TECHNICAL GUIDE

HOTEL ROOMS
BACnet® IP SOLUTIONS

INSTALLATION AND USER GUIDE

THE GLOBAL SPECIALIST IN ELECTRICAL AND DIGITAL BUILDING INFRASTRUCTURES

legrand®

Topics

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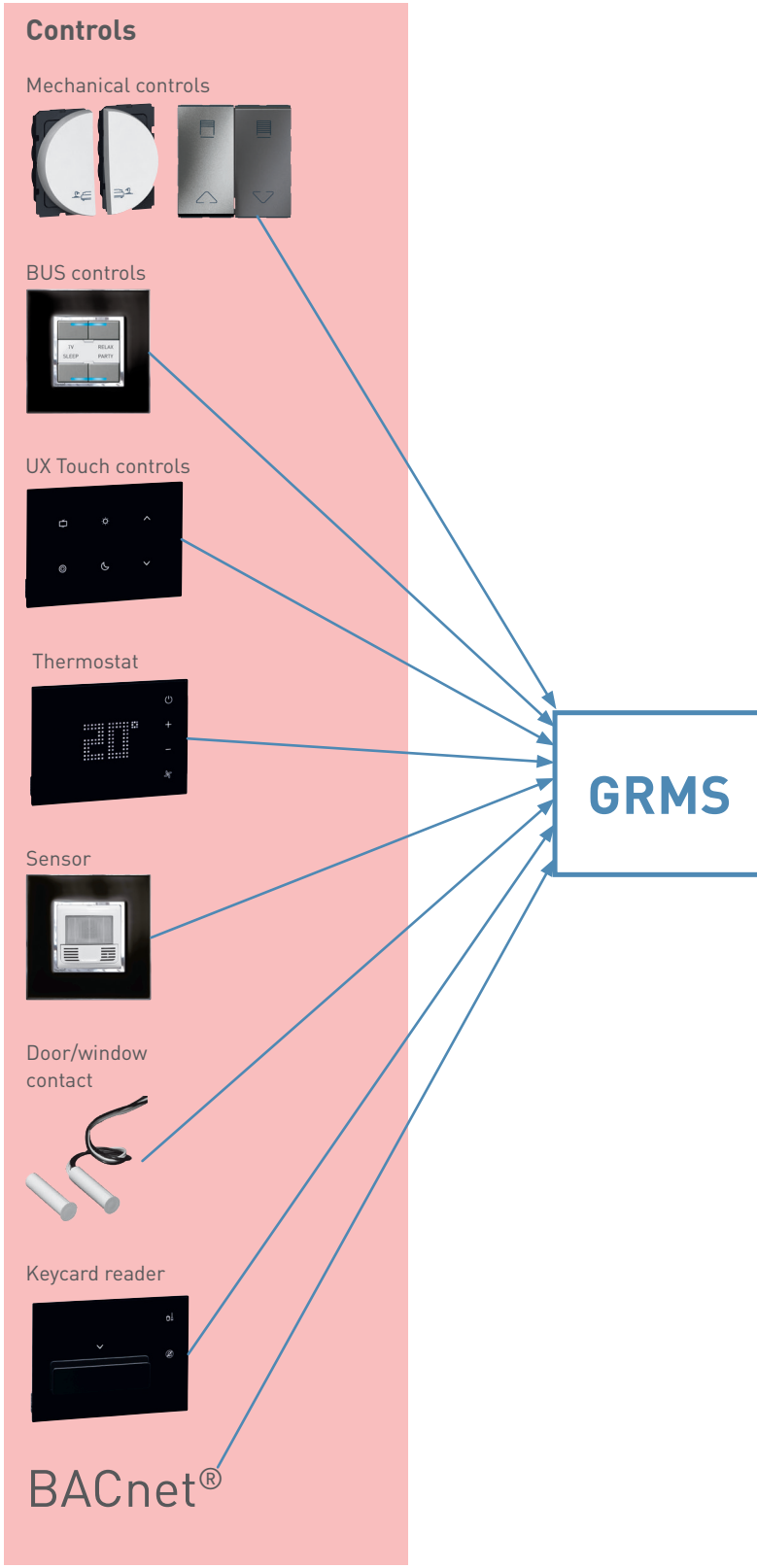
WHAT IS GRMS?

GRMS: Guest Room Management System

GRMS (Guest Room Management System) is the Legrand hotel room automation system. Depending on the commands sent by the controls, this automation system is used to control the lights (ON/OFF or dimming), openings (motorised curtains, shutters, windows, etc), thermoregulation (compatible with any type of HVAC – Heating, Ventilation and Air Conditioning system), launch background lighting and comfort scenarios and also control special hotel functions such as Make Up Room (MUR)/Do Not Disturb (DND) services, presence/absence in the room. Lastly, the GRMS is used to communicate with third-party systems such as supervisors, access control systems, PMS, tablets/smartphones, TV systems, etc.

There are several types of control: conventional (or mechanical) controls, BUS controls, touch controls, automatic controls (sensor, door contact, etc), hotel controls (keycard reader, DND/MUR control, etc) and "network" controls. This offers a wide choice of functions, ergonomics and aesthetics to suit any environment and any style (traditional, modern, luxury, hi-tech, etc). "Network" controls are commands sent by third-party systems such as supervisors, access control systems, PMS, tablets/smartphones, TV systems, etc



The Legrand GRMS can adapt to all types of thermoregulation system – centralised system or local system. A centralised system is a system controlled via the IP network: the room thermostat sends its commands to the GRMS, which sends them to the IP network, as far as the IP gateway in the HVAC system, and this relays commands to the room heating/cooling unit. A local system is a system controlled by an HVAC actuator (part of the GRMS) in the room. This guide shows the different architectures according to the HVAC system in the System Architecture section. The Legrand GRMS is used to control: ON/OFF, 3-way or 0-10 V thermostatic valves for water underfloor heating or radiators, to control electric radiators, electric underfloor heating, electric radiant panel heaters and to control 2 or 4-pipe fan coil units with ON/OFF, 3-way or 0-10 V valves.

The keycard reader (or Virtual Keycard function) indicates presence/absence in the room. It is used to launch Welcome and Leave scenarios. The Welcome scenario is a scenario defined by the hotel manager to offer guests a welcoming scene when they enter their room. The Leave scenario is a cost-effective scenario (switching off the power, changing the thermostat from comfort mode to ECO mode, etc) to save energy.

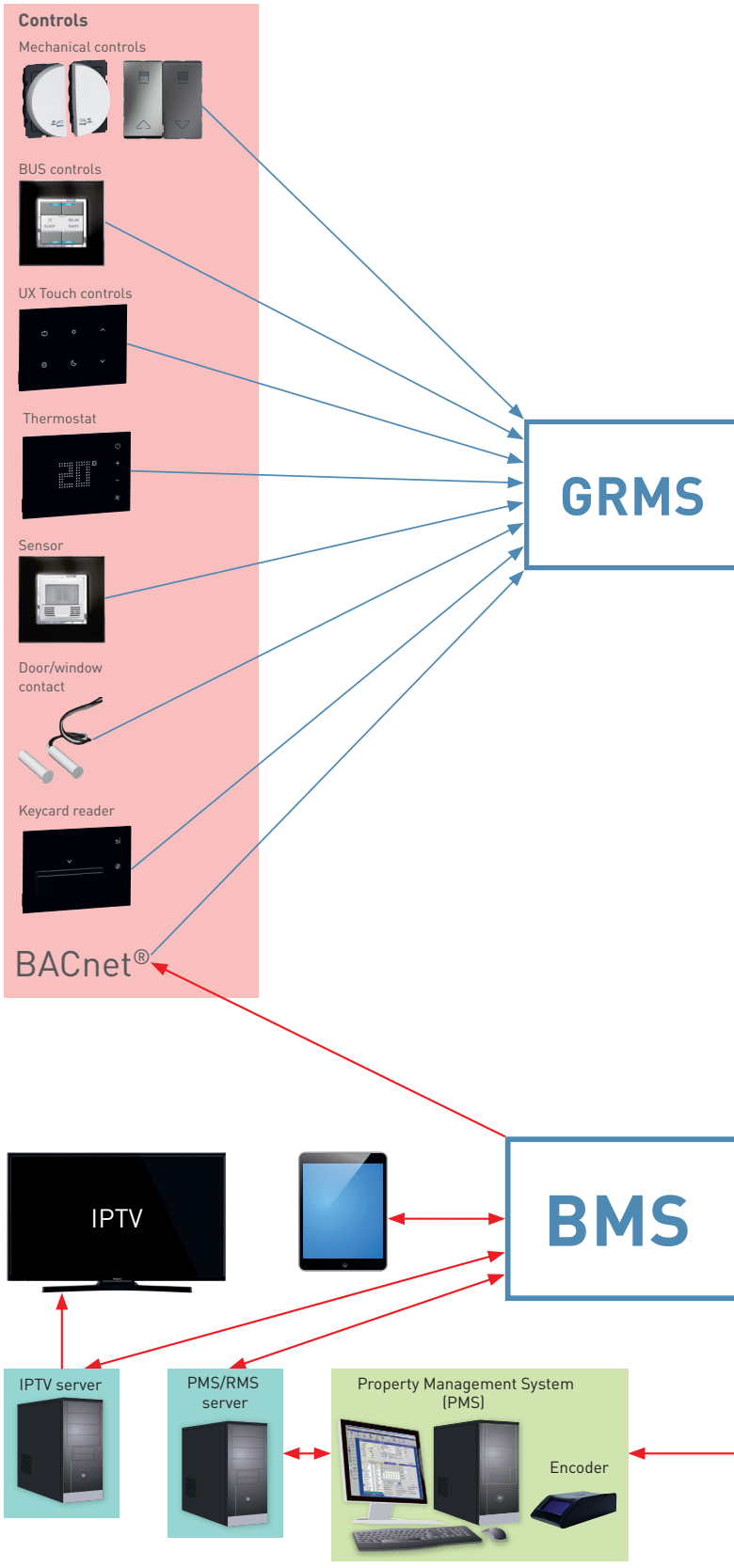
THE HOTEL SOLUTION

The hotel solution

The hotel solution is a set of different systems, each of which fulfils a particular function required for the hotel to operate. There is the PMS (Property Management Software) for managing room bookings and payment, there are access control systems to allow authorised individuals access to rooms, there is thermoregulation to control temperature in the room, there is the GRMS to manage the lights, shutters, etc and there are systems for providing comfort such as television, tablets/smartphones, etc. This hotel solution can be a solution where all these systems operate independently, or a solution where all these systems are interconnected for extra functions and comfort, etc.

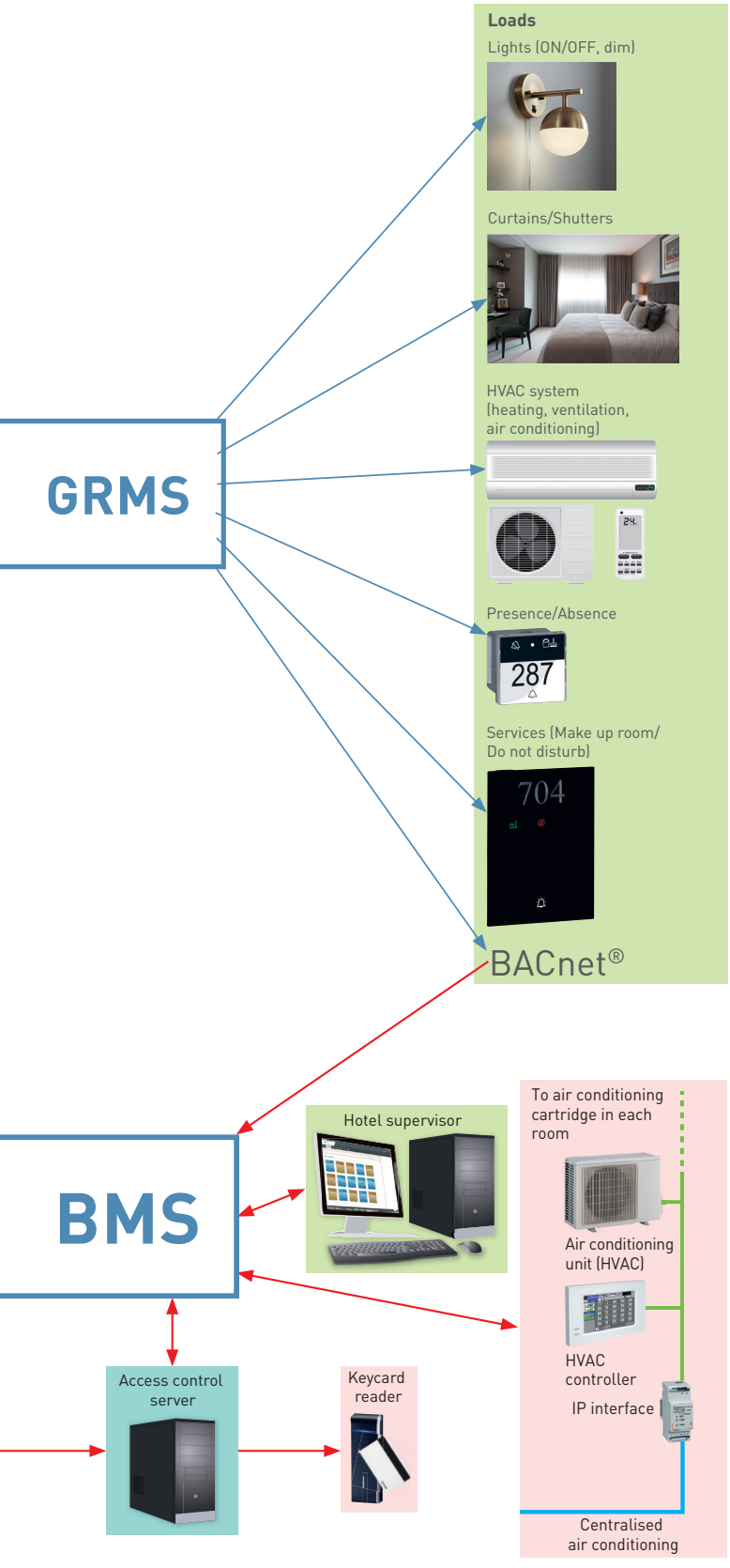
Legrand's philosophy is to work with market leaders. Legrand offers an open GRMS system which is easily integrated in the hotel solution. It uses the BACnet protocol. The BACnet (Building Automation Control and NETwork) protocol is the buildings protocol. The majority of systems that want to be interoperable have a BACnet-compatible gateway. The Legrand GRMS can talk natively to the BACnet protocol, so has no need for an extra gateway to interconnect.

The BMS (Building Management System) is the tool which allows all these systems to interconnect. It is a multi-protocol tool which defines the links between the systems (for example, it creates the link between the access control system of room 304 and the GRMS of room 304) but can also translate between the different system protocols and send all the data to one or more supervisors.



IP network

BMS: Building Management System



Interconnection of several systems provides additional functions such as for example:

- When the GRMS is linked to the PMS: the system can remember the previous room status in which the guest left it, if it is the same guest entering. But it will launch the Welcome scenario defined by the hotel manager if it is a new guest entering.

- When the GRMS is linked to an access control system that can discriminate between the profile of the individual using their keycard to enter (guest or staff): the system can launch a welcome scenario for guests which differs from the welcome scenario for staff. This provides an optimised scenario for staff to save them time (for example, switching on all the lights for maximum ease of cleaning, locking all the control units so they can be cleaned without controlling the loads, opening the curtains, etc).

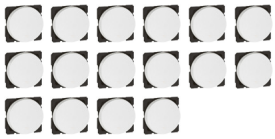
- When the GRMS is linked to the TV system: when the guest enters the room, the system can switch on the TV, which plays a welcome message. Or when the guest launches the going to sleep scenario, the system switches off the TV after a time delay defined by the hotel manager.

- When the GRMS is linked to the safe and to a supervisor at reception: the person on reception can check that the safe is empty at Check OUT.

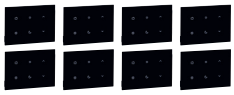
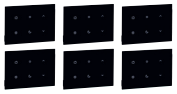
- When the GRMS is linked to the HVAC system and to a supervisor at reception: when a guest calls reception because they cannot adjust the temperature in their room, the person on reception can adjust the temperature for them without leaving their post.

- Etc.

SCALABILITY

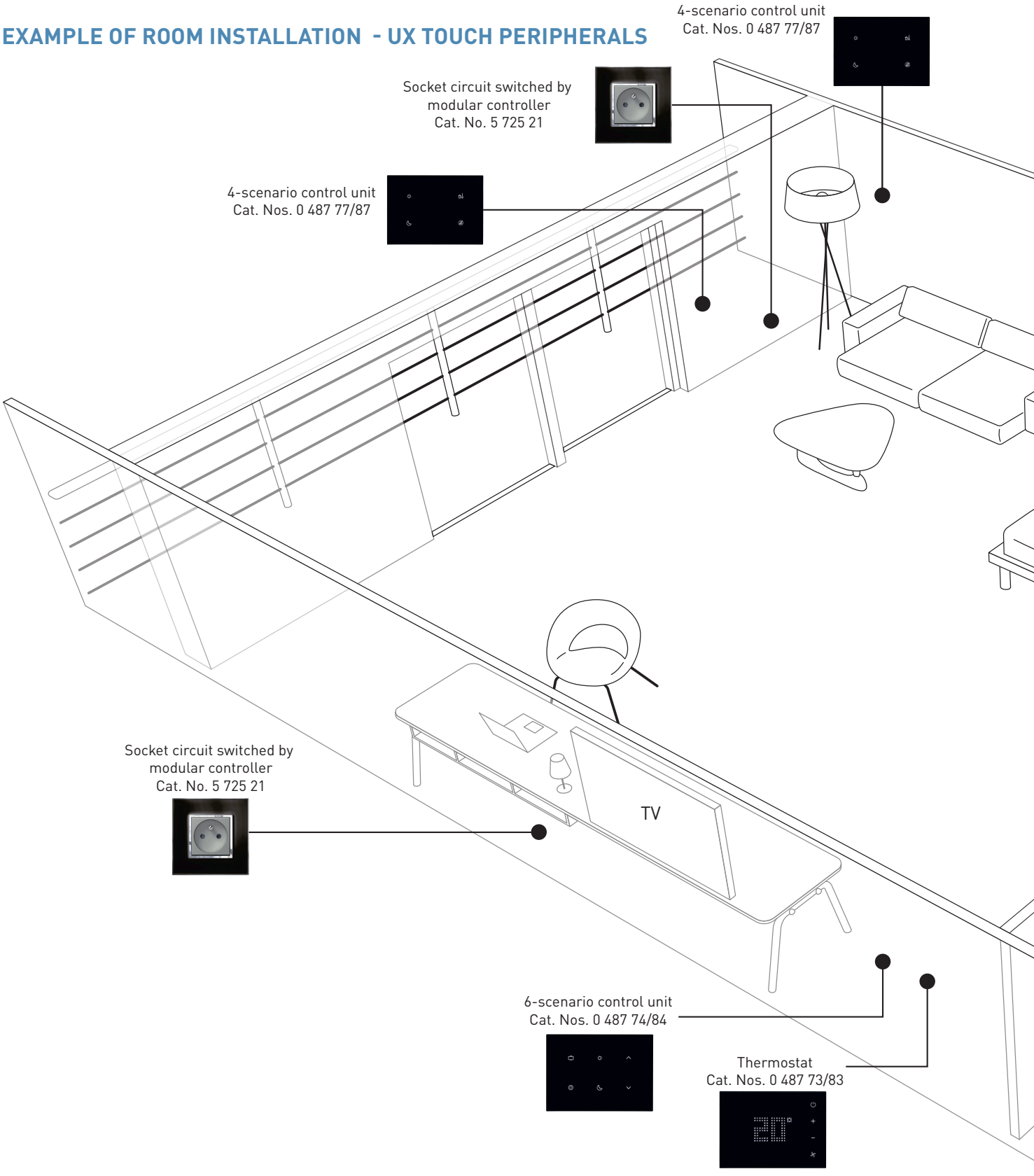
	Standard	Medium
Large Suite	16 ON/OFF circuits  16 mechanical controls  Mechanical corridor display unit  Mechanical DND/MUR control  Mechanical keycard reader	10 ON/OFF circuits 6 DALI circuits  2 dimming circuits - all loads  12 BUS controls  BUS corridor display unit  BUS DND/MUR control  BUS keycard reader  3 BUS thermostats 
Junior suite	8 ON/OFF circuits  8 mechanical controls  Mechanical corridor display unit  Mechanical DND/MUR control  Mechanical keycard reader	8 ON/OFF circuits 2 DALI circuits  8 BUS controls  BUS corridor display unit  BUS DND/MUR control  BUS keycard reader  BUS thermostat 
Room	5 ON/OFF circuits  4 mechanical controls  Mechanical corridor display unit  Mechanical DND/MUR control  Mechanical keycard reader	4 ON/OFF circuits 1 DALI circuit  5 BUS controls  BUS corridor display unit  BUS DND/MUR control  BUS keycard reader  BUS thermostat 

*Scalability: The Legrand GRMS can adapt to any type of hotel, from a standard hotel right up to luxury hotels. It is suitable for any type of room, from a 15 m² room to the 500 m² Large Suite. And the Legrand GRMS offers all hotel functions (corridor display unit, keycard reader or virtual keycard function, DND/MUR services, controlling loads

Premium	Luxury
8 ON/OFF circuits 10 DALI circuits  4 dimming circuits - all loads  8 UX Touch controls  UX Touch corridor display unit  UX Touch keycard reader & DND/MUR control  4 UX Touch thermostats 	6 ON/OFF circuits 12 DALI circuits  8 dimming circuits - all loads  20 ART controls  2 UX Touch bedside panels  UX Touch corridor display unit  UX Touch keycard reader & DND/MUR control  2 UX Touch thermostats 
6 ON/OFF circuits 4 DALI circuits  2 dimming circuits - all loads  6 UX Touch controls  UX Touch corridor display unit  UX Touch keycard reader & DND/MUR control  2 UX Touch thermostats 	3 ON/OFF circuits 6 DALI circuits  6 dimming circuits - all loads  15 ART controls  2 UX Touch bedside panels  UX Touch corridor display unit  UX Touch keycard reader & DND/MUR control  UX Touch thermostat 
3 ON/OFF circuits 3 DALI circuits  3 UX Touch controls  1 UX Touch bedside panel  UX Touch corridor display unit  UX Touch keycard reader & DND/MUR control 	3 ON/OFF circuits 5 DALI circuits  10 ART controls  1 UX Touch bedside panel  UX Touch corridor display unit  UX Touch keycard reader & DND/MUR control 

such as ON/OFF, dimming, shutters, thermoregulation, etc) and integration with other systems (access control, PMS, control via a tablet, centralised HVAC system, IPTV, etc), for a small room in a standard hotel right up to the Large Suite of a luxury hotel.

EXAMPLE OF ROOM INSTALLATION - UX TOUCH PERIPHERALS



Bedside panel
Cat. Nos. 0 487 72/82

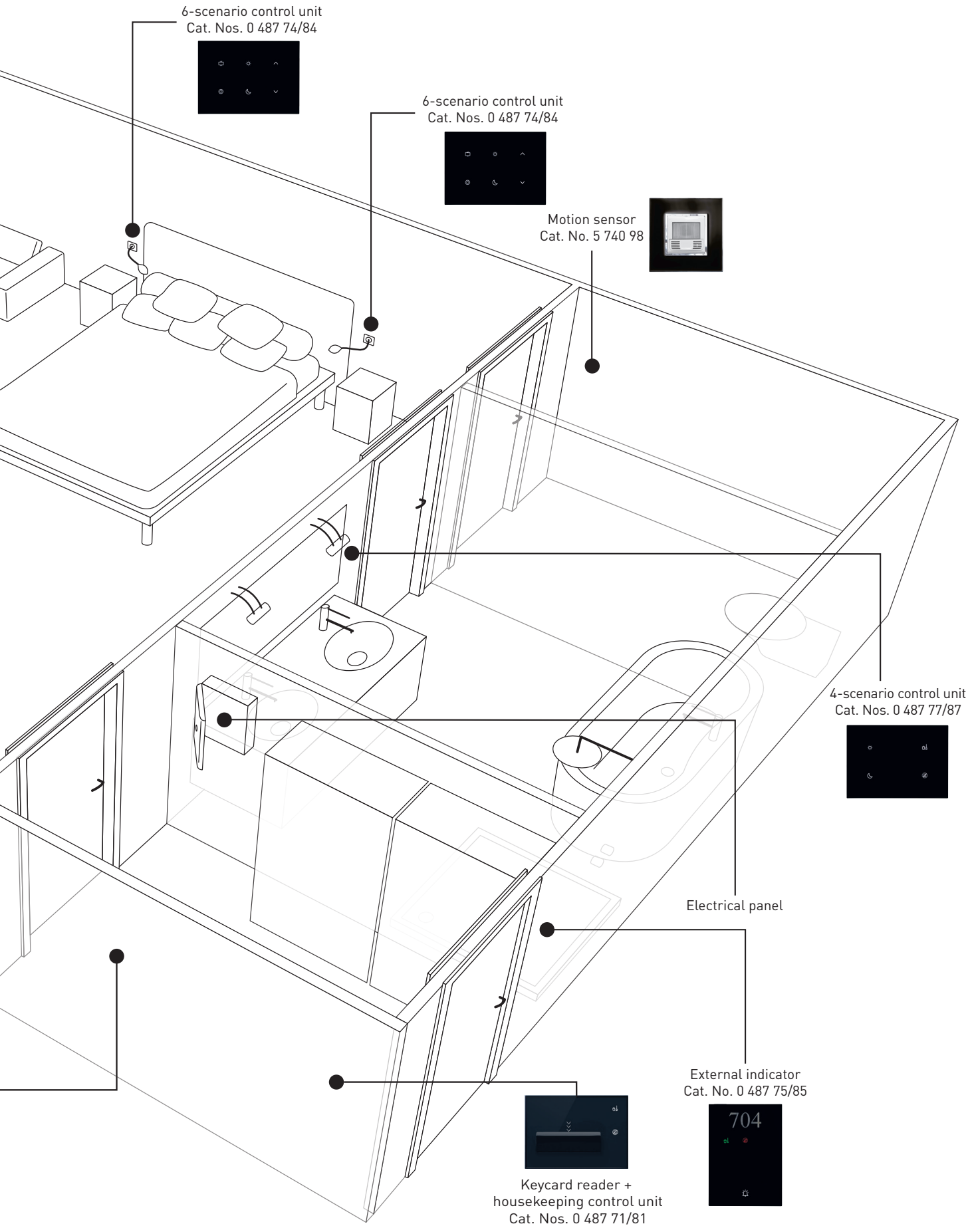
=

6-scenario
control
Cat. Nos. 0 487 74/84

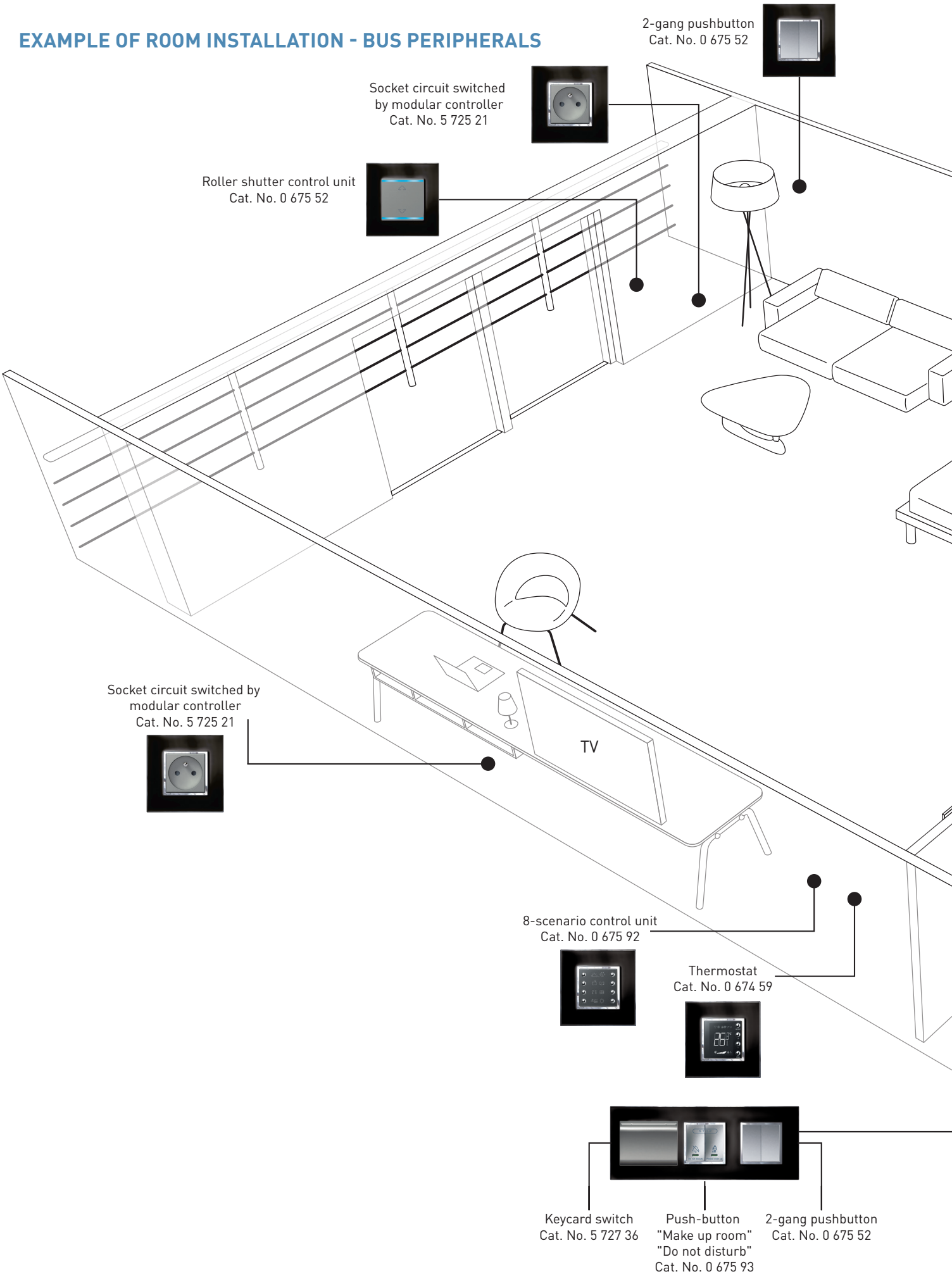
+

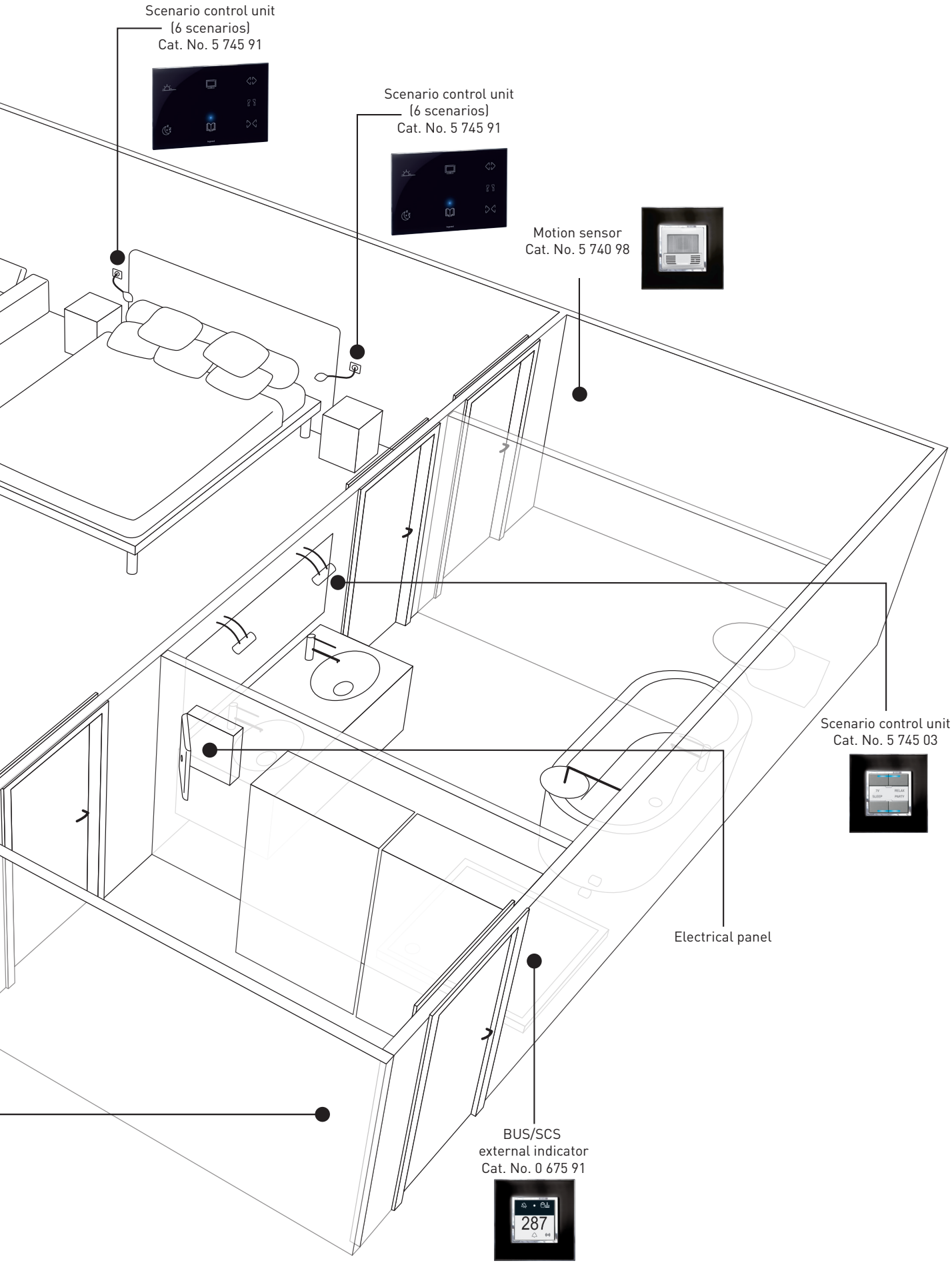
Thermostat
Cat. Nos. 0 487 73/83

Bedside panel to be installed near the bedside table

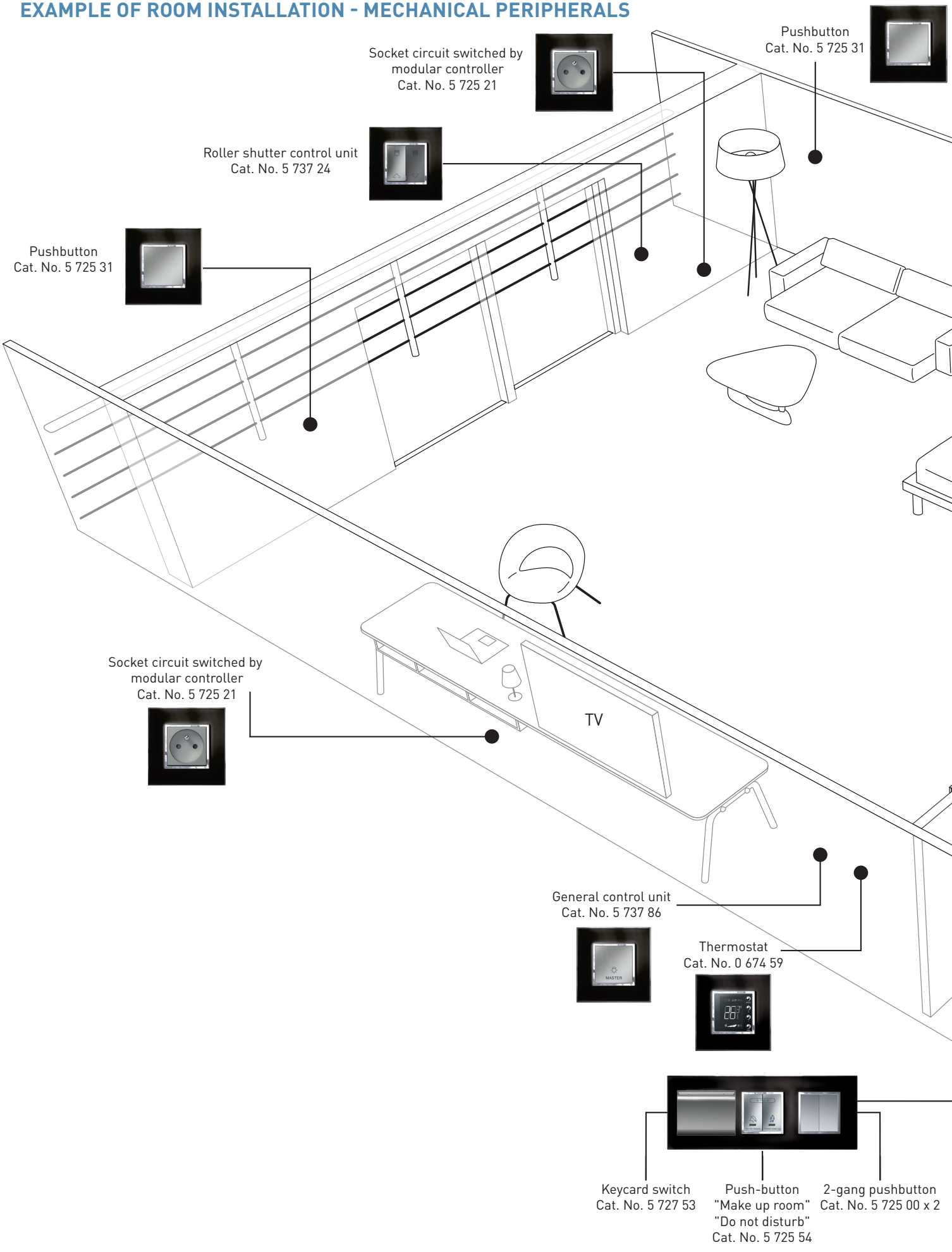

6-scenario control unit
Cat. Nos. 0 487 74/84
6-scenario control unit
Cat. Nos. 0 487 74/84
Motion sensor
Cat. No. 5 740 98
4-scenario control unit
Cat. Nos. 0 487 77/87
Electrical panel
External indicator
Cat. No. 0 487 75/85
704
Keycard reader +
housekeeping control unit
Cat. Nos. 0 487 71/81

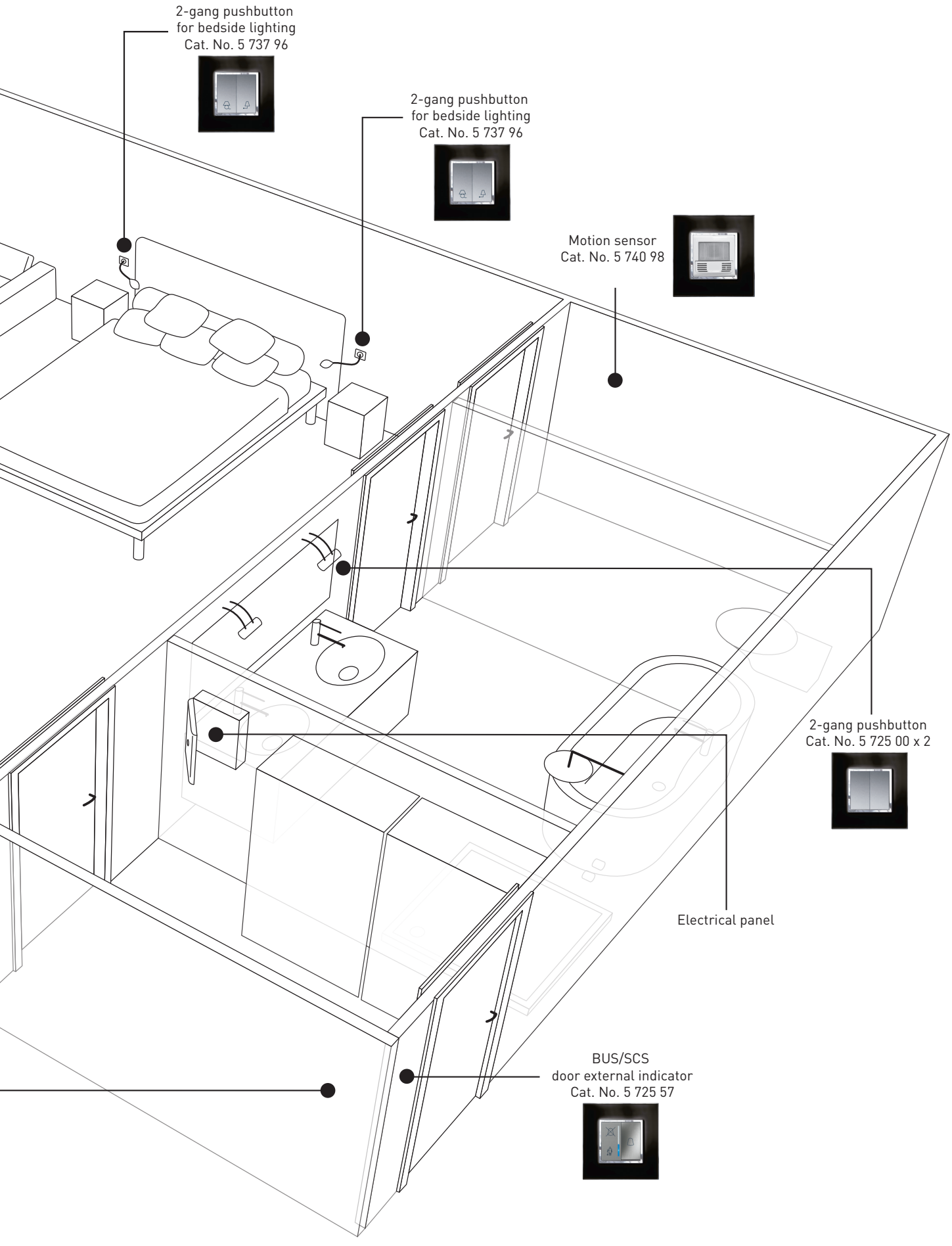
EXAMPLE OF ROOM INSTALLATION - BUS PERIPHERALS



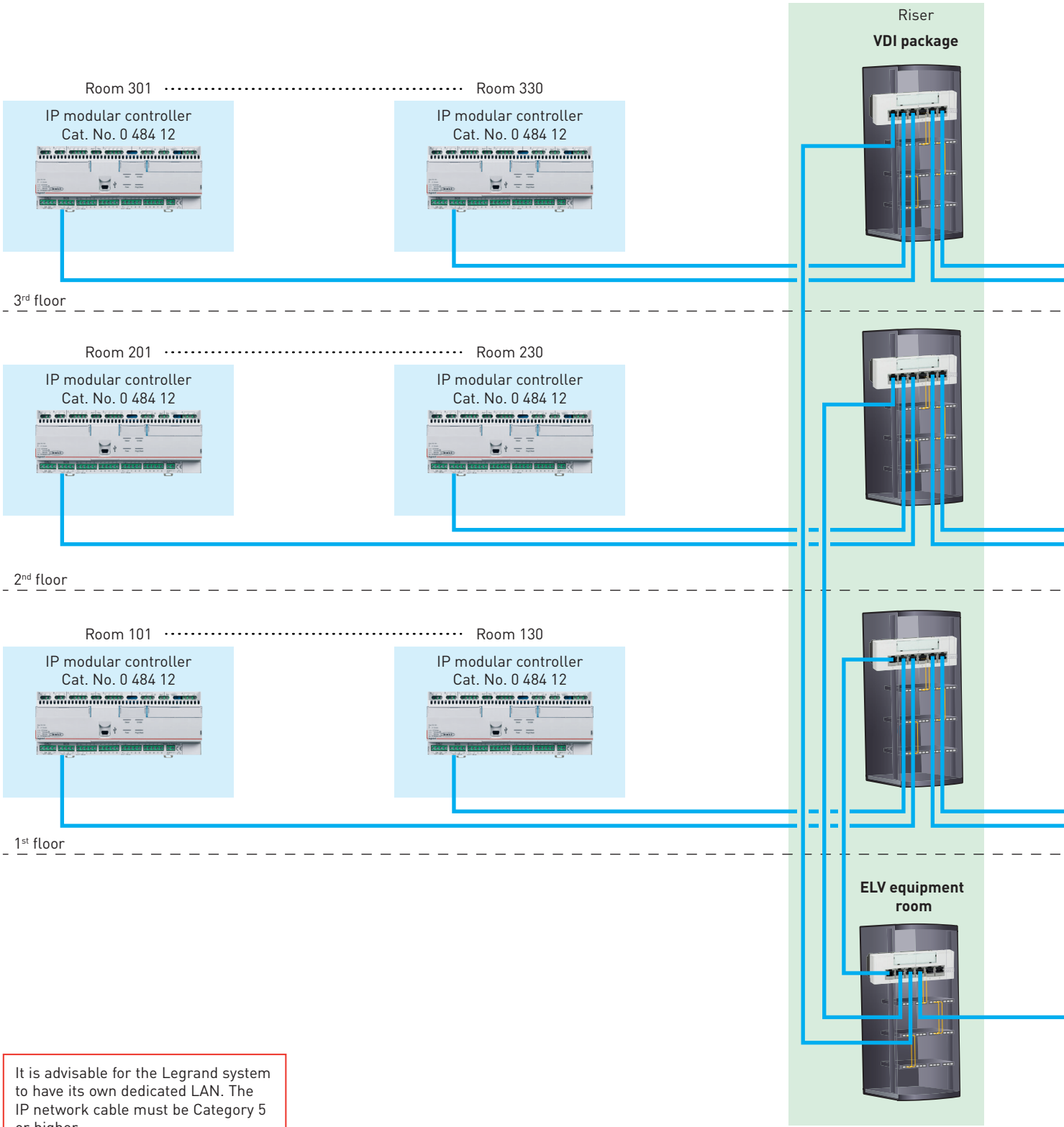

Scenario control unit
(6 scenarios)
Cat. No. 5 745 91
Scenario control unit
(6 scenarios)
Cat. No. 5 745 91
Motion sensor
Cat. No. 5 740 98
Scenario control unit
Cat. No. 5 745 03
Electrical panel
BUS/SCS
external indicator
Cat. No. 0 675 91
287

EXAMPLE OF ROOM INSTALLATION - MECHANICAL PERIPHERALS

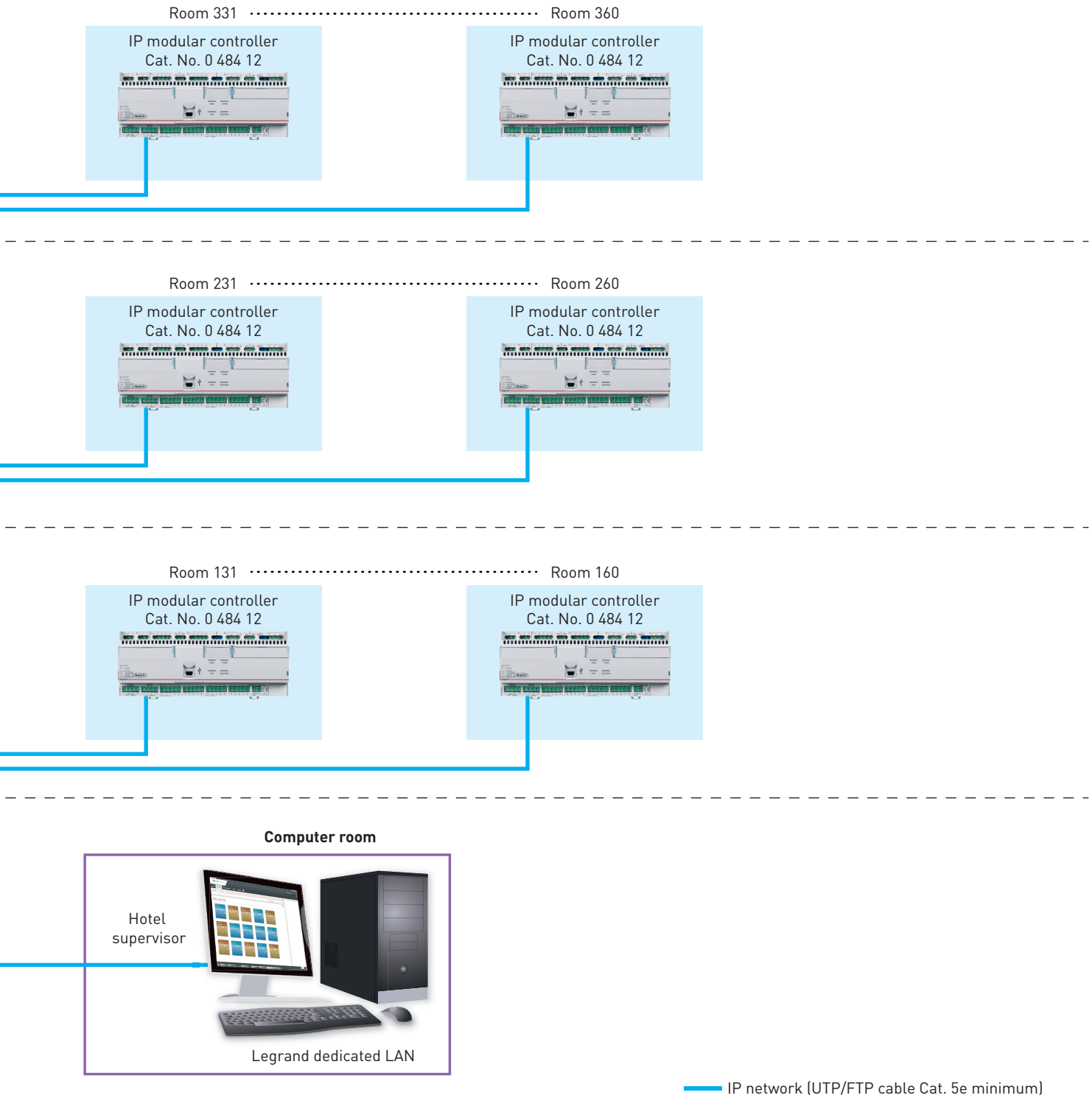



2-gang pushbutton
for bedside lighting
Cat. No. 5 737 96
2-gang pushbutton
for bedside lighting
Cat. No. 5 737 96
Motion sensor
Cat. No. 5 740 98
2-gang pushbutton
Cat. No. 5 725 00 x 2
Electrical panel
BUS/SCS
door external indicator
Cat. No. 5 725 57

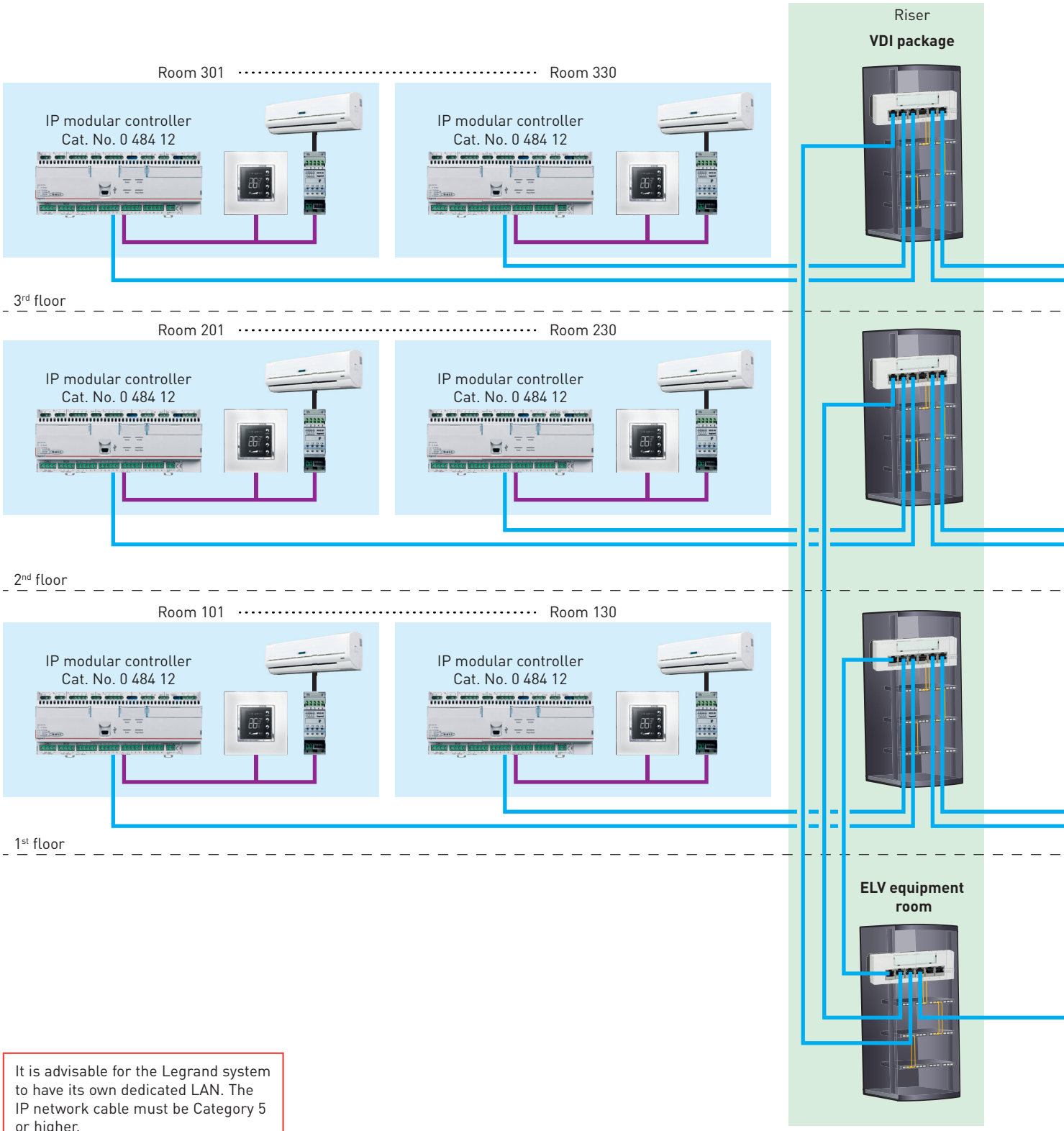
ROOM MANAGEMENT ARCHITECTURE WITH SUPERVISOR



It is advisable for the Legrand system to have its own dedicated LAN. The IP network cable must be Category 5 or higher.


