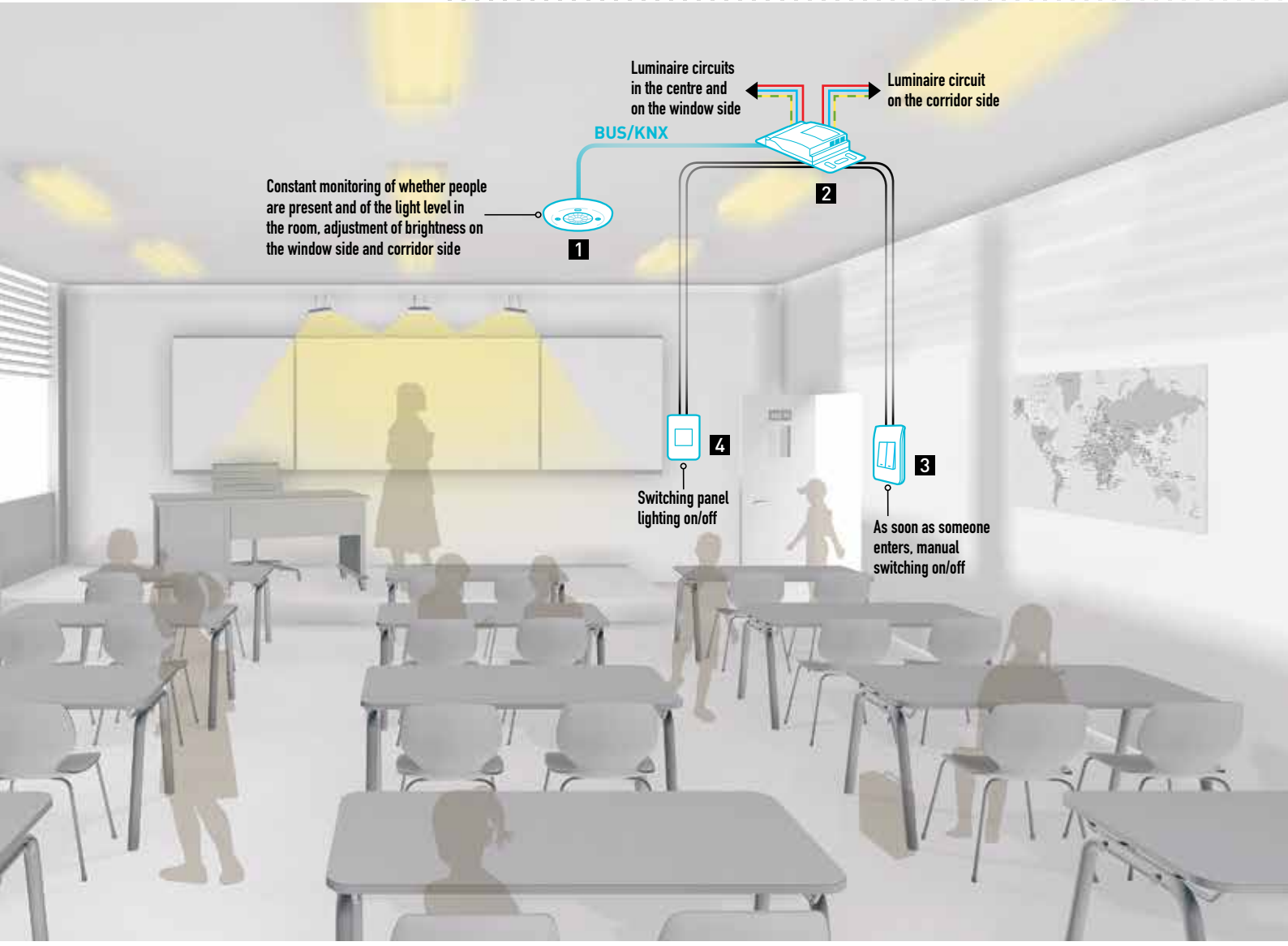
BUS/KNX power supply

Cat.No	Qty
0 035 12	1 for KNX line

> page 37

BUS/KNX

Common solution for several areas



1

BUS/KNX lighting management sensor 360° infrared + ultrasound Range 8 m

Cat.No	Qty
0 489 18	1 every 6 m

> page 35

2

BUS/KNX DALI controller in suspended ceiling for dimming

Cat.No	Qty
0 488 88	1 for 4 circuits

> page 36

3

Control for 2 on/off and dimming lighting circuits

Cat.No	Qty
0 675 91 + 574465 x 2	1 per door

> page 32

4

Control for panel lighting

Cat.No	Qty
0 675 91 + 574467	1 per panel

> page 32

Arteor™

BUS/KNX manual control units

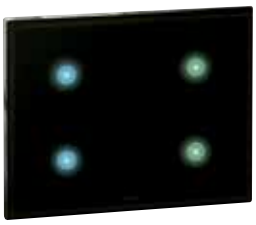
KNX certified


574404

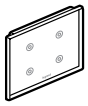
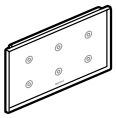

067571


573502


573504


573513

Connected directly to BUS/KNX cable (supplied with tap-off connector)
The control unit must be programmed using ETS software

Pack	Cat No.	Arteor wired control units
		Used to control lighting (ON/OFF, dimming, scenario, forcing), roller shutters (raise, lower, stop), awnings, and other receivers Fitted with programmable RGB LEDs (12 colours available) for displaying load status and system status feedback (normal, forced, override, day/night pilot light, etc.), alarms To be installed in Arteor support frames and fitted with Arteor coverplates
		4 channels control unit without label display
1	0 675 71	 4 actuation points To be equipped with key covers for control mechanism
		Square version 4 actuation points - With label holder
1	5 742 03	 ○ White
1	5 744 04	● Magnesium
		Round version 4 actuation points - With label holder
1	5 735 02	 ○ White
1	5 735 03	● Magnesium
		4-buttons touch control units Supplied complete with white or black touch plates To be fitted with Batibox support frames
1	5 735 04	 ○ White - for BS flush-mounting boxes
1	5 735 05	● Black - for BS flush-mounting boxes
		6-buttons touch control units Supplied complete with white or black touch plates
1	5 735 12	 ○ White