Room 331
Room 360
IP modular controller
Cat. No. 0 484 12
IP modular controller
Cat. No. 0 484 12
Room 231
Room 260
IP modular controller
Cat. No. 0 484 12
IP modular controller
Cat. No. 0 484 12
Room 131
Room 160
IP modular controller
Cat. No. 0 484 12
IP modular controller
Cat. No. 0 484 12
Computer room
Hotel
supervisor
Legrand dedicated LAN
IP network (UTP/FTP cable Cat. 5e minimum)

ROOM MANAGEMENT ARCHITECTURE WITH SUPERVISOR AND LOCAL MANAGEMENT OF HEATING/AIR CONDITIONING



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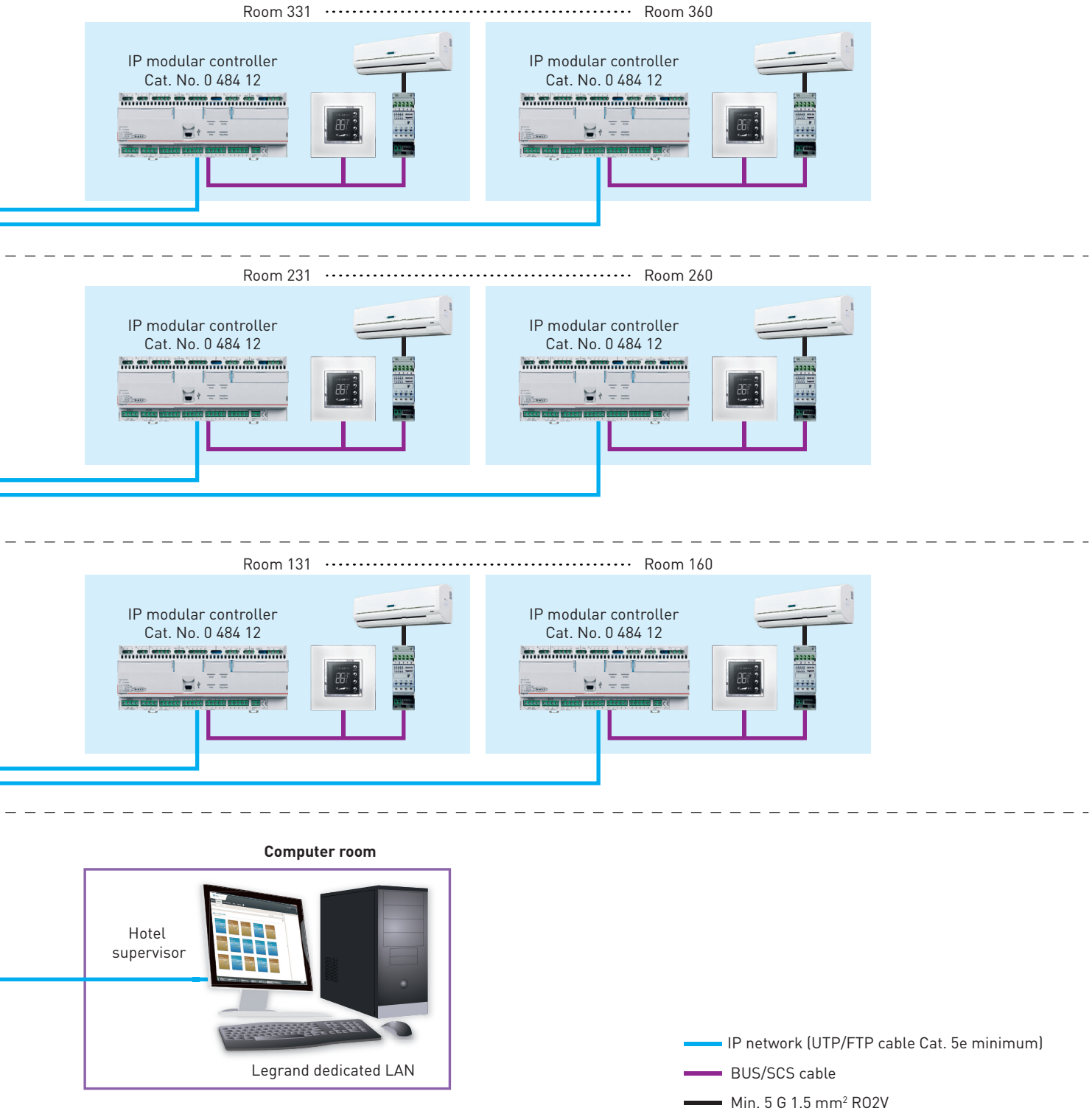
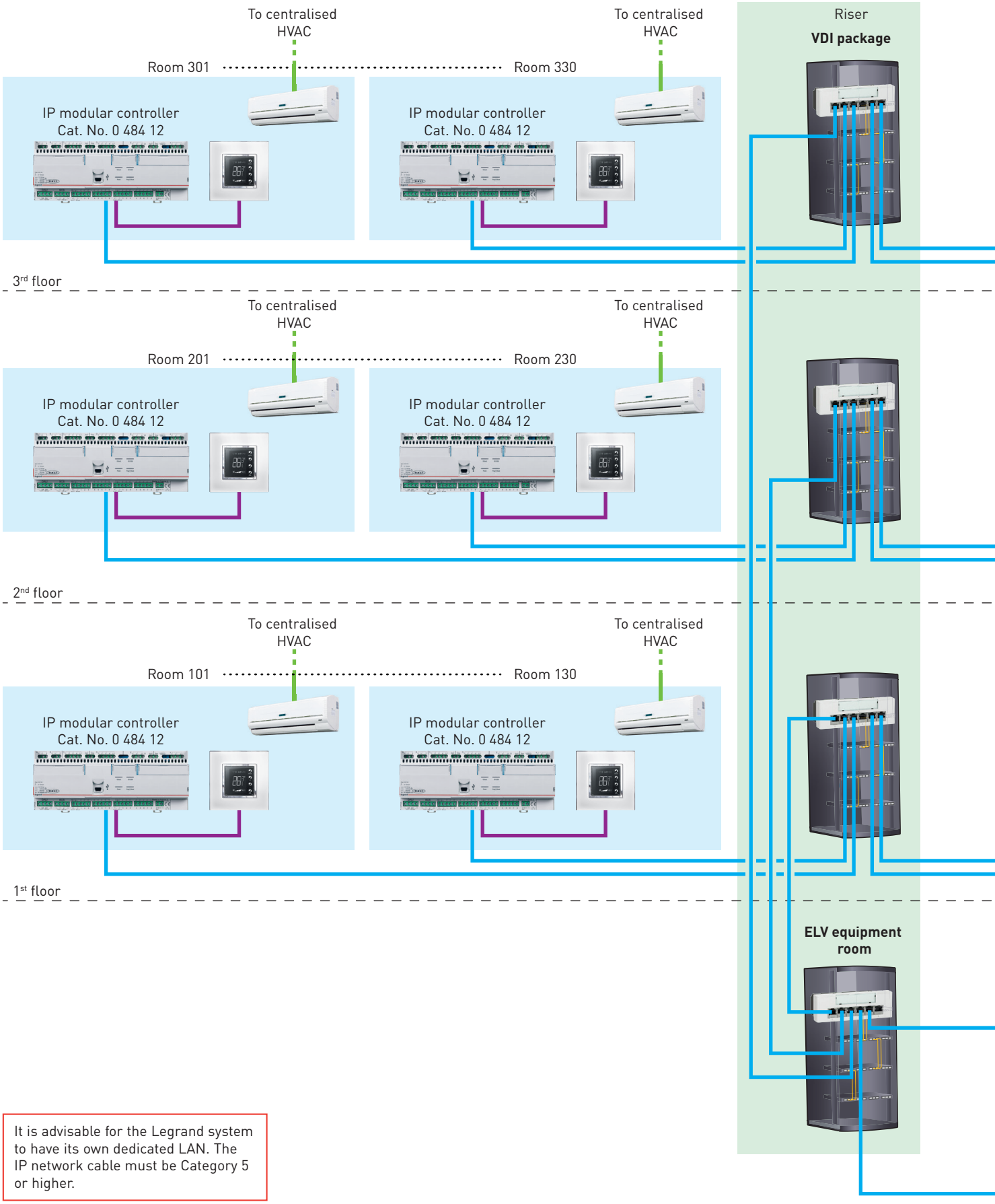

Room 331
Room 360
IP modular controller
Cat. No. 0 484 12
IP modular controller
Cat. No. 0 484 12
Room 231
Room 260
IP modular controller
Cat. No. 0 484 12
IP modular controller
Cat. No. 0 484 12
Room 131
Room 160
IP modular controller
Cat. No. 0 484 12
IP modular controller
Cat. No. 0 484 12
Computer room
Hotel
supervisor
Legrand dedicated LAN
IP network (UTP/FTP cable Cat. 5e minimum)
BUS/SCS cable
Min. 5 G 1.5 mm² RO2V

ROOM MANAGEMENT ARCHITECTURE WITH SUPERVISOR AND CENTRALISED MANAGEMENT OF HEATING/AIR CONDITIONING



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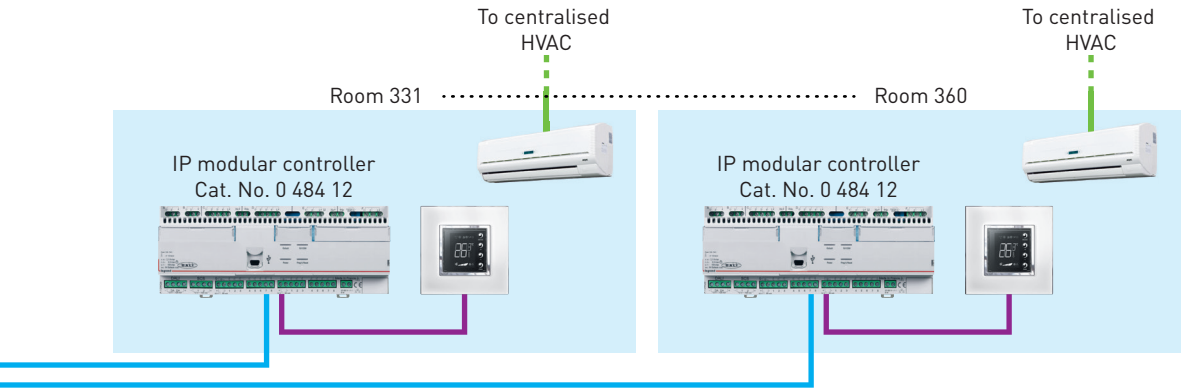
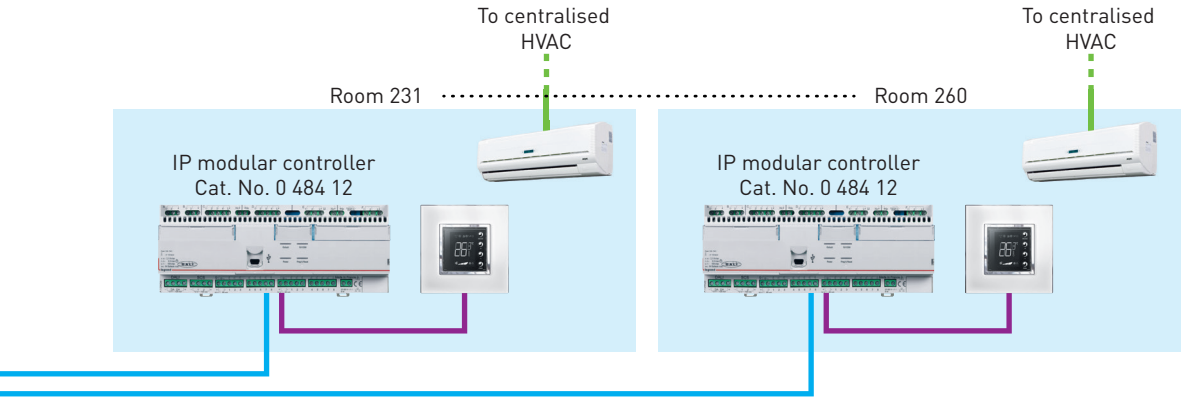
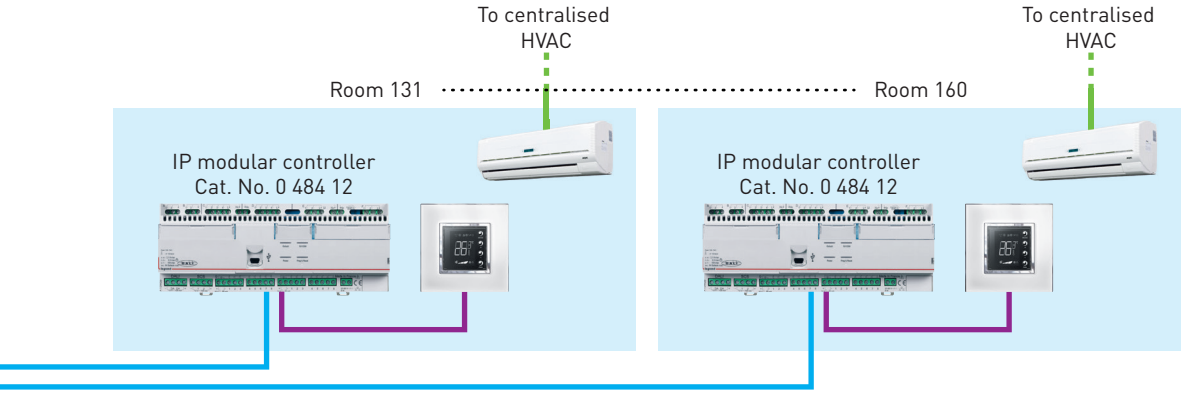
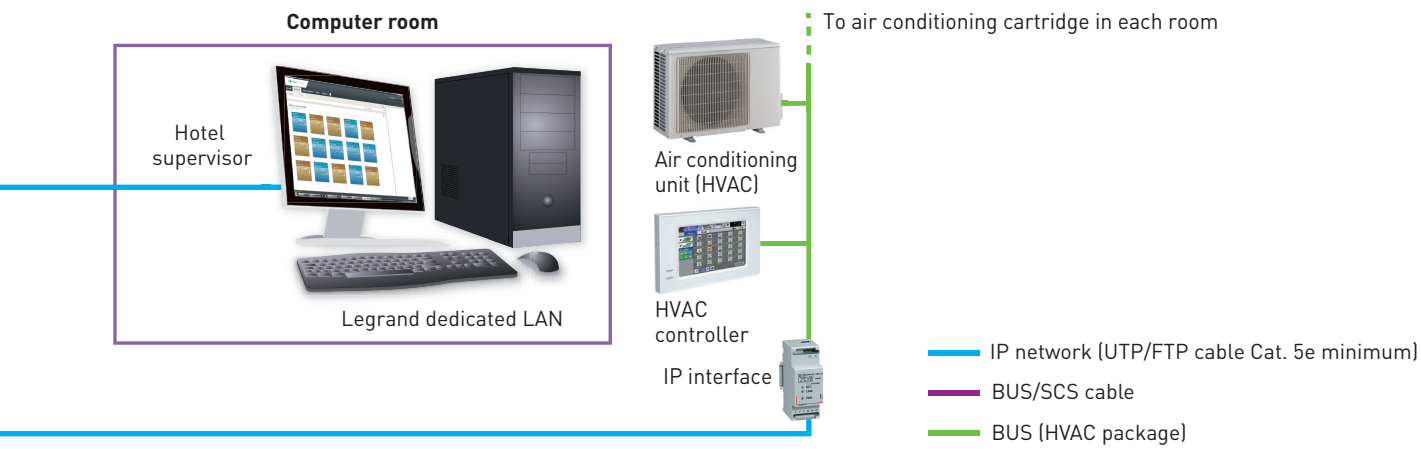

To centralised HVAC
To centralised HVAC
Room 331
Room 360
IP modular controller Cat. No. 0 484 12
IP modular controller Cat. No. 0 484 12

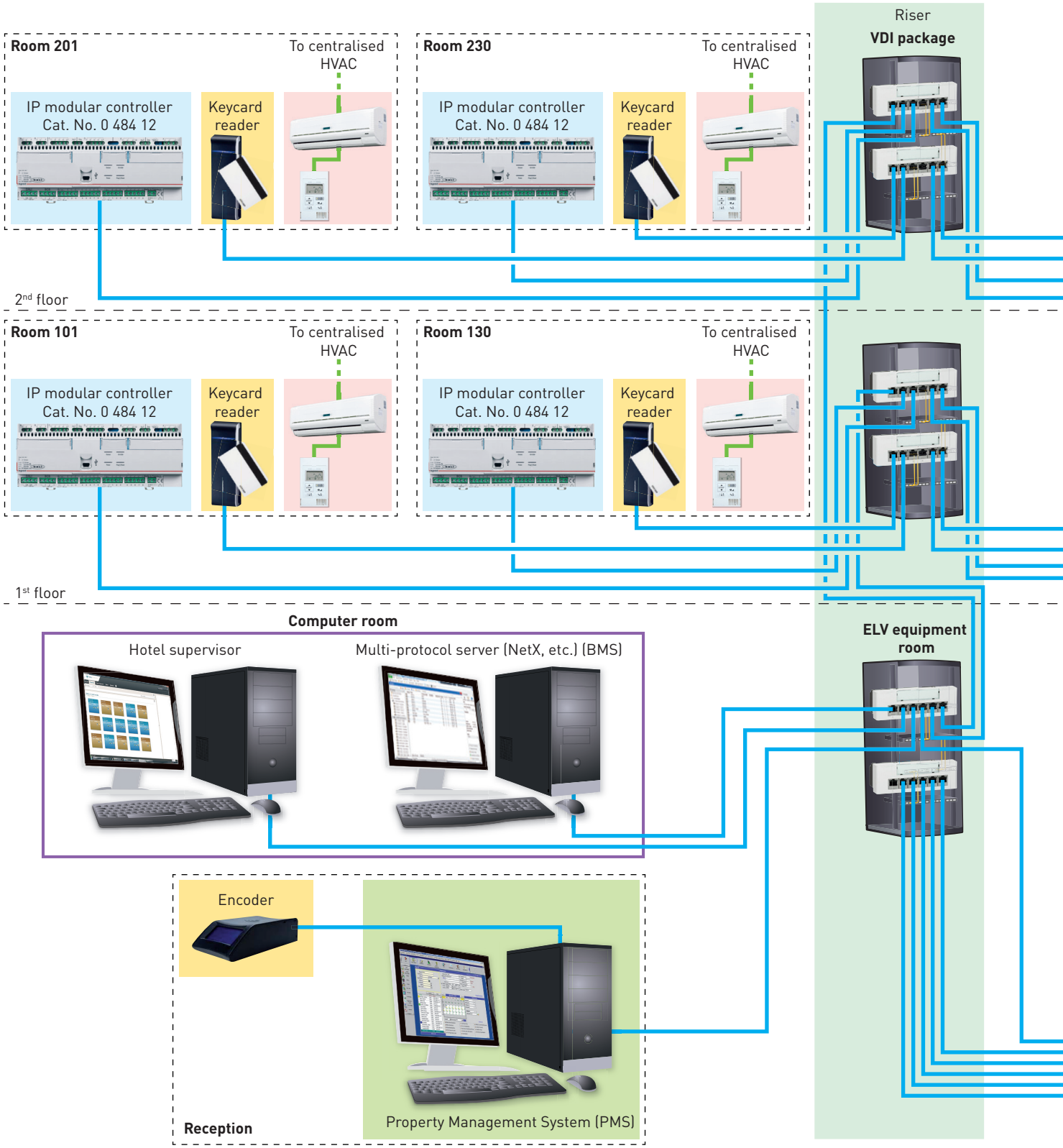

To centralised HVAC
To centralised HVAC
Room 231
Room 260
IP modular controller Cat. No. 0 484 12
IP modular controller Cat. No. 0 484 12


To centralised HVAC
To centralised HVAC
Room 131
Room 160
IP modular controller Cat. No. 0 484 12
IP modular controller Cat. No. 0 484 12


Computer room
To air conditioning cartridge in each room
Hotel supervisor
Air conditioning unit (HVAC)
HVAC controller
IP interface
Legrand dedicated LAN
IP network (UTP/FTP cable Cat. 5e minimum)
BUS/SCS cable
BUS (HVAC package)

OVERVIEW OF HOTEL ARCHITECTURE

Room management architecture with supervisor and integration of other multi-brand systems (Property Management System (PMS)/access control/HVAC/fire alarm/emergency lighting/CCTV/energy meters, etc)



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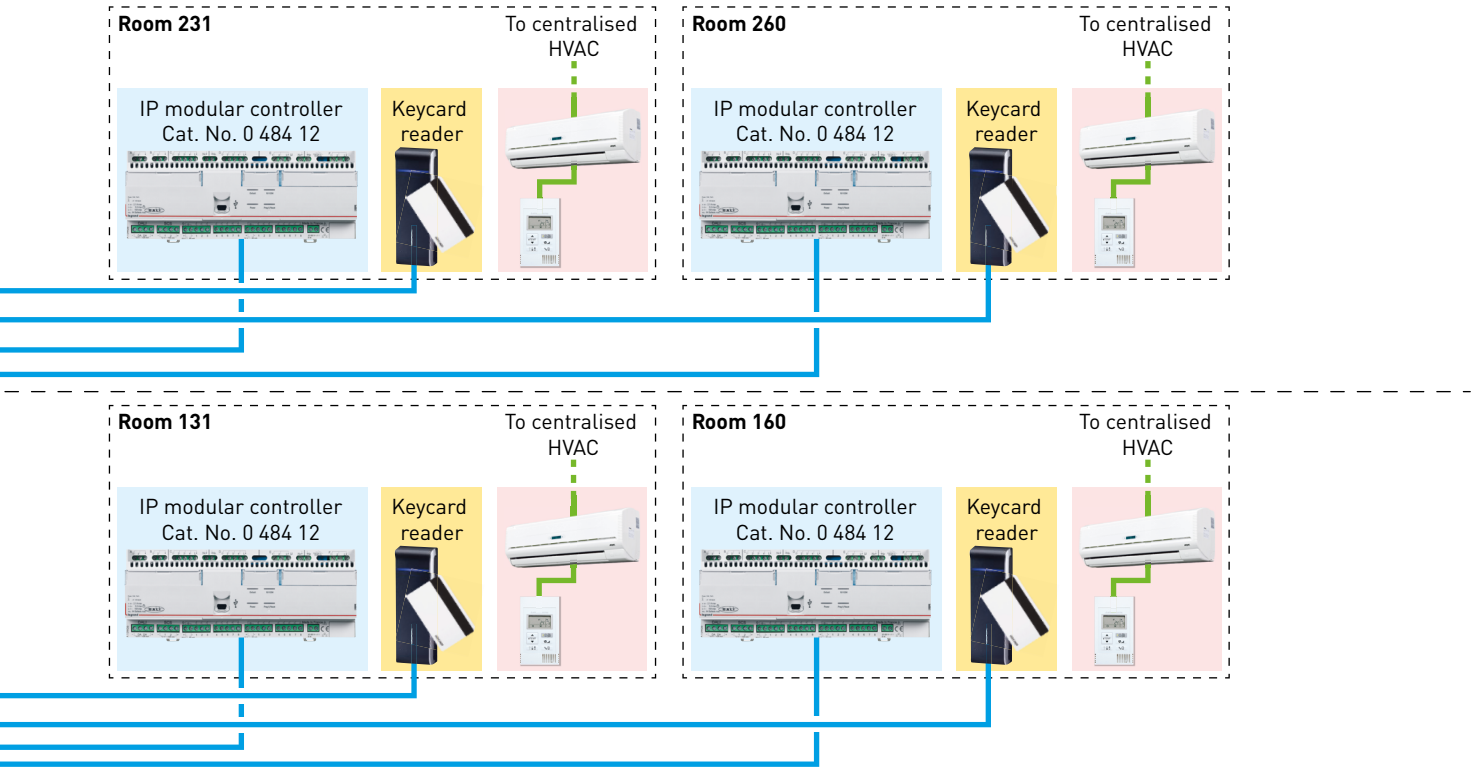
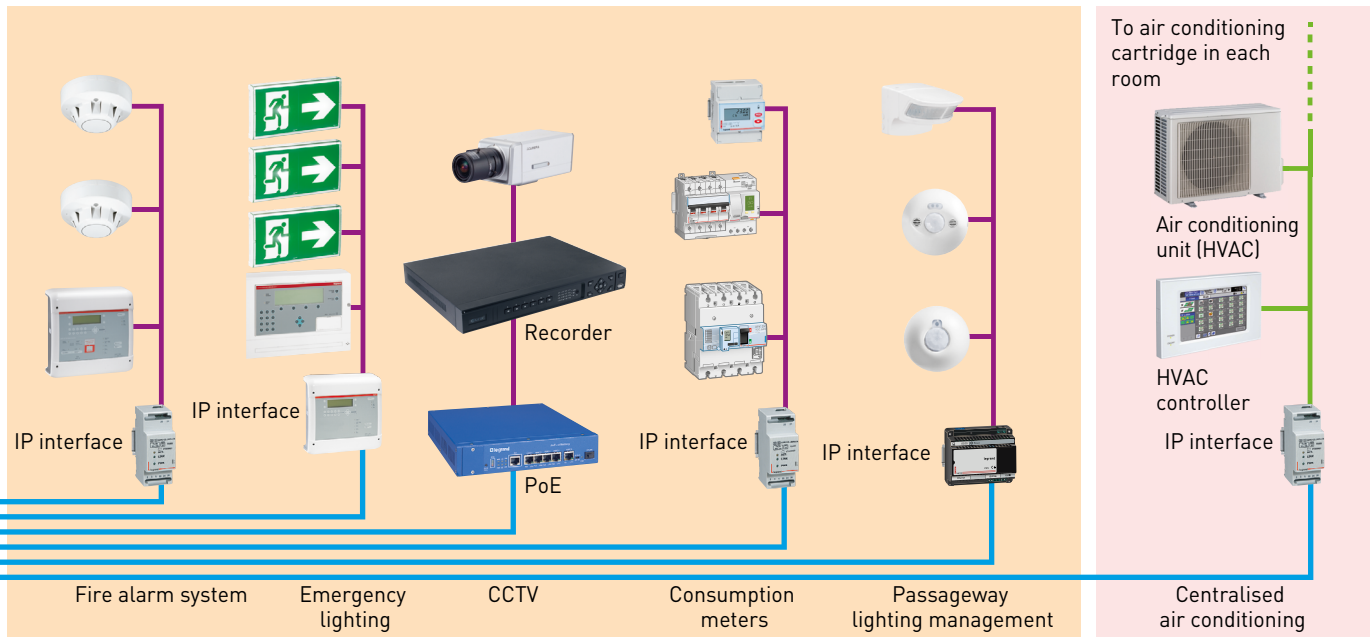




IP network (UTP/FTP cable Cat. 5e minimum)

BUS

BUS (HVAC package)

GRMS package

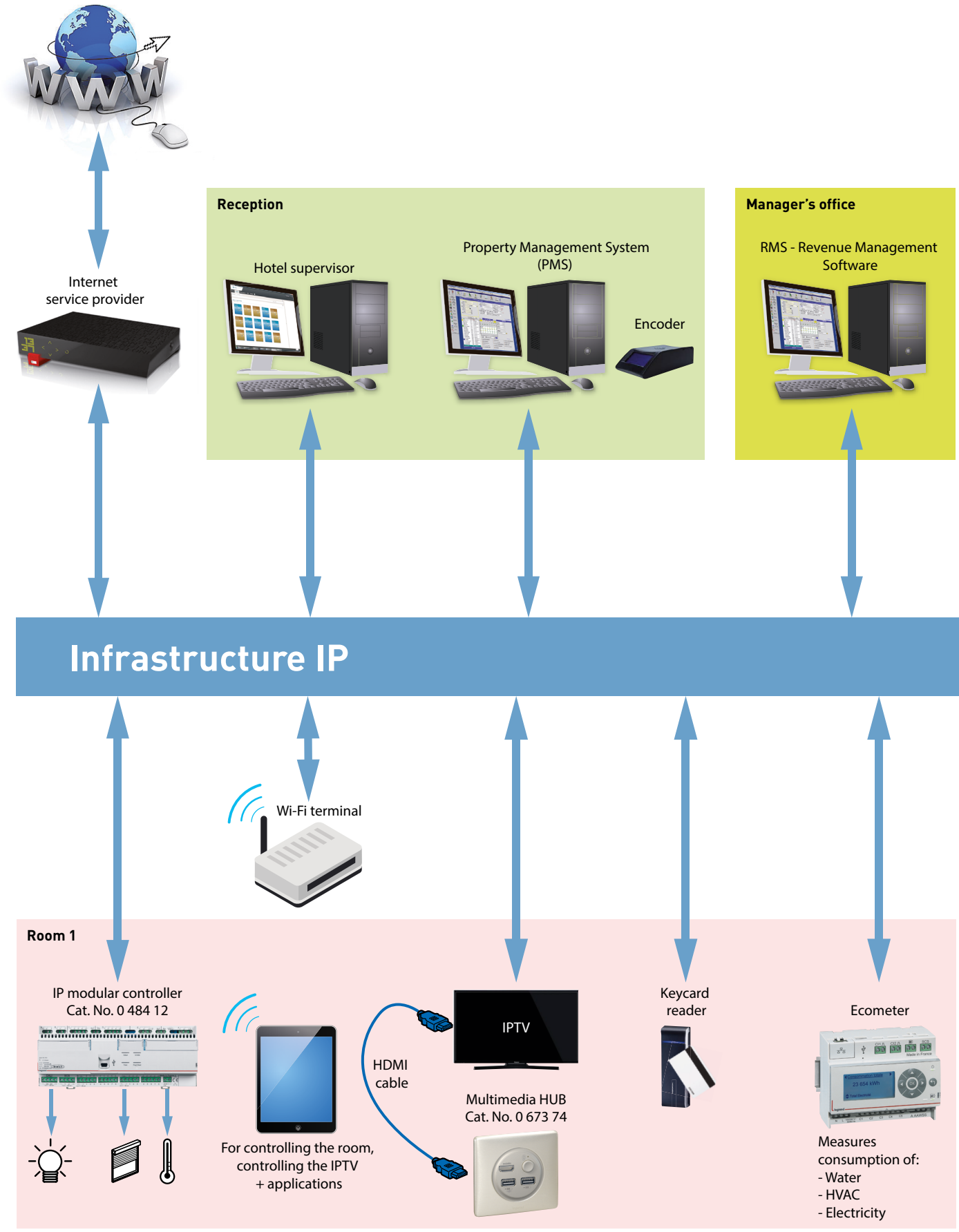
Access control package

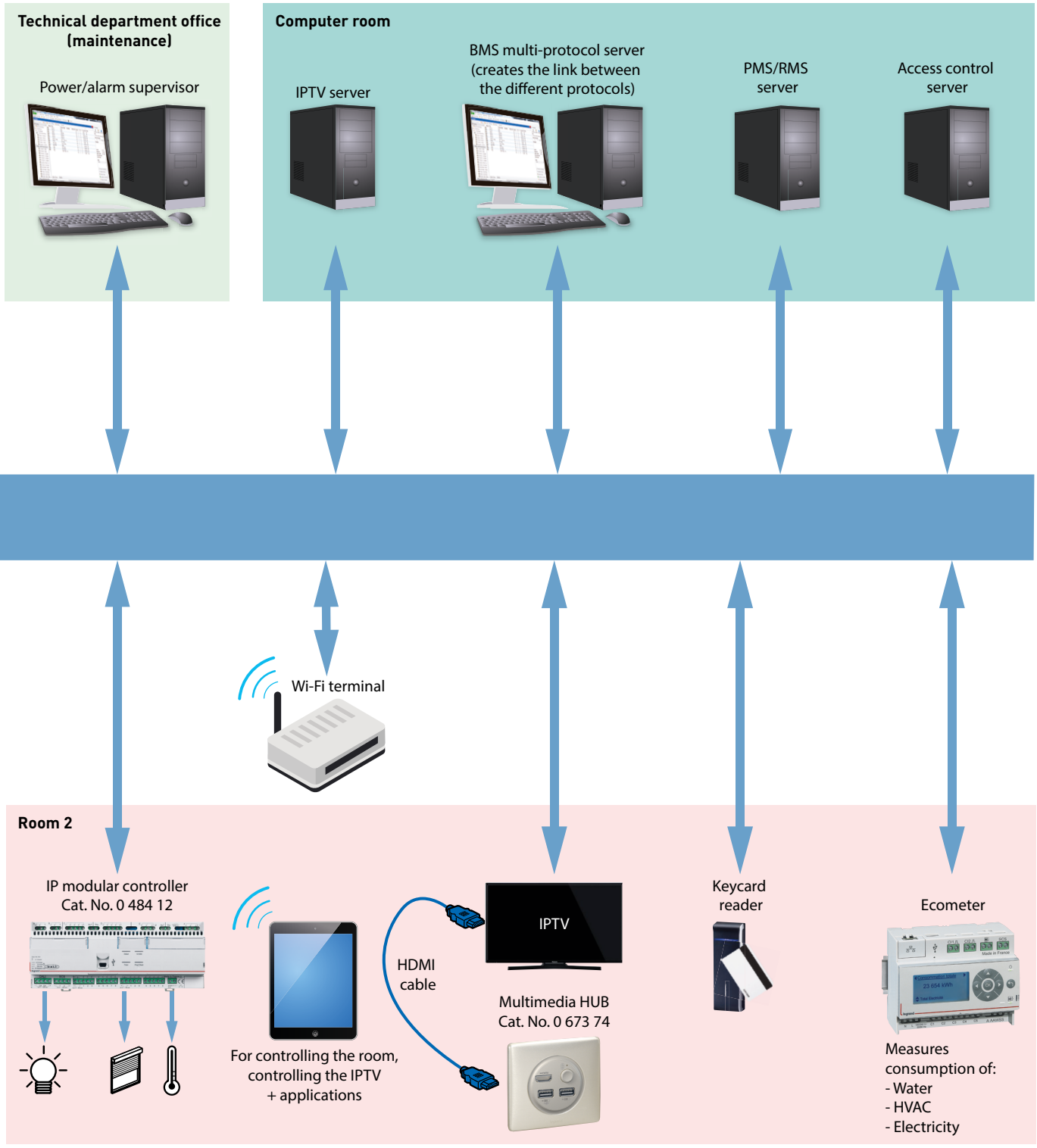
HVAC package

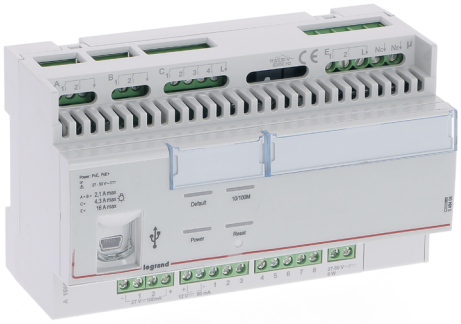
Booking management package

Security package

EXAMPLE OF A HOTEL IP INFRASTRUCTURE (NOT EXHAUSTIVE)




Technical department office (maintenance)
Power/alarm supervisor
Computer room
IPTV server
BMS multi-protocol server (creates the link between the different protocols)
PMS/RMS server
Access control server
Wi-Fi terminal
Room 2
IP modular controller Cat. No. 0 484 12
For controlling the room, controlling the IPTV + applications
HDMI cable
IPTV
Multimedia HUB Cat. No. 0 673 74
Keycard reader
Ecometer
Measures consumption of:
- Water
- HVAC
- Electricity



0 484 12: CONTROLLER (RCU) WITH 16 INPUTS/16 OUTPUTS

IP modular controller Cat.No 0 484 12 is specially designed for controlling hotel rooms and communal spaces (meeting rooms, sports halls, restaurants, etc). It is powered by an external power supply Cat.No E49.

It comprises:
- 16 configurable auxiliary inputs for issuing ON/OFF, Dim +/-, scene and roller shutter up/down/stop commands via switches, push-buttons and other volt-free contact devices
- 16 configurable binary outputs for controlling lighting (2 blocks of 4 relays: 4.3 A max. across both blocks), shutters* (2 blocks of 2 relays: 2.1 A max. across both blocks), socket outlets (2 blocks of 2 relays: 16 A max. across both blocks)
- One DALI dimming output: • In broadcast mode
  • In group mode (16 groups max.)
- The DALI output can supply up to 20 ballasts (max. bus consumption 40 mA) or up to 64 ballasts with the addition of an external DALI power supply.

Each output can be integrated in different scenarios associated with conditional functions such as volt-free contacts, light level detection or timer programming. Presence is managed either by a keycard switch, or automatically (Virtual Keycard).

A BUS/SCS input is used to associate compatible actuators and BUS controls with the SCS protocol.

A 100 mA power supply is included. Thereafter, a BUS power supply should be added.

The controller can be associated via the BUS/SCS with:
- 32 dimmer outputs max.
- 16 shutter/curtain outputs max.
- 4 thermostats max.
- 16 keycard readers max.
- 104 controls and/or contact inputs max.

(Count all the control buttons even if only some of them are used. Example: A 4-function touch plate will count as 4/104 even if only one button is programmed).
- 4 corridor display units max.
- 8 "Do not disturb/Make up room" controls max.
- 10 motion sensors and light level detectors max.

The parameters are set by the Hotel Room Controller software (HRCS) via the IP network.
The software can be downloaded from www.legrandoc.com.
Communication protocol over IP network: BACnet®.

Technical characteristics

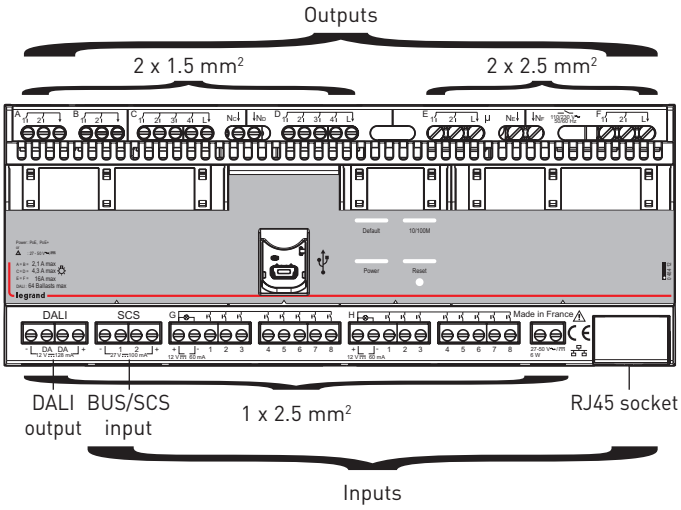
Peripheral power supply	• Screw terminal block (27-50 V~/V⎓) or • RJ 45 (class 0 PoE/PoE+)
Number of auxiliary input terminals	16 inputs (G - H: 2 blocks of 8 inputs)
Number of load terminals	16 outputs: A - B: 2.1 A blocks Monostable C - D: 4.3 A blocks Monostable E - F: 16 A blocks Bistable
Max. length between input terminal and mechanical control	150 m
Capacity of load terminals	2 x 1.5 mm² (A to D) 2 x 2.5 mm² (E to F)
Capacity of SCS terminals	1 x 2.5 mm²
Capacity of DALI load terminals	1 x 2.5 mm²
Capacity of contact input terminals	1 x 2.5 mm²
Contact input	Push-button or switch
RJ 45	10/100 Mbps
Degree of protection Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	12
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
No-load power consumption	< 1 W

All the outputs + thermostats are variable COV type (variable Change On Value). The controller allows 128 COV subscrSiptions max.

* This shutter output can be used to control a light load (complying with the relay capacity of 2.1 A max.) on the A1/B1 or A2/B2 output by setting the time delay to 0.

Technical characteristics (continued)

Size: 12 DIN modules



Blocks A and B can be used as a shutter output or as a housekeeping (DND/MUR) indicator output.

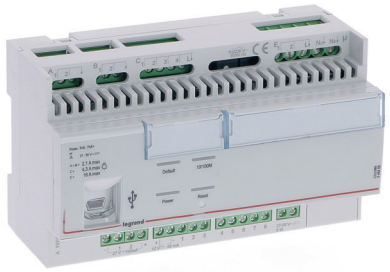
	Housekeeping mode	Shutter mode
A1/B1	DND indicator	Up
A2/B2	MUR indicator	Down

For blocks C to F, the Neutral must be connected for zero current breaking.

NC = neutral terminal for block C.
ND = neutral terminal for block D.
NE = neutral terminal for block E.
NF = neutral terminal for block F.

		❶		❷		❸		❹		❺		❻		❼		❽		❾	
Sorties A - B	230 V~	80 VA	0,3 A	250 VA	1,1 A	250 VA	1,1 A	2 (2 x 36) W	0,8 A	80 VA	0,3 A	80 VA	0,3 A	500 W	2,1 A	250 VA	1,1 A	250 VA	1,1 A
	110 V~	40 VA		125 VA		125 VA		1 (2 x 36) W		40 VA		40 VA		250 W		125 VA		125 VA	
	12 - 48 V~/V⎓	4 - 15 VA	0,3 A													13 - 52 VA	1,1 A	13 - 52 VA	1,1 A
Sorties C - D	230 V~	160 VA	0,7 A	500 VA	2,1 A	500 VA	2,1 A	4 (2 x 36) W	1,7 A	160 VA	0,7 A	160 VA	0,7 A	1000 W	4,3 A	500 VA	2,1 A	500 VA	2,1 A
	110 V~	80 VA		250 VA		250 VA		2 (2 x 36) W		80 VA		80 VA		500 W		250 VA		250 VA	
Sorties E - F	230 V~	500 VA	2,1 A	1000 VA	4,3 A	1000 VA	4,3 A	10 (2 x 36) W	4,3 A	500 VA	2,1 A	500 VA	2,1 A	3680 W	16 A	500 VA	2,1 A	500 VA	2,1 A
	110 V~	250 VA		500 VA		500 VA		5 (2 x 36) W		250 VA		250 VA		1760 W		250 VA		250 VA	

❶ LED lamps
❷ ELV halogen, compact fluorescent and fluorescent lamps with separate electronic ballast
❸ ELV halogen, compact fluorescent and fluorescent lamps with separate ferromagnetic ballast
❹ Fluorescent tubes
❺ Compact fluorescent lamps with built-in electronic ballast
❻ Compact fluorescent lamps with built-in ferromagnetic ballast
❼ Halogen lamps
❽ Motors
❾ Contactors



0 484 08: CONTROLLER (RCU) WITH 8 INPUTS/10 OUTPUTS

IP modular controller Cat.No 0 484 08 is specially designed for controlling hotel rooms and communal spaces (meeting rooms, sports halls, restaurants, etc). It is powered by an external power supply Cat.No E49.

It comprises:

- 8 configurable auxiliary inputs for issuing ON/OFF, Dim +/-, scene and roller shutter up/down/stop commands via switches, push-buttons and other volt-free contact devices

- 10 configurable binary outputs for controlling lighting (1 block of 4 relays: 4.3 A max.), shutters* (2 blocks of 2 relays: 2.1 A max. across both blocks), socket outlets (1 block of 2 relays: 16 A max.)

Each output can be integrated in different scenarios associated with conditional functions such as volt-free contacts, light level detection or timer programming. Presence is managed either by a keycard switch, or automatically (Virtual Keycard).

A BUS/SCS input is used to associate compatible actuators and BUS controls with the SCS protocol.

A 100 mA power supply is included. Thereafter, a BUS power supply should be added.

The controller can be associated via the BUS/SCS with:
- 32 dimmer outputs max.
- 16 shutter/curtain outputs max.
- 4 thermostats max.
- 16 keycard readers max.
- 104 controls and/or contact inputs max.
(Count all the control buttons even if only some of them are used. Example: A 4-function touch plate will count as 4/104 even if only one button is programmed).
- 4 corridor display units max.
- 8 "Do not disturb/Make up room" controls max.
- 10 motion sensors and light level detectors max.

The parameters are set by the Hotel Room Controller software (HRCS) via the IP network.
The software can be downloaded from www.legrandoc.com.
Communication protocol over IP network: BACnet®.

Technical characteristics

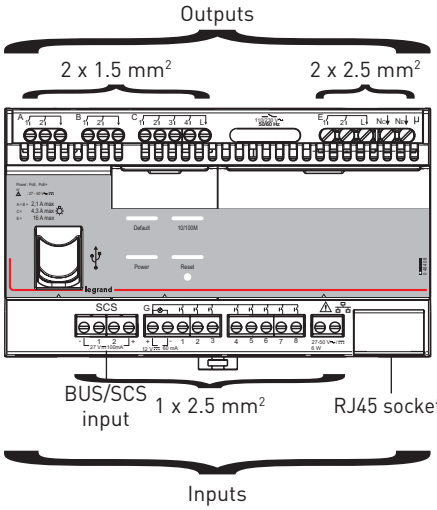
Peripheral power supply	• Screw terminal block (27-50 V~/V⎓) or • RJ 45 (class 0 PoE/PoE+)
Number of auxiliary input terminals	8 inputs (G: 1 block of 8 inputs)
Number of load terminals	10 outputs: A - B: 2.1 A blocks Monostable C: 4.3 A blocks Monostable E: 16 A blocks Bistable
Max. length between input terminal and mechanical control	150 m
Capacity of load terminals	2 x 1.5 mm² (A to C) 2 x 2.5 mm² (E)
Capacity of SCS terminals	1 x 2.5 mm²
Capacity of contact input terminals	1 x 2.5 mm²
Contact input	Push-button or switch
RJ 45	10/100 Mbps
Degree of protection Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	8
Operating temperature	5°C to +45°C
Storage temperature	-20°C to +70°C
No-load power consumption	< 1 W

All the outputs + thermostats are variable COV type (variable Change On Value). The controller allows 128 COV subscriptions max.

* This shutter output can be used to control a light load (complying with the relay capacity of 2.1 A max.) on the A1/B1 or A2/B2 output by setting the time delay to 0.

Technical characteristics (continued)

Size: 8 DIN modules



Blocks A and B can be used as a shutter output or as a housekeeping (DND/MUR) indicator output.

	Housekeeping mode	Shutter mode
A1/B1	DND indicator	Up
A2/B2	MUR indicator	Down

For blocks C and E, the Neutral must be connected for zero current breaking.

NC = neutral terminal for block C.
NE = neutral terminal for block E.

		❶		❷		❸		❹		❺		❻		❼		❽		❾	
Sorties A - B	230 V~	80 VA	0,3 A	250 VA	1,1 A	250 VA	1,1 A	2 (2 x 36) W	0,8 A	80 VA	0,3 A	80 VA	0,3 A	500 W	2,1 A	250 VA	1,1 A	250 VA	1,1 A
	110 V~	40 VA		125 VA		125 VA		1 (2 x 36) W		40 VA		40 VA		250 W		125 VA		125 VA	
	12 - 48 V~/V⎓	4 - 15 VA	0,3 A													13 - 52 VA	1,1 A	13 - 52 VA	1,1 A
Sorties C - D	230 V~	160 VA	0,7 A	500 VA	2,1 A	500 VA	2,1 A	4 (2 x 36) W	1,7 A	160 VA	0,7 A	160 VA	0,7 A	1000 W	4,3 A	500 VA	2,1 A	500 VA	2,1 A
	110 V~	80 VA		250 VA		250 VA		2 (2 x 36) W		80 VA		80 VA		500 W		250 VA		250 VA	
Sorties E - F	230 V~	500 VA	2,1 A	1000 VA	4,3 A	1000 VA	4,3 A	10 (2 x 36) W	4,3 A	500 VA	2,1 A	500 VA	2,1 A	3680 W	16 A	500 VA	2,1 A	500 VA	2,1 A
	110 V~	250 VA		500 VA		500 VA		5 (2 x 36) W		250 VA		250 VA		1760 W		250 VA		250 VA	

❶ LED lamps
❷ ELV halogen, compact fluorescent and fluorescent lamps with separate electronic ballast
❸ ELV halogen, compact fluorescent and fluorescent lamps with separate ferromagnetic ballast
❹ Fluorescent tubes
❺ Compact fluorescent lamps with built-in electronic ballast
❻ Compact fluorescent lamps with built-in ferromagnetic ballast
❼ Halogen lamps
❽ Motors
❾ Contactors

E49: POWER SUPPLY FOR BUS/SCS

The power supply should be used to power the system's communication bus (BUS/SCS).

Technical characteristics

- Supply voltage: 230 V~
- BUS output voltage: 27 V⎓
- Max. BUS current: 600 mA
- Max. power: 21.5 W
- Max. consumption: 26.8 W
- Operating temperature: -5°C to +45°C
- Storage temperature: -20°C to +70°C
- Protection index: IP 20
- Size: 2 DIN modules

0 634 42 OR 346 020: POWER SUPPLY FOR CONTROLLER

The power supply should be used to power the controller.

Technical characteristics

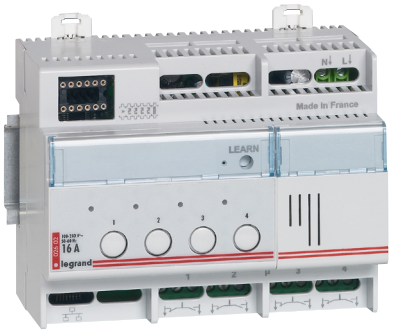
- Supply voltage: 230 V~
- Output voltage: 27 V⎓
- Max. current: 600 mA
- Max. power: 20 W
- Max. consumption: 26.8 W
- Operating temperature: -5°C to +45°C
- Storage temperature: -20°C to +70°C
- Protection index: IP 20
- Size: 2 DIN modules

E46ADCN: BUS/SCS POWER SUPPLY

The power supply should be used to power the system's communication bus (BUS/SCS).

Technical characteristics

- Supply voltage: 230 VA ± 10% – 50/60 Hz
- BUS output voltage: 27 V=
- Max. BUS current: 1.2 A
- Max. dissipated power: 11 W
- Max. consumption: 43.4 W
- Operating temperature: 5°C to 40°C
- Storage temperature: -20°C to +70°C
- Protection index: IP 30
- Size: 8 DIN modules



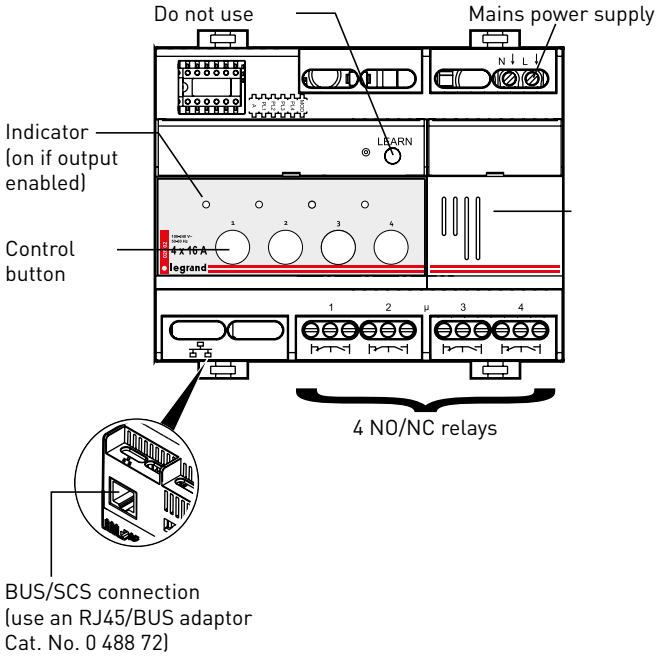
0 026 02 OR BMSW1003: ON/OFF ACTUATOR WITH 4 CIRCUITS AND STATUS MEMORY

This actuator has 4 relays with 2 NO/NC channels and a pushbutton for local control of each circuit, active even if the device has not been configured.

It incorporates the zero current synchronisation function (identical phase between product power supply and its outputs) which is particularly suitable for controlling energy-saving lamps.

It is powered at 230 V and has the status memory function.

Technical characteristics



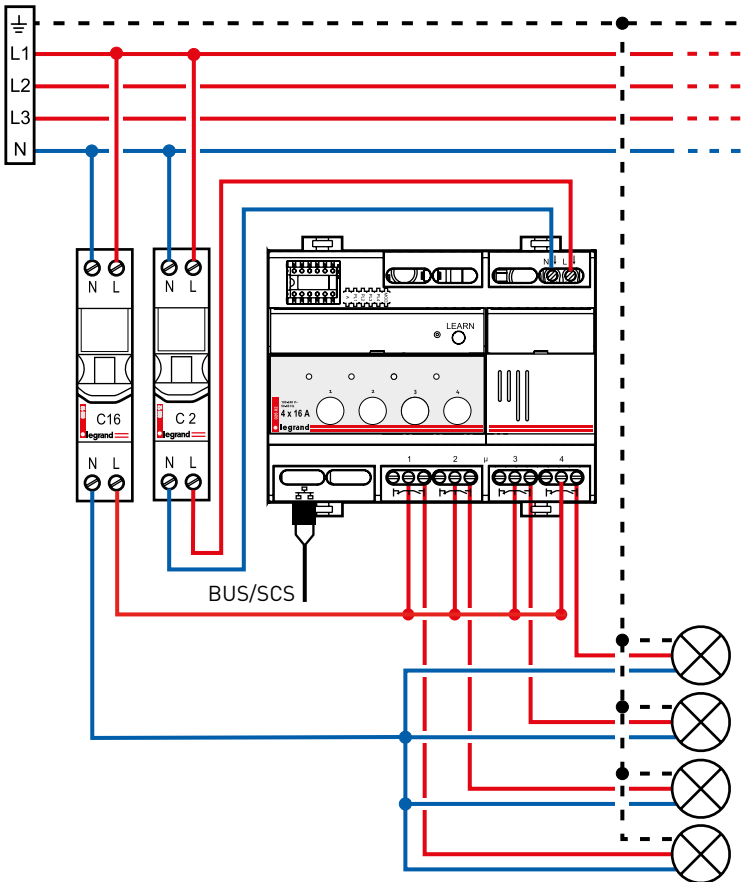
Number of supply terminal blocks	1
Number of load terminals	4
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm^2
Type of contact	Normally open 16 A monostable relay
Number of RJ45s	1
Mains voltage	100-240 V~
Frequency	50/60 Hz
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	6
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
No-load power consumption	0.8 W
BUS consumption	5 mA
Zero current breaking	yes

Technical characteristics (continued)

① Halogen lamp
② Fluorescent tubes
③ Halogen lamps with separate electronic or ferromagnetic transformer
④ Compact fluorescent lamp with built-in ballast
⑤ LED lamp

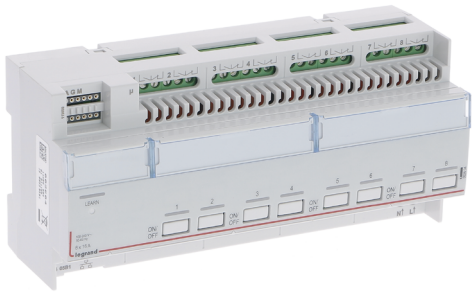
	①		②		③		④		④	
230 V~	3680 W	16 A	10x(2x36 W)	4.3 A	3680 VA	16 A	1150 VA	5 A	1 x 500 VA	2.1 A
110 V~	1760 W		5x(2x36 W)		1760 VA		550 VA		1 x 250 VA	

Connection



IMPORTANT: This product must be used on a single phase to comply with zero current synchronisation. The output contacts use the same supply phase.

Earth connection for class I luminaires



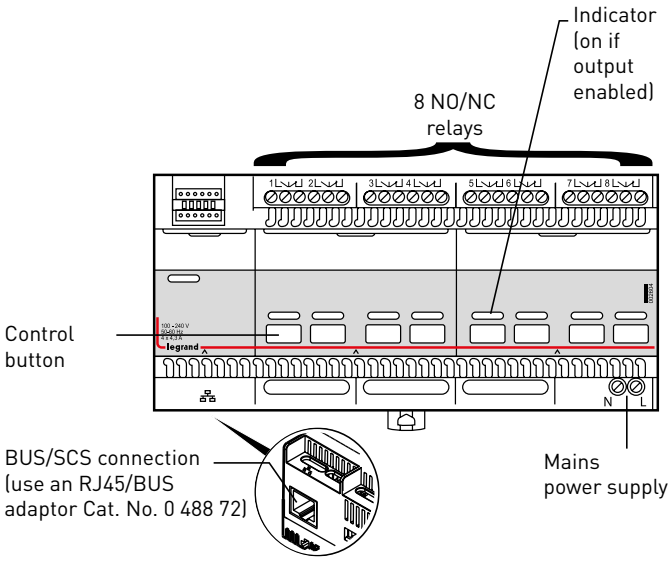
0 026 04 OR BMSW1005: ON/OFF ACTUATOR WITH 8 CIRCUITS AND STATUS MEMORY

This actuator has 8 relays with 2 NO/NC channels and a pushbutton for local control of each circuit, active even if the device has not been configured.

It incorporates the zero current synchronisation function (identical phase between product power supply and its outputs) which is particularly suitable for controlling energy-saving lamps.

It is powered at 230 V and has the status memory function.

Technical characteristics



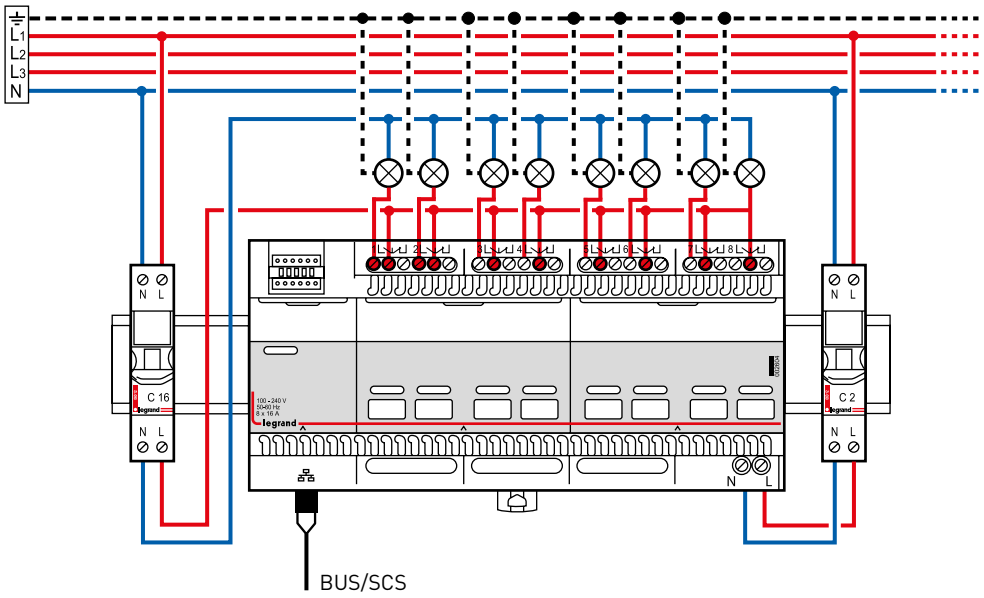
Number of supply terminal blocks	1
Number of load terminals	8
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm^2
Type of contact	Normally open 16 A monostable relay
Number of RJ45s	1
Mains voltage	100-240 V~
Frequency	50/60 Hz
Location category	Indoors
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	10
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
No-load power consumption	0.9 W
Zero current breaking	yes

Technical characteristics (continued)

① Halogen lamp
② Fluorescent tubes
③ Halogen lamps with separate electronic or ferromagnetic transformer
④ Compact fluorescent lamp with built-in ballast
⑤ LED lamp

	①		②		③		④		⑤	
230 V~	3680 W	16 A	10x(2x36 W)	4.3 A	3680 VA	16 A	1150 VA	5 A	1 x 500 VA	2.1 A
110 V~	1760 W		5x(2x36 W)		1760 VA		550 VA		1 x 250 VA	

Connection



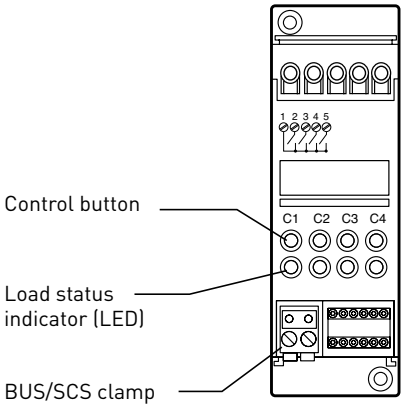
Earth connection for class I luminaires

IMPORTANT: This product must be used on a single phase to comply with zero current synchronisation. The output contacts use the same supply phase.

F411/4: ACTUATOR WITH 4 X 2 A RELAYS

This actuator has 4 independent relays which can be interlocked with a common terminal for controlling four ON/OFF loads or 2 motor loads (roller shutters, curtains, etc) and pushbuttons for local control of each load, only active if the actuator has been configured. It is powered by the BUS.

Technical characteristics



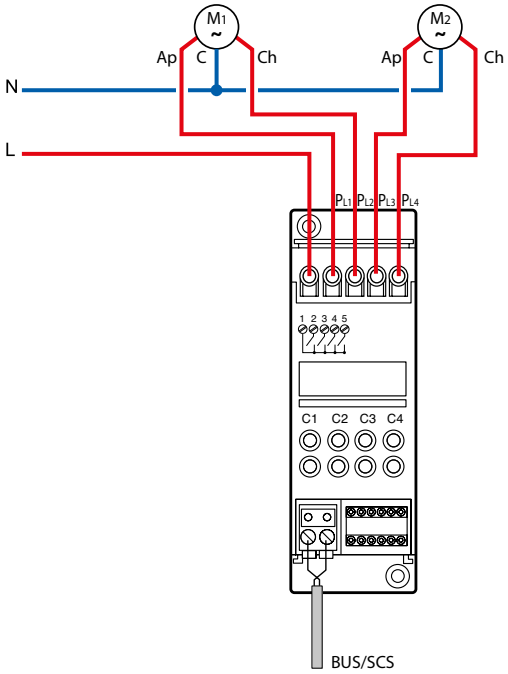
Connection terminals Terminal type	Screw
Terminal capacity	2 x 2.5 mm^2
Type of contact	Normally open 2 A monostable relay
Mains voltage	100-240 V~
Frequency	50/60 Hz
Degree of protection Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	2
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
No-load BUS consumption	40 mA
On-load BUS consumption	119 mA
Zero current breaking	No

Power/Consumption of controlled loads:

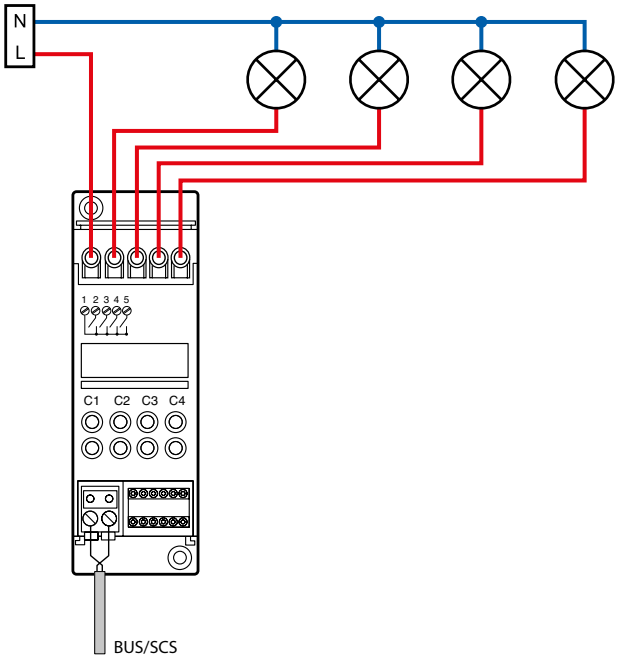
	Incandescent lamps Halogen lamps		Compact fluorescent lamps		Linear fluorescent lamps Electronic transformers		Ferromagnetic transformers		Geared motors for roller shutters	
230 VAC	460 W	2 A	70 W	2 lamps maximum	70 W	0.3 A	2 A cos φ 0.5	460 VA	460 W	2 A

Connection

Connection of 2 motor loads:



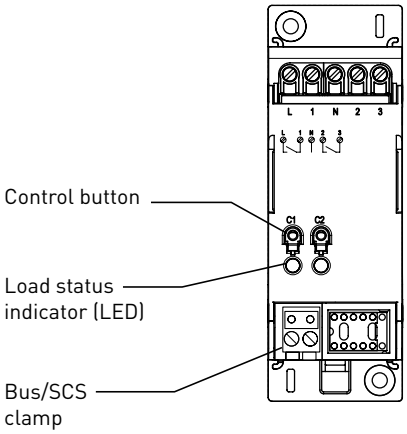
Connection of 4 ON/OFF loads:



F411U2: ACTUATOR WITH 2 X 10 A RELAYS

This actuator has 2 independent channels, which can be interlocked for controlling 2 ON/OFF loads (LED lamps, compact fluorescent lamps, etc) or 1 motor load (roller shutters, curtains, etc). Each channel is able to switch up to a maximum of 10 A. The device incorporates the zero current synchronisation function, which is particularly suitable for controlling energy-saving lamps. It is powered by the BUS.

Technical characteristics



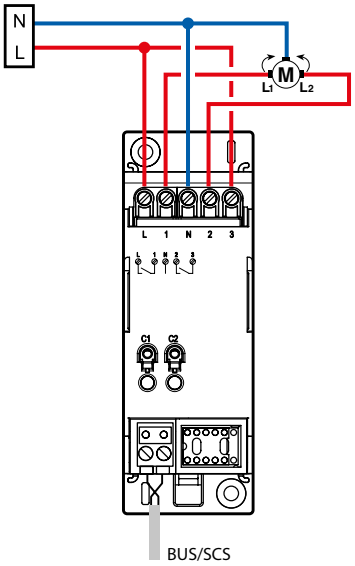
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm²
Type of contact	Normally open 10 A monostable relay
Supply voltage	BUS/SCS 18-27 V⎓
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	2
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
No-load BUS consumption	5 mA
On-load BUS consumption	55 mA
Zero current breaking	yes

Power/Consumption of controlled loads:

	Incandescent lamps Halogen lamps		LED lamps Compact fluorescent lamps		Linear fluorescent lamps Electronic transformers		Ferromagnetic transformers		Geared motors for roller shutters	
250 VAC	2300 W	10 A	500 W	2 A	920 W	4 A	920 VA	4 A cos φ 0.5	460 W	2 A
110 VAC	1100 W	10 A	250 W	2 A	440 W	4 A	440 VA	4 A cos	250 W	2 A

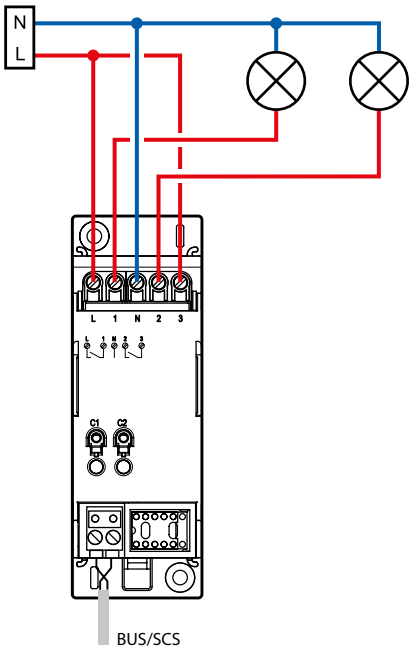
Connection

Connection of 1 motor load:



M = roller shutter motor

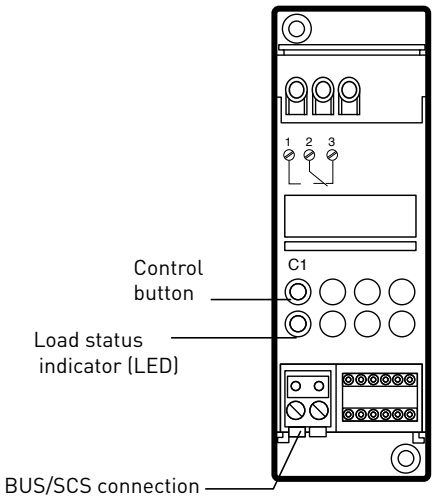
Connection of 2 ON/OFF loads:



F411/1NC: ACTUATOR WITH 1 X NC 10A RELAY

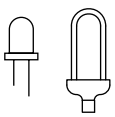
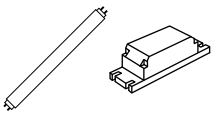
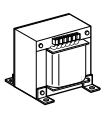
This actuator has 1 channel with an NO (normally open) output and an NC (normally closed) output), for controlling an ON/OFF load (LED, compact fluorescent lamps, etc). The channel is able to switch up to a maximum of 10 A. The NC output allows the load to be left ON if there is a power cut. Caution, this actuator does not have the zero current function. It is powered by the BUS.

Technical characteristics



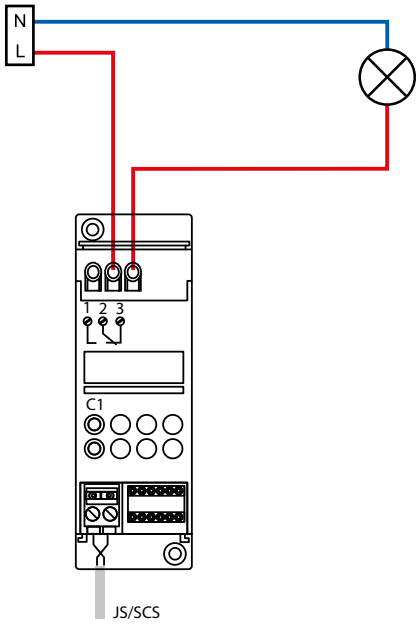
Connection terminals	
Terminal type	Screw-in
Terminal capacity	2 x 2.5 mm^2
Type of contact	Monostable relay normally closed 10 A
Supply voltage	BUS/SCS 18-27 V
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	2
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
No-load BUS consumption	5 mA
On-load BUS consumption	22 mA
Zero current breaking	no

Power/Consumption of controlled loads:

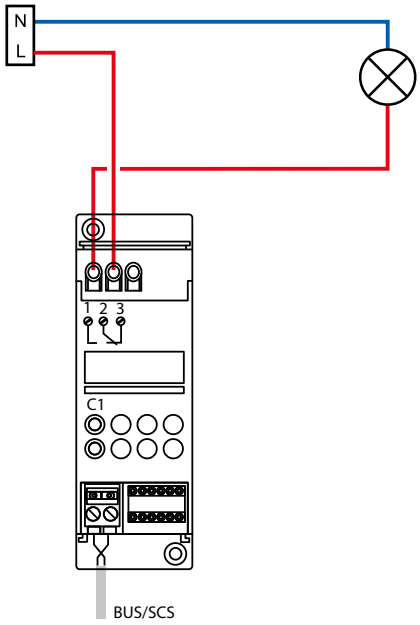
	Incandescent lamps Halogen lamps 		LED lamps Compact fluorescent lamps 		Linear fluorescent lamps Electronic transformers 		Ferromagnetic transformers 	
230 VAC	2300 W	10 A	500 W	10 lamps maximum	920 W	4 A	920 VA	4 A cos φ 0.5

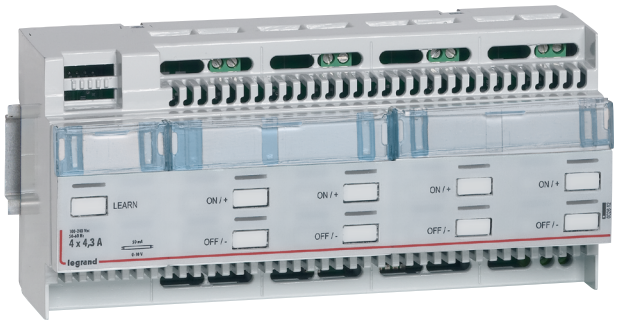
Connection

Normally Closed connection



Normally Open connection

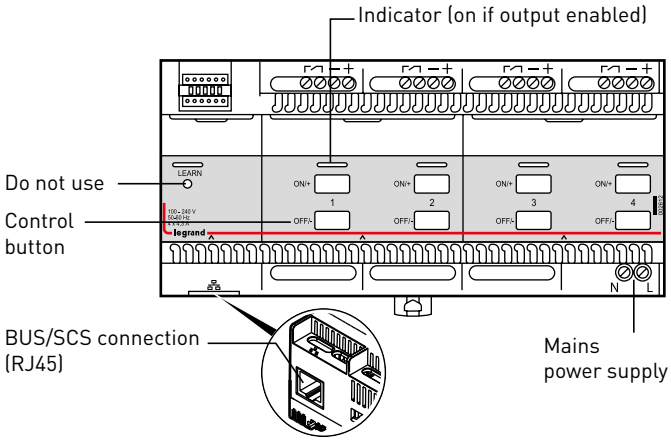




0 026 12 OR BMDI1002: ACTUATOR/DIMMER WITH 4 X 1-10 V CIRCUITS

This dimmer has 4 independent channels for controlling lamps with 1-10 V ballast. The device incorporates the function which allows it to control energy-saving lamps as well as the zero current synchronisation function and status memory function.
It is powered at 230 V.

Technical characteristics



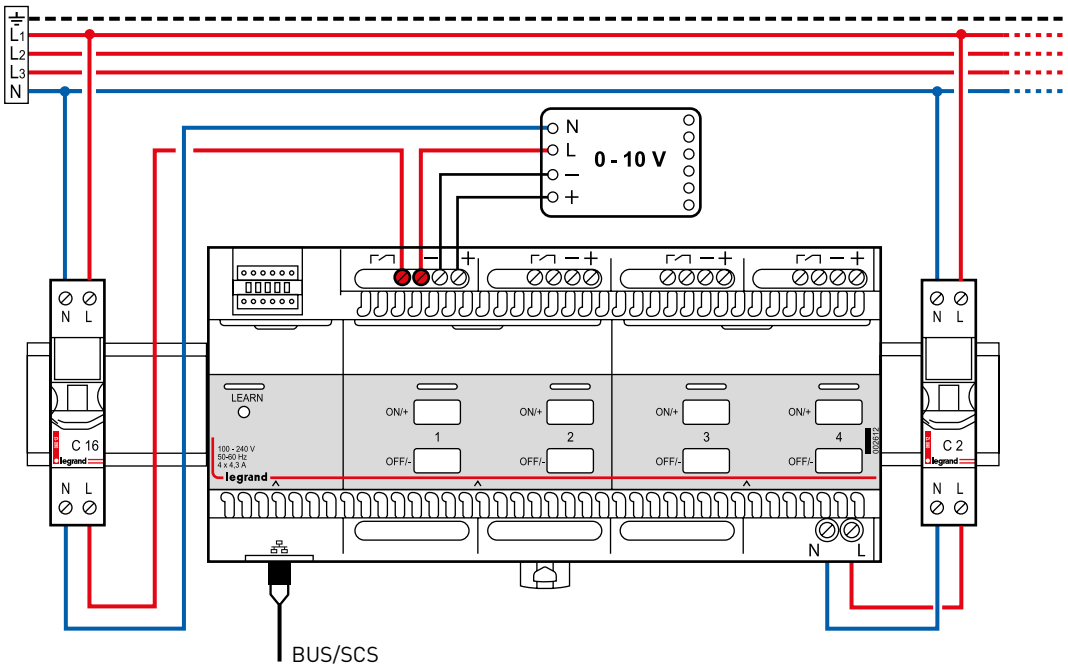
Number of supply terminal blocks	1
Number of load terminals	4
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm²
Type of contact	Normally open 4.3 A monostable relay
Number of RJ45s	1
Mains voltage	100-240 V~
Frequency	50/60 Hz
Location category	Indoors
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	10
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
No-load power consumption	1.9 W
BUS consumption	5 mA
Zero current breaking	yes

Max. control current 0 - 10 V (sum of the currents provided by the ballasts): 200 mA
Maximum inrush current on contact closing at 230 V~: 120 A - 20 ms

① Fluorescent tubes
② Halogen lamp
③ Compact fluorescent lamps
④ 1-10 V ballast

	①④		②④		③④	
230 V~	4 x 1000 VA	4 x 4.3 A	4 x 1000 VA	4 x 4.3 A	4 x 1000 VA	4 x 4.3 A
110 V~	4 x 500 VA		4 x 500 VA		4 x 500 VA	

Connection

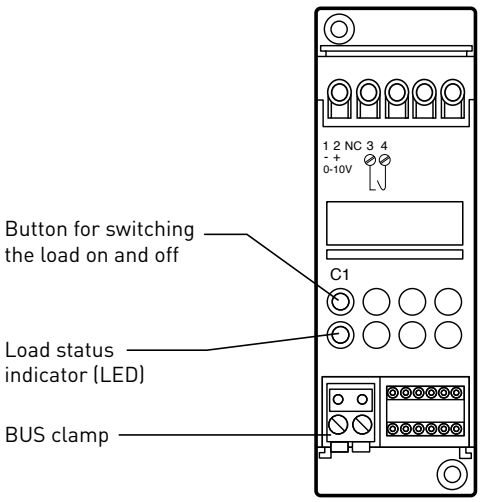


IMPORTANT: This product must be used on a single phase to comply with zero current synchronisation. The output contacts use the same supply phase.

F413N: ACTUATOR/DIMMER WITH 1 X 1-10 V CIRCUIT

This dimmer has 1 channel for controlling lamps with 1-10 V ballast. The peripheral is powered by the BUS. It is possible to set the minimum level. It is compatible with fluorescent or LED type energy-saving lamps.

Technical characteristics



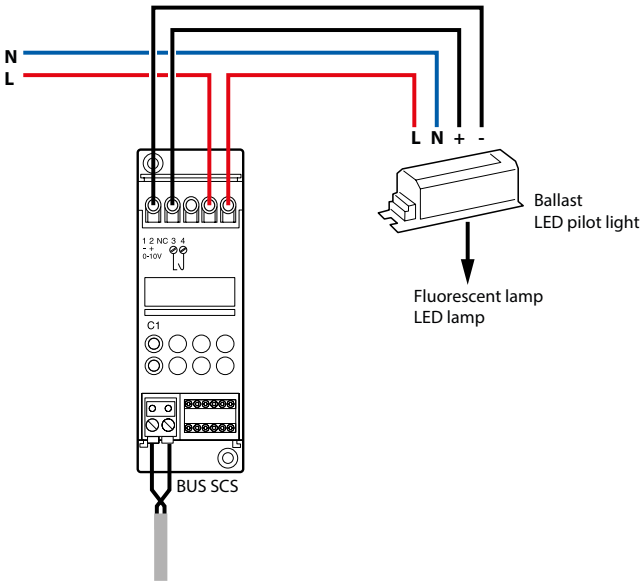
Power supply via BUS/SCS	12 - 27 V
Consumption	30 mA
Type of contact	Normally open 2 A monostable relay
Dissipated power with max. load	1 W
No. of modules	2
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Operating temperature range	-5°C to +45°C
Storage temperature	-20°C to +70°C

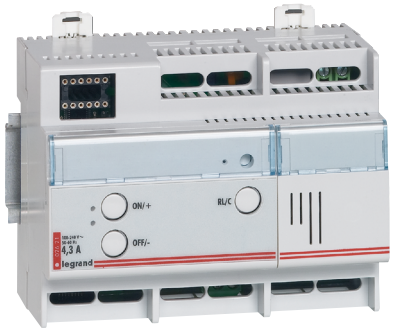
⚠ Product compatible from 19W01

① Fluorescent tubes
② Halogen lamp
③ Compact fluorescent lamp
④ LED
⑤ 1-10 V ballast (10 ballasts max.)

	① ⑤		② ⑤		③ ⑤		④ ⑤	
230 V~	460 VA	2 A	460 VA	2 A	460 VA	2 A	460 VA	2 A
110 V~	230 VA		230 VA		230 VA		230 VA	

Connection

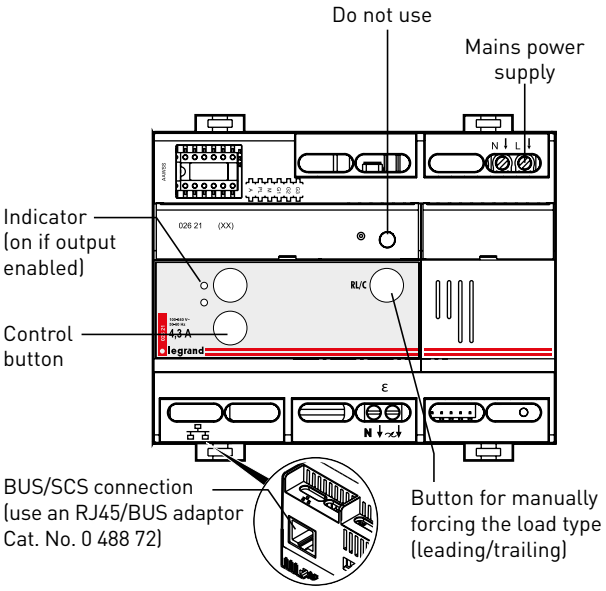

N
L
L N + -
Ballast
LED pilot light
Fluorescent lamp
LED lamp
1 2 NC 3 4
- + 0-10V
C1
BUS SCS



F416U1: ACTUATOR/DIMMER WITH 1 X 1000 W CIRCUIT FOR ALL LOADS

This dimmer for all loads has 1 channel for controlling halogen, LV and ELV loads. It incorporates the zero current synchronisation function, which is particularly suitable for controlling energy-saving lamps, and the status memory function. It is powered at 230 V.

Technical characteristics



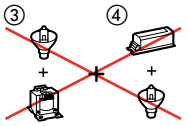
Number of supply terminal blocks	1
Number of load terminals	1
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm²
Type of contact	Normally open 4.3 A monostable relay
Number of RJ45s	1
Mains voltage	100-240 V~
Frequency	50/60 Hz
Location category	Indoors
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	6
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
No-load power consumption	0.3 W
BUS consumption	5 mA
Zero current breaking	Yes

① Incandescent lamp
② Halogen lamp
③ Halogen lamp with ferromagnetic transformer
④ Halogen lamp with separate electronic transformer

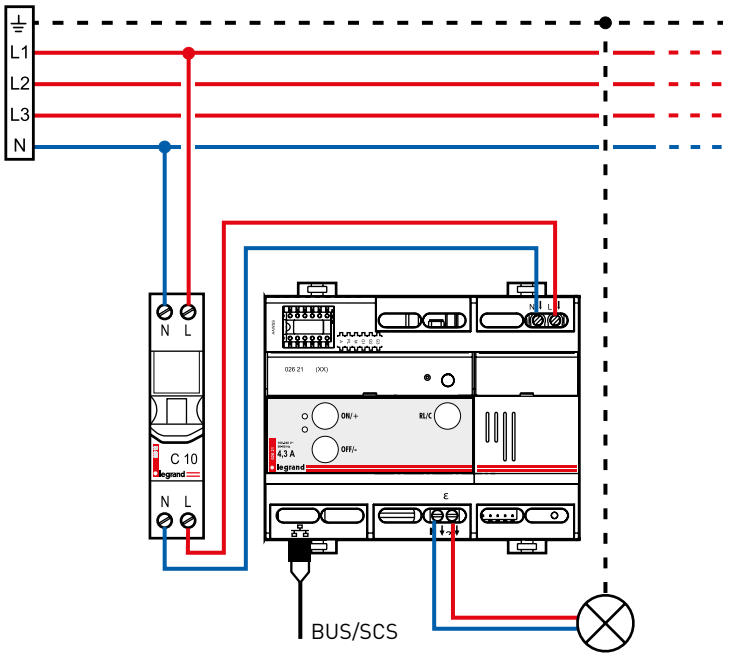
	①		②		③		④	
230 V~	1000 W	4.3 A	1000 W	4.3 A	1000 VA	4.3 A	1000 VA	4.3 A
110 V~	500 W		500 W		500 VA		500 VA	

Use only transformers designed for use with an electronic switch.

CAUTION:
On same channel



Connection



Earth connection for class I luminaires

F418U2: UNIVERSAL DIMMER 2 X 300 W/1 X 600 W

Dimmer with 2 channels for controlling dimmable LED and compact fluorescent lamps (CFLs), halogen lamps and electronic transformers.
The device is able to set a maximum load of 300 W for each channel or a single maximum load of 600 W if both channels have been configured in parallel.
Configurable via the HRCS (Hotel Room Controller software); the main functions available are:
- Dimming brightness
- Selection of the mode: 2 channels of 300 W or 1 channel of 600 W
- Manual selection of the load type
- Configuring the minimum dimming level

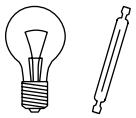
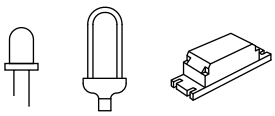
After connecting the device to the BUS/SCS and the load, it is possible to control loads from any control device which is part of the system, provided that it has been correctly configured.
It is also possible to control loads locally by using the buttons available on the device: press quickly to activate/deactivate the load; keep pressing with a finger to dim.

Technical characteristics

Power supply via BUS/SCS	18-27 V⎓
BUS consumption	18 mA (ON loads)
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Operating temperature range	0°C to +40°C
Storage temperature	-20°C to +70°C
Number of modules	4
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm²

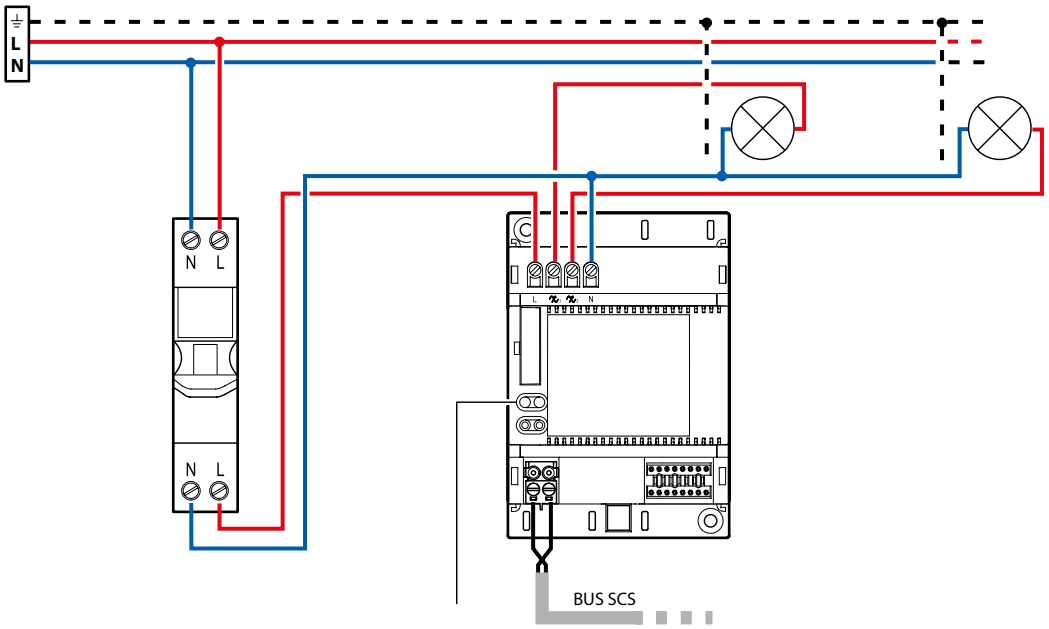
⚠ Product compatible from 18W26

Power/Consumption of controlled loads:

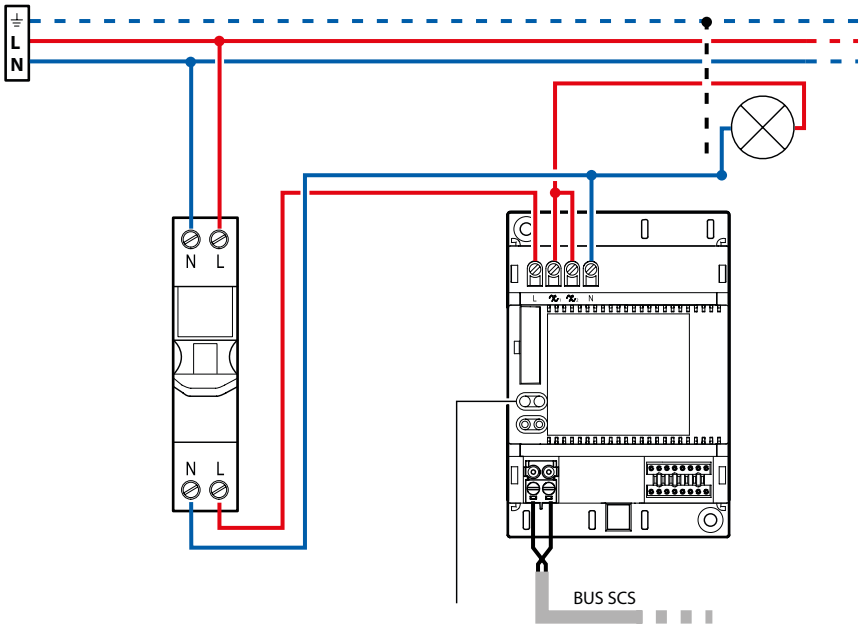
		Incandescent lamps 50 and 60 Hz halogen lamps	Dimmable LED lamps * Dimmable compact fluorescent lamps Halogen lamps with magnetic/ electronic transformers 50 and 60 Hz
			
Separate channels	230 V~	2 x 300 W	2 x 300 VA
	110 V~	2 x 150 W	2 x 150 VA
Parallel channels	230 V~	600 W	600 VA
	110 V~	300 W	300 VA

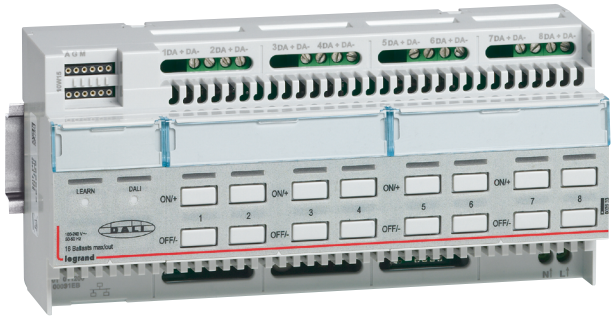
NB (*): For the most common dimmable LED lamps and **commercially-available compact fluorescent** lamps, the power rating 300 VA corresponds to approximately 200 W.

Connection - 2 channels of 300 W max



Connection - 1 channel of 600 W max

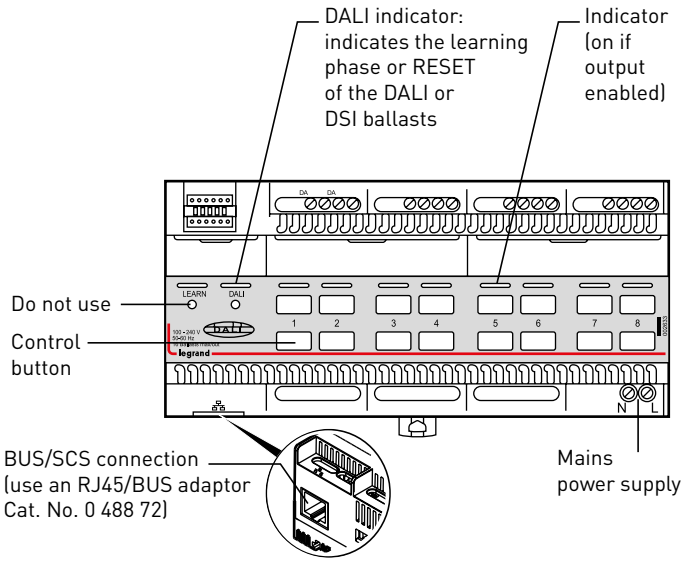




0 026 33: DIMMER WITH 8 DALI CIRCUITS

This dimmer has 8 independent channels (16 ballasts max./channel) for controlling DALI or DSI lighting loads in broadcast mode (all luminaires connected to an output should be controlled as a group; it is not possible to re-assign a luminaire to a different output by software programming, it will need to be connected to a new output). The device incorporates the status memory function. It is powered at 230 V.

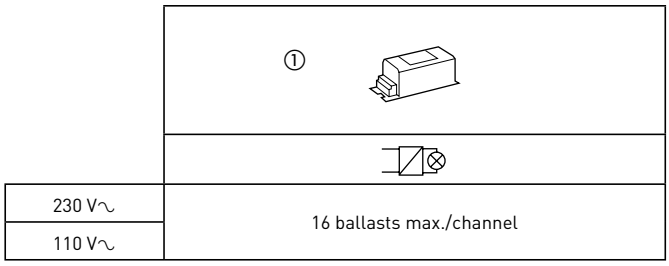
Technical characteristics



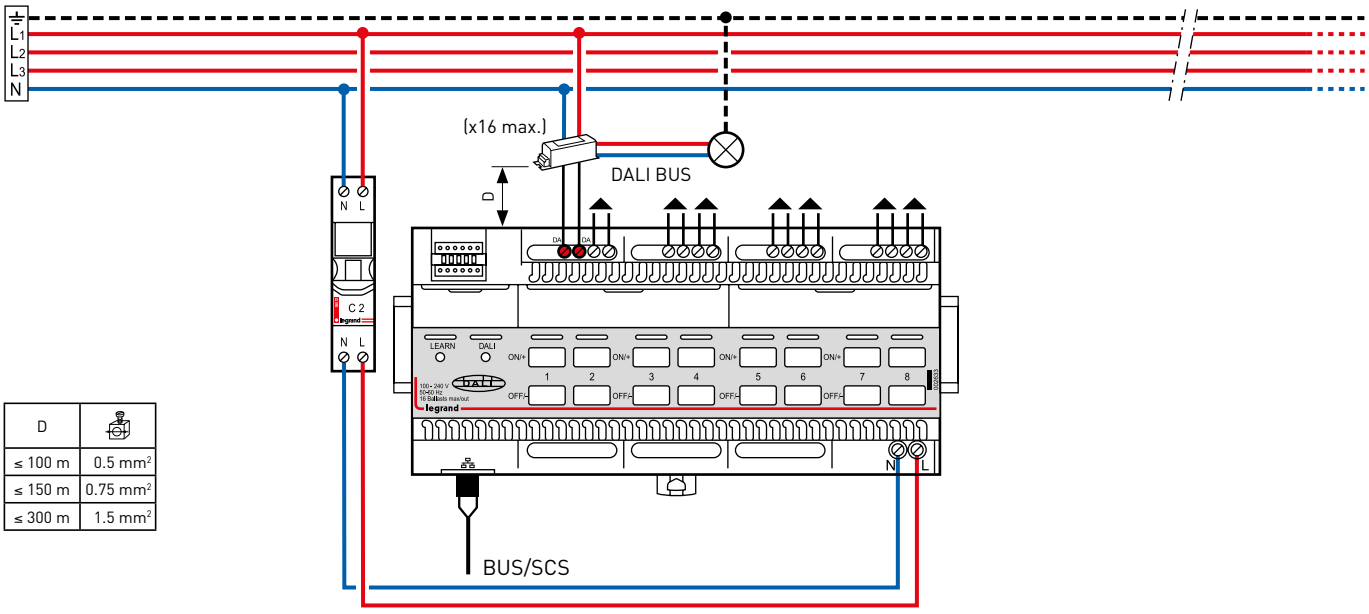
Number of supply terminal blocks	1
Number of load terminals	8
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm^2
DALI load terminal capacity	⩽ 1.5 mm^2
Number of RJ45s	1
Mains voltage	100-240 V~
Frequency	50/60 Hz
Location category	Indoors
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	10
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
No-load power consumption	0.8 W
Type of DALI protocol	Broadcast mode*
BUS consumption	5 mA

*DALI Broadcast mode:
all the luminaires connected to one channel are controlled as a single group (no address for each luminaire)

① DALI ballast



Connection



D	
≤ 100 m	0.5 mm²
≤ 150 m	0.75 mm²
≤ 300 m	1.5 mm²

DALI learning procedure:

Once all the luminaires are connected, a DALI learning phase is necessary to program the ballasts. The controller will control the lights once learning is complete.

Short press followed by a long press (approximately 10 s) on the DALI button, until the DALI LED flashes.
Check that the loads gradually switch off (random order). Once the procedure is complete, the DALI LED goes off.

If a lamp stays on, there is a fault. Check the wiring.

F430/2: HVAC ACTUATOR WITH 2 INDEPENDENT RELAYS

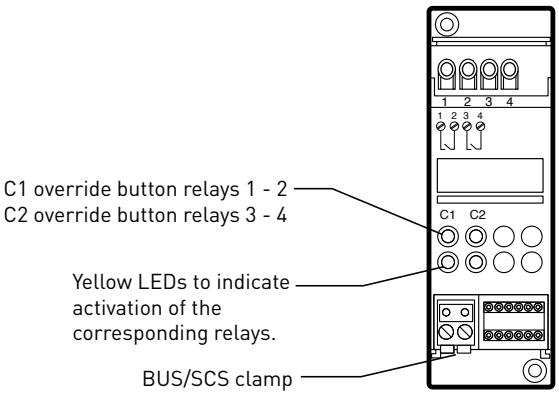
This actuator has 2 independent relays (ON/OFF function, Open/Close function) for controlling loads (relief valves or motorised valves, pumps and electric radiators).

This actuator can control:
- up to 2 ON/OFF valves for a water radiator
- up to 2 electric radiators
- up to 2 electric underfloor heating systems (add one contactor per output if the load is more than 6 A)
- up to 2 electric radiant panel heaters (add one contactor per output if the load is more than 6 A)
- up to 2 pumps for underfloor heating
- 1 valve with open and close command

To manage Open/Close type loads, wire up contact C1 for the open command and contact C2 for the close command.

This HVAC actuator is powered by the BUS and should be combined with a thermostat.

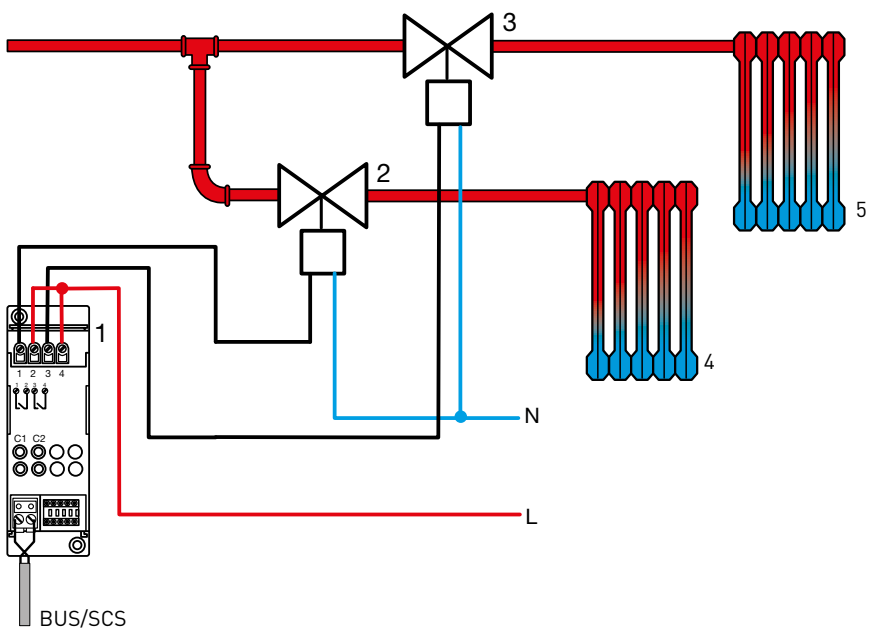
Technical characteristics



Power supply via BUS/SCS	18-27 V⎓
Max. consumption (relays activated individually)	25.5 mA
Consumption (relays activated with interlocking)	14 mA
Consumption in standby mode	9 mA
Breaking capacity of each relay	6 A (resistive) Eg: electric radiators 2 A (inductive) Eg: solenoid valves, pumps
Max. dissipated power	1.7 W
Operating temperature range	from 5°C to 40°C
Connection terminals Terminal type Terminal capacity	 Screw 2 x 2.5 mm^2
Degree of protection Penetration of solid bodies and liquids Impact resistance	 IP 20 (installed in an enclosure) IK 04
Number of modules	2
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C

Connection

ON/OFF valves for radiator

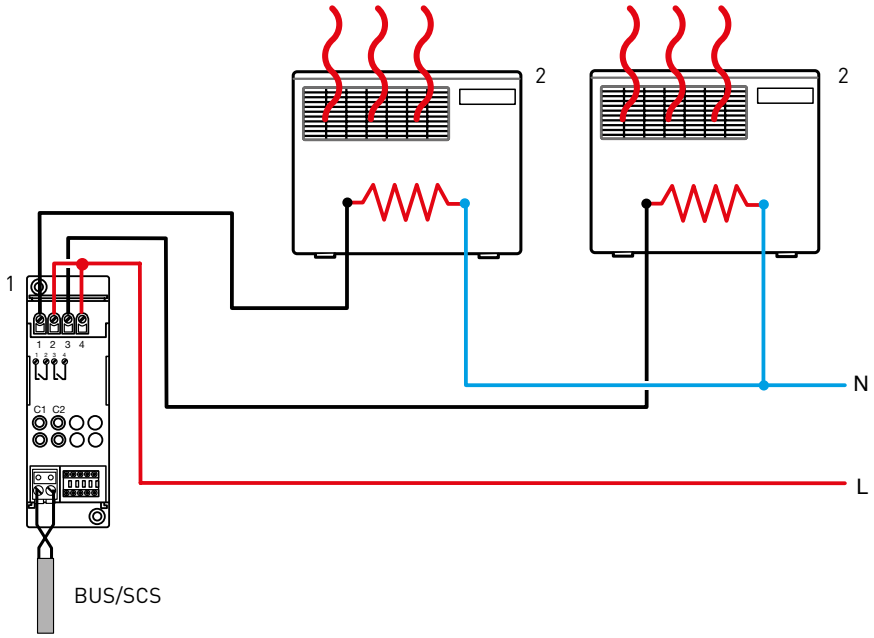


Key
1. Actuator
2. ON/OFF solenoid valve
3. ON/OFF solenoid valve
4. Zone 1 radiator
5. Zone 2 radiator

F430/2: HVAC ACTUATOR WITH 2 INDEPENDENT RELAYS (CONTINUED)

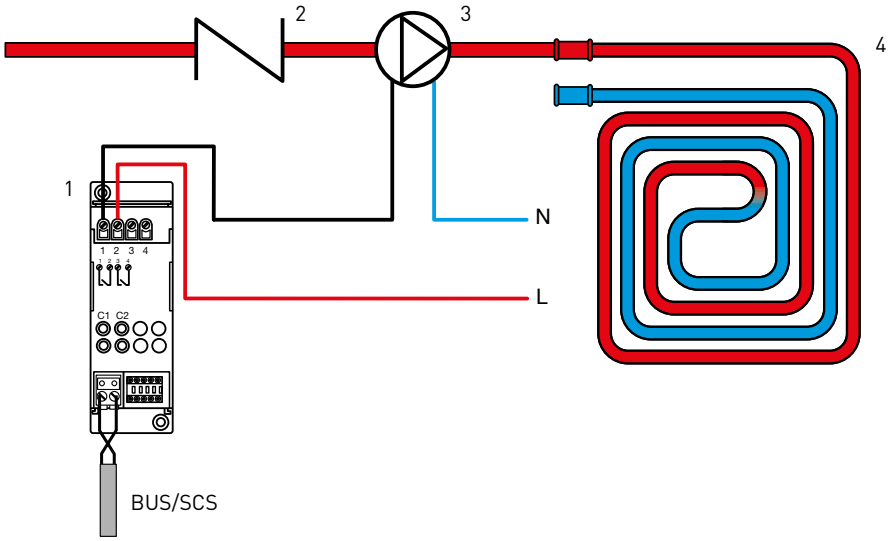
Connection (continued)

Electric radiators/electric underfloor heating/electric radiant panel heaters



Key
1. Actuator
2. Electric radiators

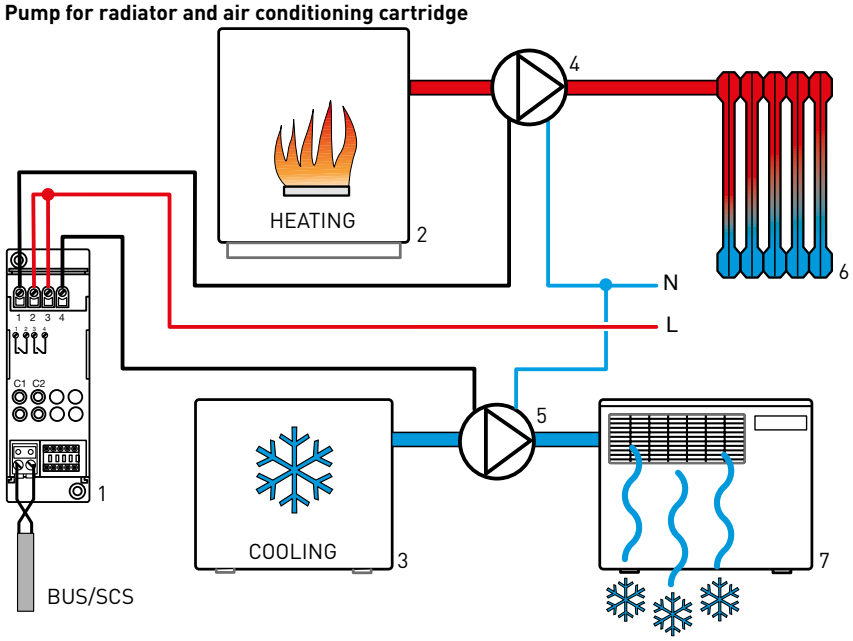
Pump for underfloor heating



Key
1. Actuator
2. Non-return valve
3. Pump
4. Radiant panel heater

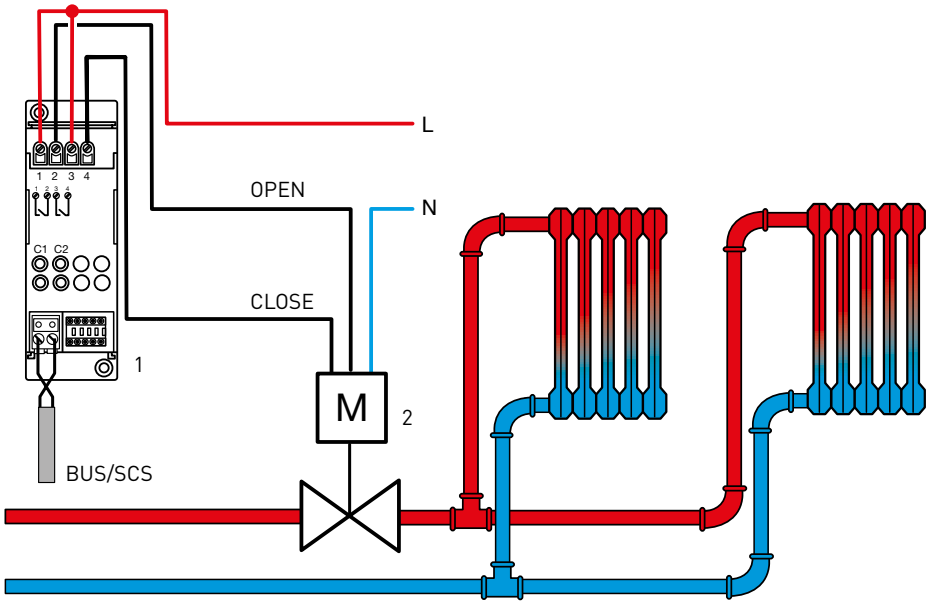
Connection (continued)

Pump for radiator and air conditioning cartridge



Key
1. Actuator
2. Boiler
3. Chiller
4. Heating circuit circulating pump
5. Cooling circuit circulating pump
6. Radiator
7. Air conditioning cartridge

Valve with open and close command



Key
1. Actuator
2. Solenoid valve with open and close command

F430/4: HVAC ACTUATOR WITH 4 INDEPENDENT RELAYS

This actuator has 4 independent relays (ON/OFF function, Open/Close function) for controlling HVAC loads (fan coil units with 3 speeds, relief valves or motorised valves, pumps and electric radiators).
This actuator can control:

- up to 4 ON/OFF valves for a water radiator
- up to 4 electric radiators
- up to 4 electric underfloor heating systems (add one contactor per output if the load is more than 4 A)
- up to 4 electric radiant panel heaters (add one contactor per output if the load is more than 4 A)
- up to 4 pumps for underfloor heating
- 2 valves with open and close command
- 1 x 2-pipe fan coil unit with ON/OFF valve

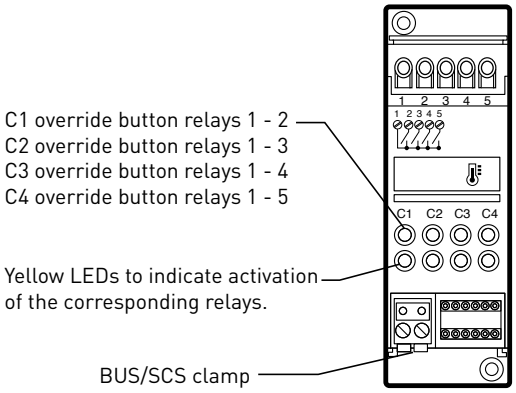
To manage Open/Close type loads, wire up contact C1 for the open command and contact C2 for the close command.