1	5 735 13	● Black

Pack	Cat No.	Touchscreen
		Used to control up to 110 KNX functions. Display data for energy management, temperature and dimming
		5.7" touchscreen
1	0 488 84	Supplied complete with surround frame

Arteor™

BUS/KNX manual control key covers

Key cover description	Pack	Number of modules	ROUND VERSION			SQUARE VERSION		
				White ○	Magnesium ●		White ○	Magnesium ●
Adjustment symbol, left-hand side mounting	5	1		5 745 05	5 745 06		5 744 87	5 744 86
Adjustment symbol, right-hand side mounting	5	1		5 745 07	5 745 08			
Adjustment symbol	5	2		5 745 37	5 745 38		5 744 89	5 744 88
Light symbol (either side)	5	1		5 745 17	5 745 18		5 744 75	5 744 74
Light symbol	5	2		5 745 43	5 745 44		5 744 77	5 744 76
Dimmer symbol, left-hand side mounting	5	1		5 745 20	5 745 22		5 744 69	5 744 68
Dimmer symbol, right-hand side mounting	5	1		5 745 19	5 745 21			
Dimmer symbol	5	2		5 745 41	5 745 42		5 744 71	5 744 70
Up/Down symbol (either side)	5	1		5 745 15	5 745 16		5 744 93	5 744 92
Up/Down symbol	5	2		5 745 35	5 745 36		5 744 95	5 744 94
GEN marking	5	2		5 745 39	5 745 40		5 744 73	5 744 72
GEN/ON/OFF marking, left-hand side mounting	5	1		5 745 24	5 745 26		5 744 83	5 744 82
GEN/ON/OFF marking, right-hand side mounting	5	1		5 745 23	5 745 25			
GEN/ON/OFF marking	5	2		5 745 31	5 745 32		5 744 85	5 744 84
ON/OFF marking, left-hand side mounting	5	1		5 745 28	5 745 30		5 744 79	5 744 78
ON/OFF marking, right-hand side mounting	5	1		5 745 27	5 745 29			
ON/OFF marking	5	2		5 745 33	5 745 34		5 744 81	5 744 80
Sound source selection right-hand mounting	5	1		5 745 11	5 745 12		5 744 91	5 744 90
Shutter STOP marking (either side)	5	1		5 745 45	5 745 46		5 745 47	5 745 48
Unmarked (either side)	5	1		5 745 09	5 745 10		5 744 65	5 744 64
Unmarked	5	2		5 745 13	5 745 14		5 744 67	5 744 66
Key cover with DO NOT DISTURB symbol - 2 modules	5	2		5 743 46	5 743 47		5 743 48	5 743 49
Pair of key covers with DO NOT DISTURB symbol and MAKE UP ROOM symbol	2	1		5 743 94	5 743 95		5 743 96	5 743 97