To control a fan coil unit: contact C1 is ON/OFF type and controls the relief valve or valve, contacts C2, C3 and C4 control the ventilation minimum, average and maximum speed respectively.

This HVAC actuator is powered by the BUS and should be combined with a thermostat.

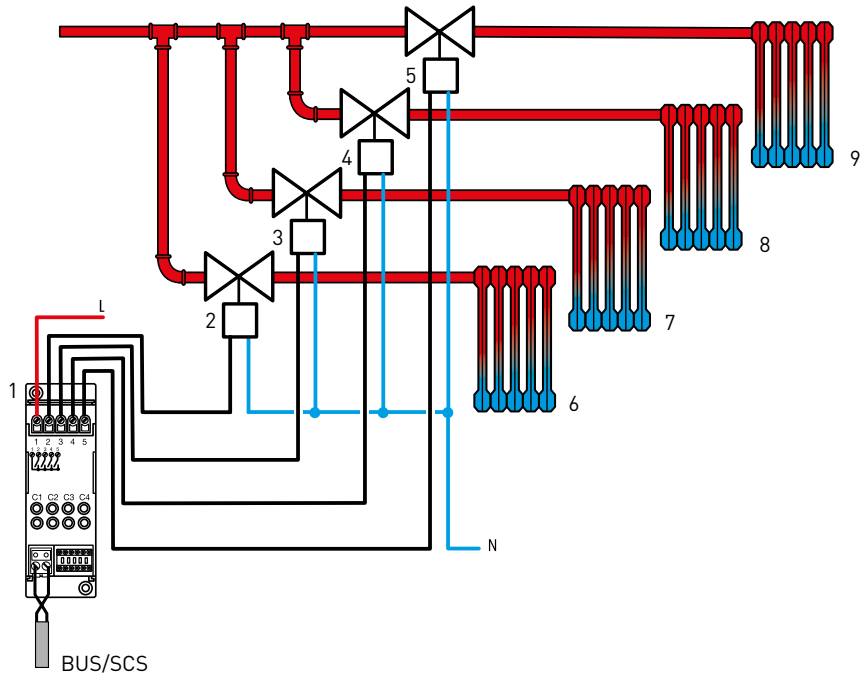
Technical characteristics

Power supply for operation on a BUS/SCS	18-27 V⎓
Max. consumption (relays activated individually)	37.5 mA
Consumption (relays activated with interlocking or fan coil unit control)	20.5 mA
Consumption in standby mode	9 mA
Breaking capacity of each relay	4 A (resistive) Eg: electric radiators 1 A (inductive) Eg: solenoid valves, pumps
Max. dissipated power	3.2 W
Connection terminals Terminal type Terminal capacity	 Screw 2 x 2.5 mm²
Degree of protection Penetration of solid bodies and liquids Impact resistance	 IP 20 (installed in an enclosure) IK 04
Number of modules	2
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C



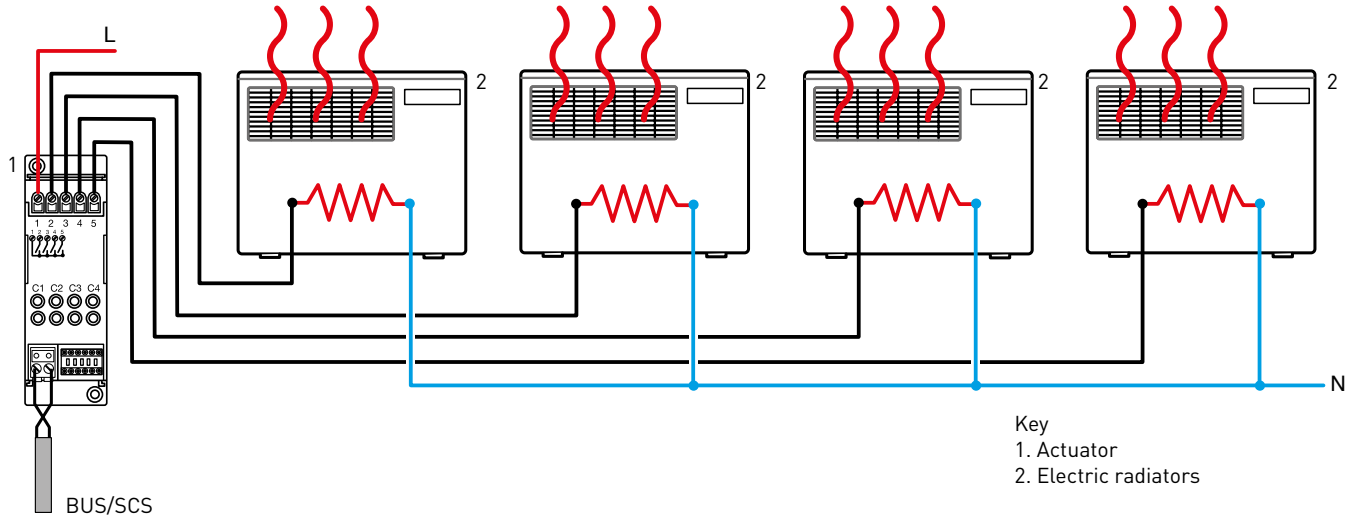
Connection

ON/OFF valve for radiator



Key
1. Actuator
2 to 5. ON/OFF solenoid valve
6 to 9. Radiator

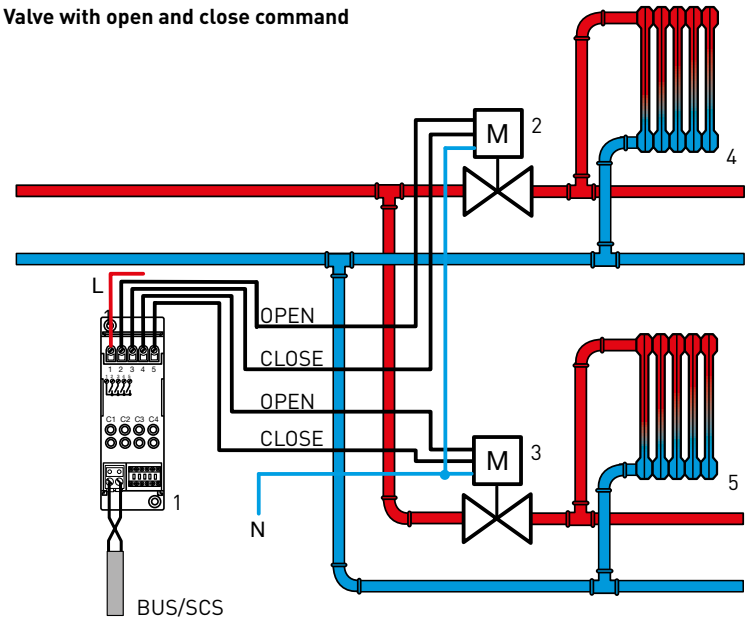
Electric radiators/electric underfloor heating/electric ceiling panel heaters



Key
1. Actuator
2. Electric radiators

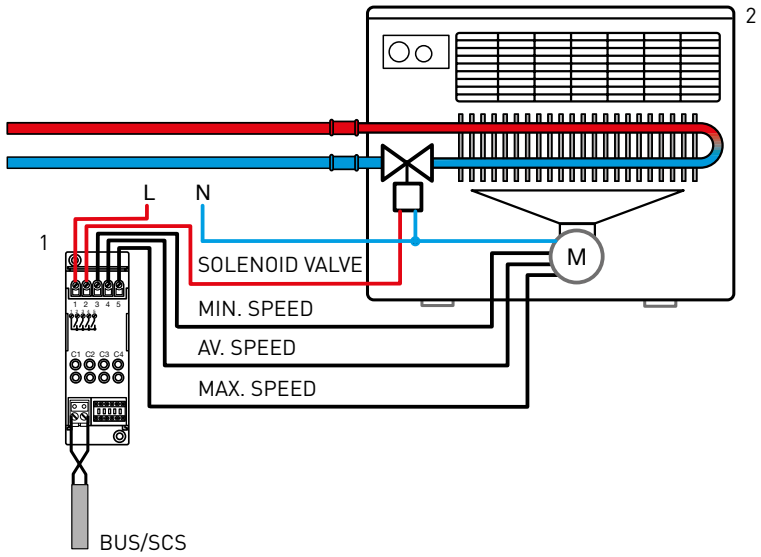
F430/4: HVAC ACTUATOR WITH 4 INDEPENDENT RELAYS (CONTINUED)

Valve with open and close command



Key
1. Actuator
2 and 3. Solenoid valve with open and close command
4 and 5. Radiator

2-pipe fan coil unit with ON/OFF valve



Key
1. Actuator
2. 2-pipe, 3-speed fan coil units

Note
When using a fan coil unit in a heating installation, avoid operating the fan when the water is cold, as this would result in cooling the room rather than heating it. Some fan coil units have a water temperature sensor to perform this function. If you are using a fan coil unit without a sensor, an effective solution would be to use a thermostat (or electrical heating element) on the water return pipe. The thermostat contact controls a contactor, to which the fan coil unit power supplies are connected.

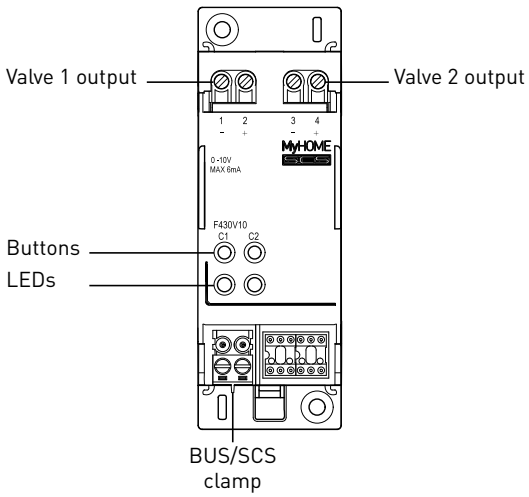
F430V10: HVAC ACTUATOR WITH 2 X 0-10 V OUTPUTS

This actuator has 2 x 0-10 V outputs for controlling 0-10 V proportional solenoid valves on thermoregulation installations. As well as two 0-10 V outputs, it has two control buttons for manually opening/closing each valve and the corresponding status indicators.

This actuator can control:
- up to two 0-10 V valves

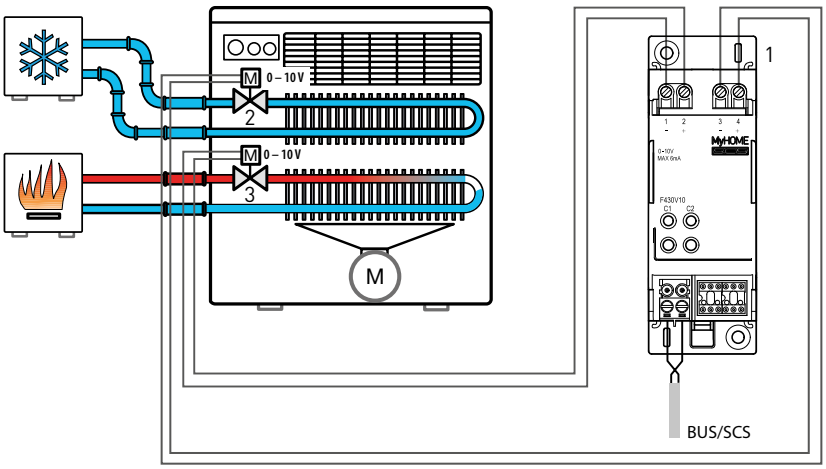
This HVAC actuator is powered by the BUS. It must be used with a thermostat.

Technical characteristics

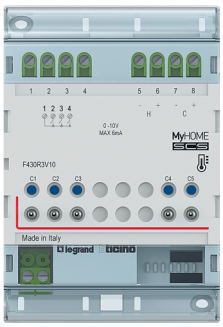


BUS/SCS power supply	18-27 V⎓
Standby consumption	19 mA
Maximum consumption	25 mA
Outputs	2 x 0-10 V
Maximum current provided by each output	1 mA
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm²
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	2
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C

Connection



Key
1. Actuator
2 and 3. 0-10 V thermostatic valve



F430R3V10: HVAC ACTUATOR WITH 3 INDEPENDENT RELAYS AND 2 X 0-10 V OUTPUTS

This actuator has 3 independent relays and 2 x 0-10 V outputs for controlling 2- and 4-pipe fan coil units, with 3 speeds and controlling 0-10 V valves.

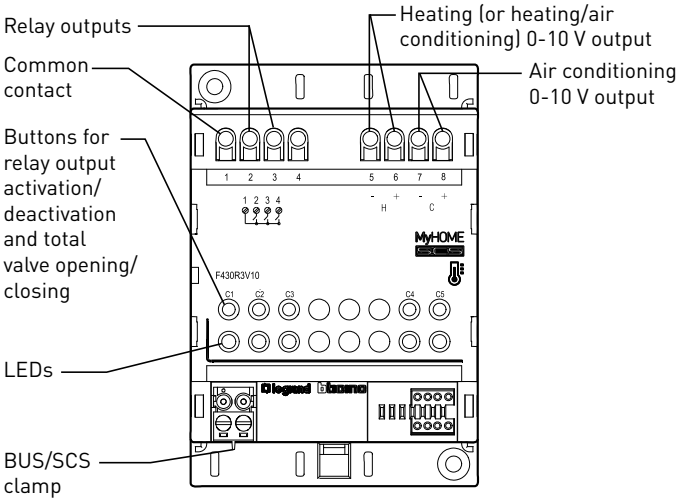
The LEDs are used to indicate the state of the corresponding outputs (relay and 0-10 V).

This actuator can control:

- 1 x 2-pipe fan coil unit with 0-10 V valve
- 1 x 4-pipe fan coil unit with 0-10 V valve
- 1 x 4-pipe fan coil unit with 0-10 V speed (2 x 0-10 V outputs)
- 1 x 4-pipe fan coil unit with 0-10 V speed (1 x 0-10 V output with or without E/I* signal)
- 1 x 2-pipe fan coil unit with 0-10 V speed

This HVAC actuator is powered by the BUS and should be combined with a thermostat.

Technical characteristics



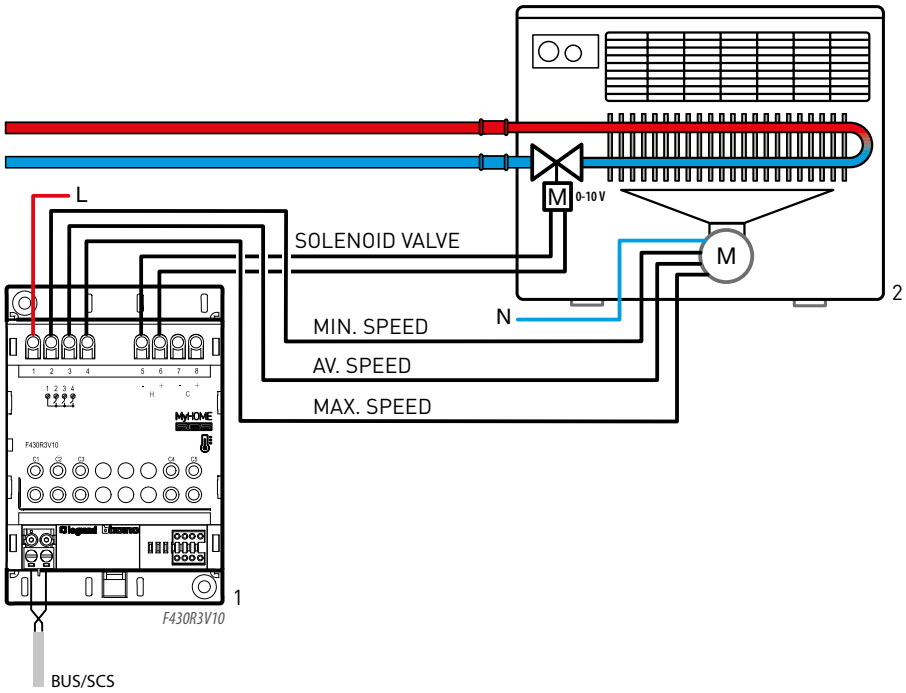
BUS/SCS power supply	18-27 VDC
Standby consumption	20 mA
Maximum consumption	60 mA
Maximum current provided by each 0-10 V output	1 mA
Maximum power which can be controlled for relays	4 A (resistive); 1 A (inductive)
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm^2
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	2
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C

Product compatible from production batch 16W09 onwards.

* E/I: heating/air conditioning reference signal for certain fan coil unit controls.

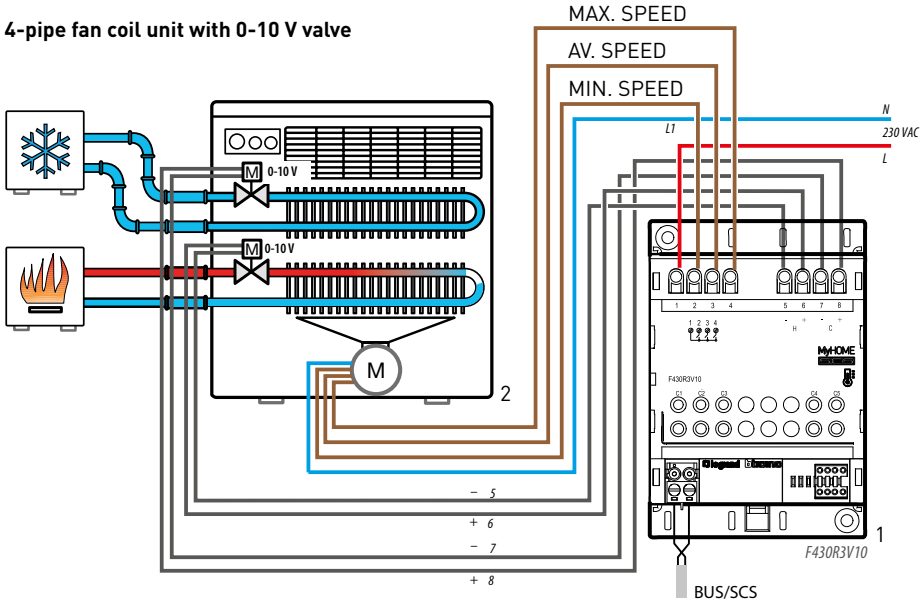
Connection

2-pipe fan coil unit with 0-10 V valve

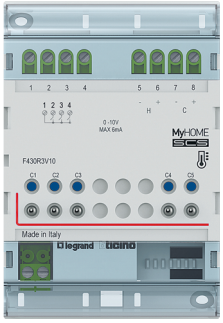


Key
1. Actuator
2. 2-pipe fan coil unit with 0-10 V valve

4-pipe fan coil unit with 0-10 V valve



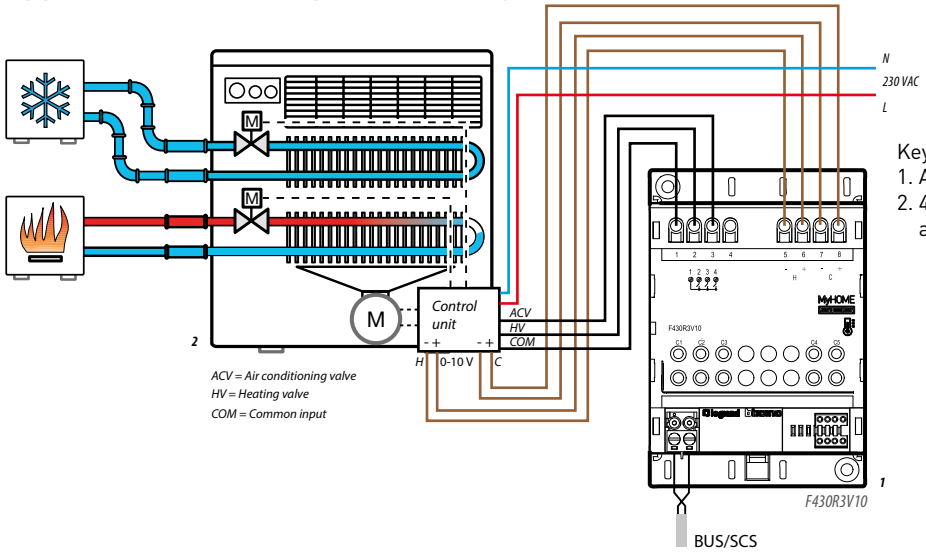
Key
1. Actuator
2. 4-pipe fan coil unit with 0-10 V valve



F430R3V10: HVAC ACTUATOR WITH 3 INDEPENDENT RELAYS AND 2 X 0-10 V OUTPUTS (CONTINUED)

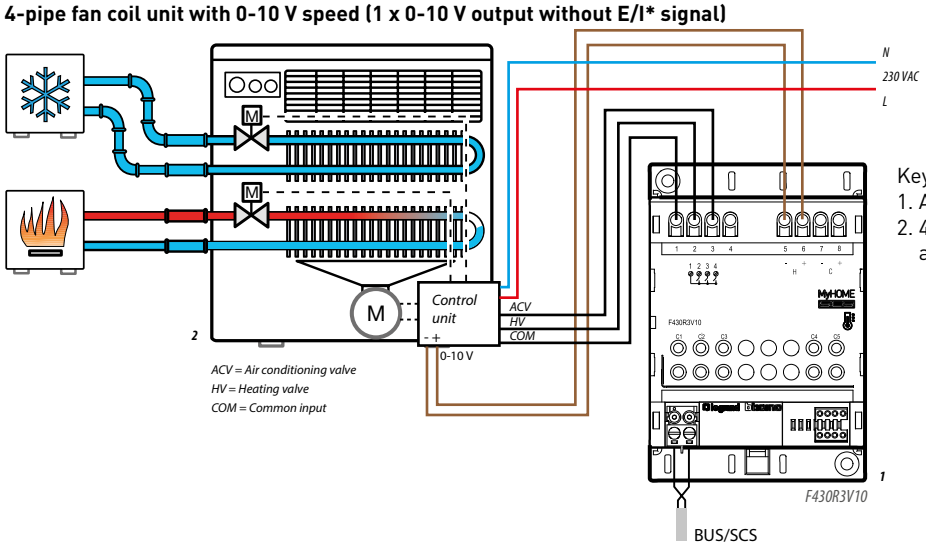
Connection

4-pipe fan coil unit with 0-10 V speed (2 x 0-10 V outputs)



Key
1. Actuator
2. 4-pipe fan coil unit with 0-10 V speed and control unit

4-pipe fan coil unit with 0-10 V speed (1 x 0-10 V output without E/I* signal)

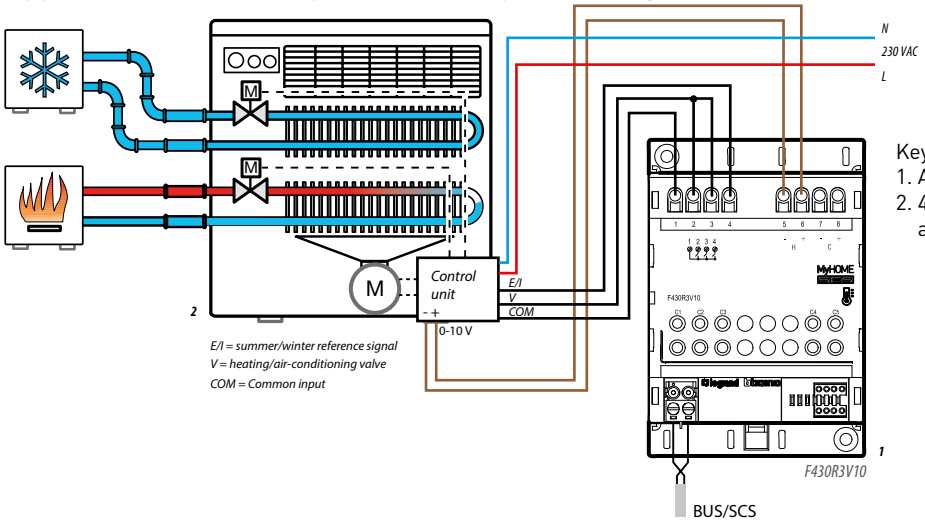


Key
1. Actuator
2. 4-pipe fan coil unit with 0-10 V speed and control unit

* E/I = heating/air conditioning reference signal for certain fan coil unit controls.

Connection

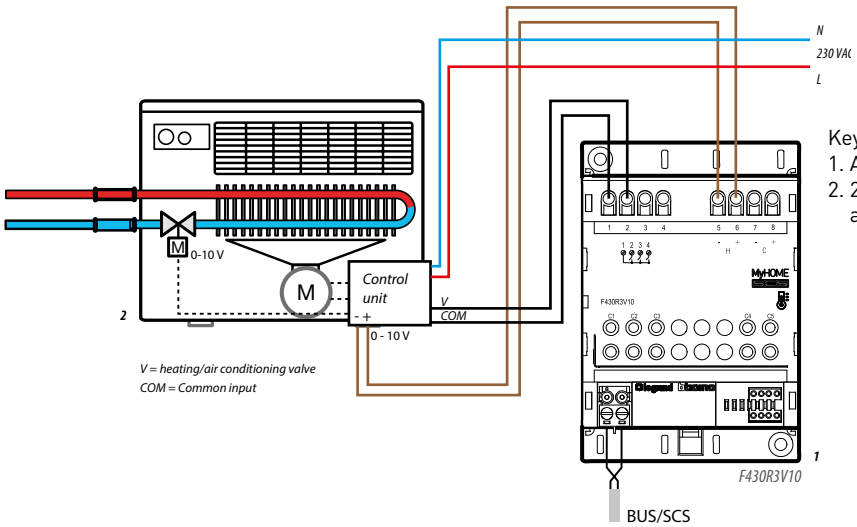
4-pipe fan coil unit with 0-10 V speed (1 x 0-10 V output with E/I* signal)



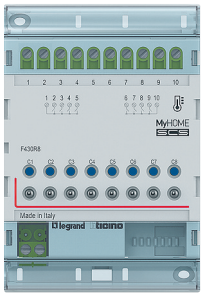
Key
1. Actuator
2. 4-pipe fan coil unit with 0-10 V speed and control unit

* E/I = heating/air conditioning reference signal for certain fan coil unit controls.

2-pipe fan coil unit with 0-10 V valve



Key
1. Actuator
2. 2-pipe fan coil unit with 0-10 V speed and control unit



F430R8: HVAC ACTUATOR WITH 8 INDEPENDENT RELAYS

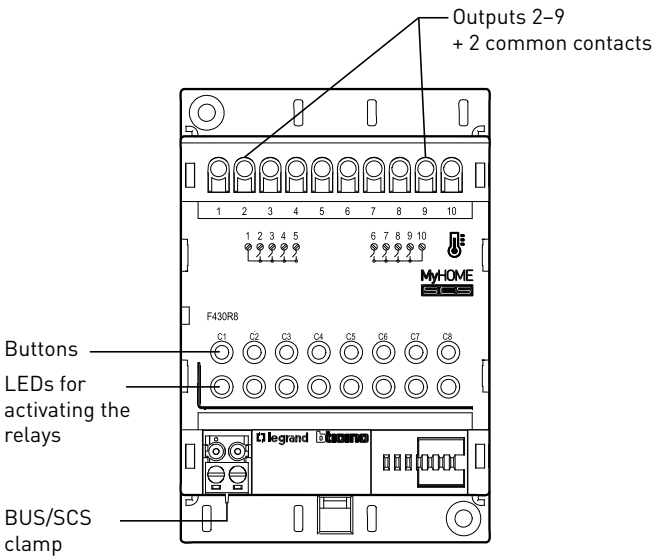
This actuator has 8 independent relays (ON/OFF function, Open/Close function) for controlling HVAC loads (fan coil units with 3 speeds, relief valves or motorised valves, pumps and electric radiators).

This actuator can control:
- up to 8 ON/OFF valves for a water radiator
- up to 4 valves with open and close command
- up to 4 x 3-way valves
- up to 2 x 2-pipe fan coil units with ON/OFF valves (4+4 relays)
- 1 x 2-pipe fan coil unit with 3-way valves (5 relays)
- 1 x 4-pipe fan coil unit with 2 ON/OFF valves (5 relays)
- 1 x 4-pipe fan coil unit with 2 x 3-way valves (7 relays)

This HVAC actuator is powered by the BUS and should be combined with a thermostat.

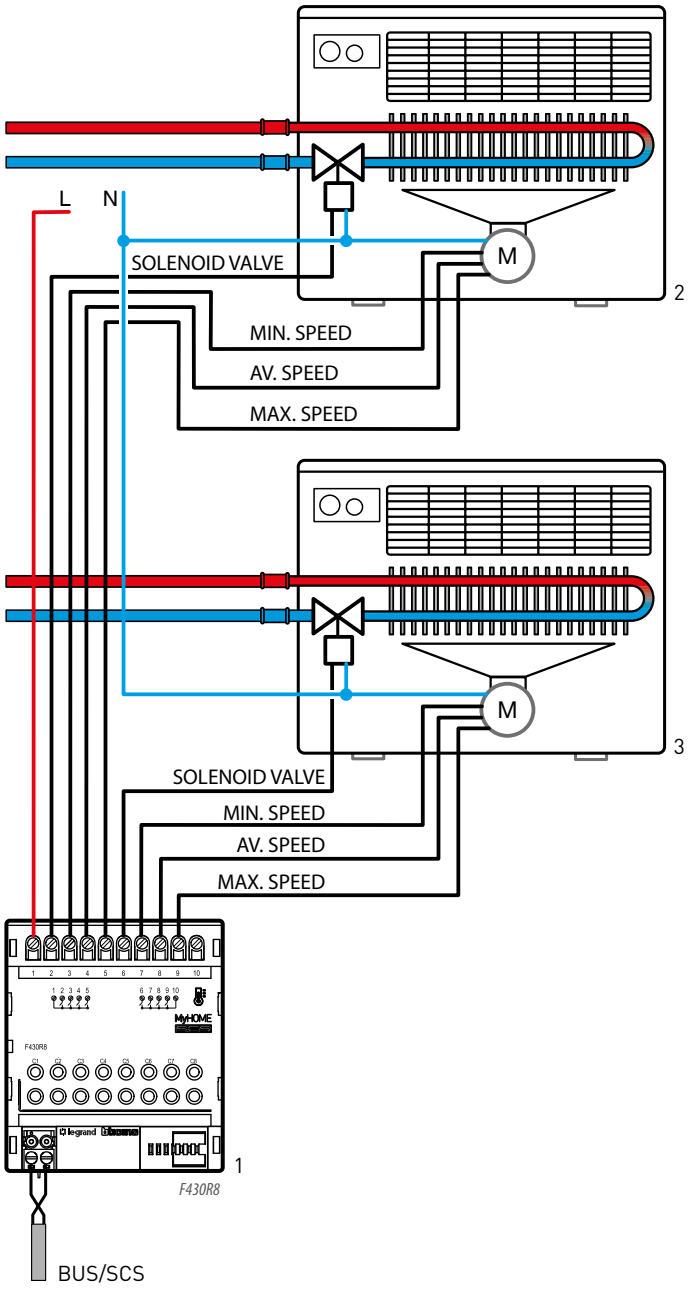
Technical characteristics

Power supply via BUS/SCS	18-27 V⎓
Consumption in standby mode	15 mA
Maximum consumption	100 mA
Working temperature	5°C to 40°C
Maximum power which can be controlled	4 A (resistive); 1 A (inductive)
Size	4 DIN modules
Connection terminals	
Terminal type	Screw
Terminal capacity	2 x 2.5 mm^2
Degree of protection	
Penetration of solid bodies and liquids	IP 20 (installed in an enclosure)
Impact resistance	IK 04
Number of modules	2
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C

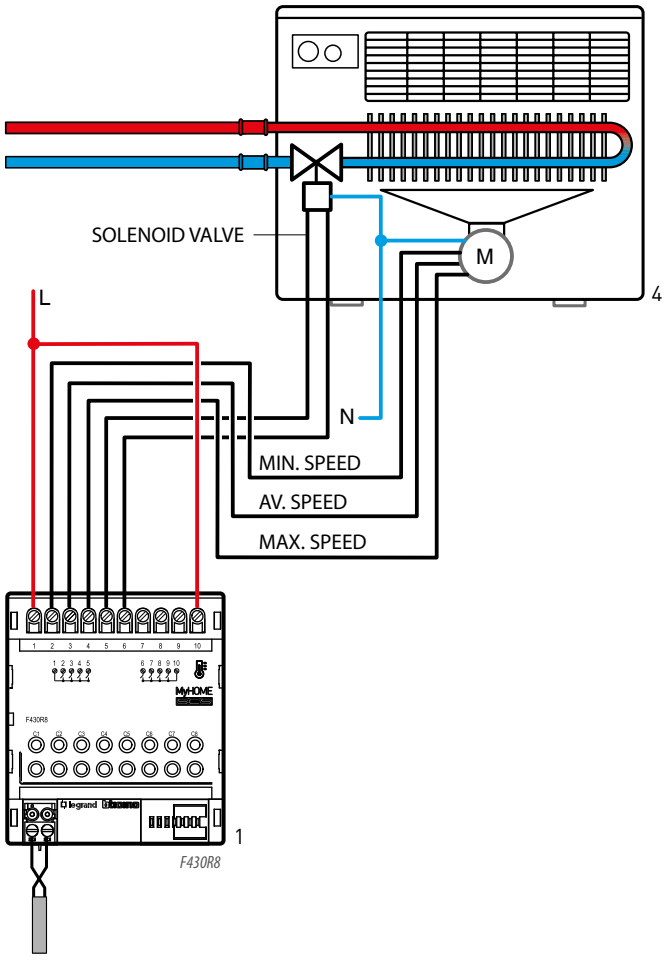


Connection

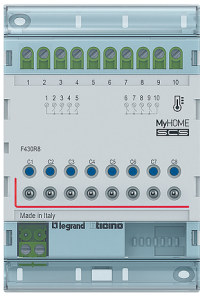
2 x 2-pipe fan coil units with ON/OFF valve



2-pipe fan coil units with 3-way valve



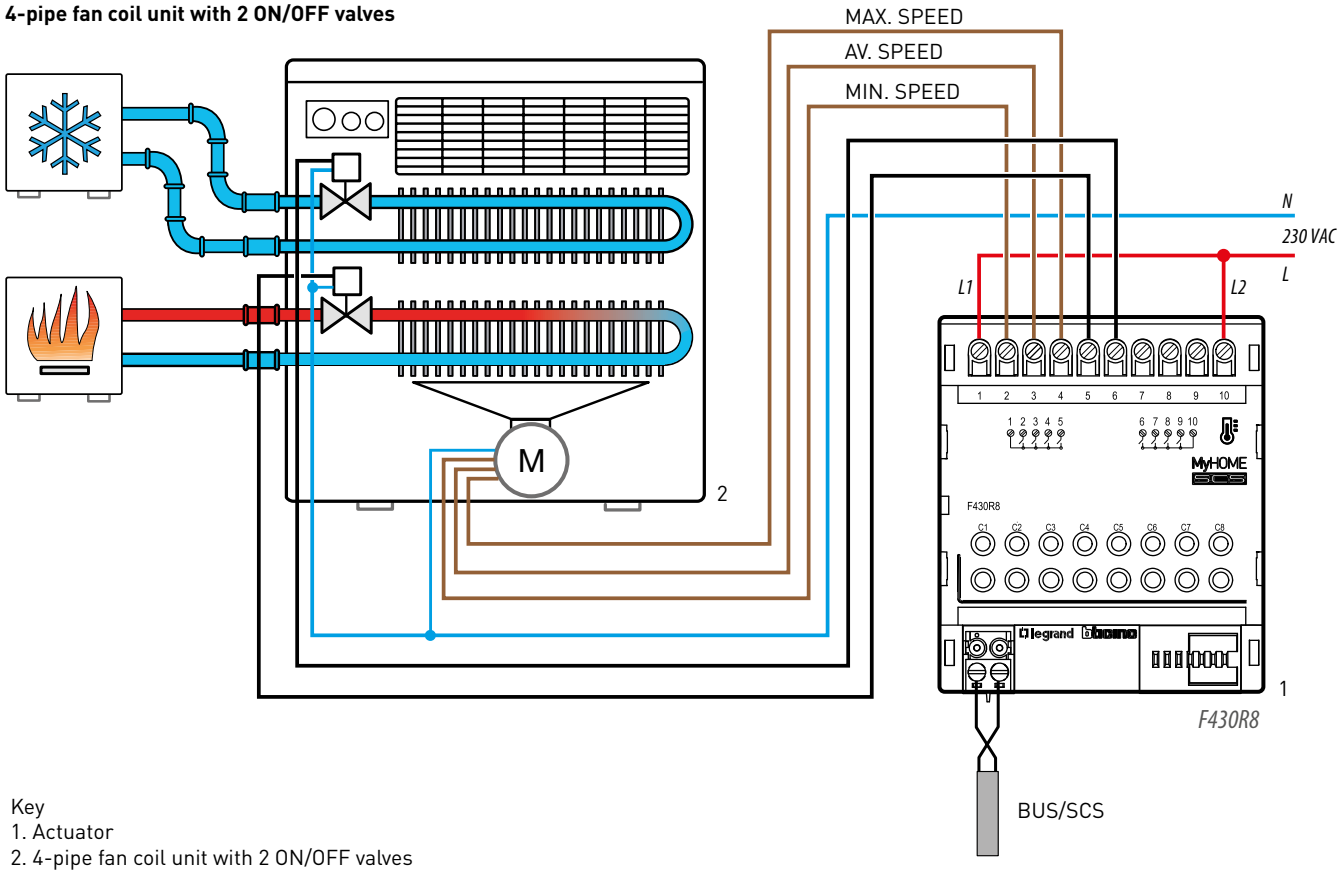
Key
1. Actuator
2 and 3. 2-pipe fan coil unit with ON/OFF valve
4. 2-pipe fan coil unit with 3-way valve



F430R8: HVAC ACTUATOR WITH 8 INDEPENDENT RELAYS (CONTINUED)

Connection

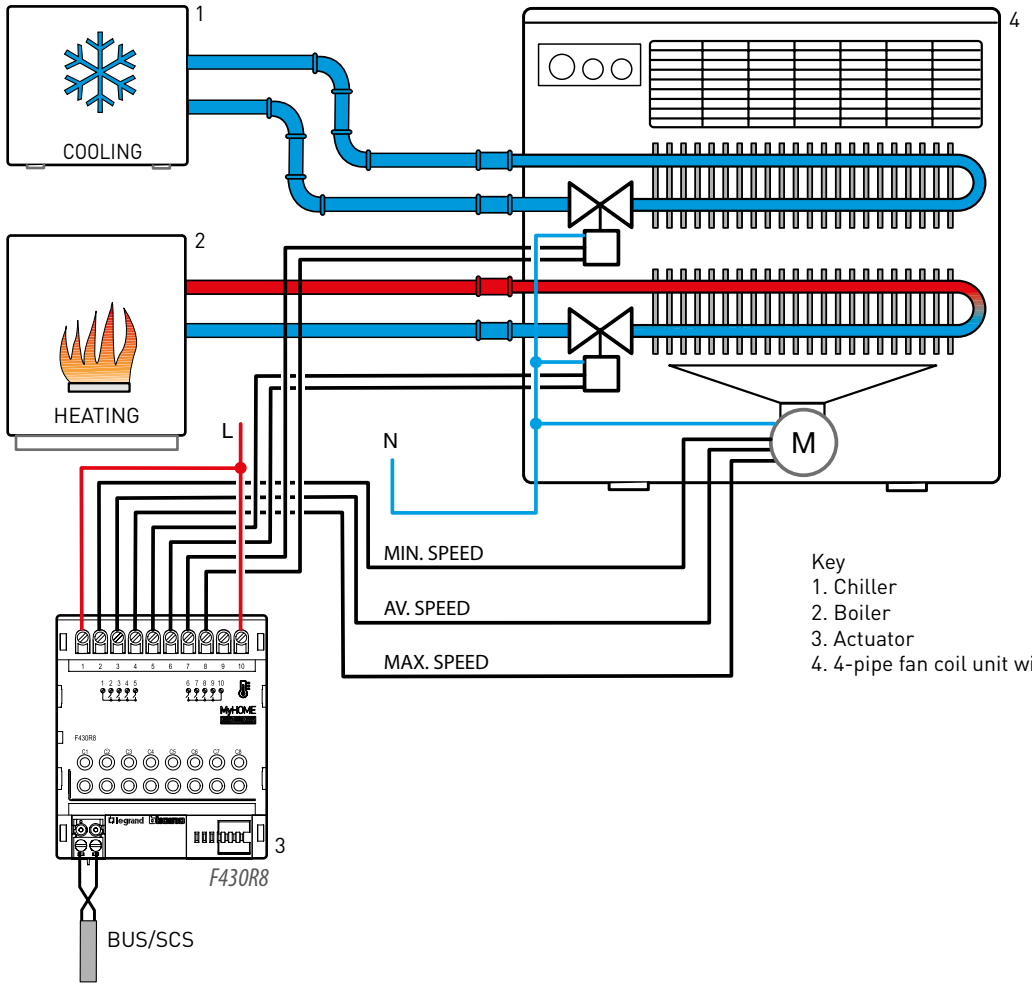
4-pipe fan coil unit with 2 ON/OFF valves



Key
1. Actuator
2. 4-pipe fan coil unit with 2 ON/OFF valves

Connection

4-pipe fan coil unit with 3-way valve



Key
1. Chiller
2. Boiler
3. Actuator
4. 4-pipe fan coil unit with 3-way valves

0 674 59: THERMOSTAT WITH SCREEN

EQUIVALENCE	
Cat. No.	**Range**
0 674 59	Arteor
H4691	Axolute
LN4691	Livinglight

This thermostat has a screen for controlling the ambient temperature on thermoregulation installations.

It has 4 buttons which can be used to select the desired temperature and the various operating modes and, when used with a fan coil unit, to control the fan speed.

The thermostat can manage different operating modes: automatic and manual, and setting values for Eco, Comfort, Frost guard/ thermal overload and OFF modes.

It can also be used on mixed heating/air-conditioning installations in cases where both functions would be available simultaneously on the same installation, but there is no switching between heating and air conditioning.

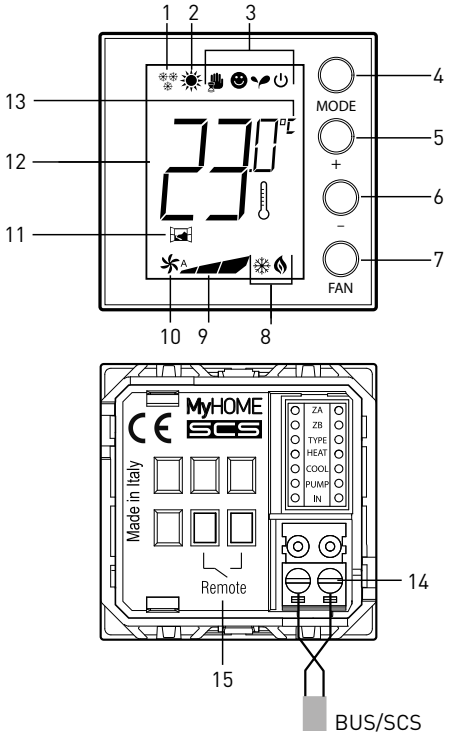
It can be used to control an HVAC actuator locally or a centralised system.

It is powered by the BUS.

An HVAC control loop can have up to 9 actuators and 9 pumps (no thermostat in Slave mode).

The system can have up to 4 independent control loops.

Technical characteristics



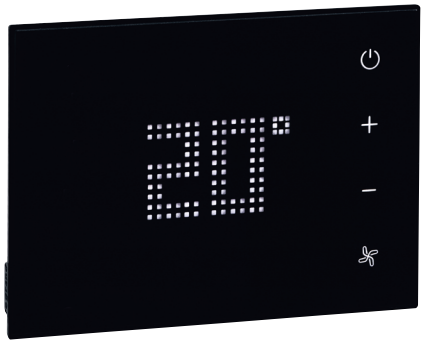
Key
1. Heating function
2. Air conditioning function
3. Operating mode icons
4. MODE button: pressing briefly changes the device mode; a longer press changes the function.
5. + button: increases the programmed value
6. – button: decreases the programmed value
7. FAN button: pressing briefly sets the fan speed of the fan coil unit to one of 3 levels + automatic; a longer press accesses the user setting menu
8. Heating/air conditioning indicator enabled
9. Fan speed indicator (3 levels)
10. Fan operating in automatic mode indicator
11. Window indicator: local contact active depending on programming
12. Measured temperature (thermometer symbol on)/set temperature (thermometer symbol off) indicator
13. Unit of measurement: °C or °F
14. BUS/SCS connection
15. Do not use

Technical characteristics (continued)

BUS power supply	18-27 VDC
Consumption	30 mA (maximum back-light when pressing the buttons)
	16 mA (backlight on standby)
	13 mA (backlight switched off)
Unit of measurement	°C or °F
Operating temperature	0°C-40°C
Storage temperature	-20°C to +70°C
Size	For mounting in a 1-gang box
Loads controllable by an actuator	• On/Off, Open/Close, 3-way or 0-10 V valves • 2 or 4-pipe fan coil unit with On/Off, 3-way or 0-10 V valves • 2 and 4-pipe fan coil unit with 0-10 V valve and 0-10 V speed control • Radiators (ON/OFF) • Centralised HVAC system IP gateway *

*In this case, an SCS HVAC actuator have to be added anyway in the installation.

The heating/air conditioning indicator is not enabled.



0 487 73 OR FL4654/FL4654W: UX TOUCH THERMOSTAT

The thermostat is dedicated to hotels and is equally suitable for heating and/or air-conditioning installations. It can be used to display and set the setpoint temperature, fan speed, and switch ON with thermal overload protection.

The screen displays the measured ambient temperature or the setpoint temperature.

The control & management software is used to view and control the thermostat.

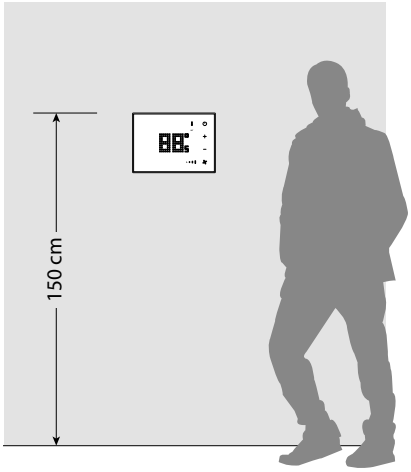
The thermostat must be installed on a wall at a height of about 150 cm from the floor, unless otherwise specified by the applicable standards.

An HVAC control loop can have up to 9 actuators + 9 pumps and up to 10 thermostats (1 master thermostat + 9 slave thermostats).

The system can have up to 4 independent control loops.

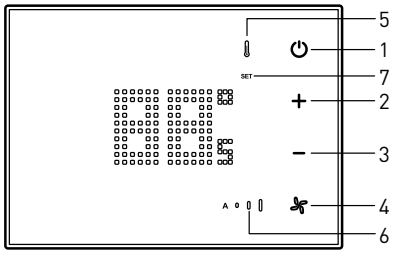
It has a proximity sensor: when the device detects an approach, it switches from standby state to active state. The LED brightness level (on standby and active) and the time delay before switching from standby to active can be set by configuration.

This product is supplied without its support Cat. No. 0 487 79.



DEFAULT VALUES		
	Heating	**Air conditioning**
Setting interval	3-40°C	3-40°C
Comfort	21°C	25°C
Economy	18°C	28°C
Frost guard	7°C	
Thermal overload		35°C

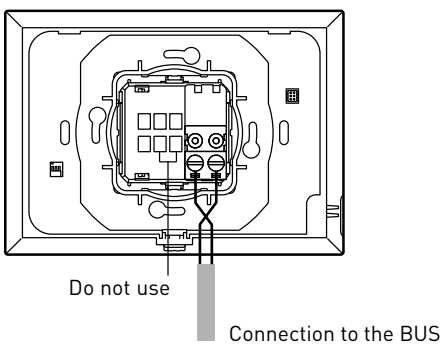
Front view



Key

1. MODE button: pressing briefly changes from normal mode (ON) to protection mode (frost guard or thermal overload).
   A longer press changes the function (heating/air conditioning/automatic) according to the configuration.
2. + button: increases the temperature value
3. – button: decreases the temperature value
4. FAN button: sets the fan speed (3 levels + automatic)
5. Heating enabled indicator (red). Air conditioning enabled indicator (blue) (only enabled with an SCS HVAC actuator)
6. Fan speed indicator (3 levels) + automatic
7. Measured temperature (SET off) or setpoint temperature (SET on) indicator

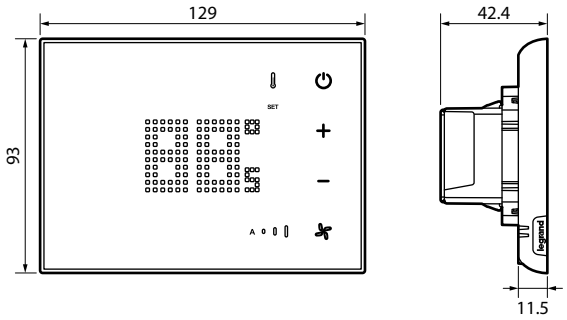
Rear view



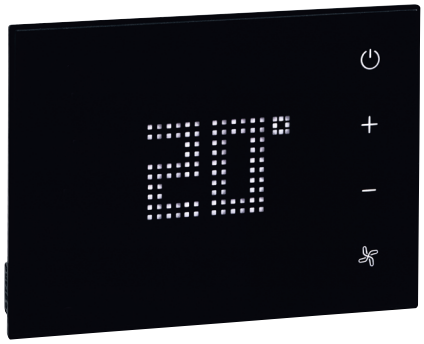
Technical characteristics

BUS/SCS power supply	18-27 VDC
Consumption with screen off	8 mA
Consumption with ultra-bright screen	25 mA
Operating temperature	0°C to +40°C
Storage temperature	-20°C to +70°C
Unit of measurement	°C or °F
Loads controllable by an actuator	• On/Off, Open/Close, 3-way or 0-10 V valves • 2 or 4-pipe fan coil unit with On/Off, 3-way or 0-10 V valves • 2 and 4-pipe fan coil unit with 0-10 V valve and 0-10 V speed control • Radiators (ON/OFF) • Centralised air-conditioning system IP gateway*
Protection index	IP 20, IK 04
Plate and surround colour (standard)	Black Cat. No. 0 487 73/ FL4654 or White Cat. No. FL4654W
Size	For mounting in a 1-gang box

Clean with a dry microfibre cloth folded in two to give enough thickness without launching scenarios.



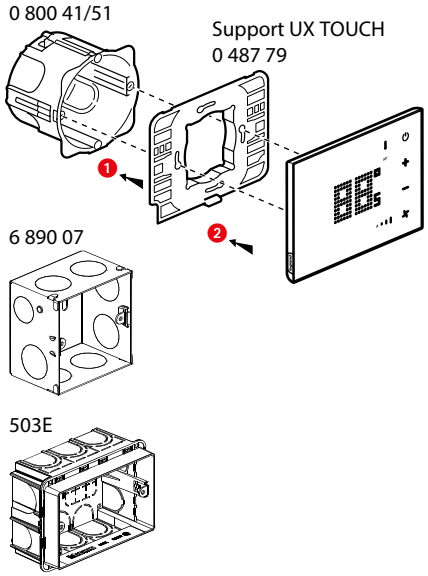
*In this case, the heating/air conditioning indicator is not enabled.