Radio extension

BUS/KNX

0 784 61

0 488 77

Pack	Cat.Nos	Zigbee/KNX wireless extension
1	0 784 61	Used to control lighting (ON/OFF, dimming) and shutters (up, down, stop) For use with Zigbee/KNX interface Cat.No 0 488 77 Supplied complete with plate and support frame 1 button - 2 actuation points ○ White
1	0 488 77	**Zigbee/KNX interface** Interface providing communication between batteryless radio control units Cat.Nos 0 784 61 (up to 16 control units) and BUS/KNX controllers 180m (outdoor or far field) around the interface so 18m approx. indoor For suspended ceiling installation
1	0 883 09	**Sensors** Used to control lighting (ON/OFF, dimming) or trigger automations For use with Zigbee/KNX interface Cat.No 0 488 77 180° passive infrared detection, front range 10 m Recommended fixing height: 2.5 m IP 42 Optimum distance between two sensors: 6 m Sleepy Consumption: 0.032 mA or 0.096 mW Awakened Consumption: 0.932 mA or 2.796 mW Battery powered by 2 x AA LR6

Thermoregulation

BUS/KNX

KNX certified

0 674 64

0 026 97

0 490 41

Connected directly to BUS/KNX cable (supplied with tap-off connector)
The control unit must be programmed using ETS software

Pack	Cat.Nos	Temperature control panel
1	0 674 64	Flush mounted 1.6" backlight display with 4 push-buttons and embedded temperature probe Used to manage different types of heating/cooling system (FCU, heating/cooling valve, fan, electric load, ...) in combination through KNX with dedicated HVAC controller (ref. 0 026 97 or 0 490 41) - Monitoring the ambient temperature with desired unit - Adjustment of the temperature set-point and/or fan speed - Selection of operating mode (comfort, eco, protection, OFF) To be installed in flush-mounting boxes 2 modules Arteor
1	0 026 97	**DIN FCU controller ON/OFF** Actuator with internal thermoregulation to control FCU or thermal valves In combination with the temperature control panel, can be used to manage ambient temperature according to end-user requests: operating mode, temperature adjustment - 2 folds valve ON/OFF control (2 A - 75~256V a.c.) - 1 fold fan control – 3 speeds (6 A - 230V a.c.) - 1 binary input check – window contact (9~265 V a.c./ V d.c.) - Operating temperature -5 to 45°C - Operating voltage 230V a.c. +/- 10% (50/60 Hz) 4 DIN modules 17.5 mm
1	0 490 41	**DIN FCU controller 0-10 V** Actuator with internal thermoregulation to control FCU, fan, thermal valves, electric load In combination with the temperature control panel, can be used to manage ambient temperature according to end-user requests: operating mode, temperature adjustment - 2 outputs 0-10V d.c. to control thermal valves (5 mA) - 5 outputs (relays) to control fan (3 speeds) and/or thermal valves (10 A - 230V a.c.) - Operating temperature -5 to 45°C - Operating voltage supplied by the KNX bus 4 DIN modules 17.5 mm Possibility to power the 0-10 V valves in using the transformer 24V a.c. ref. 4 130 95

Sensors

BUS/KNX

KNX certified


0 489 19


0 489 21


574037


0 489 18


0 489 20

Constantly check for presence and light levels, switching OFF as soon as the natural light level is sufficient.
Switch ON and OFF automatically
Accurate set-up on site with configuration device
Connected directly to BUS/KNX cable (supplied with tap-off connector)
The detector must be programmed using ETS software

Pack	Cat.Nos	Special corridor motion sensor
1	0 489 19	**Ceiling mounted** Double passive infrared detection 360°, lateral range 2 x 12 m IP 20 Consumption 0.2 W Recommended fixing height: 2.5 m Optimum distance between two sensors: 20 m Fits directly in suspended ceiling with springs (supplied) or is installed in a 50 mm deep Batibox Cat.No 0 893 58 Surface mounted on ceiling using accessory Cat.No 0 488 75
1	0 489 21	**Special motion sensor for outdoor car parks and cellars** **Wall or ceiling mounted - surface mounting** Passive infrared detection with 270° adjustable head, range 20 m IP 55 Consumption 0.5 W Recommended fixing height: 2.5 m Can be fixed in a corner with a special accessory Cat.No 0 489 72
		Special motion sensors for small premises and bathrooms Wall mounted - flush or surface mounting Recommended fixing height: 1.2 m Consumption 0.2 W Optimum distance between two sensors: 6 m **Arteor** 180° passive infrared detection, range 8 m IP 41 - Arteor plate - To be used in conjunction with a Batibox support frame
1	5 740 37	○ White
1	5 740 79	● Magnesium

Pack	Cat.Nos	Special presence sensors for work areas
		Suitable for meeting rooms, classrooms, open areas, etc. Dual technology
1	0 489 18	**Ceiling mounted** 360° passive infrared and ultrasound detection, range 8 m IP 20 Consumption 0.5 W Optimum distance between two sensors: 6 m Fixes directly in suspended ceiling with springs (supplied) or is installed in a 50 mm deep Batibox Surface mounted on ceiling using accessory Cat.Nos 0 488 75 Connection by KNX red/black connector
1	0 489 22	360° passive infrared detection with high density lens range 8 m IP 20 Consumption 0.5 W Optimum distance between two sensors: 6 m Fixes directly in suspended ceiling with springs (supplied) or is installed in a 50 mm deep Batibox Surface mounted on ceiling using accessory Cat.No 0 488 75 Connection by KNX red/black connector
1	0 489 20	**Wall mounted - surface mounting** 180° passive infrared and ultrasound detection, front range 8 m IP 42 Consumption 0.5 W Recommended fixing height: 2.5 m Optimum distance between two sensors: 10 m Can be fixed in a corner with a special accessory Cat.No 0 489 71

Controllers

false ceiling and modular BUS/KNX

KNX certified

0 488 88

0 484 22

Connected with the BUS/KNX cable
Configuration using ETS programming software

Pack	Cat.Nos	False ceiling controllers for dimming
		Each output can be controlled by a sensor and/or BUS/KNX control unit
1	0 488 88	**For DALI protocol** 4 outputs 32 ballasts maximum per output
1	0 488 87	**For 1-10 V ballast** 4 outputs 1000 VA maximum per output Also controls four ON/OFF circuits

Pack	Cat.Nos	Modular controllers for dimming
		Each output can be controlled by a sensor and/or BUS/KNX control unit
1	0 026 98	**For DALI protocol** 2 outputs Individually controls 64 ballasts per channel in a maximum of 16 groups 6 17.5 mm DIN modules
1	0 026 63	8 outputs 16 ballasts maximum per output 4 17.5 mm DIN modules
	JUN 2017 0 026 54	2 outputs 2 x 300 W/VA maximum per output 4 17.5 mm DIN modules
1	0 026 59	**LED and all others LV and ELV loads** 2 outputs 2 x 400 W/VA maximum per output or 1 x 800 W/VA For use with one or two extensions Cat.No 0 026 60 max. for four or six outputs. 4 17.5 mm DIN modules

Pack	Cat.Nos	Controller extension 0 026 59
1	0 026 60	Adds two additional outputs to controller Cat.No 0 026 59 Maximum of two extensions per controller 4 17.5 mm DIN modules
1	0 026 86	**For LV and ELV loads only** 2 outputs 2 x 500 VA maximum per output 8 17.5 DIN modules
1	0 026 87	4 outputs 4 x 500 VA maximum per output 12 17.5 mm DIN modules
1	0 026 88	4 1-10 V outputs 8 17.5 mm DIN modules

Pack	Cat.Nos	Modular ON/OFF controllers
		Each output can be controlled by a sensor and/or BUS/KNX control unit
		8 A for lighting
1	0 026 61	4 x 8 A outputs 4 17.5 mm DIN modules
1	0 026 62	8 x 8 A outputs 4 17.5 mm DIN modules
		16 A for lighting, sockets and electrical equipment
1	0 026 80	4 x 16 A outputs 4 17.5 mm DIN modules
1	0 026 81	8 x 16 A outputs 8 17.5 mm modules
1	0 026 82	12 x 16 A outputs 12 17.5 mm modules