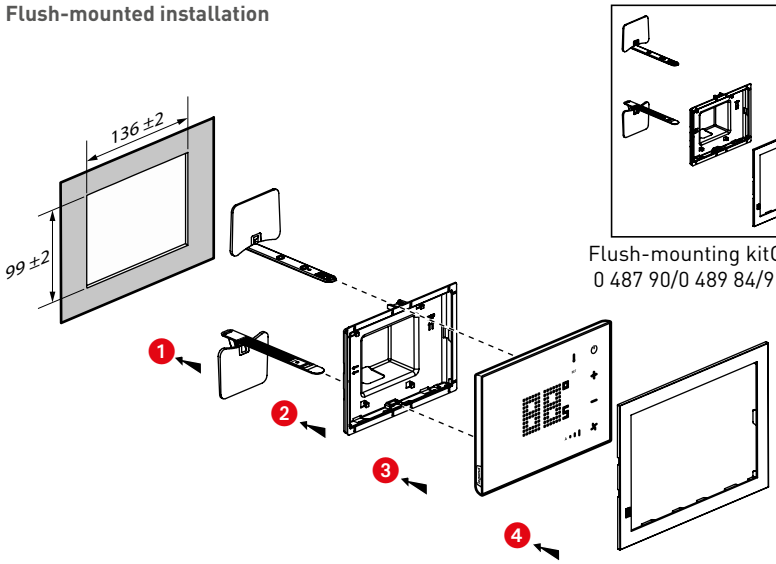
0 487 73 OR FL4654/FL4654W: UX TOUCH THERMOSTAT (CONTINUED)

Technical characteristics (continued)

Surface-mounted installation

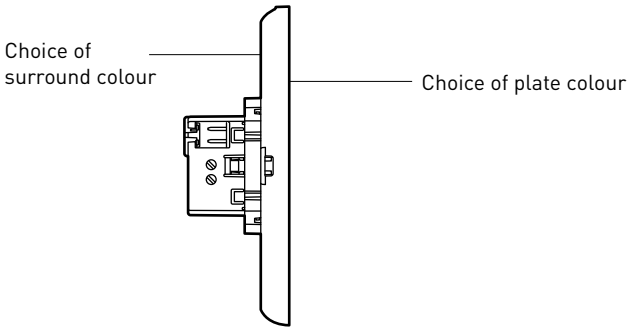


Flush-mounted installation



Flush-mounting kitCat. Nos.
0 487 90/0 489 84/91/92

Configured Cat. No. 0 487 83 or FL4664

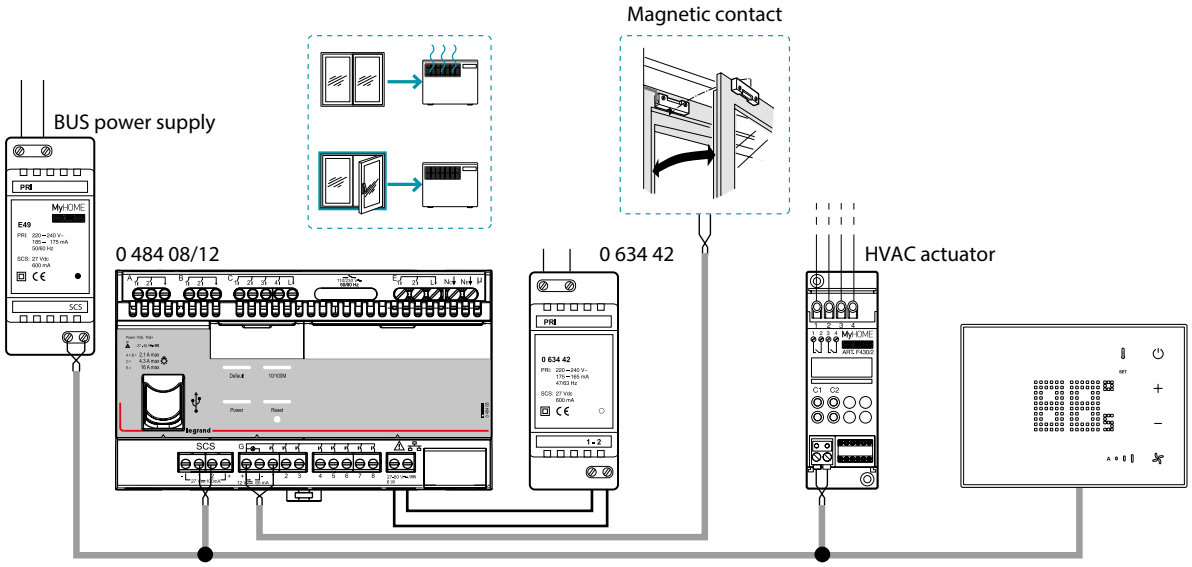


Options (predefined position):
- Hotel logo

The configurator is available on the following website: www.uxforupscalehotel.legrand.com.
The list of colour options (plate and surround) can be accessed via the configurator.

Technical characteristics (continued)

Example of installation for hotel room

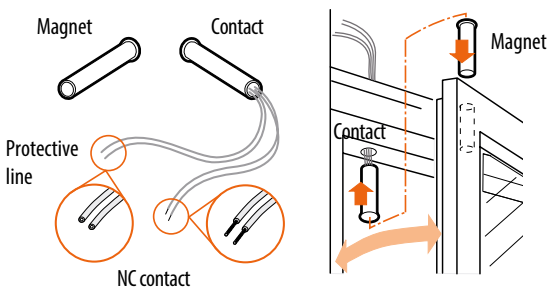


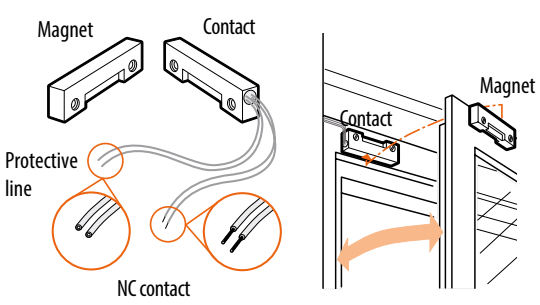
NB: The window contact must be connected to the controller.

MAGNETIC SENSOR

Mechanism Cat.No.	Installation method	Connection cable length	Max. distance between the 2 parts	Materials	Picture
0 431 01	Flush-mounting	260 mm	15 mm	non-ferromagnetic	
0 431 00	Surface-mounting	supplied without cable	12 mm	non-ferromagnetic	
3510	Flush-mounting	200 mm	12 mm	non-ferromagnetic	
3510M	Flush-mounting	200 mm	12 mm	non-ferromagnetic	
3510PB	Flush-mounting	200 mm	12 mm	all types	
3511	Surface-mounting	200 mm	12 mm	non-ferromagnetic	
3512	Surface-mounting	200 mm	40 mm	all types	
3513	Surface-mounting	200 mm	15 mm	all types	

Magnetic sensors are usually installed in the top of the frames, opposite the hinges, so that the two components (magnet and reed contact) are kept apart even if there is the slightest opening. The electromagnetic sensors in the offer have an NC (Normally Closed) contact and a protective line. In the application required by the room controller, it is the NC contact that has to be connected..

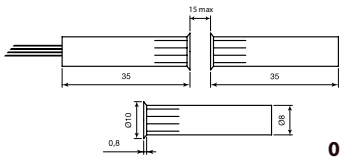




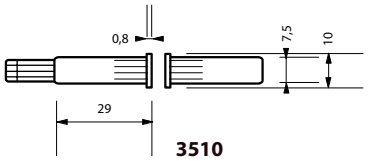
Technical characteristics

Sensors for flush-mountable installations
(Cat.Nos 0 431 01/3510/3510M)

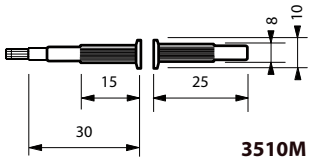
These cylindrical sensors are specially made to be flush-mounted in frames with a small cross-section. Sensors 0 431 01 and 3510 are recommended for wooden frames. Sensor 3510M is made of brass with excellent mechanical strength, and so can be mounted on all types of frame made of non-ferromagnetic materials (wood, PVC, aluminium).



0 431 01



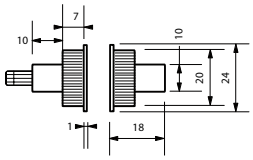
3510



3510M

Sensors for flush-mountable installations
(Cat.No 3510PB)

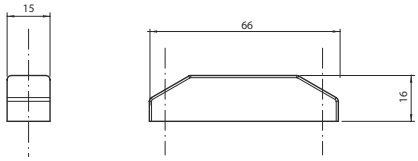
These cylindrical sensors with a large diameter (20 mm) and equipped with a reinforced magnet, are specially made to be flush-mounted in reinforced doors, doors and gates.



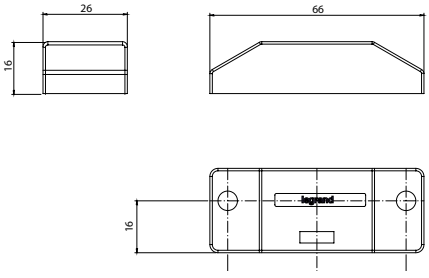
3510PB

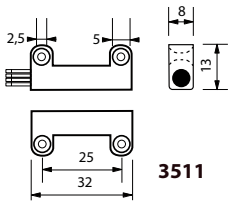
Sensors for surface-mounted installations
(Cat.Nos 0 431 00/3511)

If the flush-mountable installation cannot be applied, these sensors can be used. They can be used, not only on surfaces such as wood or plastic, and also on non-ferrous metal frames, such as aluminium.



0 431 00

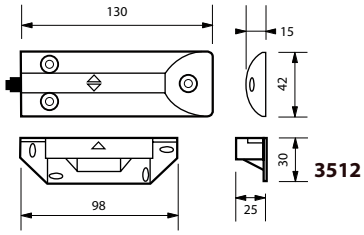




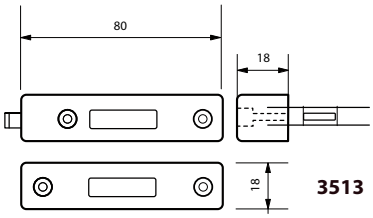
3511

Sensors for surface-mounted installations
(Cat.Nos 3512/3513)

Made of metal and destined for installation on frames made of ferrous material. Sensor 3512 is suitable for protecting sliding or up-and-over doors; it can be fixed to the ground thanks to its die-cast aluminium structure, which is resistant to passing vehicles. The connection cables are protected by a steel casing. Sensor 3513 can be used on sheet metal doors and frames made of ferrous materials.



3512



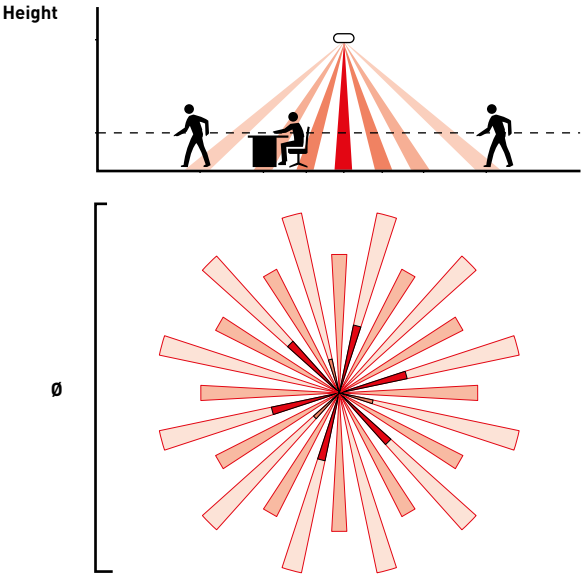
3513

0 488 20 OR BMSE3001: CEILING-MOUNTED MOTION SENSOR (SWEEPING MOVEMENTS)

This device allows an output or controller scenario to be controlled automatically in its surveillance zone.
Motion sensor with 360° detection angle.
Detection type: infrared (PIR)
Mounting type: ceiling
It is powered by the BUS.

Technical characteristics

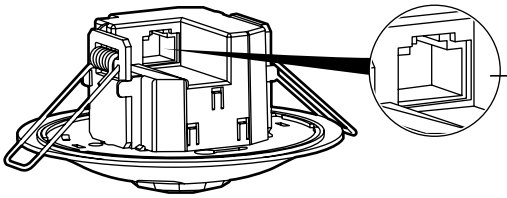
- Supply voltage: 27 V⎓
- No-load power consumption: 12 mA
- Connection between sensor and controller: BUS SCS connection
  (use an RJ45/BUS adaptor Cat. No. 0 488 72)
- Flush-mounting diameter: 65 mm without flush-mounting box, 68 mm with flush-mounting box
- Impact resistance: IK 04
- Protection index: IP 20
- Operating temperature: -5°C to 45°C
- Storage temperature: -20°C to +70°C



		Sensitivity Low (25%)		Sensitivity Medium (50%)	
		Ø (m)	Area (m²)	Ø (m)	Area (m²)
Height (m)	2.5	4	15	6	25
	3	5.5	25	6.5	35
	4	6.5	35	7.5	45
	5	6	30	10.5	90
	6	4	15	5.5	25

		Sensitivity High (75%)		Sensitivity Very high (100%)	
		Ø (m)	Area (m²)	Ø (m)	Area (m²)
Height (m)	2.5	6.5	30	8	50
	3	8.5	60	11.5	100
	4	12.5	125	14	155
	5	12	115	16.5	215
	6	8.5	60	12.5	125

Connection



BUS/SCS connection
(use an RJ45/BUS
adaptor Cat. No. 0 488 72)

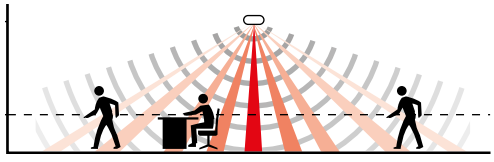
0 488 22 OR BMSE3003: CEILING-MOUNTED MOTION SENSOR (SMALL MOVEMENTS)

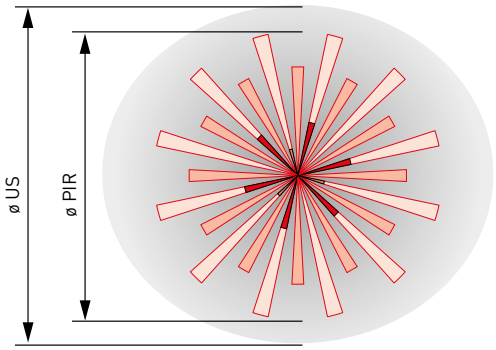
This device allows an output or controller scenario to be controlled automatically in its surveillance zone.
Motion sensor with 360° detection angle.
Detection type: infrared (PIR) and ultrasound (US)
Mounting type: ceiling
It is powered by the BUS.

Technical characteristics

- Supply voltage: 27 V⎓
- No-load power consumption: 17 mA
- Connection between sensor and controller: BUS SCS connection
  (use an RJ45/BUS adaptor Cat. No. 0 488 72)
- Flush-mounting diameter: 65 mm without flush-mounting box, 68 mm with flush-mounting box
- Impact resistance: IK 04
- Protection index: IP 20
- Operating temperature: -5°C to 45°C
- Storage temperature: -20°C to +70°C

Height





n PIR detection

		Sensitivity Low (25%)		Sensitivity Medium (50%)	
		Ø (m)	Area (m²)	Ø (m)	Area (m²)
Height (m)	2.5	4	15	6	25
	3	5.5	25	6.5	35
	4	6.5	35	7.5	45
	5	6	30	10.5	90
	6	4	15	5.5	25

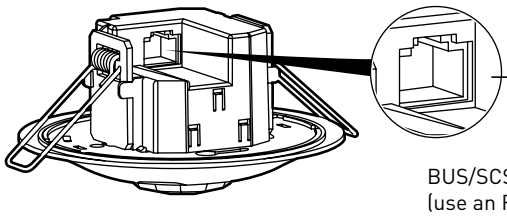
		Sensitivity High (75%)		Sensitivity Very high (100%)	
		Ø (m)	Area (m²)	Ø (m)	Area (m²)
Height (m)	2.5	6.5	30	8	50
	3	8.5	60	11.5	100
	4	12.5	125	14	155
	5	12	115	16.5	215
	6	8.5	60	12.5	125

n US detection

		Sensitivity Low (25%)		Sensitivity Medium (50%)	
		Ø (m)	Area (m²)	Ø (m)	Area (m²)
Height (m)	2.5	4	15	4	15
	3	6	30	6	30
	4	6	30	6	30
	5	6	30	6	30
	6	0	0	6	30

		Sensitivity High (75%)		Sensitivity Very high (100%)	
		Ø (m)	Area (m²)	Ø (m)	Area (m²)
Height (m)	2.5	6	30	11	95
	3	8	50	13	150
	4	10	80	13	150
	5	10	80	13	130
	6	10	80	13	130

Connection



BUS/SCS connection
(use an RJ45/BUS
adaptor Cat. No. 0 488 72)

5 740 96: FLUSH/WALL-MOUNTED MOTION SENSOR

EQUIVALENCE									
Cat. No.	**Detection type**	**Finish**			**Cat. No.**	**Detection type**	**Finish**			**Range**
0 672 25	PIR	White 0 682 99	Titanium 0 685 99	Graphite 0 679 99	0 672 26	PIR + US	White 0 682 94	Titanium 0 685 94	Graphite 0 679 94	Céliane
5 740 46	PIR	White			5 740 48	PIR + US	White			Arteor
5 740 96	PIR	Magnesium			5 740 98	PIR + US	Magnesium			
0 784 85	PIR	White			0 784 86	PIR + US	White			Mosaic
HD4659	PIR	White			HD4658	PIR + US	White			Axolute
HC4659	PIR	Aluminium			HC4658	PIR + US	Aluminium			
HS4659	PIR	Anthracite			HS4658	PIR + US	Anthracite			
N4659N	PIR	White			N4658N	PIR + US	White			Livinglight
NT4659N	PIR	Tech			NT4658N	PIR + US	Tech			
L4659N	PIR	Anthracite			L4658N	PIR + US	Anthracite			

This device allows an output or controller scenario to be controlled automatically in its surveillance zone.

Presence sensor with 180° detection angle.

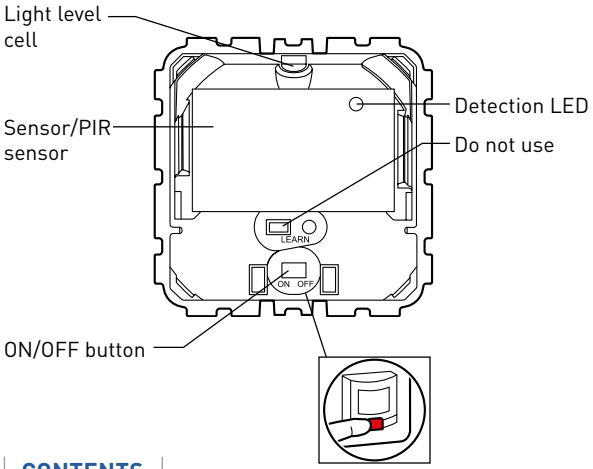
Detection type: infrared (PIR) or dual technology - infrared + ultrasonic (PIR + US)

Mounting type: wall flush-mounted

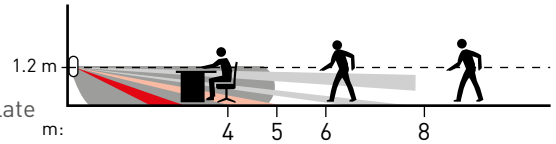
It is powered by the BUS.

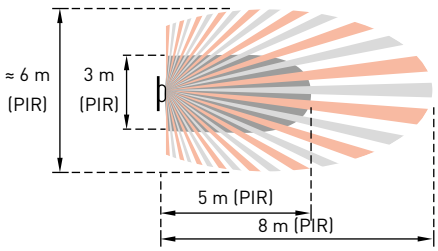
Technical characteristics

- Supply voltage: 27 V⎓
- No-load power consumption: 15 mA
- Wiring: BUS/SCS
- Impact resistance: IK 04
- Protection index: IP41 product installed with plate and rocker plate
- Operating temperature: -5°C to 45°C
- Storage temperature: -20°C to +70°C



Height





n PIR detection (Walk-through)

Sensitivity	Ø (m)
Low (25%)	7
Medium (50%)	8
High (75%)	10
Very high (100%)	12

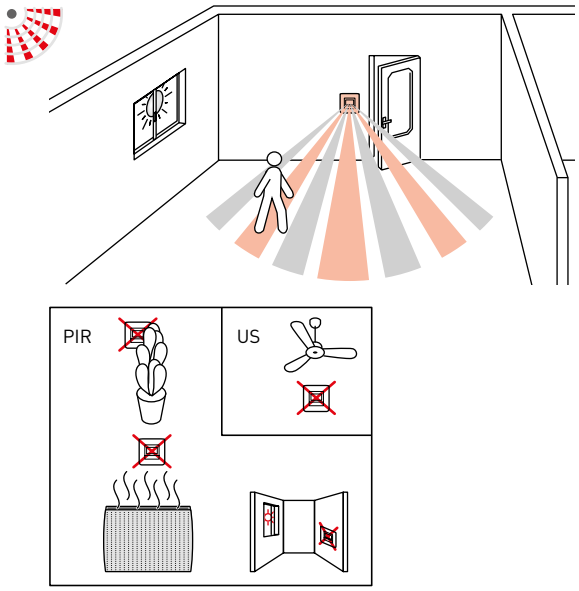
n PIR detection (Small movements)

Sensitivity	Ø (m)
Low (25%)	1
Medium (50%)	2
High (75%)	4
Very high (100%)	5

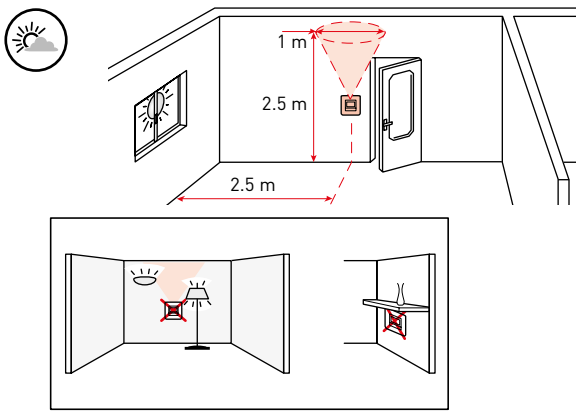
Technical characteristics (continued)

Installation

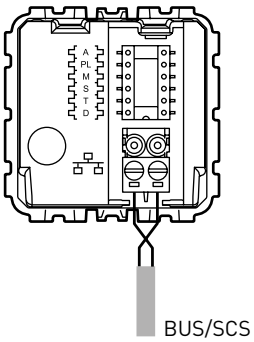
■ Positioning the sensor



■ Recommended light exposure



Connection



0 487 78: HOTEL MOTION SENSOR

This device allows an output or controller scenario to be controlled automatically in its surveillance zone.

Motion sensor with 360° detection angle. Several sensors can be wired on the same volt-free contact input (the sensors must be wired in parallel).

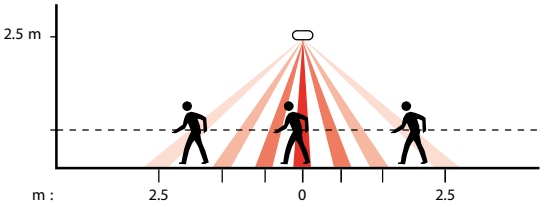
Detection type: infrared (PIR)

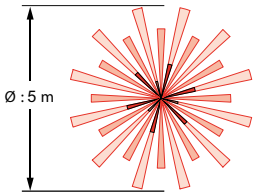
Mounting type: ceiling

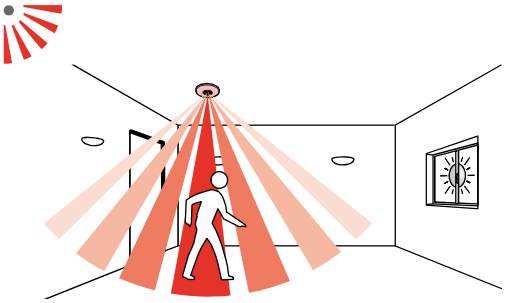
It is powered by the BUS.

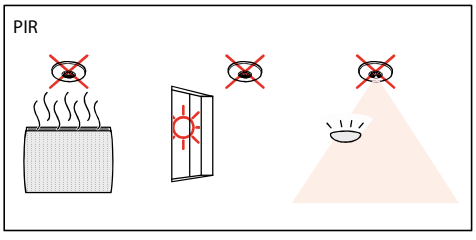
Technical characteristics

- Supply voltage: 8-30 VDC
- No-load power consumption: 9 mA
- Connection between sensor and controller: cable with 2 x 0.9 mm pairs
- Drilling diameter: 25 mm
- Impact resistance: IK 04
- Protection index: IP 20
- Operating temperature: -5°C to 45°C
- Storage temperature: -20°C to +70°C

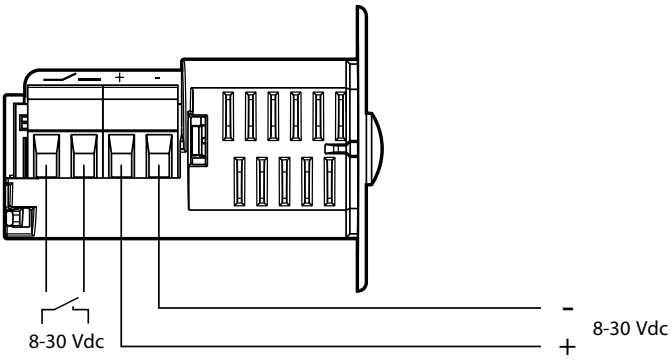


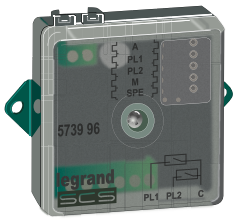






Connection





F428 OR 3477: VOLT-FREE CONTACT INTERFACE

This interface can be used to add contact inputs in order to integrate conventional control devices (switch, pushbutton, etc) in an installation with the BACnet Hotel RCU.

4 possible configurations: single switch, single pushbutton, double switch or double pushbutton.

The interface has 2 LEDs which can signal contact closing, programming/cancel and the status of control devices.

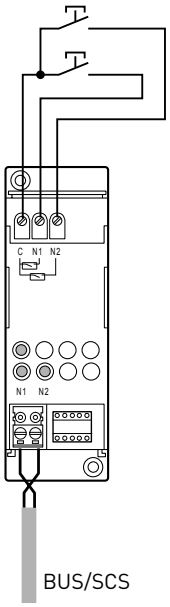
It is powered by the BUS.

Technical characteristics

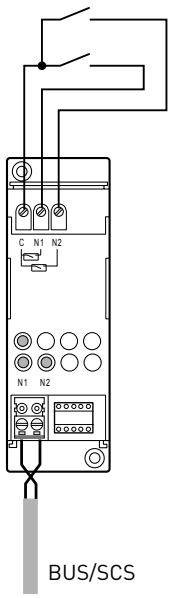
- Supply voltage: 18-27 V⎓
- Consumption: 9 mA
- Size: 2 DIN modules
- Wiring: BUS/SCS
- Impact resistance: IK 04
- IP: 20
- Operating temperature: -5°C to +45°C
- Storage temperature: -20°C to +70°C
- Connection terminal type: Screw
- Load terminal capacity: 2 x 2.5 mm^2

Connection

For 2 pushbuttons



For 2 switches



NB: In single push-button or single switch configuration, connect the product between C and N1 (Cat.No F428) or between C and PL1 (Cat.No 3477).

5 722 35: KEYCARD READER

EQUIVALENCE					
Mech. Cat. No.	**Cover plate Cat. No.**	**Range**	**Finish**	**Reader**	**Illustration**
5 722 35	Cover plate provided	Arteor	White	Mechanical	
5 727 35			Magnesium		
5 722 36			White	RFID	
5 727 36			Magnesium		
0 675 65	0 682 09	Céliane	White	Mechanical	
	0 685 09		Titanium		
	0 679 09		Graphite		
0 675 66	0 682 09		White	RFID	
	0 685 09		Titanium		
	0 679 09		Graphite		
H4649	HD4547	Axolute	White	Mechanical	
	HC4547		Aluminium		
	HS4547		Anthracite		
H4648	HD4547		White	RFID	
	HC4547		Aluminium		
	HS4547		Anthracite		
LN4649	N4547	Livinglight	White	Mechanical	
	NT4547		Tech		
	L4547		Anthracite		
LN4648	N4547		White	RFID	
	NT4547		Tech		
	L4547		Anthracite		

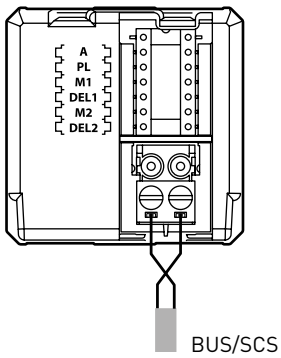
This indicates whether or not someone is inside the room. It can be used to launch an arrival scenario and a leaving scenario.

Available in 2 versions:
- Mechanical for keycard with dimensions between 45 mm and 54 mm (ISO)
- RFID (keycard frequency 13.56 MHz) (use keycard 0 767 11)

RFID keycard switches are compatible with RFID keycards Cat. Nos. 0 675 89/0 767 11/3547.

It is powered by the 2-module BUS.

Technical characteristics



Supply voltage	27 V⎓
Min. consumption	5 mA
Max. consumption	6 mA
RFID frequency	13.56 MHz
Compatible standards	ISO 14443-A and ISO 15693
Size	2 modules
Operating temperature	-5° to +45°C
Storage temperature	-20° to +70°C

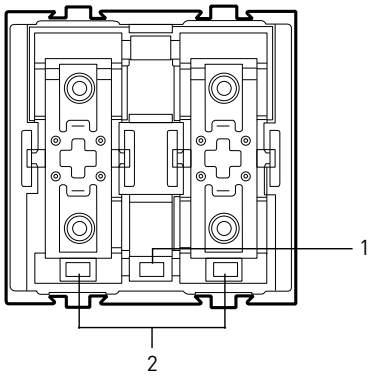
0 675 93: "DO NOT DISTURB" AND "MAKE UP ROOM" HOUSEKEEPING CONTROL

ÉQUIVALENCE						
Mech. Cat. No.	**Cover plate Cat. No.**	**Range**	**Finish**	**Number of modules**	**Symbol**	**Illustration**
0 675 93	0 680 00 + 0 682 26	Céliane	White	1	DO NOT DISTURB + MAKE UP ROOM	
	0 683 00 + 0 685 26		Titanium			
	0 648 00 + 0 684 26		Graphite			
	5 743 96	Arteor	White - square version	2 x 1	DO NOT DISTURB + MAKE UP ROOM	
	5 743 97		Magnesium - square version			
H4653	HD4915DD / HD4915MR	Axolute	White	2 x 1	DO NOT DISTURB + MAKE UP ROOM	
	HC4915DD / HC4915MR		Aluminium			
	HS4915DD / HS4915MR		Anthracite			
	HD4915M2DD		White	2	DO NOT DISTURB	
	HC4915M2DD		Aluminium			
	HS4915M2DD		Anthracite			
LN4653	N4915DD/N4915MR	Livinglight	White	2 x 1	DO NOT DISTURB + MAKE UP ROOM	
	NT4915DD/NT4915MR		Tech			
	L4915DD/L4915MR		Anthracite			
	N4915M2DD		White	2	DO NOT DISTURB	
	NT4915M2DD		Tech			
	L4915M2DD		Anthracite			

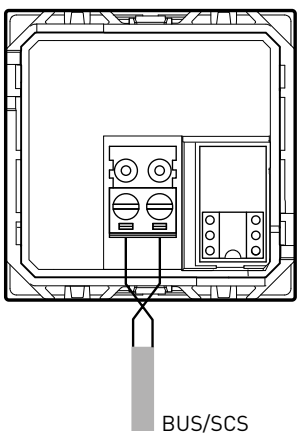
Control should be installed inside rooms for activating "Do Not Disturb" or "Make Up Room" services on the door external indicator and the supervisor.

Technical characteristics

Front view



Rear view



Key
1. LED brightness control button
2. LEDs:
   AXOLUTE/ARTEOR/CELIANE: BLUE: service not active
   PINK: service active
   LIVINGLIGHT: GREEN: service not active
   ORANGE: service active

Supply voltage	27 V⎓
Max. consumption	7.5 mA
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	2 modules

0 487 71 OR FL4648/FL4648W: UX TOUCH RFID KEYCARD READER

General characteristics

This is an RFID keycard reader (13.56 MHz) located at the entrance to the room which can, by inserting an RFID keycard in the appropriate slot:
- indicate someone is in the room
- trigger a “welcome” scenario

And by removing it:
- indicate no one is in the room
- trigger a “goodbye” scenario

It indicates and can be used to activate the housekeeping information:
- Do Not Disturb
- Make Up Room
- Extra service (for example picking up laundry) (only available on configured version)

The card position is indicated by arrows (illuminated flashing path).

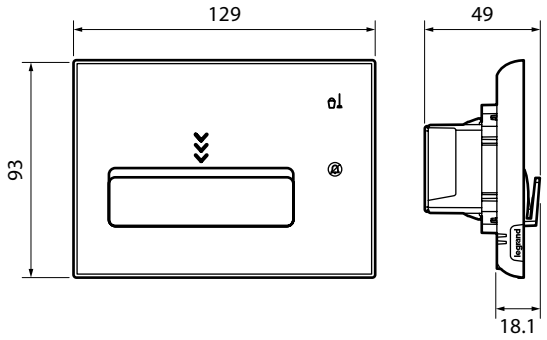
It has a proximity sensor: when the product detects an approach, it switches from standby state to active state. The LED brightness level (on standby and active) and the time delay before switching from standby to active can also be set by configuration.

This product is supplied without its support Cat. No. 0 487 79.

Clean with a dry microfibre cloth folded in two to give enough thickness without launching scenarios.

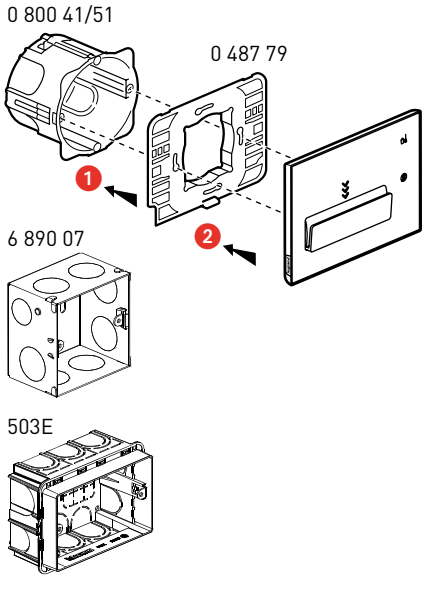
Technical characteristics

BUS/SCS power supply	18-27 VDC
Standby consumption	12 mA
On-load consumption	25 mA
RFID frequency	13.56 MHz
Compatible standard	ISO 14443-A and ISO 15693
Operating temperature	0°C to +40°C
Storage temperature	-20°C to +70°C
Protection class	IP 20/IK 04
Size	For mounting in a 1-gang box

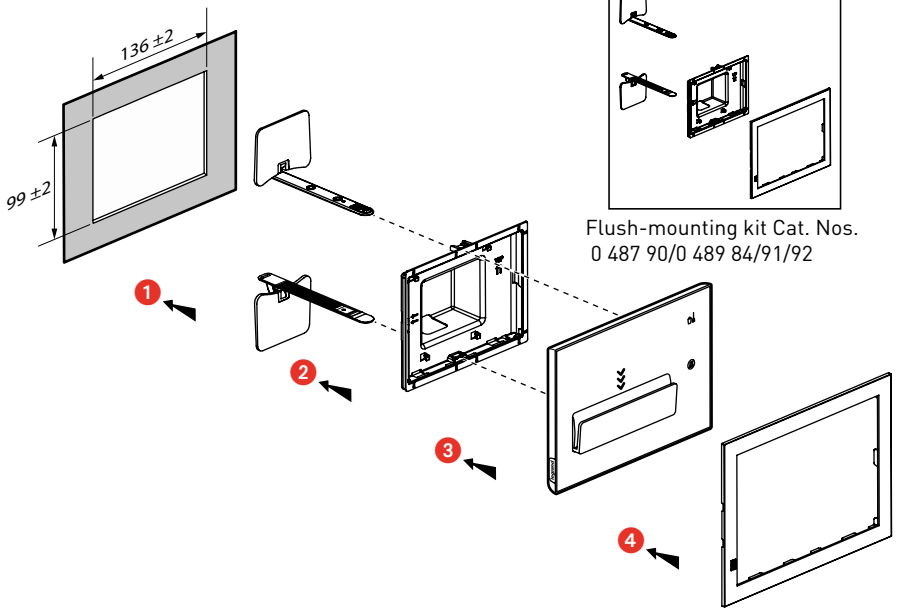


Technical characteristics (continued)

Surface-mounted installation

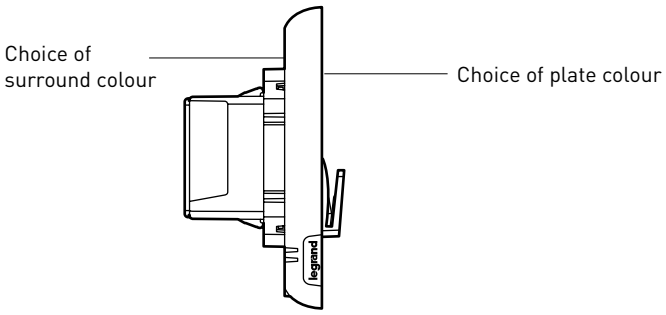


Flush-mounted installation



Flush-mounting kit Cat. Nos.
0 487 90/0 489 84/91/92

Configured Cat. No. 0 487 81 or FL4658



Options (predefined position):
- Hotel logo

The configurator is available on the following website: www.uxforupscalehotel.legrand.com.
The list of pictogram and colour options (plate and surround) can be accessed via the configurator.

0 675 90: DOOR EXTERNAL INDICATOR

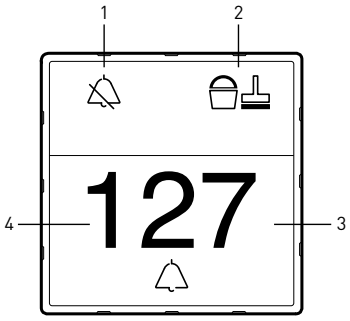
EQUIVALENCE	
Cat. No.	**Range**
0 675 90	Arteor
H4650	Axolute
LN4650	Livinglight

The indicator is located in the corridor. It is used to display the "Do Not Disturb" or "Make Up Room" sign. It has a button for the call bell function. If the DND function is active, the call button is disabled.

It is powered by the BUS.

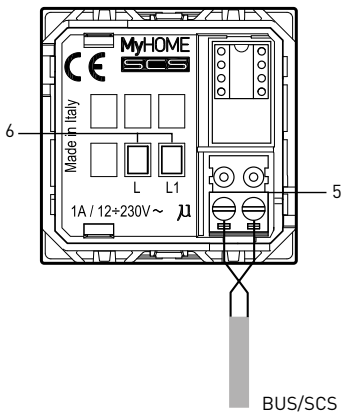
Technical characteristics

Front view



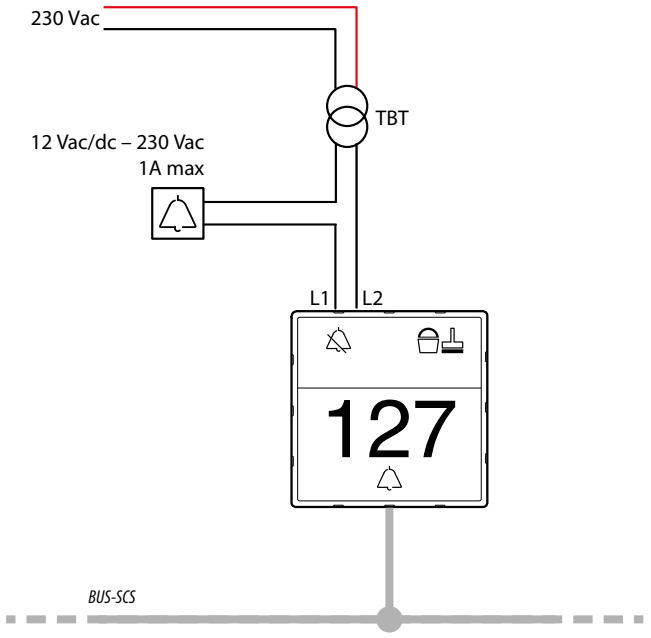
Key
1. DND indicator (red LED on = DO NOT DISTURB)
2. MUR indicator (green LED on = MAKE UP ROOM)
3. Call button
4. Zone which can be customised with backlighting for room number, with white sign: presence and absence in the room, alarm signal
5. BUS/SCS plug-in connector
6. NO contact for activating the bell. The contact is controlled by the button on the front

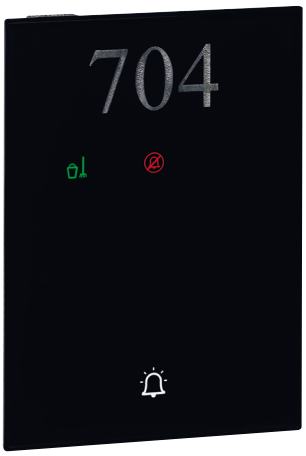
Rear view



Supply voltage	27 V⎓
Min. consumption	10 mA
Max. consumption	20 mA
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	2 modules

Door bell connection





0 487 75 OR FL4650/FL4650W: UX TOUCH EXTERNAL INDICATOR DISPLAY

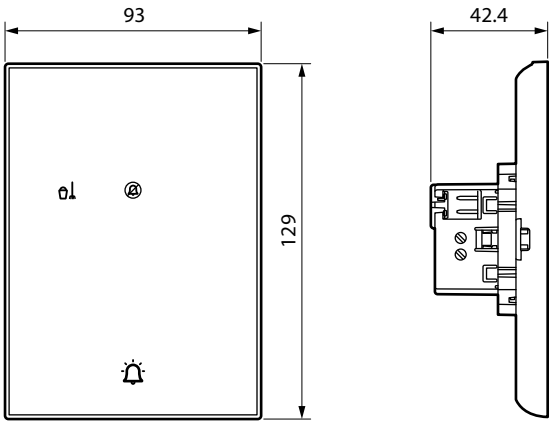
This is an indicator display panel located outside the room (in the corridor) displaying the housekeeping information:
- Do Not Disturb
- Make Up Room
- Extra service (for example picking up laundry) (only on configured version Cat. No. 0 487 85)

It also has a "call bell" touch-sensitive button which flashes for 3 s to show that the command has been recognised.
The "call bell" indicator status shows that someone is in the room when on or if no-one is present when off.
If the DND function is active, the "call bell" relay is disabled. When pressed, the DND LED flashes, but the "call bell" indicator does not flash.
This product is supplied without its support Cat. No. 0 487 79.

Clean with a dry microfibre cloth folded in two to give enough thickness without launching scenarios.

Technical characteristics

BUS/SCS power supply	18-27 VDC
Standby consumption	8 mA
On-load consumption	20 mA max
Relay contact (activated by button on the front)	230 VAC max. 1 A max.
Operating temperature	0°C to +40°C
Storage temperature	-20°C to +70°C
Protection class	IP 20, IK 04
Size	For mounting in a 1-gang box

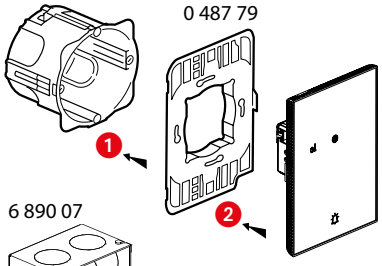


0 487 75 OR FL4650/FL4650W: UX TOUCH EXTERNAL INDICATOR DISPLAY (CONTINUED)

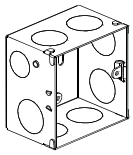
Technical characteristics (continued)

Surface-mounted installation

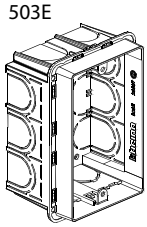
0 800 41/51



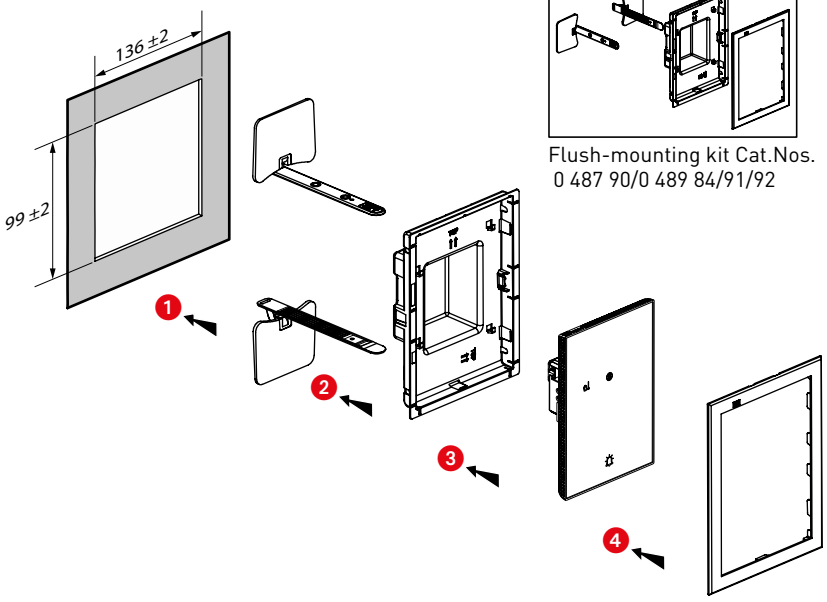
6 890 07



503E

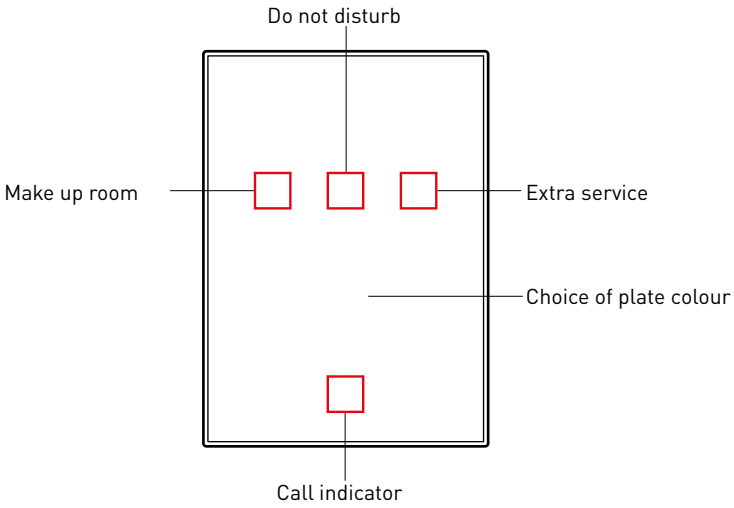


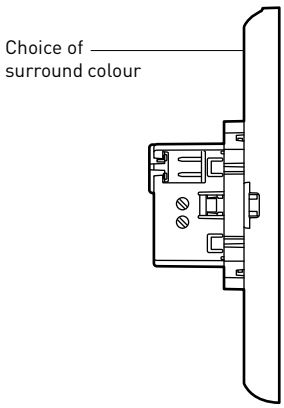
Flush-mounted installation



Flush-mounting kit Cat.Nos.
0 487 90/0 489 84/91/92

Configured Cat. No. 0 487 85 or FL4660

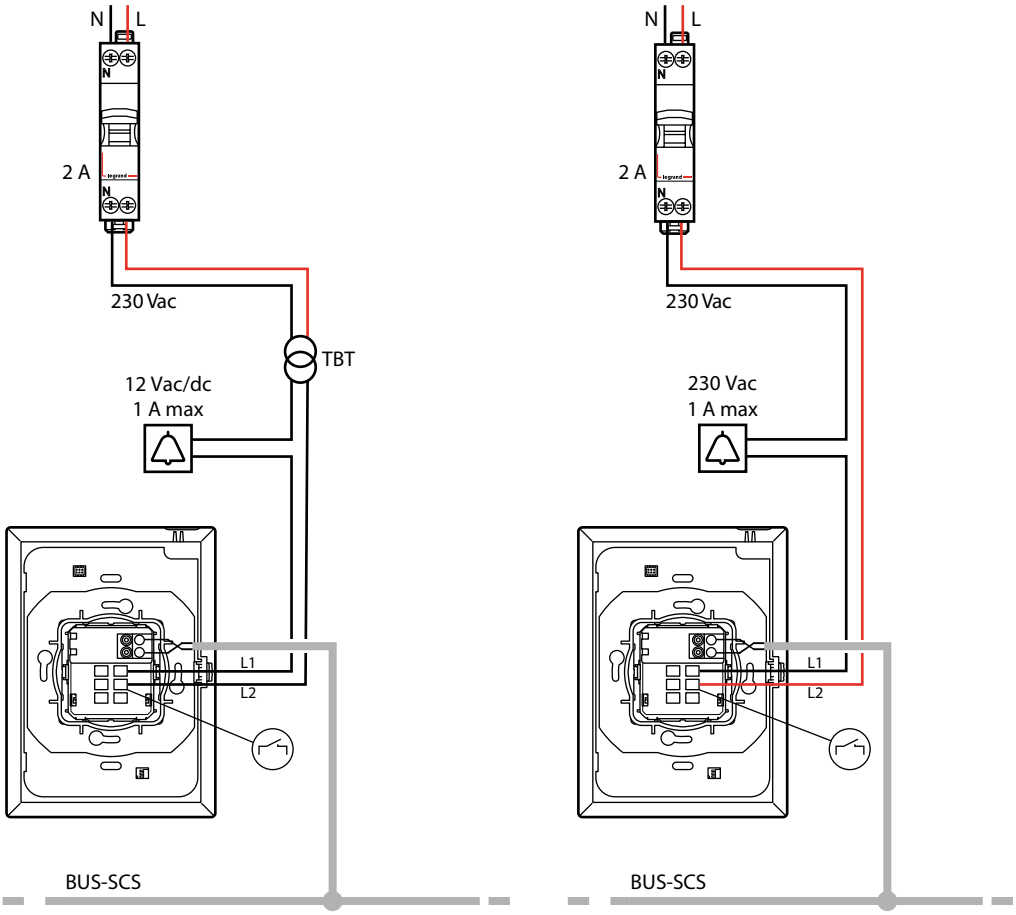




Options (predefined position):
- Hotel logo
- Room no. (alphanumeric)

The configurator is available on the following website: www.uxforupscalehotel.legrand.com.
The list of pictogram and colour options (plate and surround) can be accessed via the configurator.

Door bell connection

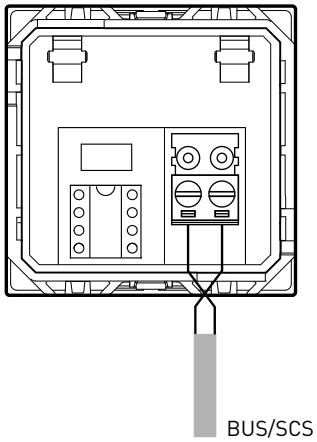


0 675 92: 4 OR 8-SCENARIO CONTROL

EQUIVALENCE					
Cat. No.	**Range**	**Finish**	**Number of buttons (presses)**	**Number of modules**	**Max. consumption**
0 675 92	Arteor		8	2	20 mA
H4652	Axolute		8	2	20 mA
LN4652	Livinglight		8	2	20 mA
0 672 17	Céliane	White	4	2	9 mA
0 672 18		Titanium	4	2	9 mA
0 784 78	Mosaic	White	4	2	9 mA
0 791 78		Aluminium	4	2	9 mA
5 739 02	Arteor	White - round version	4	2	9 mA
5 739 03		Magnesium - round version	4	2	9 mA
5 745 03		White - square version	4	2	9 mA
5 745 04		Magnesium - square version	4	2	9 mA
HD4680	Axolute	White	4	2	9 mA
HC4680		Aluminium	4	2	9 mA
HS4680		Anthracite	4	2	9 mA
N4680	Livinglight	White	4	2	9 mA
NT4680		Tech	4	2	9 mA
L4680		Anthracite	4	2	9 mA

Control which can launch one or more scenarios and control lighting and/or shutters with a single press or in toggle mode (cyclical alternation of 2 scenarios on the same button: scenario 1, scenario 2, scenario 1, scenario 2, etc).
Customisable labels (pictogram and/or text) can be used to define scenarios.

Technical characteristics



Supply voltage	BUS/SCS 18-27 V⎓
Max. consumption	See table below
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	See table below

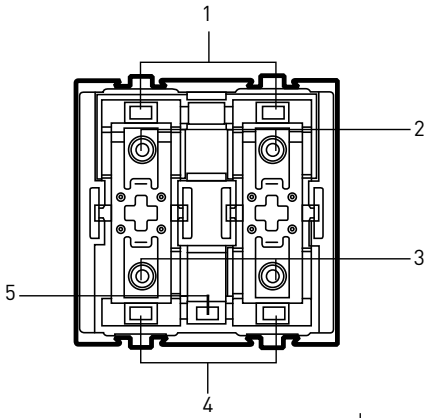
0 675 52: MULTIFUNCTION CONTROL

EQUIVALENCE					
Mech. Cat. No.	**Range**	**Finish**	**Number of buttons (presses)**	**Number of modules**	**Max. consumption**
0 784 71	Mosaic	White	2 presses at top/bottom	2	8.5 mA
0 791 71		Grey			
0 784 73		White	4 presses at top/bottom	2	8.5 mA
0 791 73		Grey			
0 784 75		White	1 press at bottom	2	7.5 mA
0 791 75		Grey			
0 784 72		White	2 presses at bottom	2	7.5 mA
0 791 72		Grey			
0 675 52	Céliane/Arteor	To be fitted with cover plates	1 to 4 presses	2	8.5 mA
H4652/2	Axolute				6 mA
L4652/2	Livinglight				8.5 mA
0 675 53	Céliane/Arteor		1 to 4 presses	2	7.5 mA
H4651M2	Axolute				6 mA
L4651M2	Livinglight				8.5 mA
0 675 54	Céliane/Arteor		1 to 6 presses	3	9 mA
H4652/3	Axolute				
L4652/3	Livinglight				

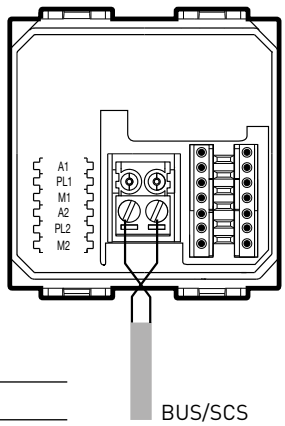
These controls can launch one or more scenarios and control lighting and/or shutters with a single press (pushbutton mode), press at top/bottom (switch mode) or in toggle mode (cyclical alternation of 2 scenarios on the same button: scenario 1, scenario 2, scenario 1, scenario 2, etc).
Non-Mosaic controls should be fitted with cover plates.