Pack	Cat.Nos	Modular controller for roller shutters
		Each output can be controlled by a sensor and/or BUS/KNX control
1	0 026 91	4 x 2.1 A outputs 4 17.5 mm modules

Pack	Cat.Nos	Room Controller Unit
		Power modules equipped with output contacts for controlling: - different types of ON/OFF load (lighting, roller shutters, contactors, motors, etc.) - a DALI dimming output for 64 ballasts max. Loads are managed by the controls to which they are linked: either by BUS/KNX controls, or by wired connection input terminals (switches, push-buttons, volt-free contacts). Multiphase connection and consumption measurement.
1	0 484 18	8 inputs - 10 outputs 8 17.5 mm DIN modules
1	0 484 22	16 inputs - 16 outputs 12 17.5 mm DIN modules

Infrastructure products

BUS/KNX

KNX certified


0 026 55


0 026 93


0 035 16


0 035 12


0 035 43

Connected with the BUS/KNX cable
Configuration using ETS programming software

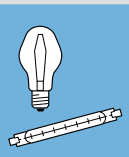
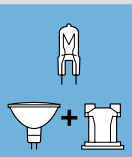
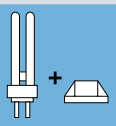
Pack	Cat.Nos	BUS/KNX interface - voltage contact
		Connects voltage free contacts devices (switches, push-buttons, alarms, etc.) to the BUS/KNX
		Modular
1	0 026 55	8 inputs 6 17.5 mm modules
1	0 026 93	Connects 0 to 265V a.c./d.c. powered contacts devices 2 17.5 DIN modules
		Flush mounting
		For installation in a flush-mounting box
1	0 026 92	4 inputs - 4 outputs
1	0 026 50	**Scenario module** Able to perform up to 8 scenarios and 8 events programs 1 17.5 mm module
1	0 035 16	**Line coupler** Provides galvanic isolation between lines Necessary in an installation where there are more than 64 KNX participants 2 17.5 mm DIN modules

Pack	Cat.Nos	BUS/KNX - USB interface
1	0 035 47	Connects a PC to the BUS/KNX via the USB port 1 17.5 mm DIN module
		Modular power supplies
		Powers one BUS/KNX line Integrated filter to prevent the short-circuit of BUS messages Connection by automatic terminals 4 17.5 mm DIN modules Voltage 120-230V a.c. - 29V d.c. With additional 29 V unfiltered output
1	0 035 12	320 mA
1	0 026 94	640 mA 6 17.5 mm DIN modules Voltage 120-230V a.c. - 29V
1	0 035 43	**IP communication module** BUS/KNX - IP gateway 2 functions: - IP interface: makes the link between the BUS/KNX infrastructure and the IP network for remote configuration using ETS software - Web communication interface for remotely managing via a dedicated Web page Allows operation from off site 4 17.5 mm DIN modules
1	0 026 38	**IP/KNX router** Can acts as main line or backbone coupler Links differerent KNX networks to each other via the IP infrastructure 2 17.5 mm DIN modules
1	0 488 79	**BUS/KNX connector** Black and red Supplied in boxes of 50
		BUS/KNX cables
		Length 500 m 0.8 mm dia. quad Isolation 4000V
1	0 492 91	1 pair: red/black
1	0 492 92	2 pairs: red/black and yellow/white