Technical characteristics

Front view of 0 675 52



Rear view of 0 675 52



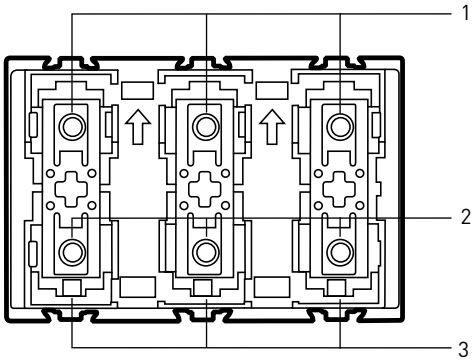
Key
1. LEDs
2. Top pushbuttons
3. Bottom pushbuttons
4. LEDs
5. Pushbutton for setting/disabling the LED

Supply voltage	BUS/SCS 18-27 V⎓
Max. consumption	See table below
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	See table below

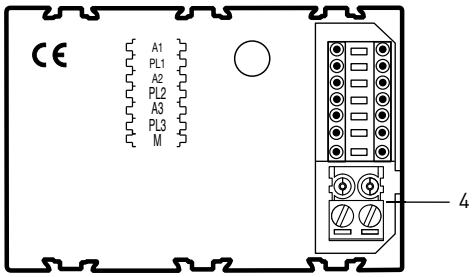
0 675 52: MULTIFUNCTION CONTROL (CONTINUED)

Technical characteristics (continued)

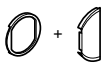
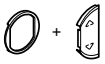
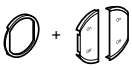
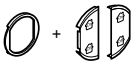
Front view of 0 675 54

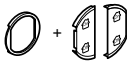
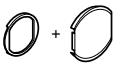
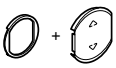
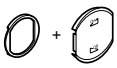
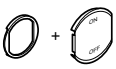
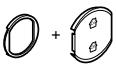
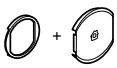


Rear view of 0 675 54



Key
1. Top pushbuttons
2. Bottom pushbuttons
3. LEDs
4. BUS

COMPATIBLE COVER PLATES BY WIRING ACCESSORY RANGE							
Mech. Cat. No.	**Cover plate Cat. No.**	**Range**	**Finish**	**Number of modules**	**Mounting**	**Symbol**	**Illustration**
0 675 52/ 0 675 53/ 0 675 54	0 680 00 + 0 682 03	Céliane	White	1	Mounted on left or right	Unmarked	
	0 683 00 + 0 685 03		Titanium				
	0 648 00 + 0 648 03		Graphite				
	0 680 00 + 0 682 69		White		Mounted on left or right	For roller shutters	
	0 683 00 + 0 685 69		Titanium				
	0 648 00 + 0 648 69		Graphite				
	0 680 00 + 0 681 48		White	1	Mounted on left	Lighting	
	0 683 00 + 0 684 48		Titanium				
	0 648 00 + 0 648 48		Graphite				
	0 680 00 + 0 681 49		White		Mounted on right		
	0 683 00 + 0 684 49		Titanium				
	0 648 00 + 0 648 49		Graphite				
	0 680 00 + 0 682 80		White		Mounted on left	ON/OFF	
	0 683 00 + 0 685 80		Titanium				
	0 648 00 + 0 648 80		Graphite				
	0 680 00 + 0 682 81		White		Mounted on right		
	0 683 00 + 0 685 81		Titanium				
	0 648 00 + 0 648 81		Graphite				
	0 680 00 + 0 681 77		White		Mounted on left	Dimming	
	0 683 00 + 0 684 77		Titanium				
	0 648 00 + 0 648 77		Graphite				
	0 680 00 + 0 681 78		White		Mounted on right		
	0 683 00 + 0 684 78		Titanium				
	0 648 00 + 0 648 78		Graphite				
	0 680 00 + 0 681 55		White		Mounted on left	GEN/ON/OFF	
	0 683 00 + 0 684 55		Titanium				
	0 648 00 + 0 648 55		Graphite				

COMPATIBLE COVER PLATES BY WIRING ACCESSORY RANGE							
Mech. Cat. No.	**Cover plate Cat. No.**	**Range**	**Finish**	**Number of modules**	**Mounting**	**Symbol**	**Illustration**
0 675 52/ 0 675 53/ 0 675 54	0 680 00 + 0 681 56	Céliane	White	1	Mounted on right	GEN/ON/OFF	
	0 683 00 + 0 684 56		Titanium				
	0 648 00 + 0 648 56		Graphite				
	0 680 00 + 0 682 02		White	2	-	Unmarked	
	0 683 00 + 0 685 02		Titanium				
	0 648 00 + 0 648 02		Graphite				
	0 680 00 + 0 682 59		White			For roller shutters	
	0 683 00 + 0 685 59		Titanium				
	0 648 00 + 0 648 59		Graphite				
	0 680 00 + 0 681 42		White			Lighting	
	0 683 00 + 0 684 42		Titanium				
	0 648 00 + 0 648 42		Graphite				
	0 680 00 + 0 681 44		White			ON/OFF dimming	
	0 683 00 + 0 684 44		Titanium				
	0 648 00 + 0 648 44		Graphite				
	0 680 00 + 0 681 88		White			ON/OFF	
	0 683 00 + 0 684 88		Titanium				
	0 648 00 + 0 679 88		Graphite				
	0 680 00 + 0 681 76		White			Dimming	
	0 683 00 + 0 684 76		Titanium				
	0 648 00 + 0 648 76		Graphite				
	0 680 00 + 0 681 58		White			GEN/ON/OFF	
	0 683 00 + 0 684 58		Titanium				
	0 648 00 + 0 648 58		Graphite				
	0 680 00 + 0 681 80		White			GEN	
	0 683 00 + 0 684 80		Titanium				
	0 648 00 + 0 650 80		Graphite				
	5 745 05	Arteor	White - round version	1	Mounted on left	Lighting and dimming	
	5 745 06		Magnesium - round version				
	5 745 07		White - round version		Mounted on right		
	5 745 08		Magnesium - round version				
	5 744 87		White - square version		Mounted on left or right		
	5 744 86		Magnesium - square version				
	5 745 37		White - round version	2	-		
	5 745 38		Magnesium - round version				
	5 744 89		White - square version				
	5 744 88		Magnesium - square version				
	5 745 17		White - round version	1	Mounted on left or right	Lighting	
	5 745 18		Magnesium - round version				

0 675 52: MULTIFUNCTION CONTROL (CONTINUED)

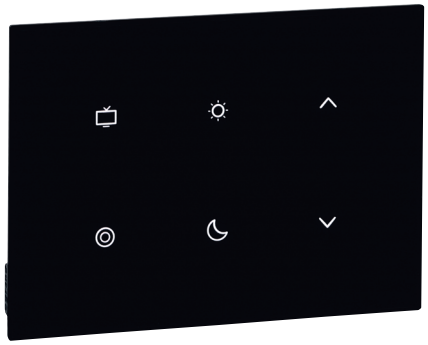
COMPATIBLE COVER PLATES BY WIRING ACCESSORY RANGE							
Mech. Cat. No.	**Cover plate Cat. No.**	**Range**	**Finish**	**Number of modules**	**Mounting**	**Symbol**	**Illustration**
0 675 52/ 0 675 53/ 0 675 54	5 744 75	Arteor	White - square version	1	Mounted on left or right	Lighting	
	5 744 74		Magnesium - square version				
	5 745 43		White - round version	2			
	5 745 44		Magnesium - round version				
	5 744 77		White - square version				
	5 744 76		Magnesium - square version				
	5 745 20		White - round version	1	Mounted on left	Dimming	
	5 745 22		Magnesium - round version				
	5 745 19		White - round version		Mounted on right		
	5 745 21		Magnesium - round version				
	5 744 69		White - square version		Mounted on left or right		
	5 744 68		Magnesium - square version				
	5 745 41		White - round version	2	-		
	5 745 42		Magnesium - round version				
	5 744 71		White - square version				
	5 744 70		Magnesium - square version				
	5 745 15		White - round version	1	Mounted on left or right	Up/down	
	5 745 16		Magnesium - round version				
	5 744 93		White - square version				
	5 744 92		Magnesium - square version				
	5 745 35		White - round version	2	-		
	5 745 36		Magnesium - round version				
	5 744 95		White - square version				
	5 744 94		Magnesium - square version				
	5 745 39		White - round version	2	-	GEN	
	5 745 40		Magnesium - round version				
	5 744 73		White - square version				
	5 744 72		Magnesium - square version				
	5 745 24		White - round version	1	Mounted on left	GEN/ON/OFF	
	5 745 26		Magnesium - round version				
	5 745 23		White - round version		Mounted on right		
	5 745 25		Magnesium - round version				
	5 744 83		White - square version		Mounted on left or right		
	5 744 82		Magnesium - square version				
	5 745 31		White - round version	2	-		
	5 745 32		Magnesium - round version				
	5 744 85		White - square version				
	5 744 84		Magnesium - square version				
	5 745 28		White - round version	1	Mounted on left	ON/OFF	
	5 745 30		Magnesium - round version				
	5 745 27		White - round version		Mounted on right		
	5 745 29		Magnesium - round version				
	5 744 79		White - square version		Mounted on left or right		
	5 744 78		Magnesium - square version				

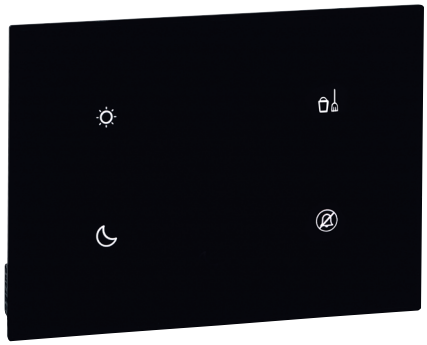
COMPATIBLE COVER PLATES BY WIRING ACCESSORY RANGE							
Mech. Cat. No.	**Cover plate Cat. No.**	**Range**	**Finish**	**Number of modules**	**Mounting**	**Symbol**	**Illustration**
0 675 52/ 0 675 53/ 0 675 54	5 745 33	Arteor	White - round version	2	-	ON/OFF	
	5 745 34		Magnesium - round version				
	5 744 81		White - square version				
	5 744 80		Magnesium - square version				
	5 745 09		White - round version	1	Mounted on left or right	Unmarked	
	5 745 10		Magnesium - round version				
	5 744 65		White - square version				
	5 744 64		Magnesium - square version				
	5 745 13		White - round version	2	-		
	5 745 14		Magnesium - round version				
	5 744 67		White - square version				
	5 744 66		Magnesium - square version				
H4652/2, H4651M2 H4652/3	HD4915	Axolute	White	1	Pushbutton type	Unmarked	
	HC4915		Aluminium				
	HS4915		Anthracite				
	HD4915M2		White	2			
	HC4915/2		Aluminium				
	HS4915/2		Anthracite				
	HD4911		White	1	Toggle type		
	HC4911		Aluminium				
	HS4911		Anthracite				
	HD4911M2		White	2			
	HC4911/2		Aluminium				
	HS4911/2		Anthracite				
	HD4915BA		White	1	Pushbutton type	Light symbol	
	HC4915BA		Aluminium				
	HS4915BA		Anthracite				
	HD4915M2BA		White	2			
	HC4915/2BA		Aluminium				
	HS4915/2BA		Anthracite				
	HD4911BA		White	1	Toggle type		
	HC4911BA		Aluminium				
	HS4911BA		Anthracite				
	HD4911M2BA		White	2			
	HC4911/2BA		Aluminium				
	HS4911/2BA		Anthracite				
	HD4911AH		White	1	Toggle type	Up-down symbol	
	HC4911AH		Aluminium				
	HS4911AH		Anthracite				
	HD4911M2AH		White	2			
	HC4911/2AH		Aluminium				
	HS4911/2AH		Anthracite				

0 675 52: MULTIFUNCTION CONTROL (CONTINUED)

COMPATIBLE COVER PLATES BY WIRING ACCESSORY RANGE							
Mech. Cat. No.	**Cover plate Cat. No.**	**Range**	**Finish**	**Number of modules**	**Mounting**	**Symbol**	**Illustration**
H4652/2, H4651M2 H4652/3	HD4911AF	Axolute	White	1	Toggle type	GEN/ON/OFF	OFF GEN ON
	HC4911AF		Aluminium				
	HS4911AF		Anthracite				
	HD4911M2AF		White	2			
	HC4911/2AF		Aluminium				
	HS4911/2AF		Anthracite				
	HD4911AG		White	1	Toggle type	ON/OFF	OFF ON
	HC4911AG		Aluminium				
	HS4911AG		Anthracite				
	HD4911M2AG		White	2			
	HC4911/2AG		Aluminium				
	HS4911/2AG		Anthracite				
	HD4911AD		White	1	Toggle type	+ and -	+ −
	HC4911AD		Aluminium				
	HS4911AD		Anthracite				
	HD4915M2BB		White	2	Pushbutton type	Bell symbol	
	HC4915/2BB		Aluminium				
	HS4915/2BB		Anthracite				
	HD4915AC		White	1	Pushbutton type	GEN	GEN
	HC4915AC		Aluminium				
	HS4915AC		Anthracite				
	HD4915M2AC		White	2			
	HC4915/2AC		Aluminium				
	HS4915/2AC		Anthracite				
L4652/2, L4651M2 L4652/3	N4915LN	Livinglight	White	1	Pushbutton type	Unmarked	
	NT4915N		Tech				
	L4915N		Anthracite				
	N4915M2LN		White	2			
	NT4915M2N		Tech				
	L4915M2N		Anthracite				
	N4911N		White	1	Toggle type		
	NT4911N		Tech				
	L4911N		Anthracite				
L4652/2, L4651M2 L4652/3	N4911M2N	Livinglight	White	2			
	NT4911M2N		Tech				
	L4911M2N		Anthracite				
	N4915AN		White	1	Pushbutton type	Light symbol	
	NT4915AN		Tech				
	L4915AN		Anthracite				
	N4915M2AN		White	2			
	NT4915M2AN		Tech				
	L4915M2AN		Anthracite				

COMPATIBLE COVER PLATES BY WIRING ACCESSORY RANGE							
Mech. Cat. No.	**Cover plate Cat. No.**	**Range**	**Finish**	**Number of modules**	**Mounting**	**Symbol**	**Illustration**
L4652/2, L4651M2 L4652/3	N4915DN	Livinglight	White	1	Pushbutton type	Bell symbol	
	NT4915DN		Tech				
	L4915DN		Anthracite				
	N4915M2DN		White	2			
	NT4915M2DN		Tech				
	L4915M2DN		Anthracite				
	N4915FN		White	1	Pushbutton type	Key symbol	
	NT4915FN		Tech				
	L4915FN		Anthracite				
	N4915M2FN		White	2			
	NT4915M2FN		Tech				
	L4915M2FN		Anthracite				
	N4911AHN		White	1	Toggle type	Up-down symbol	
	NT4911AHN		Tech				
	L4911AHN		Anthracite				
	N4911M2AHN		White	2			
	NT4911M2AHN		Tech				
	L4911M2AHN		Anthracite				
	N4911AFN		White	1	Toggle type	GEN/ON/OFF	
	NT4911AFN		Tech				
	L4911AFN		Anthracite				
	N4911M2AFN		White	2			
	NT4911M2AFN		Tech				
	L4911M2AFN		Anthracite				
	N4911AGN		White	1	Toggle type	ON/OFF	
	NT4911AGN		Tech				
	L4911AGN		Anthracite				
	N4911M2AGN		White	2			
	NT4911M2AGN		Tech				
	L4911M2AGN		Anthracite				
	N4911ADN		White	1	Toggle type	+ and -	
	NT4911ADN		Tech				
	L4911ADN		Anthracite				





0 487 74 OR FL4652/FL4652W - 0 487 77 OR FL4655/FL4655W: UX TOUCH CONTROLS

Cat. No.	Number of buttons (presses)
0 487 74	6
FL4652	
FL4652W	
0 487 77	4
FL4655	
FL4655W	

This control has 4 or 6 buttons which can be used to control the lighting, roller shutters and scenarios (wake up/sleep).

It indicates and can also be used to activate the housekeeping information:
- Do Not Disturb
- Make Up Room

In configured version, scenarios can be assigned to the 4 or 6 buttons. It is also possible to only use 2 buttons.

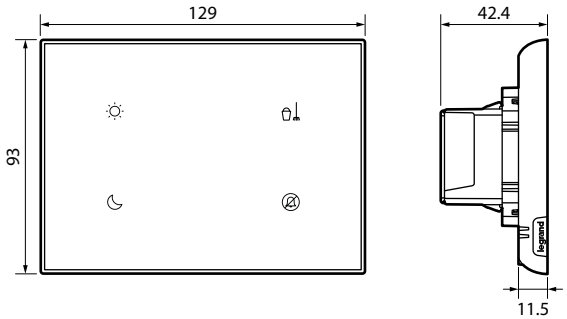
In standard version:
- The 4-button version has 2 scenario buttons (wake up and sleep) and 2 housekeeping buttons (do not disturb and make up room).
- The 6-button version has 4 scenario buttons (wake up and sleep, TV and night light) and 2 raise/lower buttons for shutters/curtains.

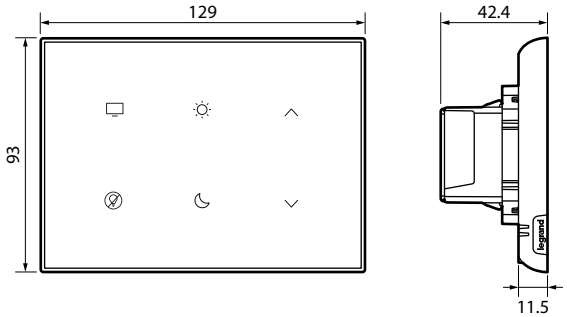
It has a proximity sensor: when the device detects an approach, it switches from standby state to active state.
The LED brightness level (on standby and active) and the time delay before returning to standby state can also be set by configuration.

Clean with a dry microfibre cloth folded in two to give enough thickness without launching scenarios.

Technical characteristics

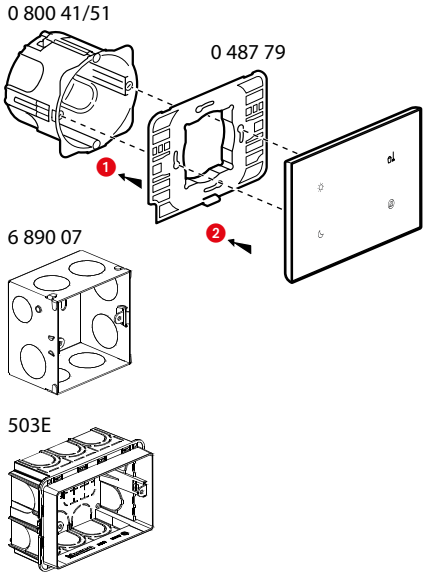
BUS/SCS power supply	18-27 VDC
Consumption with screen off	8 mA
Consumption with ultra-bright screen	15 mA (4 buttons) 20 mA (6 buttons)
Operating temperature	0°C to +40°C
Storage temperature	-20°C to +70°C
Protection class	IP 20, IK 04
Plate and surround colour (standard)	Black Cat. Nos. 0 487 77/ FL4655 and 0 485 74/FL4632 or White Cat. Nos. FL4655W/ FL4652W
Size	For mounting in a 1-gang box



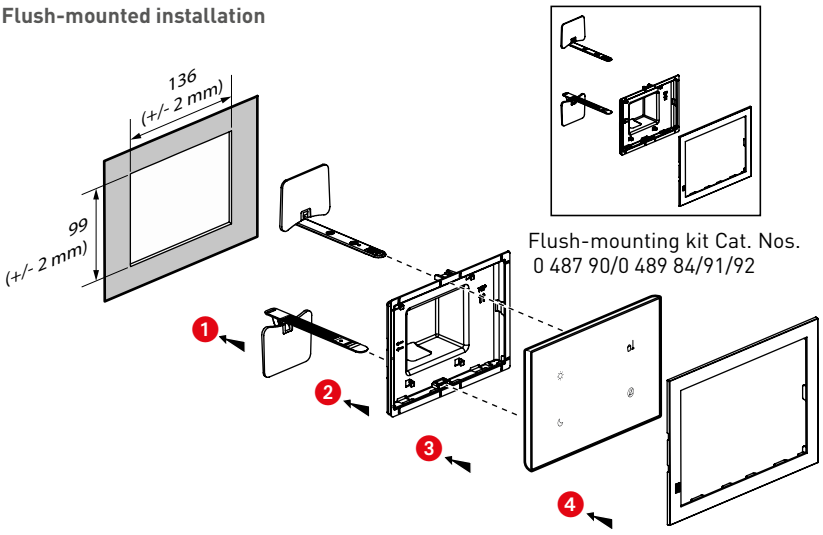


Technical characteristics (continued)

Surface-mounted installation

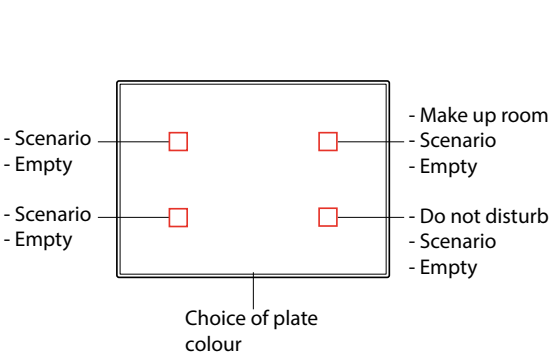


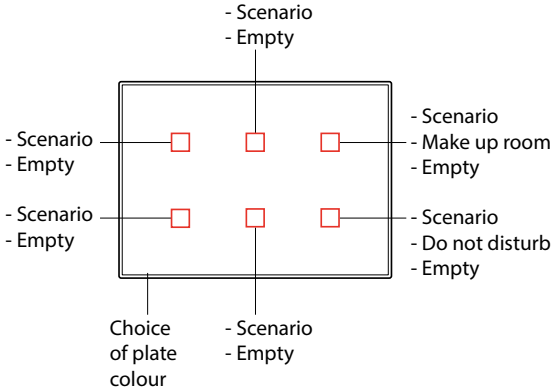
Flush-mounted installation

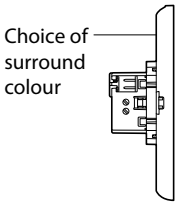


Configured Cat. No. 0 487 84 or FL4662/0 487 87 or FL4665

Cat. No.	Number of buttons (presses)
0 487 84	6
FL4662	
0 487 87	4
FL4665	







Options (predefined position):
- Hotel logo
- Flush-mounted version

The configurator is available on the following website: www.uxforupscalehotel.legrand.com.
The list of pictogram and colour options (plate and surround) can be accessed via the configurator.

0 487 72 OR FL4653/FL4653W: UX TOUCH BEDSIDE PANEL

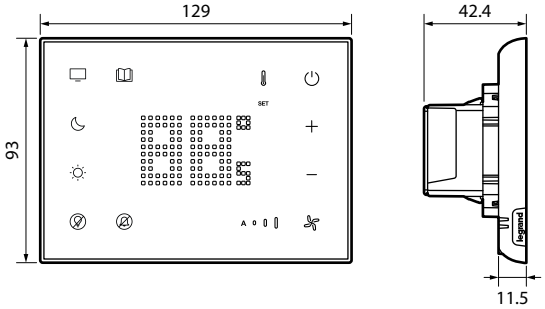
The bedside panel is dedicated to hotels. It has a thermostat function which can be used on heating and/or air conditioning installations, 5 scenario controls and a "Do not disturb" housekeeping function. It is possible to display and set the setpoint temperature, fan speed, and switch ON with thermal overload protection.

The screen displays the measured ambient temperature or the setpoint temperature (set during configuration).

It indicates and can be used to activate the housekeeping information:
- Do Not Disturb
- Make up room: only available on configured version.

It has a proximity sensor: when the device detects an approach, it switches from standby state to active state. The LED brightness level (on standby and active) and the time delay before returning to standby state can also be set by configuration.

The control & management software is used to view and control the thermostat.



Clean with a dry microfibre cloth folded in two to give enough thickness without launching scenarios.

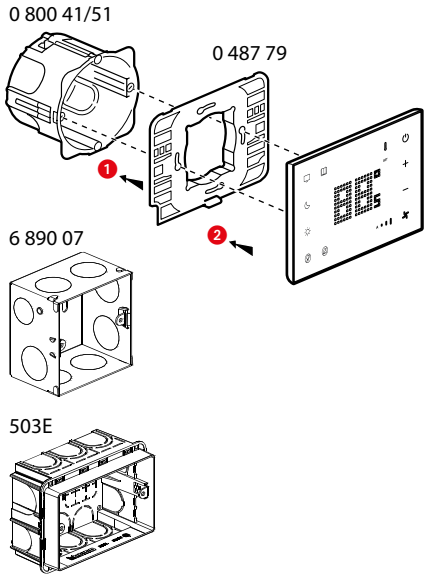
Technical characteristics

BUS/SCS power supply	18-27 VDC
Consumption with screen off	8 mA
Consumption with ultra-bright screen	30 mA
Operating temperature	0°C to +40°C
Storage temperature	-20°C to +70°C
Unit of measurement	°C or °F
Loads controllable by an actuator	On/Off Open/closed 2-pipe fan coil unit with On/Off valve Centralised air-conditioning system IP gateway* 2-pipe fan coil unit with proportional valve 4-pipe fan coil unit with On/Off valve 4-pipe fan coil unit with proportional valve Proportional valve 2-pipe fan coil unit with proportional speed control 4-pipe fan coil unit with proportional speed control
Protection class	IP 20, IK 04
Plate and surround colour (standard)	Black Cat. No. 0 487 72/ FL4653 or White Cat. No. FL4653W
Size	For mounting in a 1-gang box

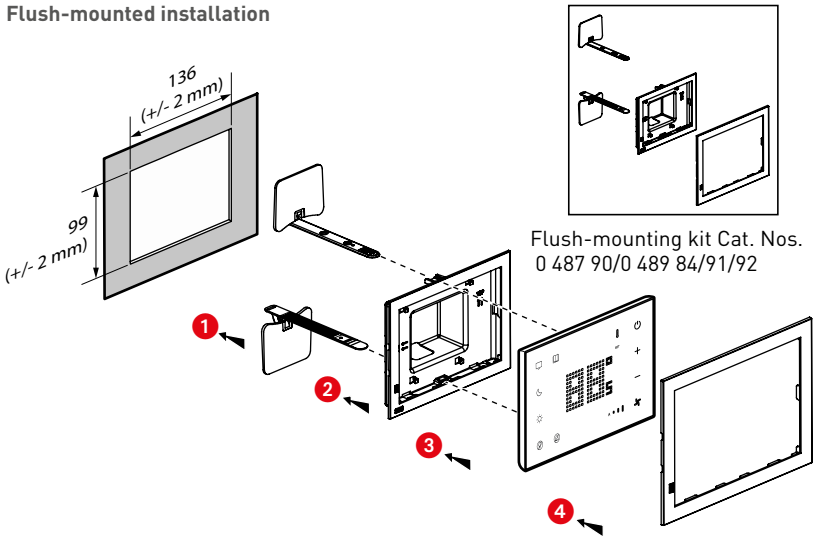
*In this case, the heating/air conditioning indicator is not enabled.

Technical characteristics (continued)

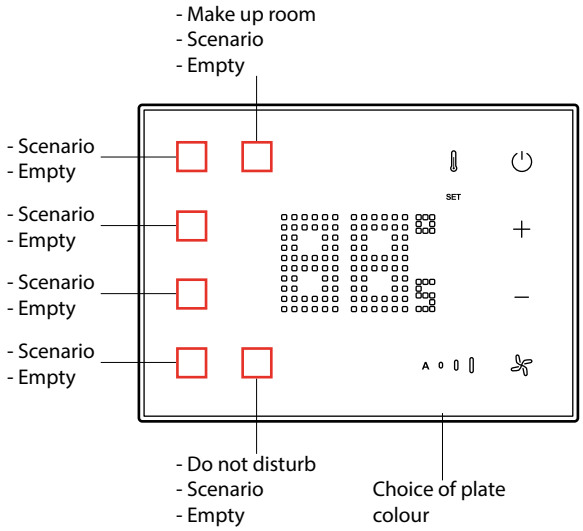
Surface-mounted installation

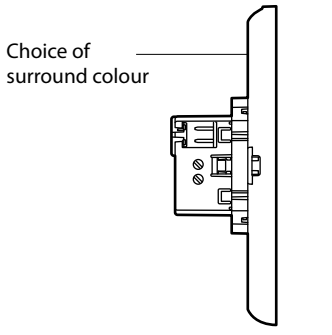


Flush-mounted installation



Configured Cat. No. 0 487 82 or FL4663





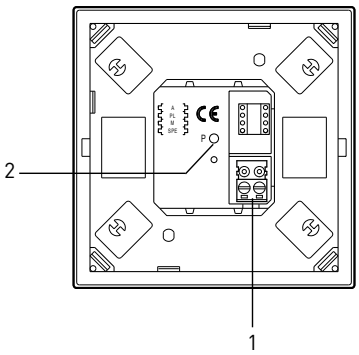
The configurator is available on the following website: www.uxforupscalehotel.legrand.com.
The list of pictogram and colour options (plate and surround) can be accessed via the configurator.

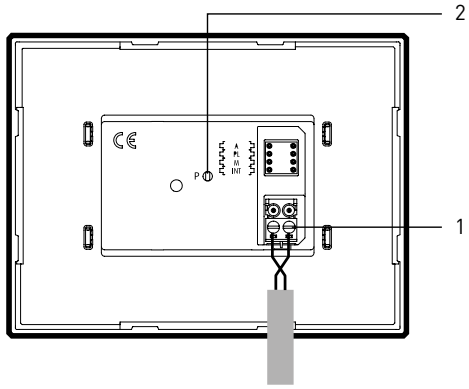
5 739 04: TOUCH CONTROL

EQUIVALENCE						
Cat.No	**Range**	**Finish**	**Number of buttons (presses)**	**Grid**	**Icons which can be customised on request**	**Max. consumption**
5 739 04	Arteor	White	4	British or French	Yes	25 mA
5 739 05		Black			Yes	25 mA
5 739 12		White	6	-	Yes	35 mA
5 739 13		Black		-	Yes	35 mA
5 740 89		White	4		No (wake up/sleep/TV/rest)	25 mA
5 745 89		Black			No (wake up/sleep/TV/rest)	25 mA
0 672 93	Celiane	Kaolin glass	4		No (wake up/sleep/TV/rest)	25 mA
0 672 95		Piano glass			No (wake up/sleep/TV/rest)	25 mA
0 672 73		Kaolin glass			No (wake up/sleep/open/close)	25 mA
0 672 75		Piano glass			No (wake up/sleep/open/close)	25 mA
HD4657M3	Axolute	White	6	-	Yes	20 mA
HC4657M3		Whice		-	Yes	20 mA
HS4657M3		Nighter		-	Yes	20 mA
HD4657M4		White	8	-	Yes	25 mA
HC4657M4		Whice		-	Yes	25 mA
HS4657M4		Nighter		-	Yes	25 mA

Control which can launch one or more scenarios and control lighting and/or shutters with a single press or in toggle mode (cyclical alternation of 2 scenarios on the same button: scenario 1, scenario 2, scenario 1, scenario 2, etc).
Customisable labels (pictograms) can be used to define scenarios.

Technical characteristics

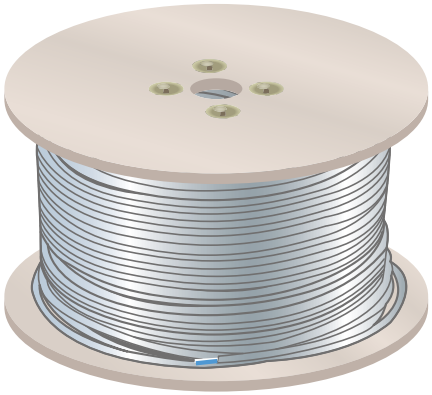




Key
1. BUS clamp
2. LED brightness control button

Supply voltage	18-27 V⎓
Max. consumption	See table below
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C

Clean with a dry microfibre cloth thick enough to avoid launching scenarios.



0 492 72/0 492 75: BUS CABLE

Halogen-free BUS/SCS cable used to connect communicating products in the system. Wound on a drum.

Sheath colour: white

- Outer diameter: max. 5 mm
- Number of wires: 2 flexible twisted wires (white, blue)
- Wire cross-section: 0.5 mm²
- Electrical resistance: less than 72 Ω/km
- Operating temperature: -15°C to +70°C
- Length:
  - Cat. No. 0 492 72: 200 m
  - Cat. No. 0 492 75: 500 m

To keep the Legrand warranty, it is mandatory, in an installation with BUS/SCS devices, to use the bus cable, cat no 0 492 72 or 0 492 75.

5 732 85: LIGHTING CONTROL

EQUIVALENCE						
Cat. No.	**Finish**	**Function**	**Number of modules**	**Number of buttons (presses)**	**Symbol**	**Version**
5 732 85	White	2-way switch	2	2	MASTER	Round
5 737 85	Magnesium	2-way switch	2	2		
5 732 87	White	Pushbutton	2	1		
5 737 87	Magnesium	Pushbutton	2	1		
5 732 95	White	2-way switch	2	4	Bedside lamps	
5 737 95	Magnesium	2-way switch	2	4		
5 732 97	White	Pushbutton	2	2		
5 737 97	Magnesium	Pushbutton	2	2		
5 732 84	White	2-way switch	2	2	MASTER	Square
5 737 84	Magnesium	2-way switch	2	2		
5 732 86	White	Pushbutton	2	1		
5 737 86	Magnesium	Pushbutton	2	1		
5 732 94	White	2-way switch	2	4	Bedside lamps	
5 737 94	Magnesium	2-way switch	2	4		
5 732 96	White	Pushbutton	2	2		
5 737 96	Magnesium	Pushbutton	2	2		
5 730 13	White	2-way switch	1 module on left	2	Unmarked	Round
5 731 13	Magnesium	2-way switch	1 module on left	2		
5 730 15	White	2-way switch	1 module on right	2		
5 731 15	Magnesium	2-way switch	1 module on right	2		
5 730 61	White	2-way switch	2 modules	2		
5 731 61	Magnesium	2-way switch	2 modules	2		
5 720 05	White	2-way switch	1 module	2		Square
5 725 05	Magnesium	2-way switch	1 module	2		
5 720 35	White	2-way switch	2 modules	2		
5 725 35	Magnesium	2-way switch	2 modules	2		
5 730 00	White	Pushbutton	1 module on left	1		Round
5 731 00	Magnesium	Pushbutton	1 module on left	1		
5 730 02	White	Pushbutton	1 module on right	1		
5 731 02	Magnesium	Pushbutton	1 module on right	1		
5 730 50	White	Pushbutton	2 modules	1		
5 731 50	Magnesium	Pushbutton	2 modules	1		
5 720 00	White	Pushbutton	1 module	1		Square
5 725 00	Magnesium	Pushbutton	1 module	1		
5 720 30	White	Pushbutton	2 modules	1		
5 725 30	Magnesium	Pushbutton	2 modules	1		

Technical characteristics

Supply voltage	250 V~	Storage temperature	-20°C to +70°C
Operating temperature	-5°C to +45°C	Size	2 modules

0 670 31: NO + NC SOFT PUSHBUTTON FOR MASTER SWITCH

EQUIVALENCE					
Reference	**Cover plates**	**Finish**	**Function**	**Number of modules**	**Number of buttons (presses)**
0 670 01	0 650 01	White	2-way switch	1	2
0 670 01	0 651 01	Titanium	2-way switch	1	2
0 670 01	0 652 01	Graphite	2-way switch	1	2
0 670 01	0 680 01	White	2-way switch	1	2
0 670 01	0 683 01	Titanium	2-way switch	1	2
0 670 01	0 679 01	Graphite	2-way switch	1	2
0 670 01	0 680 03	White	2-way switch with indicator	1	2
0 670 01	0 683 03	Titanium	2-way switch with indicator	1	2
0 670 01	0 679 03	Graphite	2-way switch with indicator	1	2
0 670 01 + 0 676 70	0 650 03	White	2-way switch with illuminated ring	1	2
0 670 01 + 0 676 70	0 651 03	Titanium	2-way switch with illuminated ring	1	2
0 670 01 + 0 676 70	0 652 03	Graphite	2-way switch with illuminated ring	1	2
0 670 01 + 0 676 70	0 650 04	White	2-way switch with illuminated ring	1	2
0 670 01 + 0 676 70	0 651 04	Titanium	2-way switch with illuminated ring	1	2
0 670 01 + 0 676 70	0 652 04	Graphite	2-way switch with illuminated ring	1	2
0 670 01	0 680 14	White	2-way switch with label holder	1	2
0 670 01	0 683 14	Titanium	2-way switch with label holder	1	2
0 670 01	0 679 34	Graphite	2-way switch with label holder	1	2
0 670 07	0 680 03	White	2-way indicator switch without neutral	1	2
0 670 07	0 683 03	Titanium	2-way indicator switch without neutral	1	2
0 670 07	0 679 03	Graphite	2-way indicator switch without neutral	1	2
0 670 08	0 680 08	White	Pull cord 2-way switch	1	2
0 670 08	0 683 08	Titanium	Pull cord 2-way switch	1	2
0 670 08	0 679 08	Graphite	Pull cord 2-way switch	1	2
0 670 01	0 650 02	White	2-way switch	2	4
0 670 01	0 651 02	Titanium	2-way switch	2	4
0 670 01	0 652 02	Graphite	2-way switch	2	4
0 670 01	0 680 02	White	2-way switch	2	4
0 670 01	0 683 02	Titanium	2-way switch	2	4
0 670 01	0 679 02	Graphite	2-way switch	2	4
0 670 01	0 680 04	White	2-way switch with indicator	2	4
0 670 01	0 683 04	Titanium	2-way switch with indicator	2	4
0 670 01	0 679 04	Graphite	2-way switch with indicator	2	4
0 670 01 + 0 670 31	0 650 02	White	2-way switch + pushbutton	1	4
0 670 01 + 0 670 31	0 651 02	Titanium	2-way switch + pushbutton	1	4
0 670 01 + 0 670 31	0 652 02	Graphite	2-way switch + pushbutton	1	4
0 670 01 + 0 670 31	0 680 02	White	2-way switch + pushbutton	1	4
0 670 01 + 0 670 31	0 683 02	Titanium	2-way switch + pushbutton	1	4
0 670 01 + 0 670 31	0 679 02	Graphite	2-way switch + pushbutton	1	4
0 670 01	0 680 11	White	2-way switch with 5 compact controls	5	10

0 670 31: NO + NC SOFT PUSHBUTTON FOR MASTER SWITCH (CONTINUED)

EQUIVALENCE					
Reference	**Cover plates**	**Finish**	**Function**	**Number of modules**	**Number of buttons (presses)**
0 670 01	0 683 11	Titanium	2-way switch with 5 compact controls	5	10
0 670 01	0 679 05	Graphite	2-way switch with 5 compact controls	5	10
0 670 01	0 680 20	White	2-way switch with 5 compact controls with indicator	5	10
0 670 01	0 683 20	Titanium	2-way switch with 5 compact controls with indicator	5	10
0 670 01	0 679 06	Graphite	2-way switch with 5 compact controls with indicator	5	10
0 670 31	0 650 01	White	Pushbutton	1	2
0 670 31	0 651 01	Titanium	Pushbutton	1	2
0 670 31	0 652 01	Graphite	Pushbutton	1	2
0 670 31	0 680 01	White	Pushbutton	1	2
0 670 31	0 683 01	Titanium	Pushbutton	1	2
0 670 31	0 679 01	Graphite	Pushbutton	1	2
0 670 31	0 680 03	White	Illuminated pushbutton	1	2
0 670 31	0 683 03	Titanium	Illuminated pushbutton	1	2
0 670 31	0 679 03	Graphite	Illuminated pushbutton	1	2
0 670 31 + 0 676 70	0 650 03	White	Pushbutton with illuminated ring	1	2
0 670 31 + 0 676 70	0 651 03	Titanium	Pushbutton with illuminated ring	1	2
0 670 31 + 0 676 70	0 652 03	Graphite	Pushbutton with illuminated ring	1	2
0 670 31 + 0 676 70	0 650 04	White	Pushbutton with illuminated ring	1	2
0 670 31 + 0 676 70	0 651 04	Titanium	Pushbutton with illuminated ring	1	2
0 670 31 + 0 676 70	0 652 04	Graphite	Pushbutton with illuminated ring	1	2
0 670 31	0 680 14	White	Pushbutton with label-holder	1	2
0 670 31	0 683 14	Titanium	Pushbutton with label-holder	1	2
0 670 31	0 679 34	Graphite	Pushbutton with label-holder	1	2
0 670 34	0 680 03	White	Pushbutton with volt-free terminals	1	2
0 670 34	0 683 03	Titanium	Pushbutton with volt-free terminals	1	2
0 670 34	0 679 03	Graphite	Pushbutton with volt-free terminals	1	2
0 670 38	0 680 08	White	Pull cord pushbutton	1	2
0 670 38	0 683 08	Titanium	Pull cord pushbutton	1	2
0 670 38	0 679 08	Graphite	Pull cord pushbutton	1	2
0 670 31	0 650 02	White	Pushbutton	2	4
0 670 31	0 651 02	Titanium	Pushbutton	2	4
0 670 31	0 652 02	Graphite	Pushbutton	2	4
0 670 31	0 680 02	White	Pushbutton	2	4
0 670 31	0 683 02	Titanium	Pushbutton	2	4
0 670 31	0 679 02	Graphite	Pushbutton	2	4
0 670 31	0 681 90	White	Pushbutton for master switch	1	2
0 670 31	0 684 90	Titanium	Pushbutton for master switch	1	2
0 670 31	0 679 62	Graphite	Pushbutton for master switch	1	2
0 670 31	0 681 92	White	Pushbutton for controlling foyer-desk lamps	2	4

EQUIVALENCE					
Reference	**Cover plates**	**Finish**	**Function**	**Number of modules**	**Number of buttons (presses)**
0 670 31	0 684 92	Titanium	Pushbutton for controlling foyer-desk lamps	2	4
0 670 31	0 679 63	Graphite	Pushbutton for controlling foyer-desk lamps	2	4
0 670 31	0 681 91	White	Pushbutton for controlling bedside lamps	2	4
0 670 31	0 684 91	Titanium	Pushbutton for controlling bedside lamps	2	4
0 670 31	0 679 64	Graphite	Pushbutton for controlling bedside lamps	2	4
0 670 31	0 680 04	White	Illuminated pushbutton	2	4
0 670 31	0 683 04	Titanium	Illuminated pushbutton	2	4
0 670 31	0 679 04	Graphite	Illuminated pushbutton	2	4
0 670 31 + 0 670 01	0 650 02	White	Pushbutton + 2-way switch	2	4
0 670 31 + 0 670 01	0 651 02	Titanium	Pushbutton + 2-way switch	2	4
0 670 31 + 0 670 01	0 652 02	Graphite	Pushbutton + 2-way switch	2	4
0 670 31 + 0 670 01	0 680 02	White	Pushbutton + 2-way switch	2	4
0 670 31 + 0 670 01	0 683 02	Titanium	Pushbutton + 2-way switch	2	4
0 670 31 + 0 670 01	0 679 02	Graphite	Pushbutton + 2-way switch	2	4
0 670 31	0 680 11	White	Pushbutton with 5 compact controls	5	10
0 670 31	0 683 11	Titanium	Pushbutton with 5 compact controls	5	10
0 670 31	0 679 05	Graphite	Pushbutton with 5 compact controls	5	10
0 670 31	0 680 20	White	Pushbutton with 5 illuminated compact controls	5	10
0 670 31	0 683 20	Titanium	Pushbutton with 5 illuminated compact controls	5	10
0 670 31	0 679 06	Graphite	Pushbutton with 5 illuminated compact controls	5	10

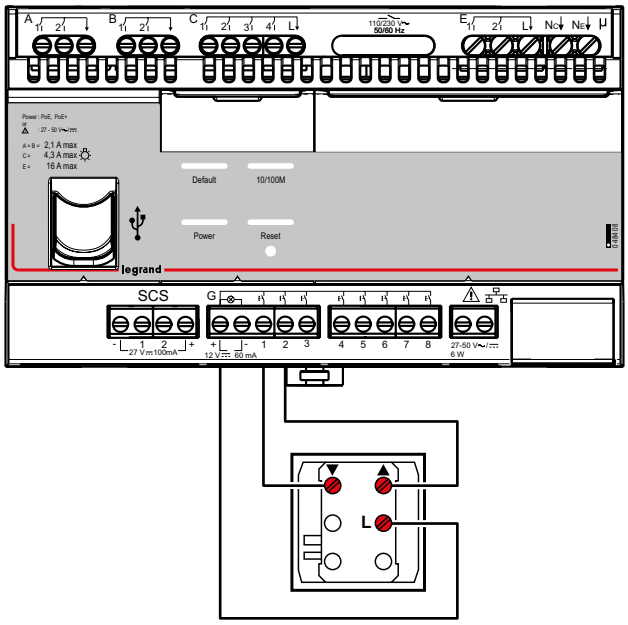
Technical characteristics

Supply voltage	250 V~	Storage temperature	-20°C to +70°C
Operating temperature	-5°C to +45°C	Size	2 modules

5 732 25: ROLLER SHUTTER/CURTAIN CONTROL

EQUIVALENCE						
Reference	**Finish**	**Function**	**Number of modules**	**Number of presses**	**Symbol**	**Version**
ROLLER SHUTTER CONTROLS						
5 732 25	White	Pushbutton	2	2	Up/down/stop	Round
5 737 25	Magnesium	Pushbutton	2	2		
5 732 24	White	Pushbutton	2	2	Up/down/stop	Square
5 737 24	Magnesium	Pushbutton	2	2		
CURTAIN CONTROLS						
5 732 37	White	Pushbutton	2	2	Open/close/stop	Round
5 737 37	Magnesium	Pushbutton	2	2		
5 732 36	White	Pushbutton	2	2	Open/close/stop	Square
5 737 36	Magnesium	Pushbutton	2	2		
ROLLER SHUTTER/CURTAIN CONTROLS						
5 722 01	White	Pushbutton	1	2	-	Square
5 727 01	Magnesium	Pushbutton	1	2	-	Square

Technical characteristics

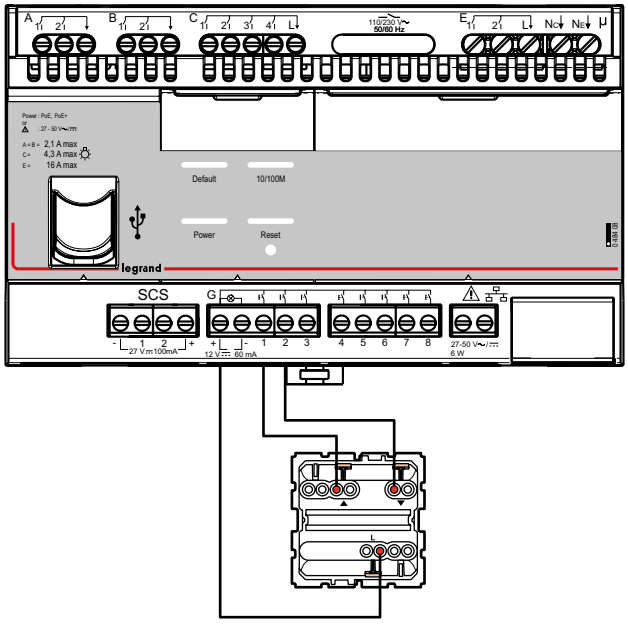


Supply voltage	250 V~
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	2 modules

0 676 03: ROLLER SHUTTER CONTROL

EQUIVALENCE				
Reference	**Cover plates**	**Finish**	**Function**	**Number of buttons (presses)**
0 676 03	0 681 51	White	Pushbutton	2
0 676 03	0 684 51	Titanium	Pushbutton	2
0 676 03	0 679 55	Graphite	Pushbutton	2

Technical characteristics

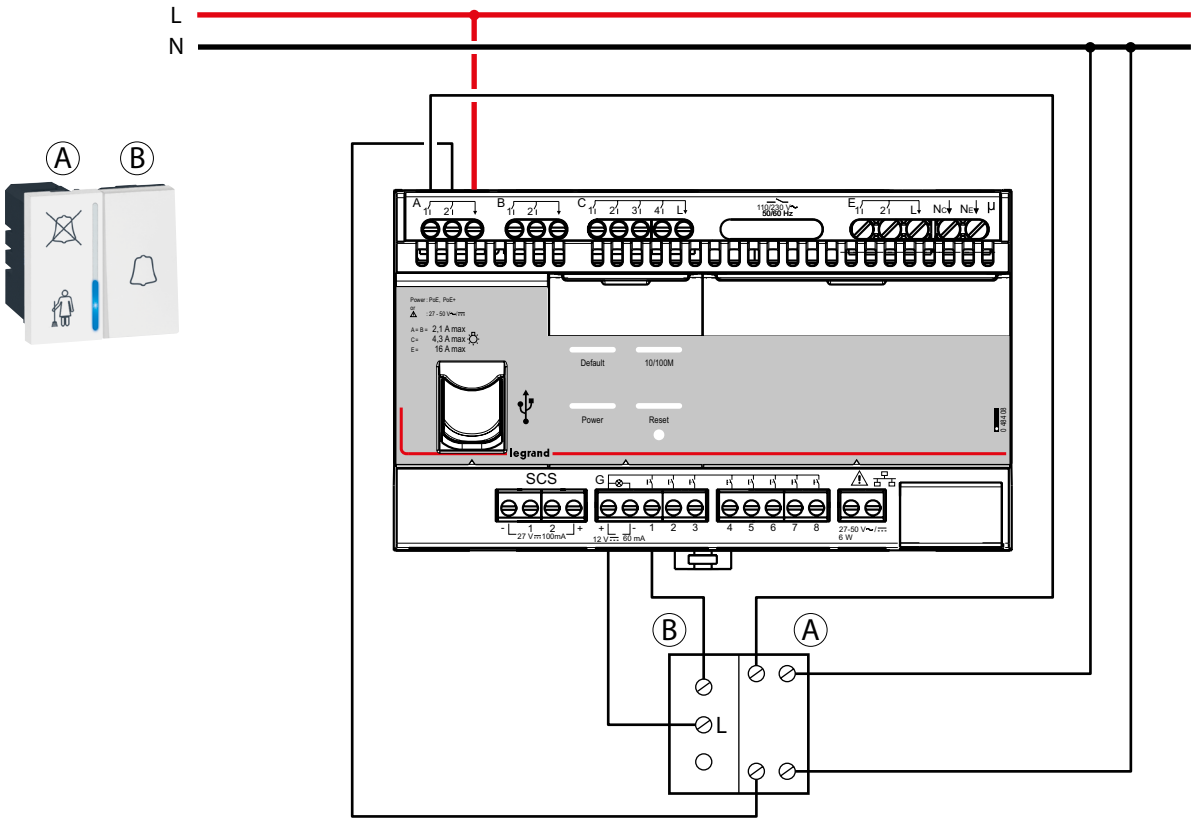


Supply voltage	250 V~
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	2 modules

5 720 67: DOOR EXTERNAL INDICATOR

EQUIVALENCE					
Cat. No.	**Finish**	**Function**	**Number of buttons (presses)**	**Symbol**	**Version**
5 720 67	White	Pushbutton	1	1 x DO NOT DISTURB + 1 x MAKE UP ROOM + bell	Round
5 725 67	Magnesium	Pushbutton	1		
5 720 57	White	Pushbutton	1		Square
5 725 57	Magnesium	Pushbutton	1		

Technical characteristics

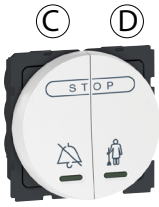


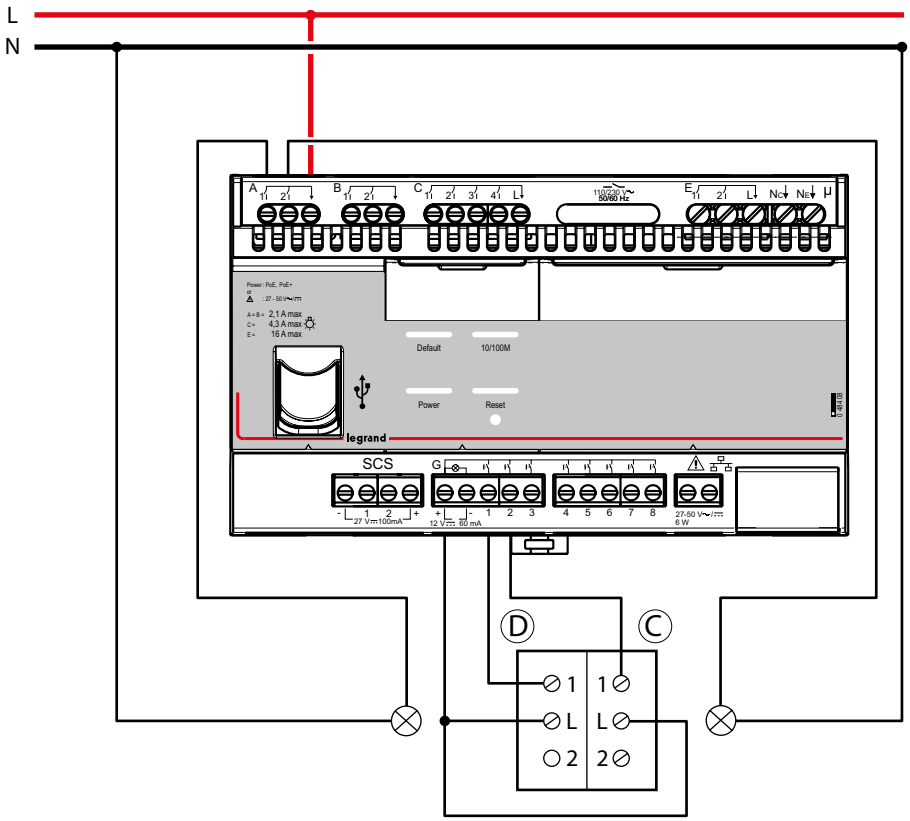
Supply voltage	250 V~
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	2 modules

5 720 74: CONTROL FOR HOTEL ROOM EXTERNAL INDICATOR

EQUIVALENCE					
Cat. No.	**Finish**	**Function**	**Number of buttons (presses)**	**Symbol**	**Version**
5 720 74	White	Switch	2	1 x DO NOT DISTURB + 1 x MAKE UP ROOM + STOP	Round
5 725 74	Magnesium	Switch	2		
5 720 54	White	Switch	2		Square
5 725 54	Magnesium	Switch	2		

Technical characteristics

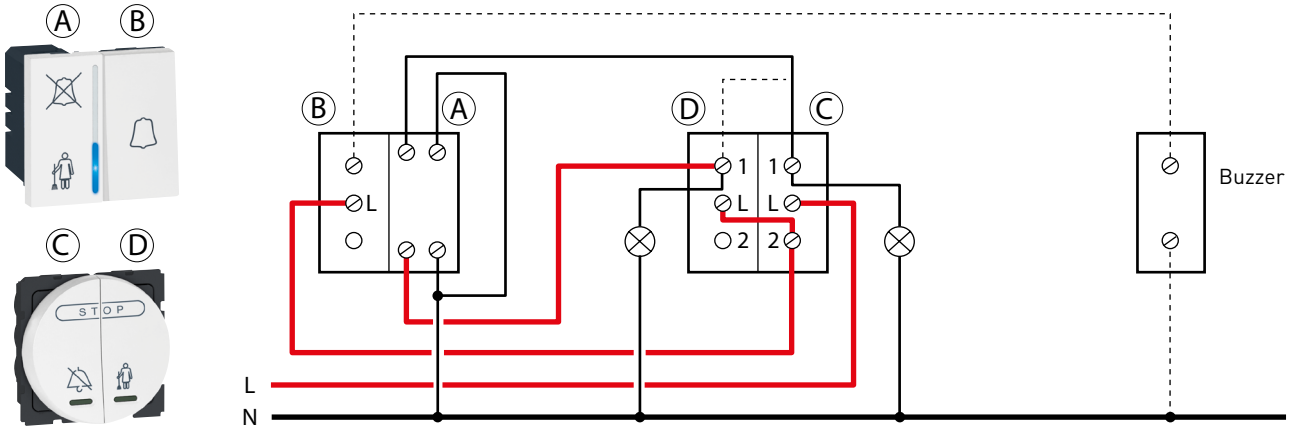




Supply voltage	250 V~
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	2 modules

5 720 67 + 5 720 74: CONTROL + DOOR EXTERNAL INDICATOR

Schematic diagram for mounting without connection to the controller

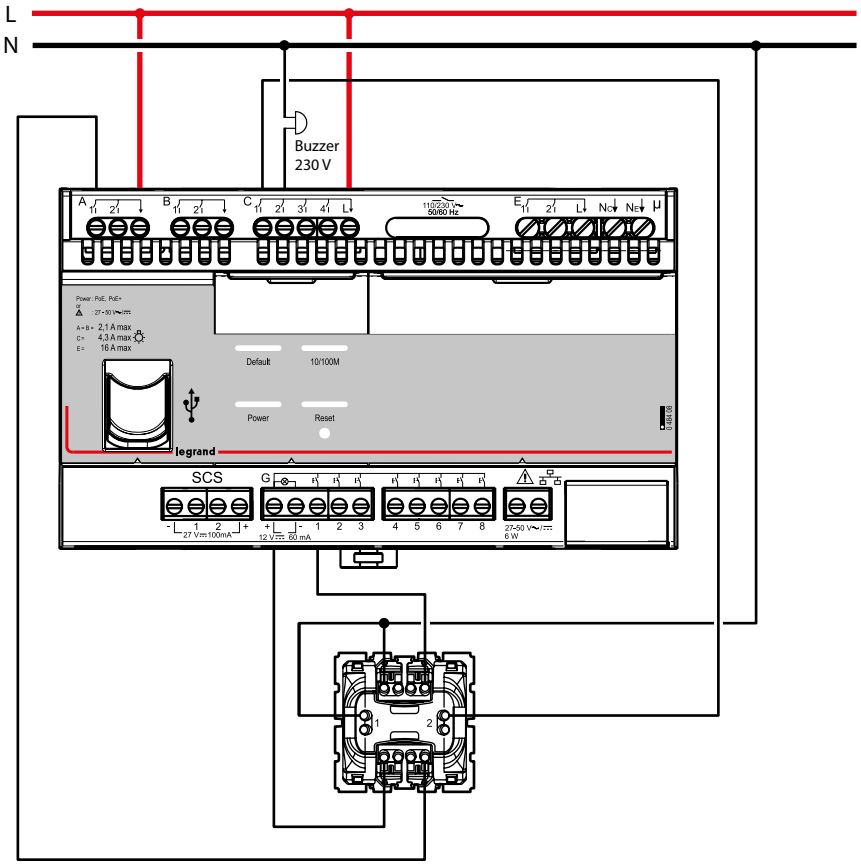


Recommended solution in areas with frequent power cuts.