Controllers

BUS/KNX load tables

Load table at 230 V a.c. 50-60Hz

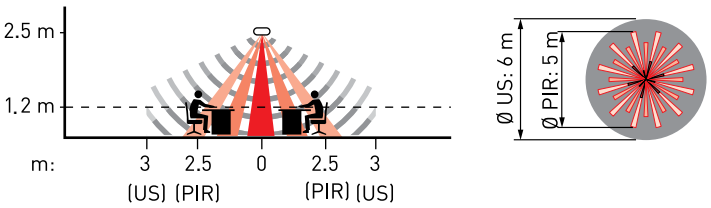
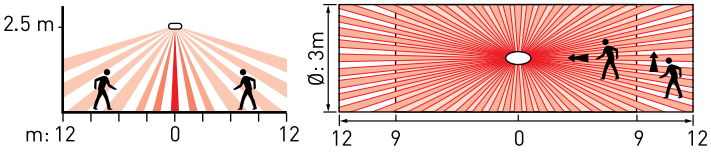
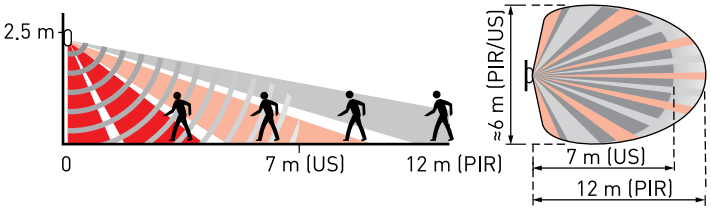
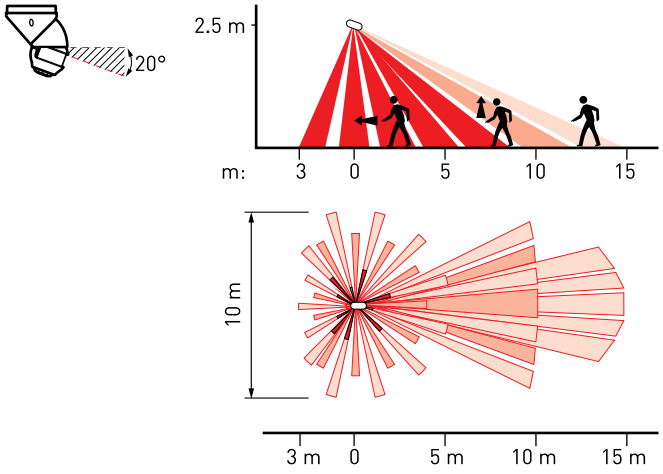
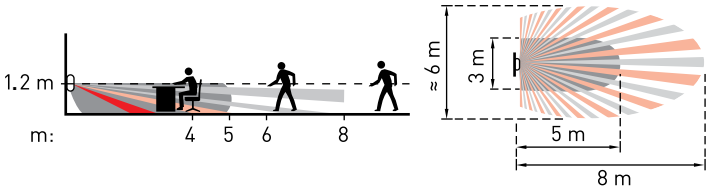
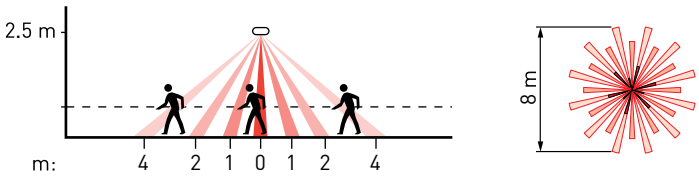
Cat.Nos	Outputs	 Halogen lamp	 ELV halogen lamp with ferromagnetic or electronic transformer	 Fluorescent tube	 LED and compact fluorescent lamp	 Fluorescent lamp with 1-10 V ballast	DALI	 Motors
False ceiling controllers								
0 488 88	**4**	-	-	-	-	-	4 x 32 ballasts	-
0 488 87	**4**	4 x 800 W	4 x 800 VA	4 x 1000 VA	4 x 1000 VA	4 x 1000 VA	-	-
Modular controllers								
0 026 98	**2**	-	-	-	-	-	2 x 64 ballasts	-
0 026 63	**8**	-	-	-	-	-	8 x 8 ballasts	-
0 026 54	**2**	2 x 300 W	2 x 200 VA	2 x 300 VA	2 x 75 W	-	-	-
0 026 59	**2**	2 x 400 W	2 x 80 W	-	2 x 60 VA(*)	-	-	-
0 026 91	**4**	-	-	-	-	-	-	4 x 6 A
0 026 61	**4**	4 x 2000 W	4 x 500 VA	4 x 500 VA	4 x 500 VA	-	-	-
0 026 62	**8**	8 x 2000 W	8 x 500 VA	8 x 500 VA	8 x 500 VA	-	-	-
0 484 18	**4** **4** **2**	4 x 500 W 4 x 1000 W 2 x 3680 W	4 x 250 VA 4 x 500 VA 2 x 1000 VA	4 x [2 x (2 x 36 W)] 4 x [4 x (2 x 36 W)] 2 x [10 x (2 x 36 W)]	4 x 80 VA 4 x 160 VA 2 x 500 VA	-	1 x 64 ballasts	4 x 250 VA 4 x 500 VA 2 x 500 VA
0 484 22	**4** **8** **4**	4 x 500 W 8 x 1000 W 4 x 3680 W	4 x 250 VA 8 x 500 VA 4 x 1000 VA	4 x [2 x (2 x 36 W)] 8 x [4 x (2 x 36 W)] 4 x [10 x (2 x 36 W)]	4 x 80 VA 8 x 160 VA 4 x 500 VA	-	1 x 64 ballasts	4 x 250 VA 8 x 500 VA 4 x 500 VA
0 026 80	**4**	4 x 3680 W	4 x 1000 VA	4 x [10 x (2 x 36 W)]	4 x 500 VA	-	-	4 x 500 VA
0 026 81	**8**	8 x 3680 W	8 x 1000 VA	8 x [10 x (2 x 36 W)]	8 x 500 VA	-	-	8 x 500 VA
0 026 82	**12**	12 x 3680 W	12 x 1000 VA	12 x [10 x (2 x 36 W)]	12 x 500 VA	-	-	12 x 500 VA
0 026 86	**2**	2 x 500 W	2 x 500 W	-	-	-	-	-
0 026 87	**4**	4 x 500 W	4 x 500 W	-	-	-	-	-
0 026 88	**4**	4 x 1000 VA	-	4 x 1000 VA	-	4 x 1000 VA	-	-