0 675 60: DOOR EXTERNAL INDICATOR

EQUIVALENCE				
Reference	**Finish**	**Function**	**Number of buttons (presses)**	**Symbol**
0 675 60	Titanium	Buzzer pushbutton	1	1 x DO NOT DISTURB

Technical characteristics



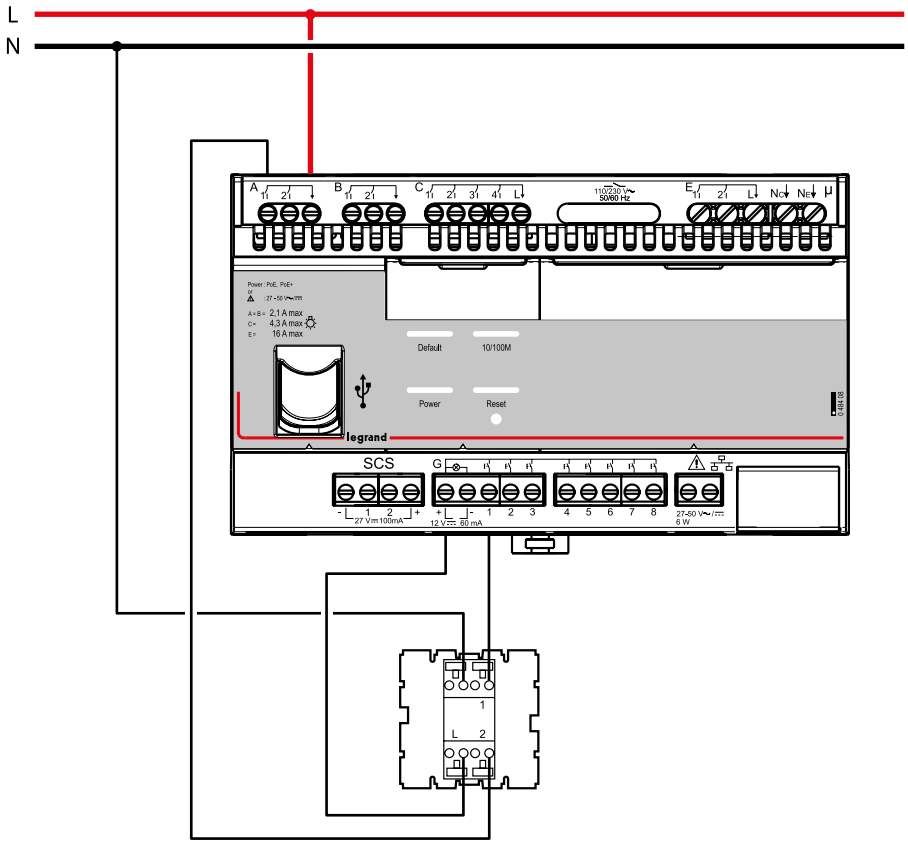
Supply voltage	250 V~
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	2 modules

G1: buzzer pushbutton input
A1: DND pushbutton indicator output
C1: presence output
C2: buzzer output

0 670 34: CONTROL FOR HOTEL ROOM EXTERNAL INDICATOR

EQUIVALENCE				
Reference	**Cover plate**	**Finish**	**Function**	**Number of buttons (presses)**
0 670 34	0 680 03	White	Switch or 2-way switch	2
	0 683 03	Titanium	Switch or 2-way switch	2
	0 679 03	Graphite	Switch or 2-way switch	2

Technical characteristics

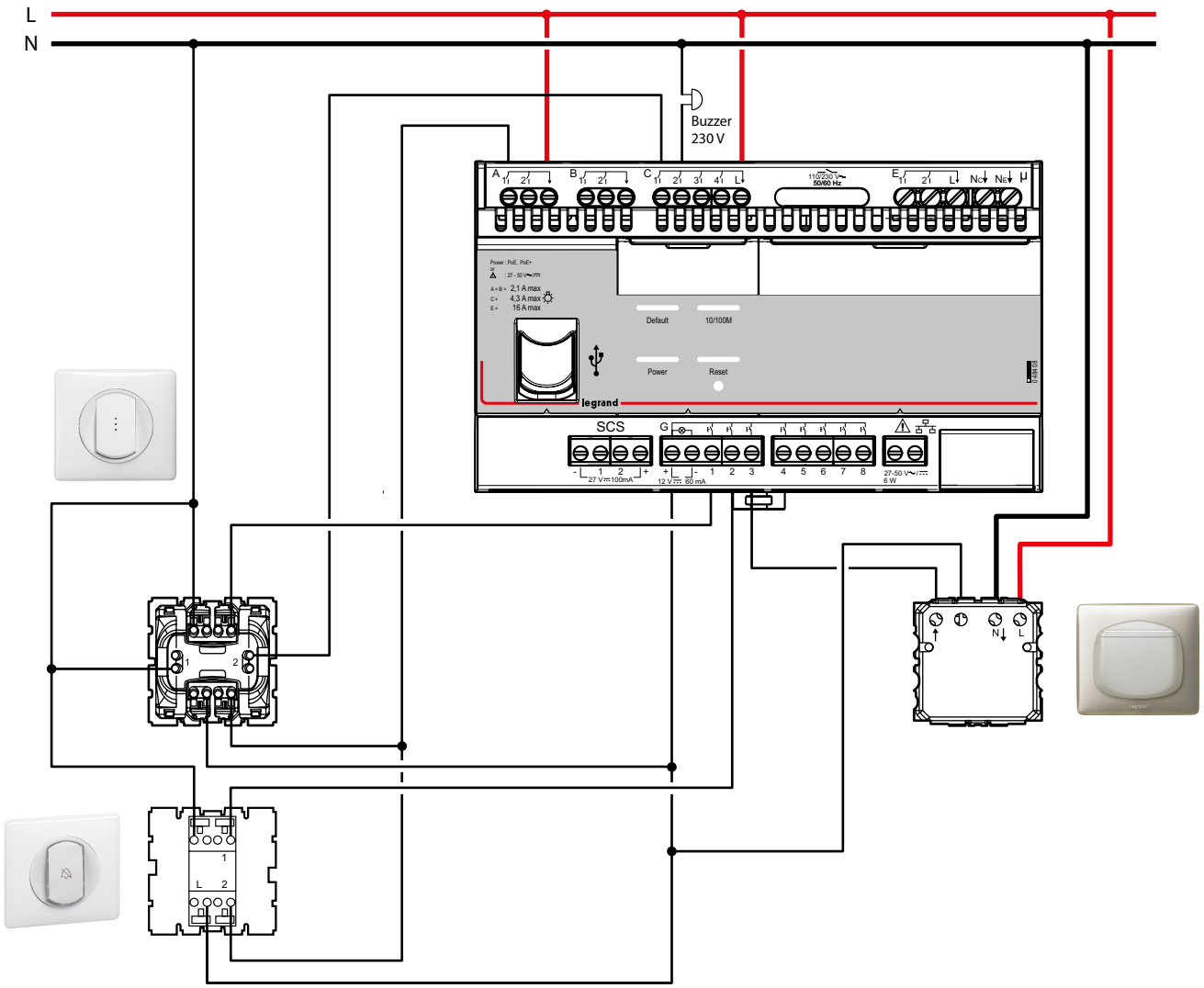


Supply voltage	250 V~
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	2 modules

G1: DND pushbutton input
A1: DND indicator output

0 670 34 + 0 675 60: CONTROL + DOOR EXTERNAL INDICATOR

Schematic diagram for mounting without connection to the controller



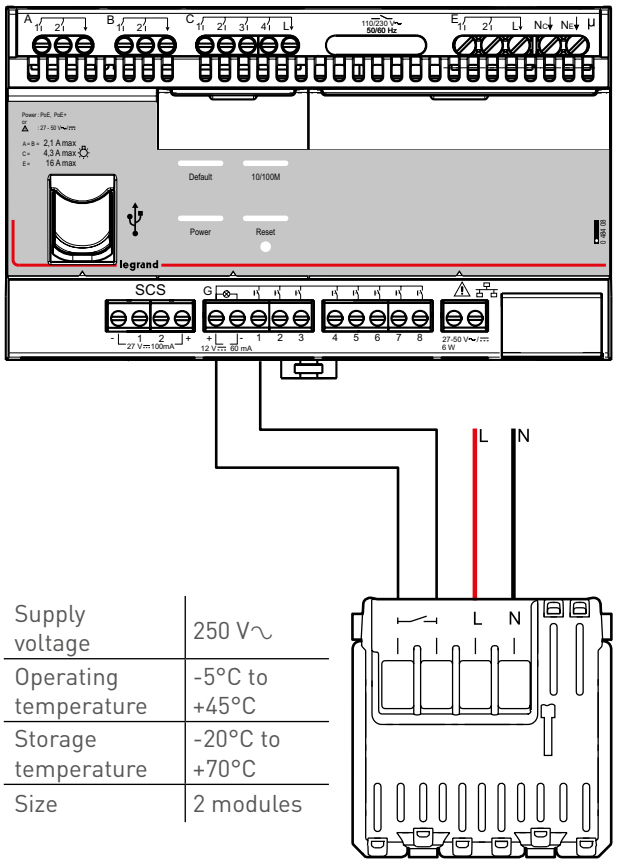
A1: DND pushbutton indicator output
C1: presence output
C2: buzzer output
G1: buzzer pushbutton input
G2: DND pushbutton input
G3: keycard switch input

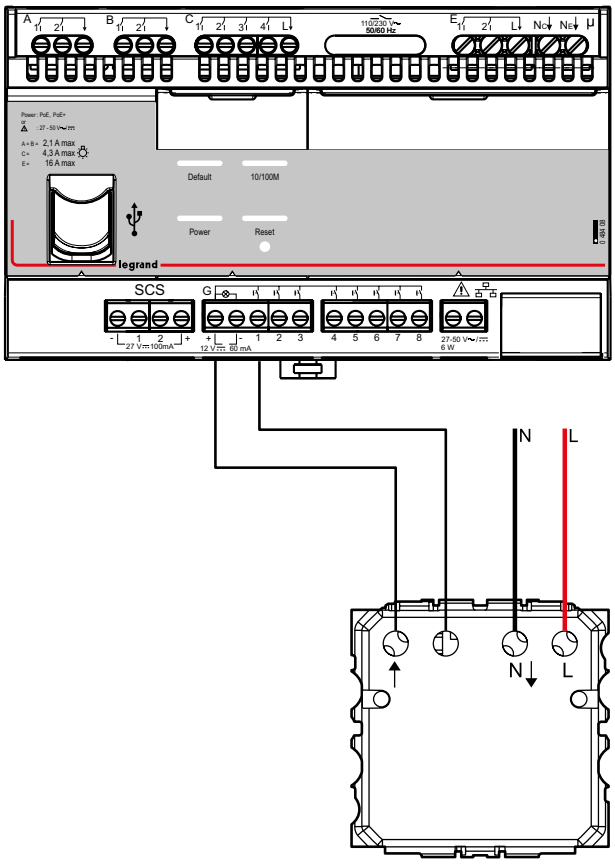
5 722 30: KEYCARD SWITCH

EQUIVALENCE				
Cat.No	**Cover plates**	**Finish**	**Reader**	**Keycard**
5 722 30	-	White	Mechanical	Standard or ISO keycards Cat.Nos 5 722 59, 5 727 59, 0 767 11, 3547 or 0 675 89
5 727 30		Magnesium		
5 722 53		White	RFID	ISO only Cat.Nos 0 767 11, 3547 or 0 675 89
5 727 53		Magnesium		
0 675 63	0 682 09	White	Mechanical	Standard or ISO keycards Cat.Nos 5 722 59, 5 727 59, 0 767 11, 3547 or 0 675 89
0 675 63	0 685 09	Titanium		
0 675 63	0 679 09	Graphite		
0 675 64	0 682 09	White	RFID	ISO only Cat.Nos 0 767 11, 3547 or 0 675 89
0 675 64	0 685 09	Titanium		
0 675 64	0 679 09	Graphite		

Can be used to send a welcome scenario when the keycard is inserted and send a leave scenario when the keycard is removed, with a time delay of approximately 30 s.

Technical characteristics





Supply voltage	250 V~
Operating temperature	-5°C to +45°C
Storage temperature	-20°C to +70°C
Size	2 modules

ART D'ARNOULD: LUXURY WIRING ACCESSORY RANGE (MADE-TO-ORDER)

The ART d'Arnould range is a custom-made range. It is therefore possible to ask for products not available in the catalogue. Each request will be considered by the ART Design office. Apart from some catalogue numbers which have already been created (see Legrand catalogue), each request should be sent to:

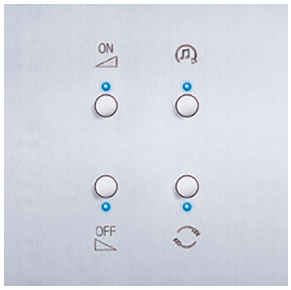
- The Customer Care Centre (for France) – tel: +33(0) 810 48 48 48.
- Your branch/your sales contact.

Several button designs are available depending on type:

- Conventional controls: conventional (or mechanical) controls have 2 types of button
  - Lever (see design for each universe) (1 or 2 levers for a 1-gang peripheral)
  - Button (1 or 2 buttons for a 1-gang peripheral)



- BUS controls: BUS controls are only available with buttons (1, 2, 3 or 4 buttons for a 1-gang peripheral)

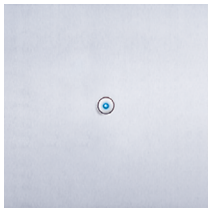
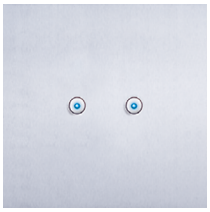
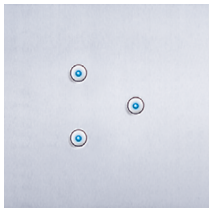
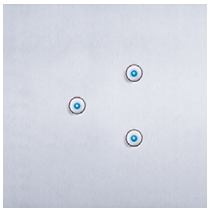
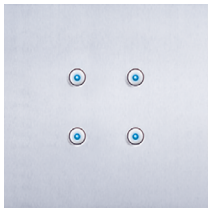


List of compatible mechanisms

- On 230 V mechanical peripheral:
  - Single pushbutton (lever - push down) – 1 or 2 levers in a 1-gang peripheral
  - Double pushbutton (lever - push down and push up) – 1 or 2 levers in a 1-gang peripheral
  - Single switch (2-position lever) – 1 or 2 levers in a 1-gang peripheral
  - Double switch (3-position lever) – 1 or 2 levers in a 1-gang peripheral

With possibility of combining mechanisms on the same plate (for example: 1 single pushbutton & 1 double pushbutton in a 1-gang peripheral)

- On mechanical peripheral with 24 V LEDs: 1 to 4 pushbuttons on a 1-gang plate

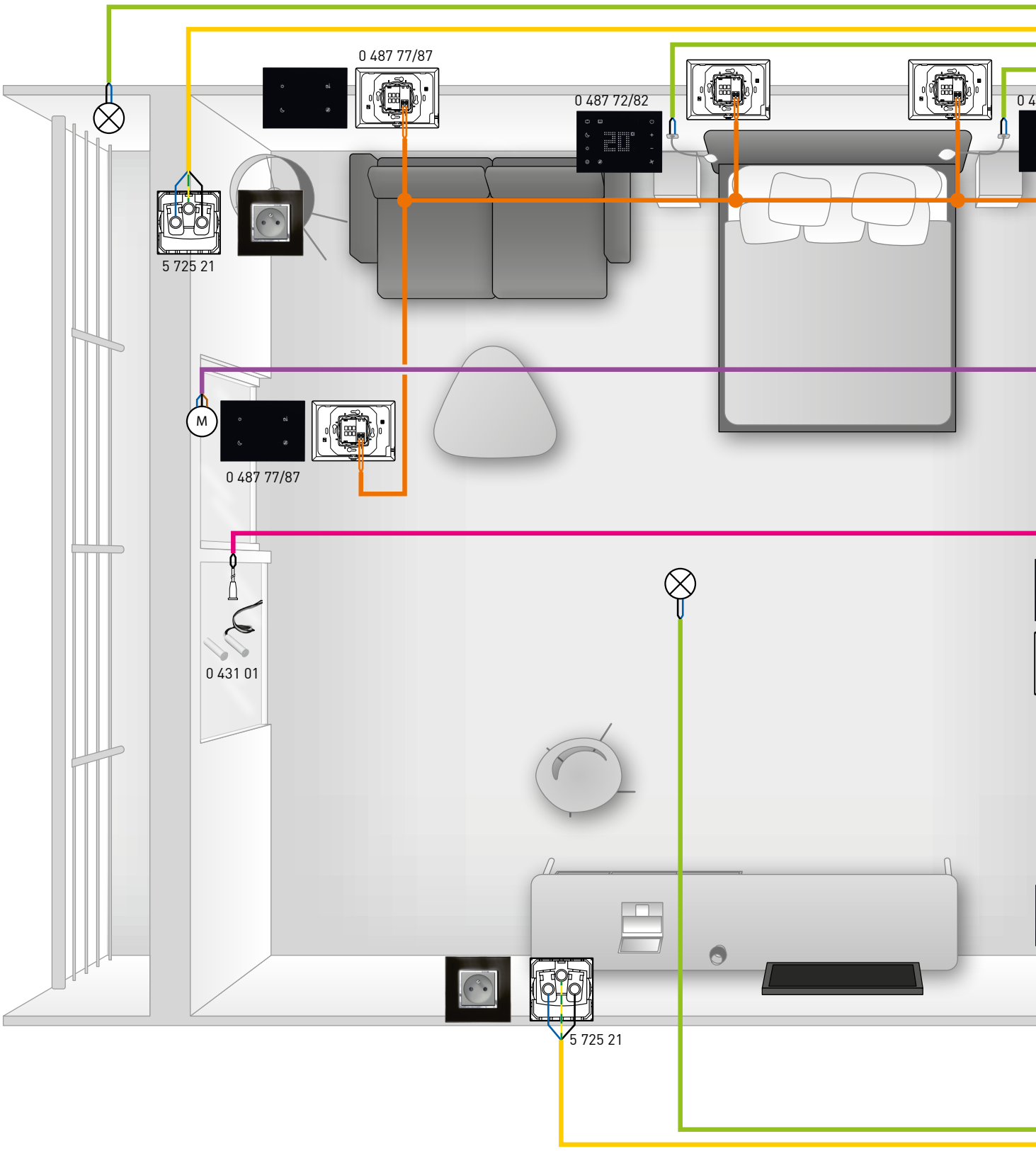
- On BUS peripheral:
  - 4-button pushbutton (possibility of choosing 1, 2, 3 or 4 buttons in a 1-gang peripheral)
  - Arteor thermostat Cat. No. 0 674 59
  - 8-scenario control Cat. No. 0 675 92

For hotel functions (corridor indicator/keycard reader/DND-MUR control), UX TOUCH peripherals should be used.

- On UX TOUCH peripheral:
  UX TOUCH peripherals (standard and configured) in flush-mounted version are compatible with ART.

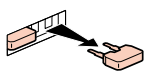
The frame can be painted in a colour compatible with the finish. For more information, please contact your Legrand representative.

SCHEMATIC DIAGRAM FOR A ROOM WITH UX TOUCH CONTROLS



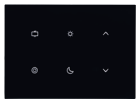
NOTE: Controller power supply (RCU): use Cat. No. 0 634 42 or 346020
BUS power supply: use Cat. No. 0 035 67 (or E49) or 0 035 60 (or E46ADCN)
(specific impedance for BUS)

⚠ : When a BUS power supply is present, remove the configurators




Bedside panel
Cat. Nos. 0 487 72/82

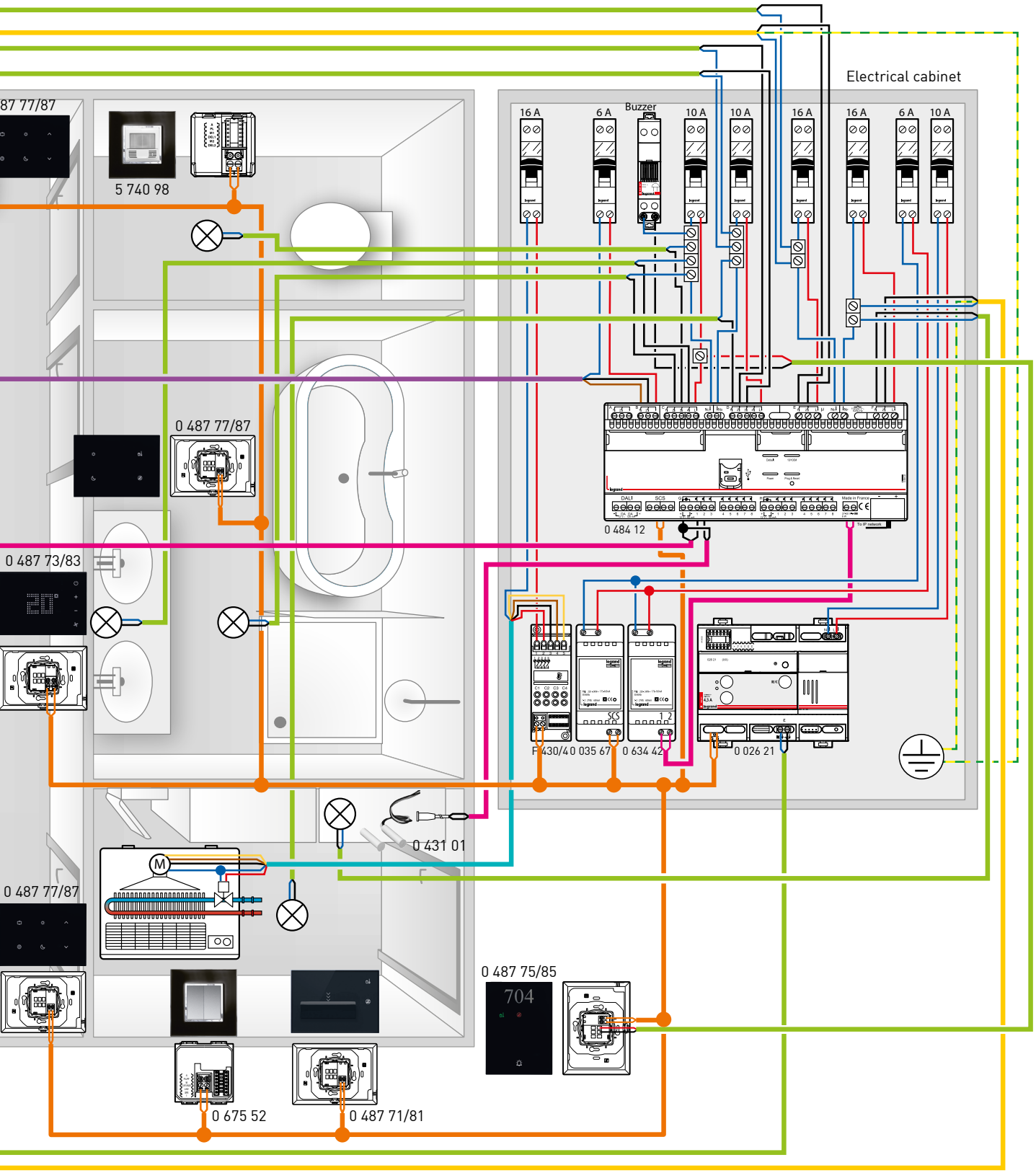
=


6-scenario control
Cat. Nos. 0 487 74/84

+


Thermostat
Cat. Nos. 0 487 73/83

Bedside panel to be installed near the bedside table



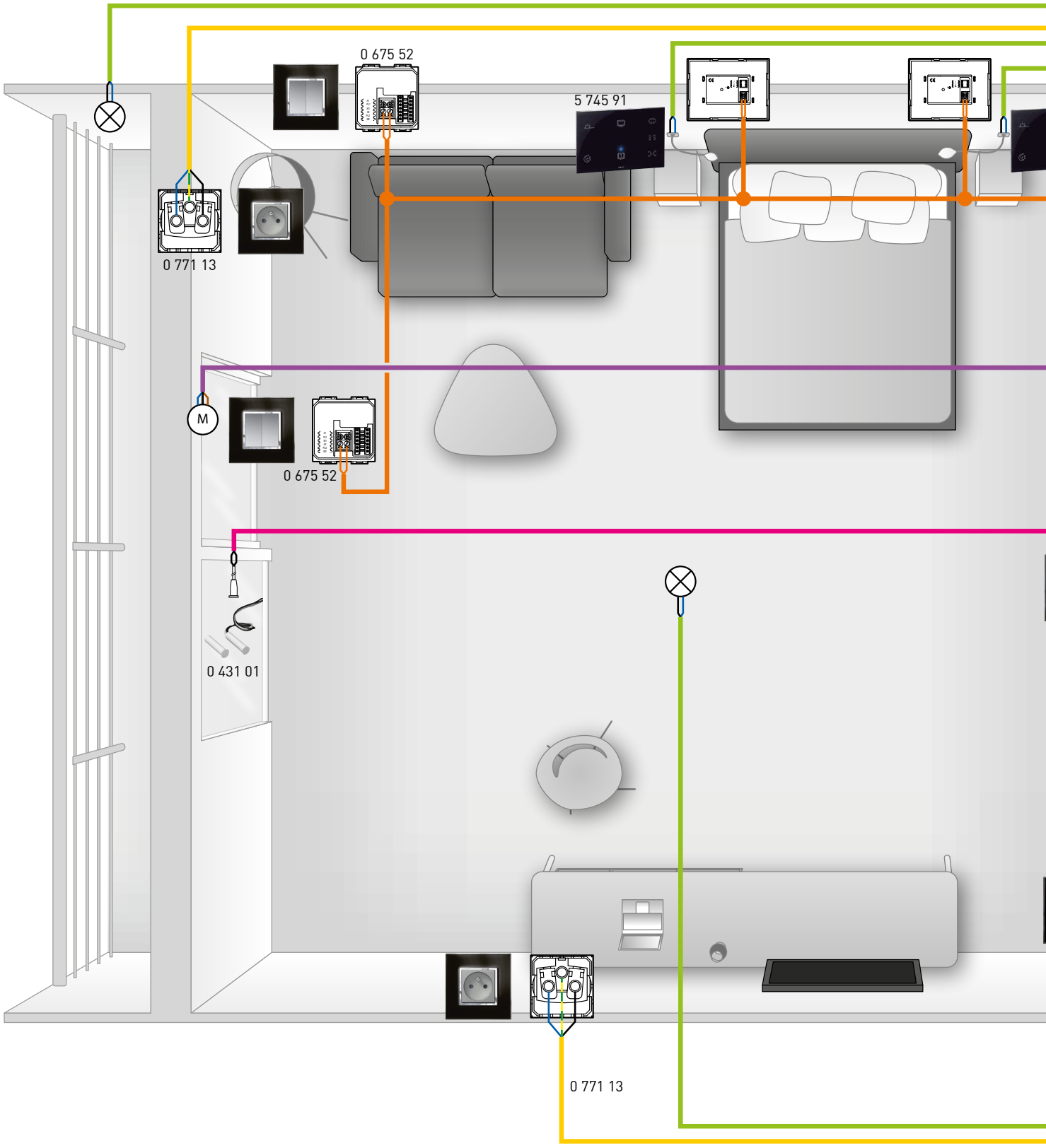
BUS cable
1 pair Cat. No. 0 492 72 or 0 492 75
Star wiring possible

2.5 mm² 3G cable
1.5 mm² 5G cable
1.5 mm² 2G cable if class II luminaire
1.5 mm² 3G cable if class I luminaire

1-pair 0.9 mm² SYT cable
(Max. length: 150 m)
1.5 mm² 3G cable

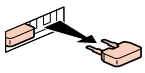
To keep the Legrand warranty, it is mandatory, in an installation with BUS/SCS devices, to use the bus cable, cat no 0 492 72 or 0 492 75.

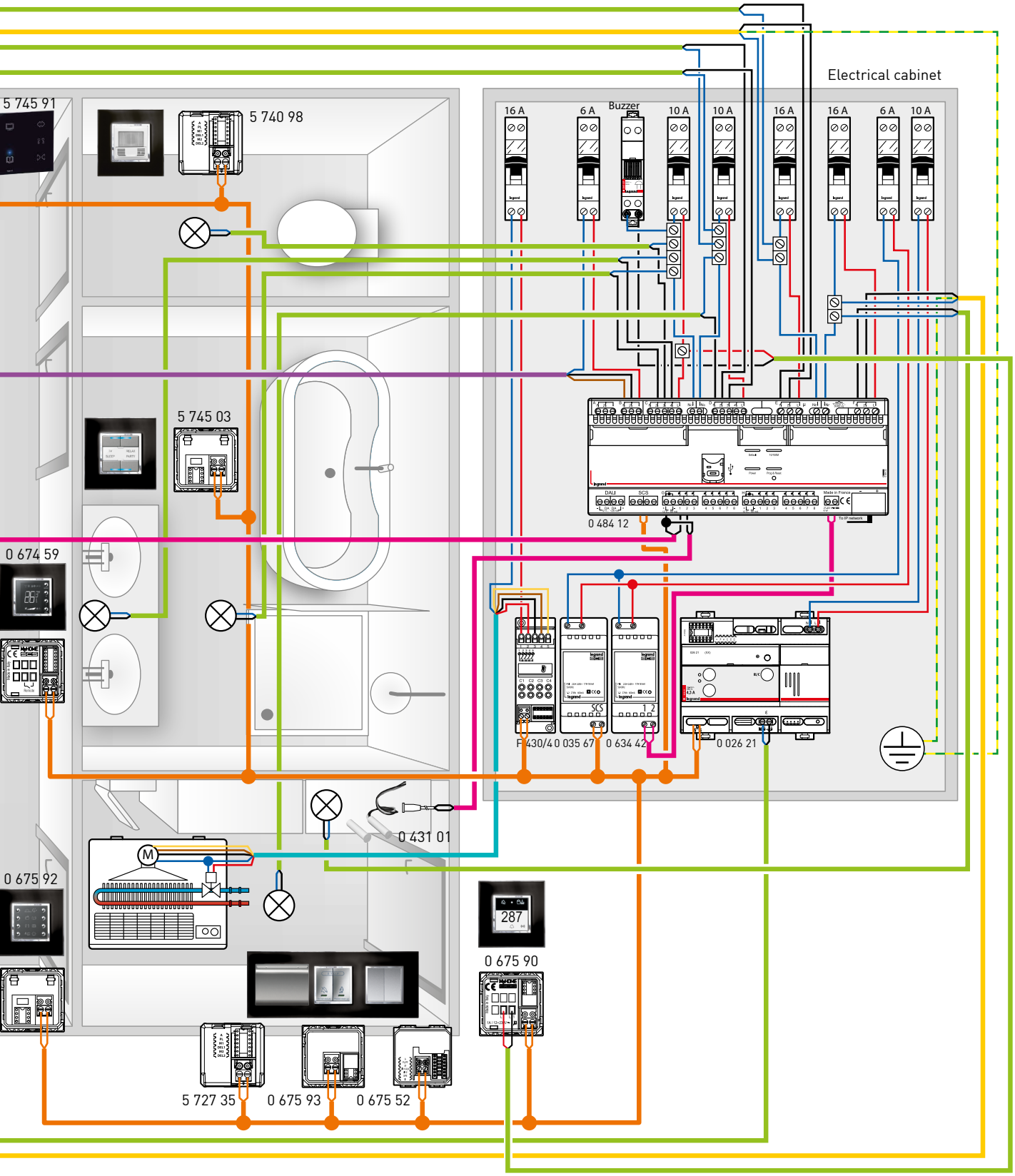
SCHEMATIC DIAGRAM FOR A ROOM WITH BUS CONTROLS



NOTE: Controller power supply (RCU): use Cat. No. 0 634 42 or 346020
BUS power supply: use Cat. No. 0 035 67 (or E49) or 0 035 60 (or E46ADCN) (specific impedance for BUS)

⚠ : When a power supply is present, remove the configurators





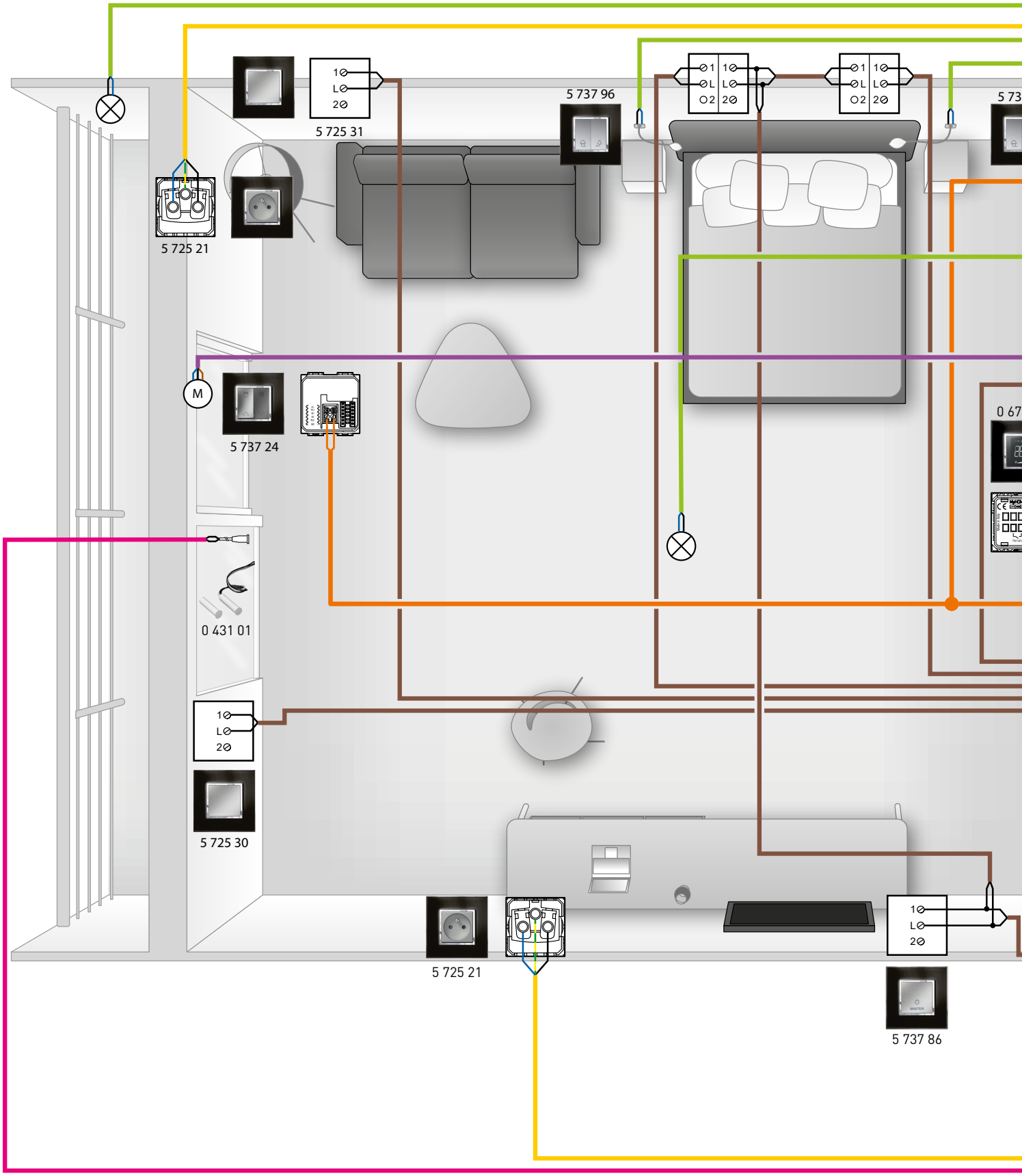
BUS cable
1 pair Cat. No. 0 492 72 or 0 492 75
Star wiring possible

2.5 mm² 3G cable
1.5 mm² 5G cable
1.5 mm² 2G cable if class II luminaire
1.5 mm² 3G cable if class I luminaire

1-pair 0.9 mm² SYT cable
(Max. length: 150 m)
1.5 mm² 3G cable

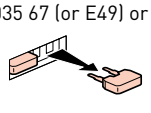
To keep the Legrand warranty, it is mandatory, in an installation with BUS/SCS devices, to use the bus cable, cat no 0 492 72 or 0 492 75.

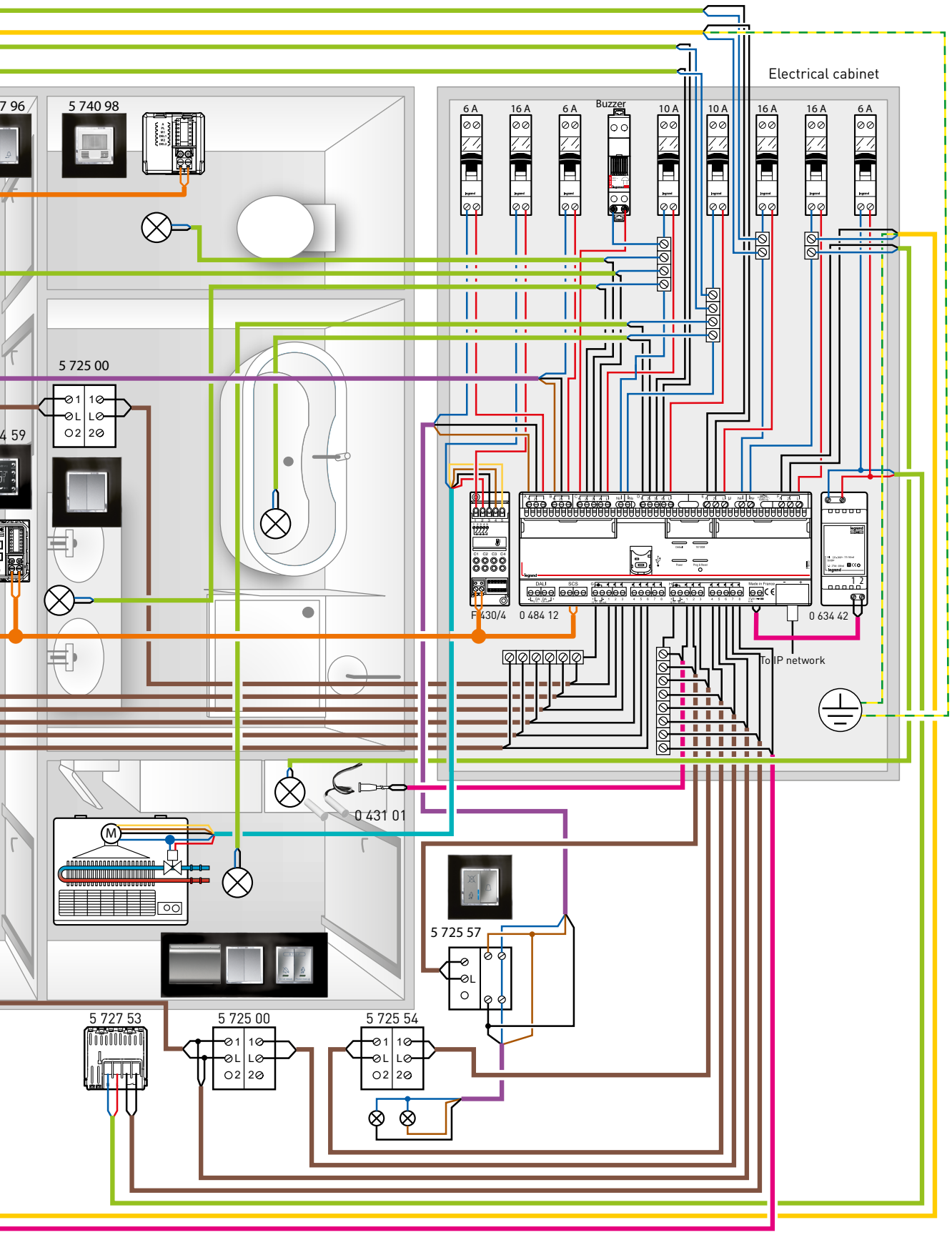
SCHEMATIC DIAGRAM FOR A ROOM
WITH ARTEOR CONVENTIONAL CONTROLS



NOTE: Controller power supply (RCU): use Cat. No. 0 634 42 or 346020
BUS power supply: use Cat. No. 0 035 67 (or E49) or 0 035 60 (or E46ADCN) (specific impedance for BUS)

⚠ : When a power supply is present, remove the configurators





S cable
air Cat. No. 0 492 72 or 0 492 75
r wiring possible

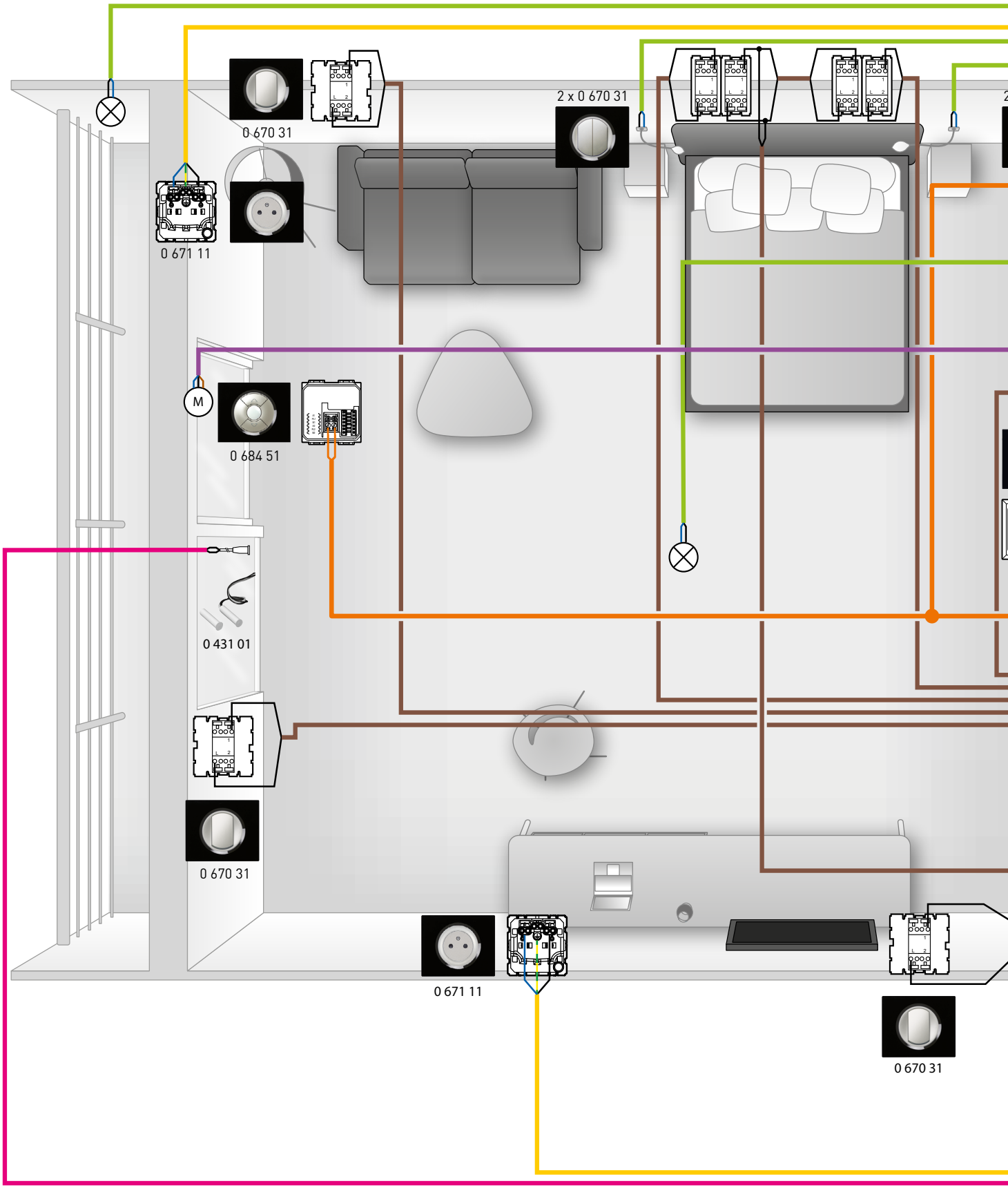
2.5 mm² 3G cable
1.5 mm² 5G cable

1.5 mm² 2G cable if class II luminaire
1.5 mm² 3G cable if class I luminaire
1-pair 0.9 mm² SYT cable
(Max. length: 150 m)

1.5 mm² 3G cable
1.5 mm² 2G cable
(Max. length: 150 m)

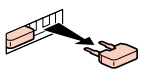
To keep the Legrand warranty, it is mandatory, in an installation with BUS/SCS devices, to use the bus cable, cat no 0 492 72 or 0 492 75.

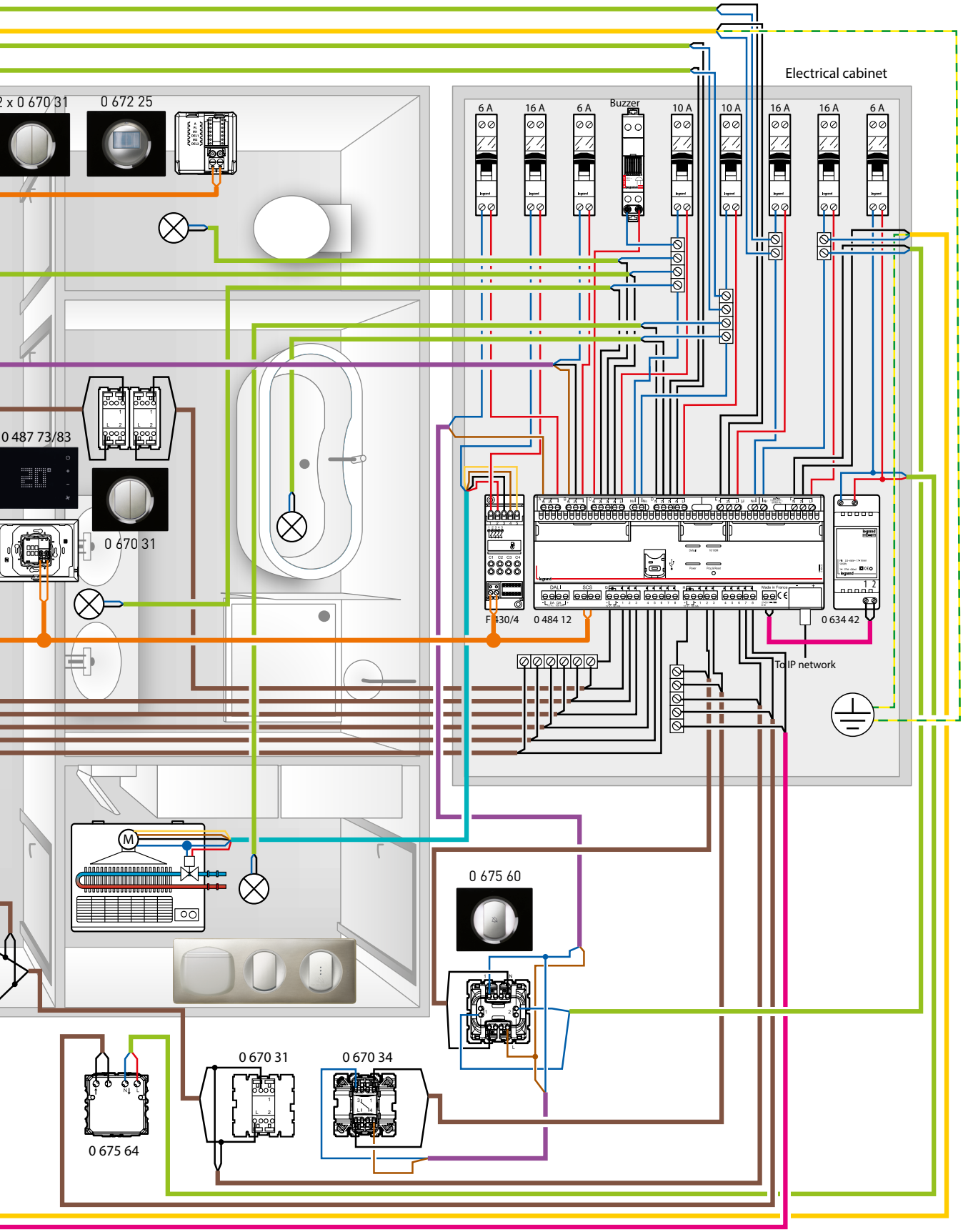
SCHEMATIC DIAGRAM FOR A ROOM
CELIANE CONVENTIONAL CONTROLS



NOTE: Controller power supply (RCU): use Cat. No. 0 634 42 or 346020
BUS power supply: use Cat. No. 0 035 67 (or E49) or 0 035 60 (or E46ADCN) (specific impedance for BUS)

⚠ : When a power supply is present, remove the configurators





BUS cable
1 pair Cat. No. 0 492 72 or 0 492 75
Star wiring possible

2.5 mm² 3G cable
1.5 mm² 5G cable

1.5 mm² 2G cable if class II luminaire
1.5 mm² 3G cable if class I luminaire
1-pair 0.9 mm2 SYT cable
(Max. length: 150 m)

1.5 mm² 3G cable
1.5 mm² 2G cable
(Max. length: 150 m)

To keep the Legrand warranty, it is mandatory, in an installation with BUS/SCS devices, to use the bus cable, cat no 0 492 72 or 0 492 75.