*: Compatible with dimmable LED and compact fluorescent lamps

ON/OFF
Dimming
Automation

Sensors

BUS/KNX coverage patterns

Cat. Nos	Installation technology type	Range	Detection area	Examples of applications
 0 489 18		6 m (US) 5 m (PIR)		Classroom, meeting room, open plan office
 0 489 19		2 x 12 m		Long corridor
 0 489 20		7 m (US) 12 m (PIR)		Individual office, classroom, meeting room, restrooms etc.
 0 489 21		18 m		High ceiling areas (warehouses, gymnasium) outdoor car park, basement, laboratory
 5 740 37 5 740 79		8 m		Bathroom, stairways
 0 489 22		8 m		Individual office, corridor, stairways, restrooms etc.

Building management

active building management

BUS/KNX:
overall control
of the building

Apart from local control, BUS/KNX wiring allows other building applications to be supervised and integrated: emergency lighting, HVAC, fire alarm, etc. It is ideal for meeting energy and operating performance needs and easy maintenance.

TWO SOLUTIONS FOR ACTIVE BUILDING MANAGEMENT

> View, control, be warned
Supervision software for Legrand applications:
energy metering, lighting management, guest room management, emergency lighting

> Interact
The IP device allows Legrand and other applications to interact with one another and/or to integrate Legrand applications into a Building Management System

0 490 04

For overall building management
Operates with:
- the metering offer: uses RS 485/IP converter Cat.No 0 046 89
- the BUS/KNX lighting offer, with KNX/IP converter Cat.No 0 035 43

Pack	Cat.Nos	**Legrand Supervision software**
		Supervision software which displays operating screens for digital buildings: Provides button for controlling Displays values measures and the status of connected products Alarm management console Timer programming Is installed permanently on a dedicated PC Integrated assisted mode facilitating execution of the project plus display screens: pre-programming of Legrand solutions (electrical consumption measurement, lighting management, emergency lighting, fire alarms) Expert mode for handling third-party equipment (HVAC) and for customizing display screens
1	0 490 00	Ready to view, up to 125 points
1	0 490 01	Ready to view, up to 250 points
1	0 490 02	Ready to view, up to 500 points
1	0 490 03	Ready to view, up to 1000 points
1	0 490 04	Ready to view, up to 2000 points
		Building manager
1	0 035 44	IP device designed for the automated control of IP device buildings requiring interoperability between the different systems connected or requiring Legrand solutions to be integrated in a BMS: - Legrand solutions: lighting management, emergency lighting, power metering - other solutions: HVAC, etc. Provides: - data collection from the various systems: IP KNX, IP MODBUS, IP BACNET, IP SCS - programming of scripts (with algorithm), alarms and data history - exchange of collected data between systems (example: display on digital screen of power circuit consumption measurements) - sending of email alerts Is installed in the VDI rack with dedicated patching to the various applications in the system Can be linked to Supervision software Cat.Nos 0 490 00/01/02/03/04 for an overview of the installation

For configuration in expert mode,
Contact your sales department

Building management

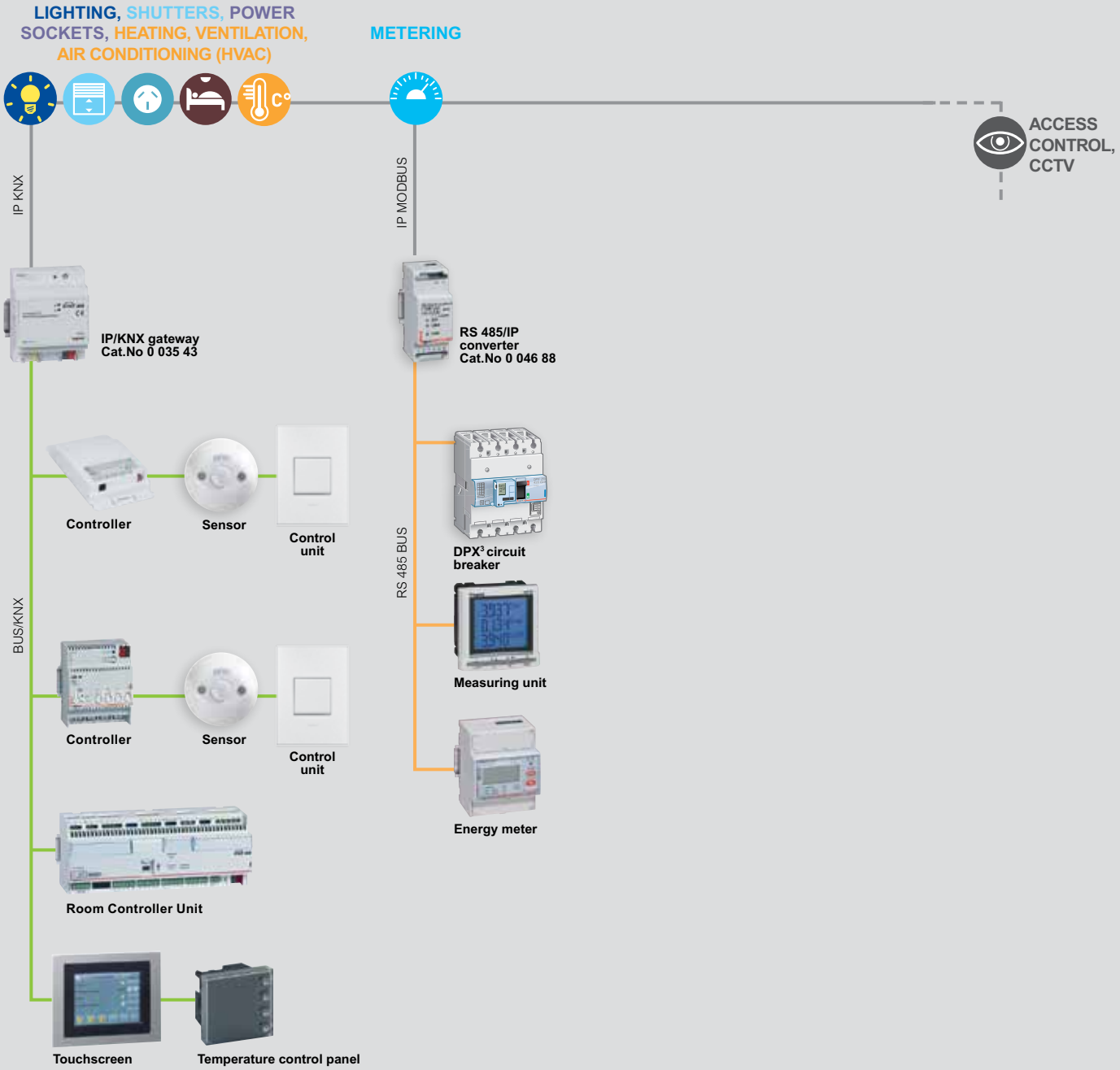
active building management

Active building management with Legrand or other systems

1st example: Active building management using Supervision software Cat.Nos 0 490 00/01/02/03/04 providing displays, analyses and alerts

2nd example: Active building management using building manager decision maker Cat.No 0 035 44 for interaction between connected systems and integration of those systems into a BMS:
- Legrand solutions: lig metering
- other solutions: HVAC, etc.

Example: Lighting management + power metering



Catalogue number index

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