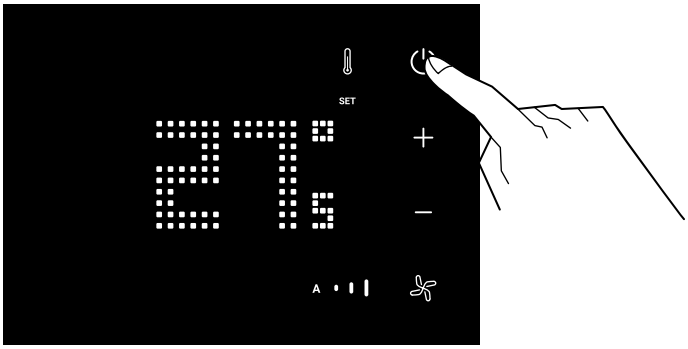
OPERATING MODES
AND LOCAL PROGRAMMING OF THE THERMOSTAT

FUNCTIONS AND OPERATING MODES

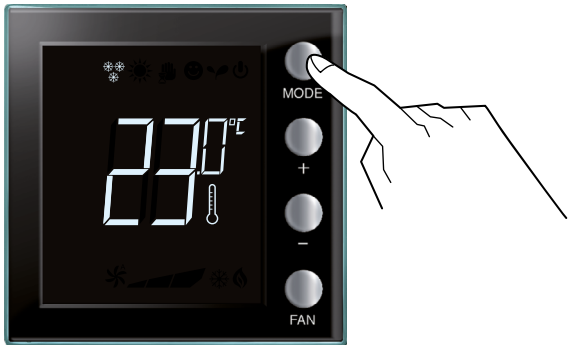
Heating and air conditioning function

The purpose of the thermostat is to manage four different functions according to the type of installation being created:
- Heating function (only the heating is active)
- Air conditioning function (only the air conditioning is active)
- Air conditioning function in summer/heating in winter

0 487 73



0 674 59



A long press (>7 seconds) on the ⏻ button is used to change function.

Heating function

If the measured temperature is lower than the setpoint value, the heating system is activated and the corresponding symbol is displayed on-screen.
When the temperature is reached, the thermostat deactivates the heating system and the icon disappears.

Air conditioning function

If the measured temperature is higher than the setpoint value, the air-conditioning system is activated and the corresponding symbol is displayed on-screen.
When the temperature is reached, the thermostat deactivates the air-conditioning system and the icon disappears.

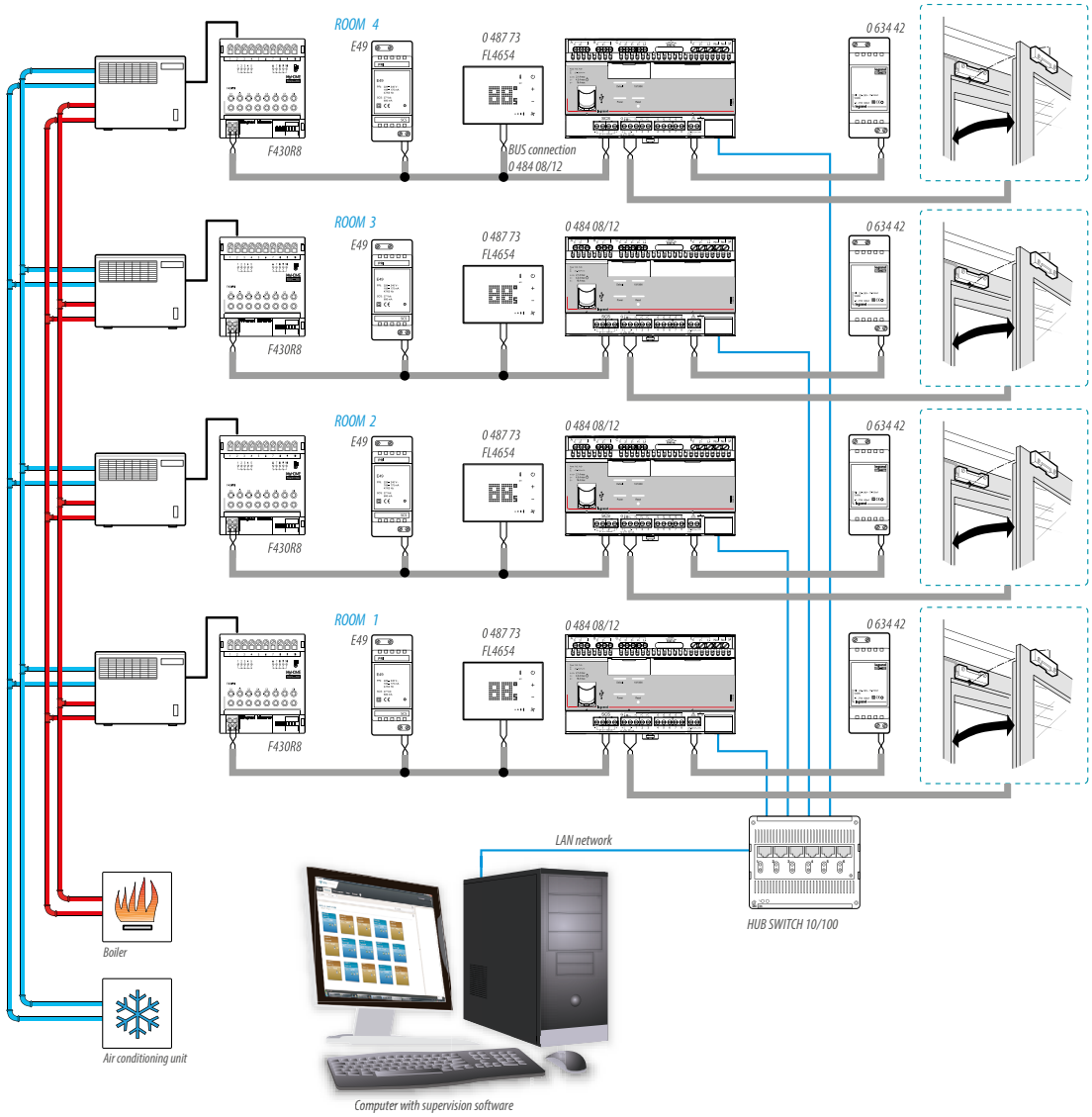
Summer/winter function

It is possible to use the thermostat for heating (heating function) and for air conditioning (air conditioning function).
Switching from one function to the other should be done manually by pressing the ⏻ button for 7 seconds or by the supervisor.
The icons which appear on-screen are identical to those described above.

⚠ **The " and " symbols are not enabled when the thermostat is controlling a centralised system via an IP BACnet gateway.**

Example of installation diagram in Hotel Room Controller software configuration

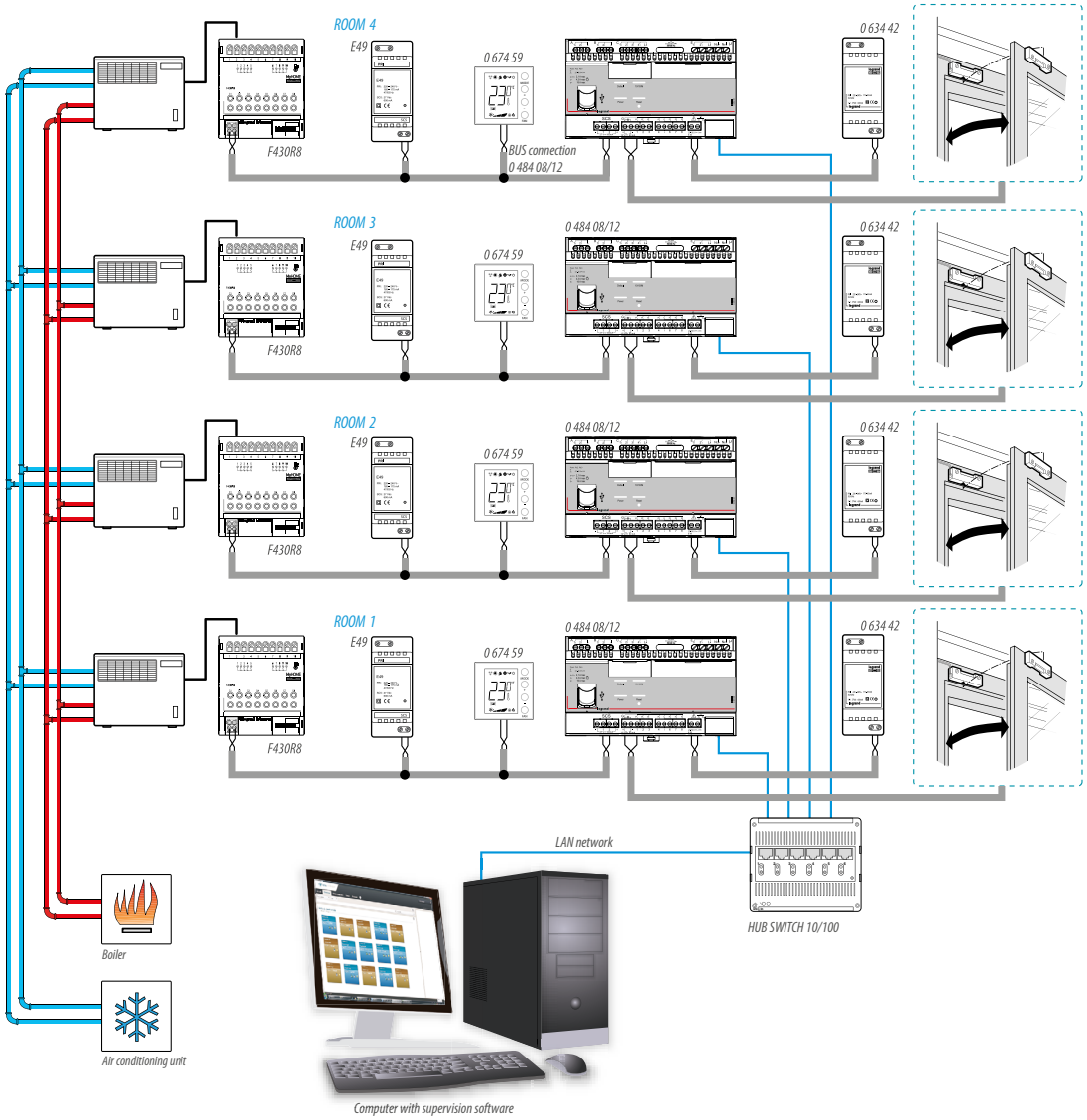
Installation with 4 zones with 4-pipe fan coil units for heating and air-conditioning system with window contact.



FUNCTIONS AND OPERATING MODES (CONTINUED)

Example of installation diagram in Hotel Room Controller software configuration

Installation with 4 zones with 4-pipe fan coil units for heating and air-conditioning system with window contact.



Operating modes

The thermostat can work in the following modes:

Comfort: 2 customisable setting values: ideal heating and air-conditioning temperature (by default 21-25°C).

Eco: 2 customisable setting values: heating and air-conditioning economy temperature (by default 18-28°C).

Frost guard: minimum safe temperature (by default 7°C).

Thermal protection: maximum safe temperature (by default 35°C).

Off: zone switched off.

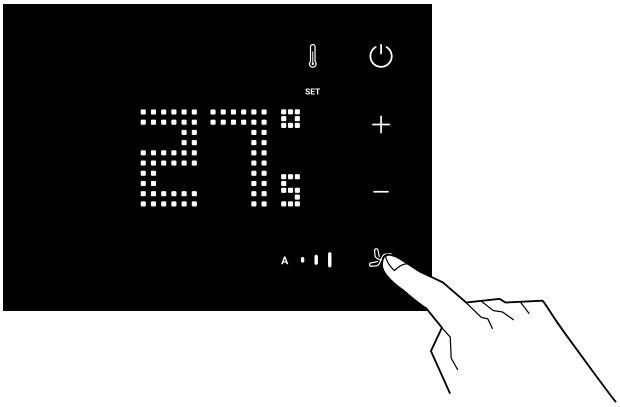
By pressing briefly (no longer than 3 seconds) on the ⏻ or MODE button, the thermostat switches to thermal protection or frost guard mode.
Pressing again returns the thermostat to the previous setting.

During software configuration it is possible, when the setpoint is reached, to choose whether the thermostat switches off the fan (for maximum economy) or leaves the fan running (in this case, it is possible to switch on the fan even when the system is producing neither hot nor cold air).

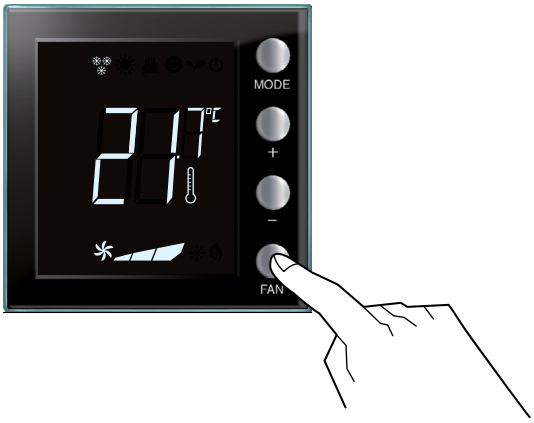
Fan coil unit speed

If the thermostat is configured for managing a fan coil type load, pressing the or FAN button can change the fan speed cyclically, by choosing one of the following values.
It is also possible to disable the automatic speed function via the software.

0 487 73



0 674 59



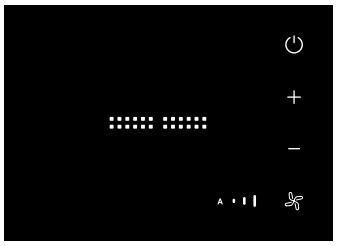
Press the or FAN button to set the fan speed to the desired level.

Off	• 0 0	Speed 1
Off	• • 0	Speed 2
Off	• • •	Speed 3
	A 0 0 0	Automatic operation

FUNCTIONS AND OPERATING MODES (CONTINUED)

Screen displays

0 487 73



0 674 59

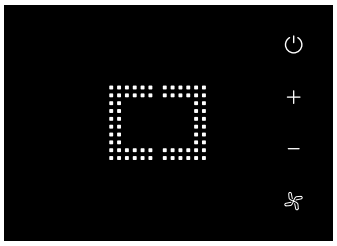
Protection mode

With a short press on the ⏻ button, the thermostat 0 487 73 switches to protection mode, and the "- -" symbol is displayed.

With a short press on the MODE button, the thermostat 0 674 59 switches to protection mode and the protection temperature (7°C or 35°C) is displayed.

To return to the previous state, press the "on" or "+" and "-" buttons.

0 487 73



0 674 59

No configuration

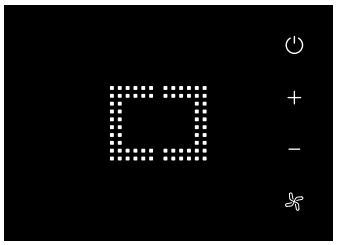
The "[ ]" symbol flashes quickly to indicate that the thermostat has not been configured.

Temperature calibration (if activated by configuration)

With a long press (> 7 seconds) on the + and - buttons, the temperature flashes to indicate that the calibration procedure is in progress.

Error condition

The screen displays the message "E" followed by a number (from 1 to 5 to indicate an error condition).
See the end of the guide for more details.

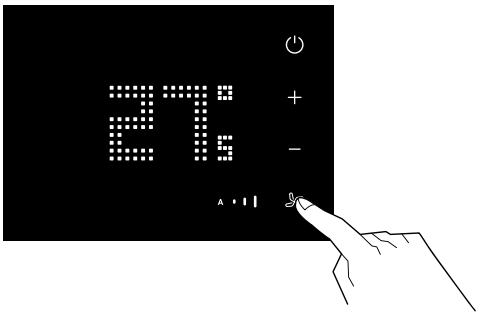


Configuration/test in progress

The "[ ]" symbol flashes slowly to indicate that a remote configuration/test session is in progress.

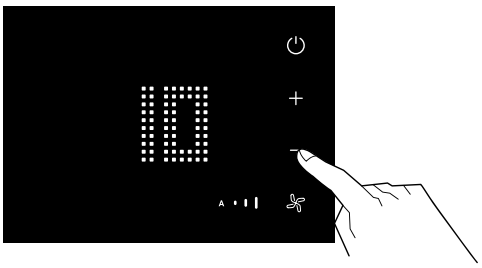
Brightness control

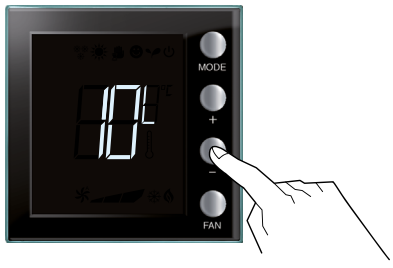
0 487 73



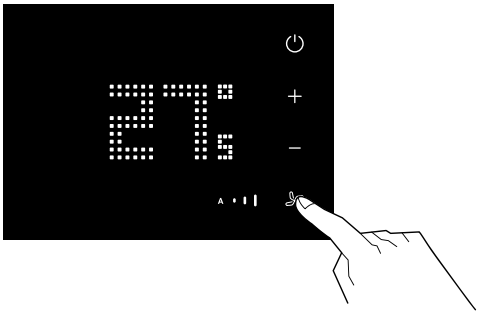
0 674 59

The screen brightness can be set to one of 10 levels.
Press the button for at least 7 seconds.





The current brightness level is displayed on-screen.
Use the + and – buttons to increase or decrease the brightness.

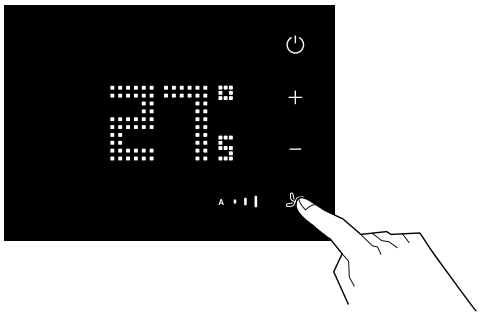


Press the button twice to confirm and exit the function.

FUNCTIONS AND OPERATING MODES (CONTINUED)

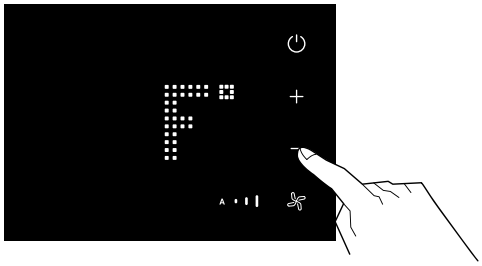
Setting the temperature measurement unit

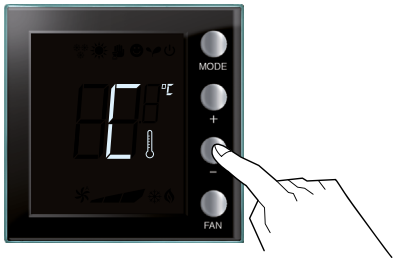
0 487 73



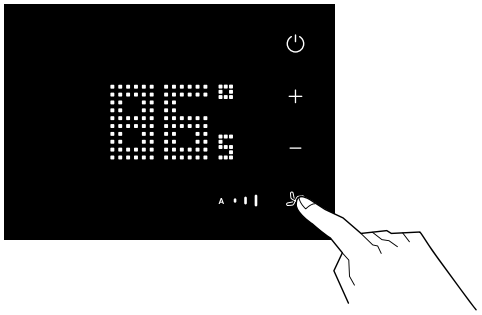
0 674 59

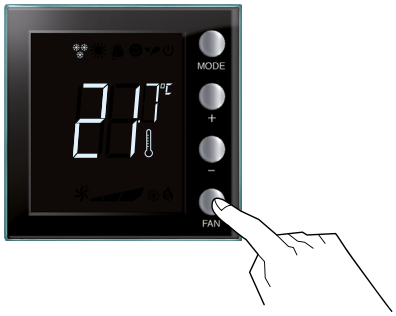
A decision can be made to set the device to the temperature scale expressed in degrees °C or in degrees °F.
Press the button for at least 7 seconds.





Press the button again.
Use the + and – buttons to switch from a temperature unit in °C to a temperature in °F.





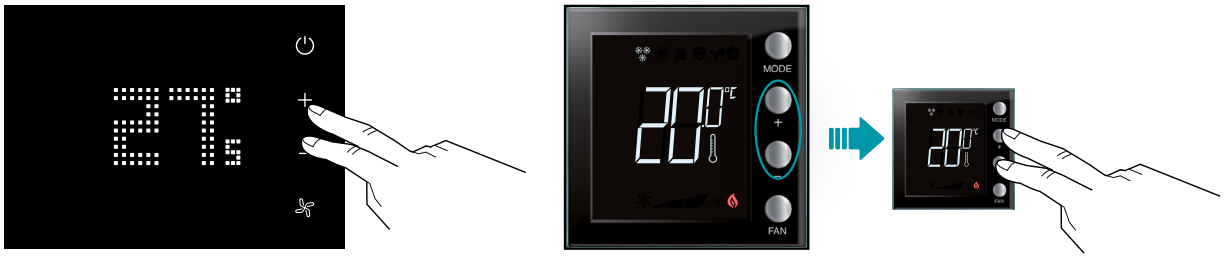
Press the button to confirm and exit the function.

Calibrating the measured temperature

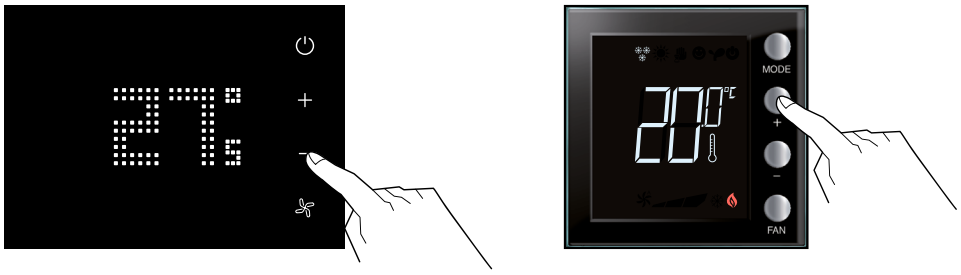
By pressing the + and – buttons simultaneously, it is possible to calibrate the measured temperature. This function should be activated by means of the dedicated software.

NOTE: After the initial installation, wait for at least 5 hours before performing calibration.

0 487 73 **0 674 59**



Press the + and – buttons (> 7 seconds) simultaneously; the temperature starts to flash.
Release the buttons.



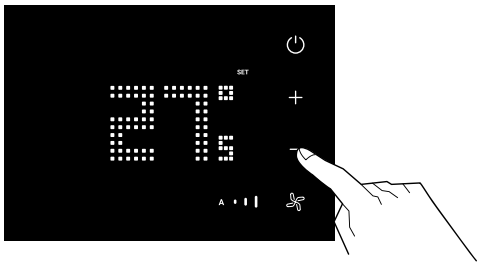
After releasing the buttons, it is possible to increase or decrease the measured temperature using the + and – buttons.
If neither the + or – button is pressed for 5 seconds, the calibration is automatically validated.

NOTE: To restore the default calibration, hold down the + and – buttons (> 7 seconds) simultaneously; the temperature starts to flash.
Hold down the buttons; after 7 extra seconds, the temperature stops flashing, the screen displays the temperature measured by the thermostat and manual calibration is cleared.
The thermometer default calibration is restored.

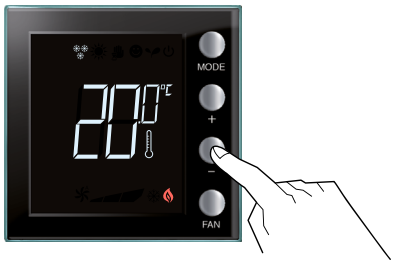
FUNCTIONS AND OPERATING MODES (CONTINUED)

Changing the setpoint temperature

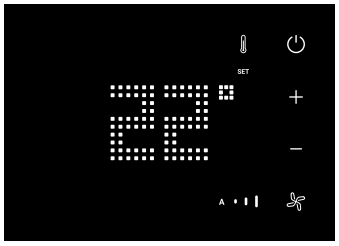
0 487 73



0 674 59



The “SET” message appears (only in instantaneous temperature display mode).
Release and change with + or -.



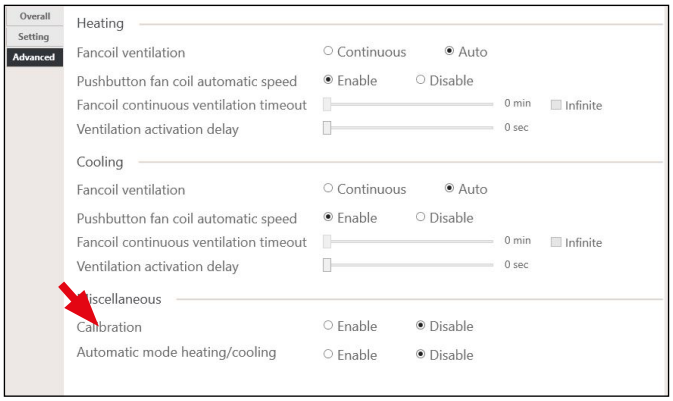
The screen displays the new programmed setting value.

After a few seconds, the thermostat reverts to the previous mode.

If the setpoint temperature display mode is activated, the screen continues to display the setpoint temperature with the "SET" message active (it does not display the instantaneous temperature).

AUTOMATIC CHANGE TO SUMMER/WINTER MODE

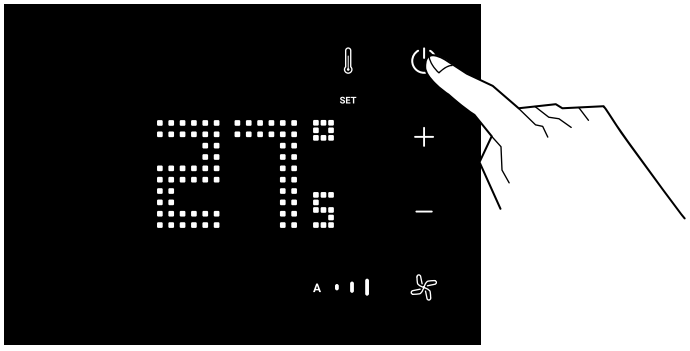
When automatic heating/cooling has been activated.



After transferring the configuration, the thermostat must be switched to Automatic mode.

Procedure: Long press (>7 s) on the ⏻ button: with each long press the thermostat switches from one mode to the other.

0 487 73



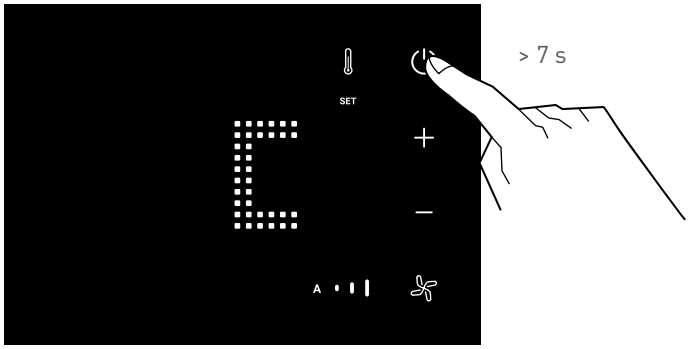
Functions not available for SCS thermostats (0 674 59, H4691, LN4691)

OPERATING MODES
AND LOCAL PROGRAMMING OF THE THERMOSTAT

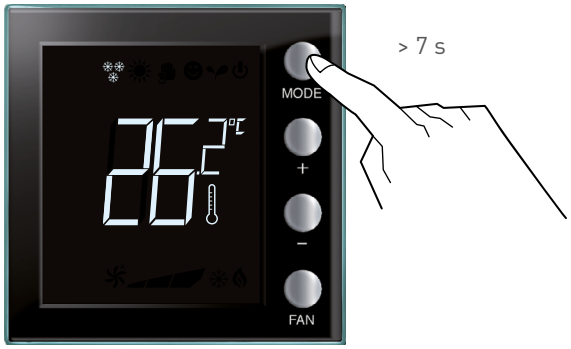
AUTOMATIC CHANGE TO SUMMER/WINTER MODE (CONTINUED)

When the screen displays C or ❄ => the thermostat is in Cooling mode.

0 487 73

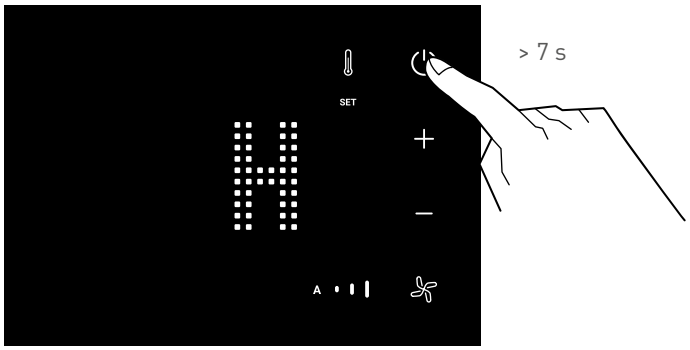


0 674 59

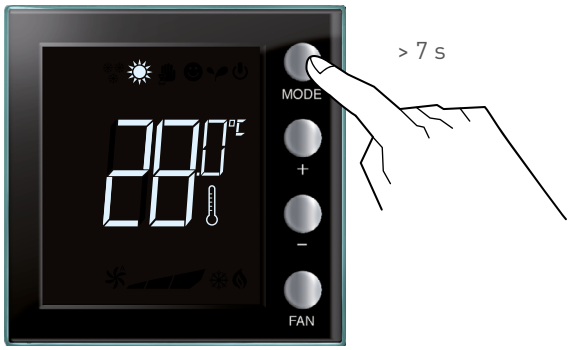


When the screen displays H or ☀ => the thermostat is in Heating mode.

0 487 73

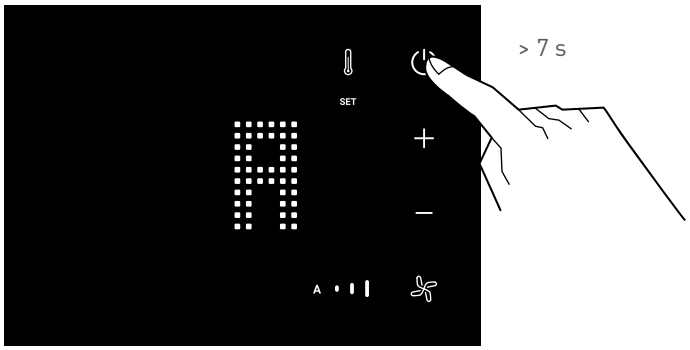


0 674 59



When the screen displays A => the thermostat is in Automatic mode (for this mode to be accessible, it is necessary to enable automatic switching in the thermostat configuration, "Advanced" tab)

0 487 73



Functions not available for SCS thermostats (0 674 59, H4691, LN4691)

HVAC REGULATION WITH LEGRAND ACTUATOR

There are 2 types of regulation in the Legrand offer:

- Regulation with ON/OFF valve
- Regulation with proportional valve (0-10 V and 3-way)

HVAC systems have 3 operating modes:

- Heating only
- Cooling only
- Heating and air conditioning with automatic changeover

The regulation settings were fixed at the product design stage following tests in an environmental chamber. The HRCS configuration software does not allow the regulation settings to be changed.

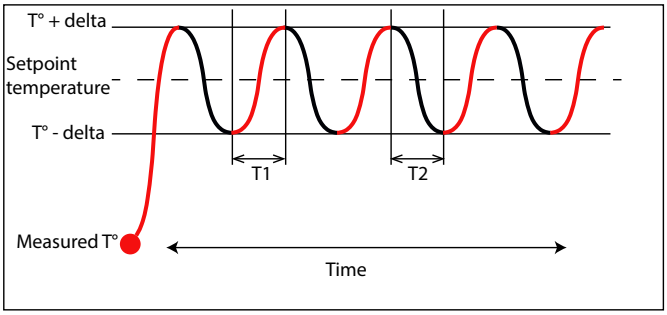
NB: The measurement precision of the temperature sensor included in Legrand thermostats is 0.5°C

Discrete (ON/OFF) regulation

Discrete systems are:

- Valve = open/closed
- Electric heating/electric underfloor heating/electric ceiling heating = on/off
- Pump = running/not running

Regulation with ON/OFF valve in heating mode only

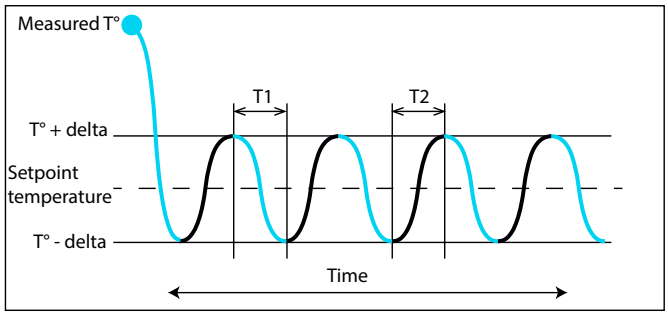


Delta = 0.1°C

T1 = depends on the heating power rating

T2 = depends on the building inertia

Regulation with ON/OFF valve in air conditioning mode only



Delta = 0.1°C

T1 = depends on the air conditioning power rating

T2 = depends on the building inertia

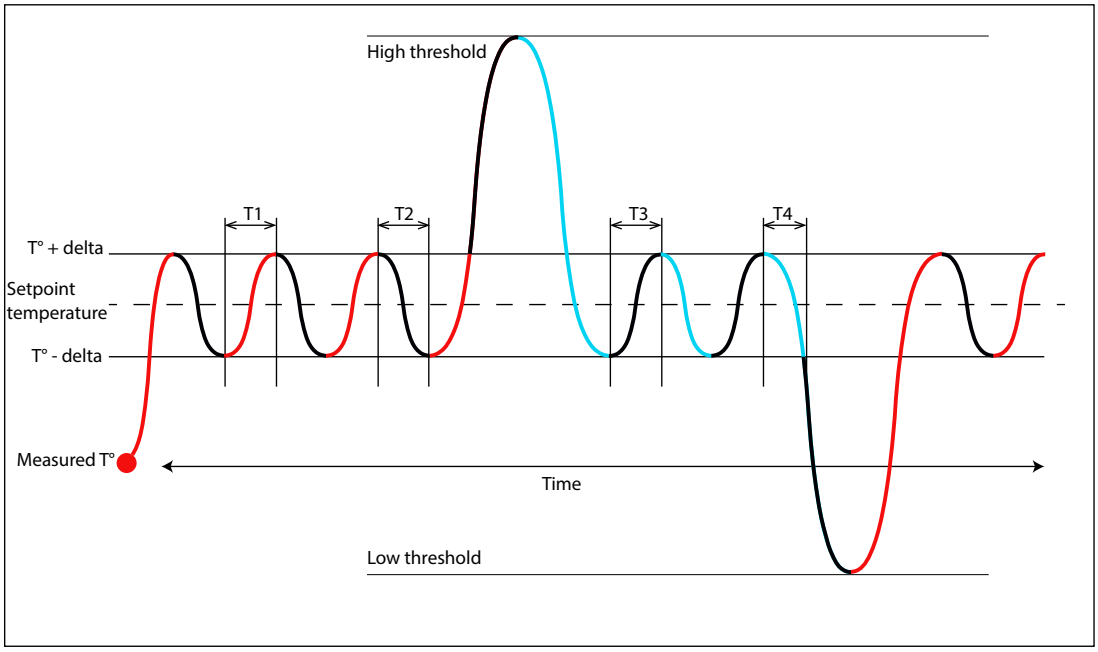
Regulation with ON/OFF valve in heating and air conditioning mode without automatic changeover

The switch between heating mode and air conditioning mode is performed manually (either a command sent via BACnet, or by pressing the ⏻ or MODE button for >7 s). When the thermostat is in winter mode, regulation is Heating only type. When the thermostat is in summer mode, regulation is Air conditioning only type.

HVAC REGULATION WITH LEGRAND ACTUATOR (CONTINUED)

Discrete (ON/OFF) regulation (continued)

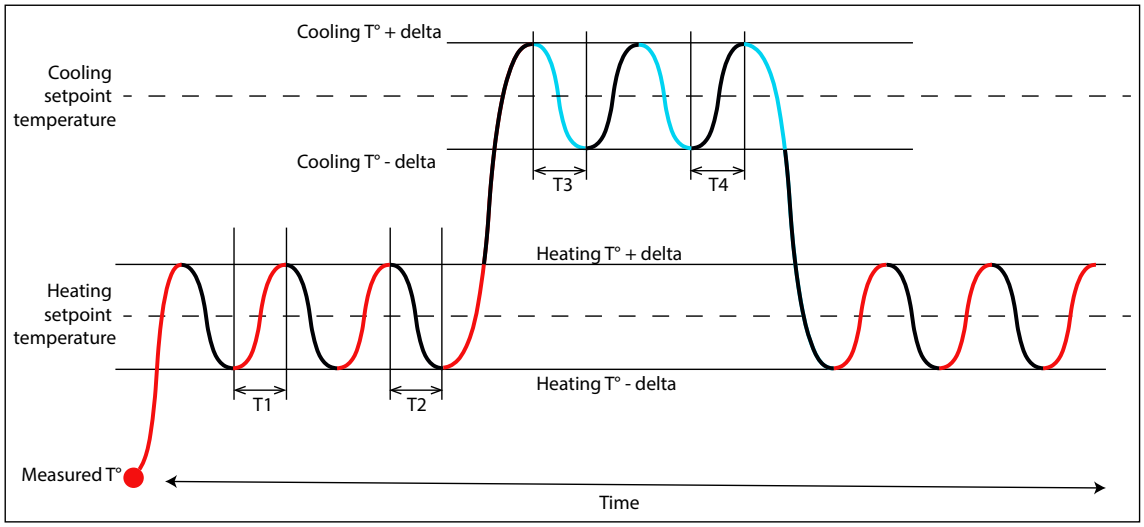
Regulation with ON/OFF valve in heating and air conditioning mode with automatic changeover (manual mode)



Delta = 0.1°C
T1 = depends on the heating power rating
T2 = depends on the building heat loss inertia
T3 = depends on the building cold loss inertia
T4 = depends on the air conditioning power rating
High threshold = setpoint temperature + 2°C
Low threshold = setpoint temperature – 2°C

Discrete (ON/OFF) regulation (continued)

Regulation with ON/OFF valve in heating and air conditioning mode with automatic changeover (Comfort/Eco mode)



Dead band = Cooling setpoint temperature - Heating setpoint temperature

Legrand recommends a dead band of 4°C minimum.

Delta = 0.1°C

T1 = depends on the heating power rating

T2 = depends on the building heat loss inertia

T3 = depends on the air conditioning power rating

T4 = depends on the building cold loss inertia

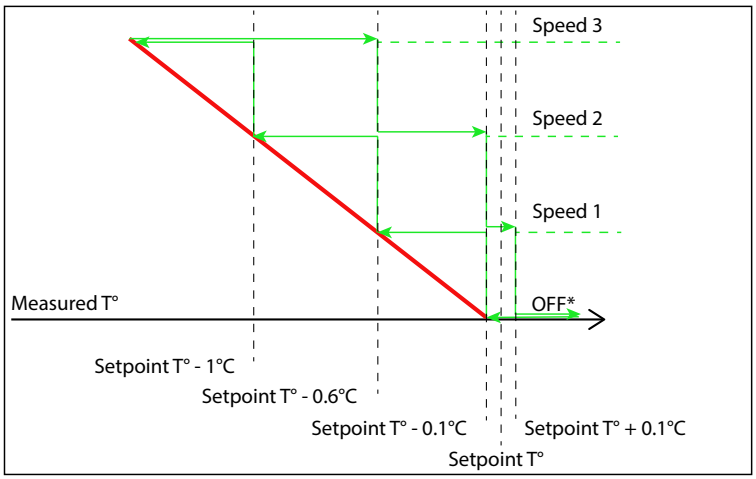
HVAC REGULATION WITH LEGRAND ACTUATOR (CONTINUED)

Discrete (ON/OFF) regulation (continued)

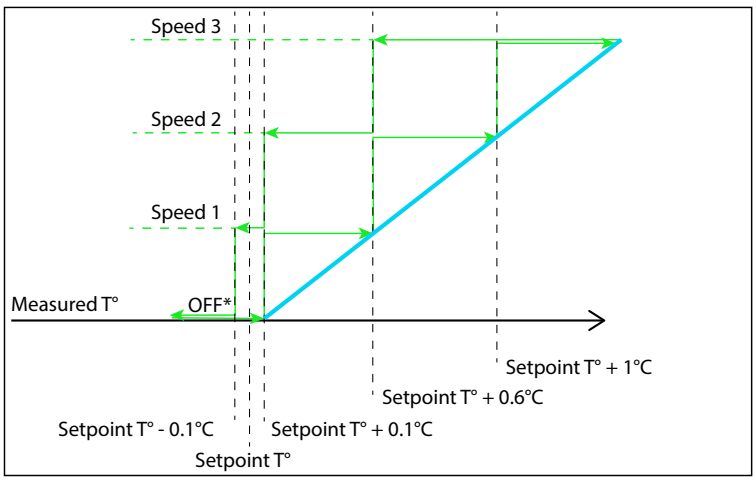
Fan speed control for a fan coil unit with ON/OFF valve

When using a fan coil unit with ON/OFF valve, the fan speed depends on the measured temperature

In heating mode



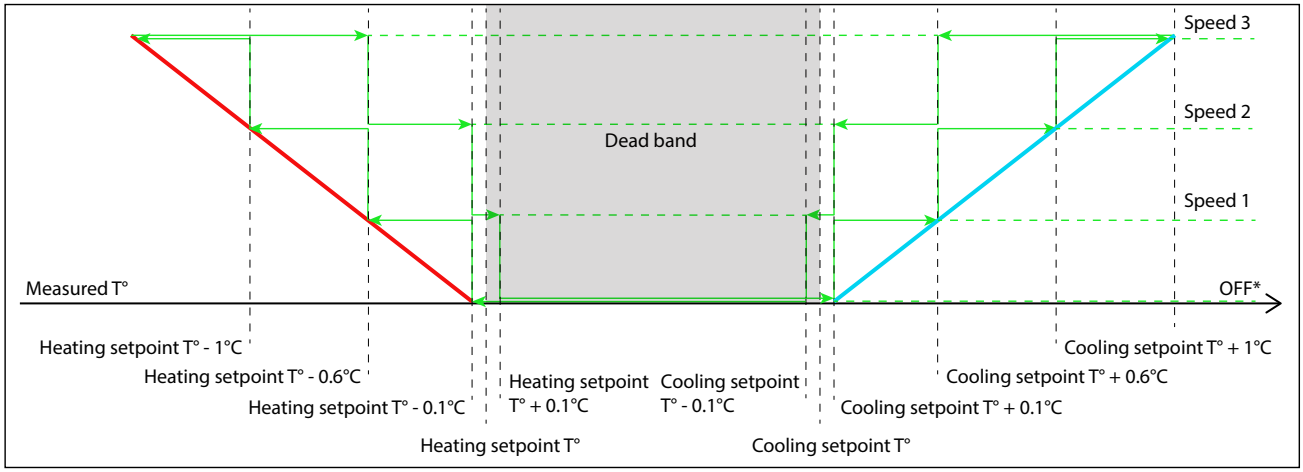
In air conditioning mode



Discrete (ON/OFF) regulation (continued)

Fan speed control for a fan coil unit with ON/OFF valve (continued)

In heating and air conditioning with automatic changeover



*If continuous Ventilation mode is enabled, the fan does not stop when the measured temperature reaches the setpoint + 0.1°C in heating mode or - 0.1°C in air conditioning mode, it stays on speed 1.

In this case, the fan will switch OFF after the continuous ventilation mode time delay or when the thermostat changes to protection mode or OFF mode. If the continuous mode time delay is set to an infinite time delay, the fan will only switch OFF when the thermostat changes to protection mode or OFF mode.

HVAC REGULATION WITH LEGRAND ACTUATOR (CONTINUED)

Proportional regulation

Proportional regulation provides better performance in terms of adjustment accuracy (PID algorithm) and equipment wear (fewer operations). Proportional systems are:

- 0-10 V valve
- 3-way valve

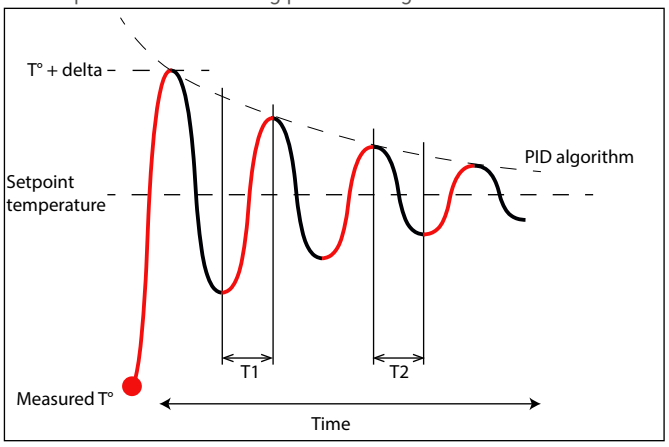
PID algorithm

The PID (Proportional/Integral/Derivative) algorithm is regulation that is suitable for fan coil units. Legrand's values for PID regulation are: PG = 100; IG = 5; DG = 100 (these values cannot be adjusted via the Hotel Room Controller Software).

Regulation with proportional valve in heating mode only

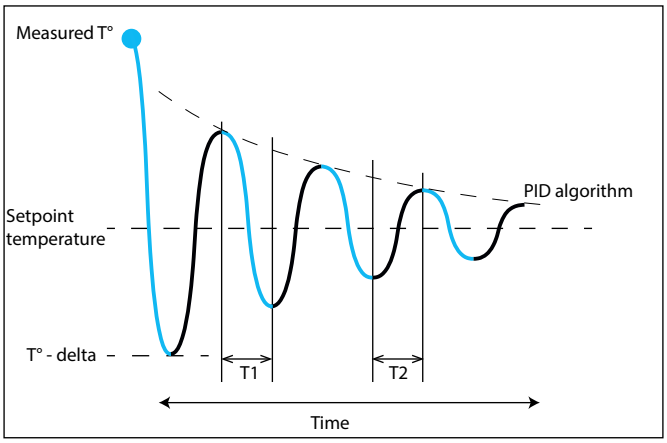
Delta = 0.1°C

T1 = depends on the heating power rating



T2 = depends on the building heat loss inertia

Regulation with proportional valve in air conditioning mode only



Delta = 0.1°C

T1 = depends on the air conditioning power rating

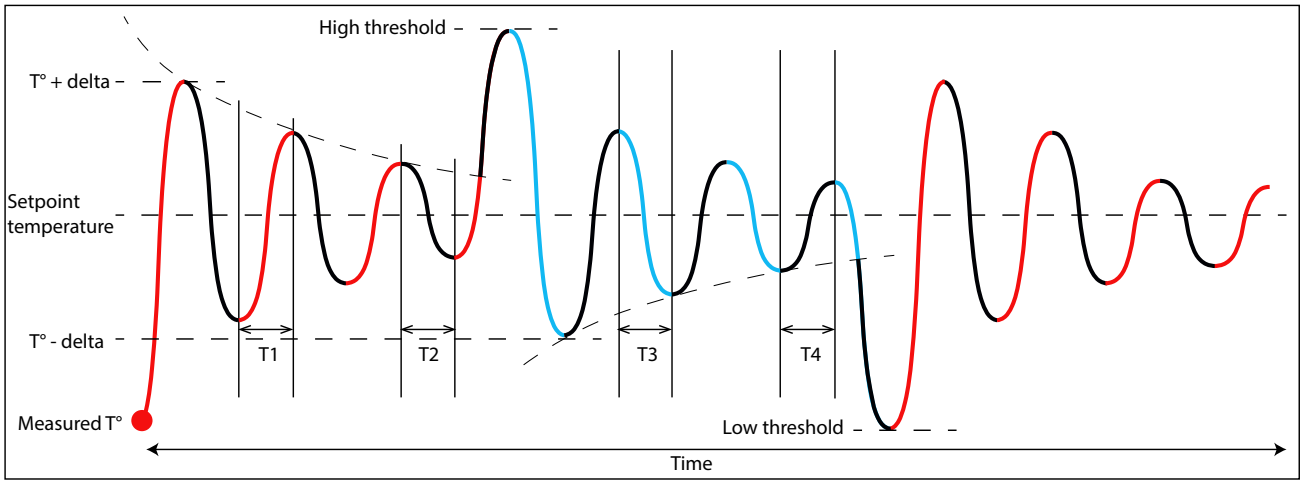
T2 = depends on the building cold loss inertia

Proportional valve regulation in heating and air conditioning mode without automatic changeover

The switch between heating mode and air conditioning mode is performed manually (either a command sent via BACnet, or by pressing the ⏻ or MODE button for >7 s). When the thermostat is in winter mode, regulation is Heating only type. When the thermostat is in summer mode, regulation is Air conditioning only type.

Proportional regulation (continued)

Proportional valve regulation in heating and air conditioning mode with automatic changeover (manual mode)

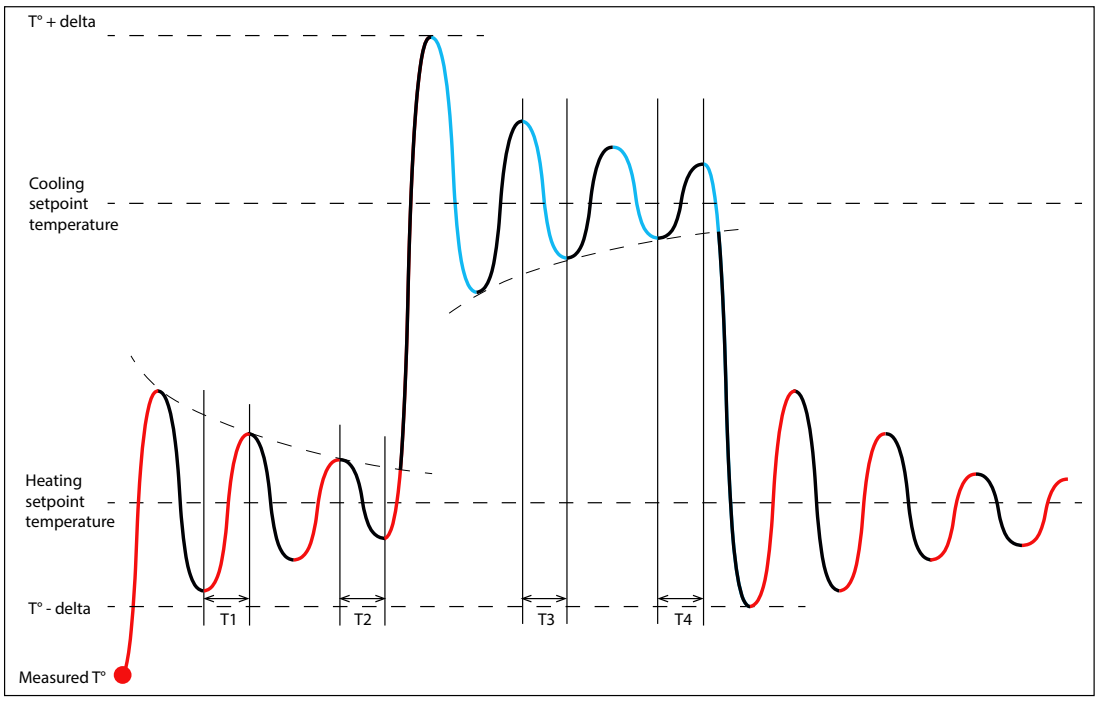


Delta = 0.1°C
T1 = depends on the heating power rating
T2 = depends on the building heat loss inertia
T3 = depends on the air conditioning power rating
T4 = depends on the building cold loss inertia
High threshold = setpoint temperature + 2°C
Low threshold = setpoint temperature - 2°C

HVAC REGULATION WITH LEGRAND ACTUATOR (CONTINUED)

Proportional regulation (continued)

Proportional valve regulation in heating and air conditioning mode with automatic changeover (Comfort/Eco mode)



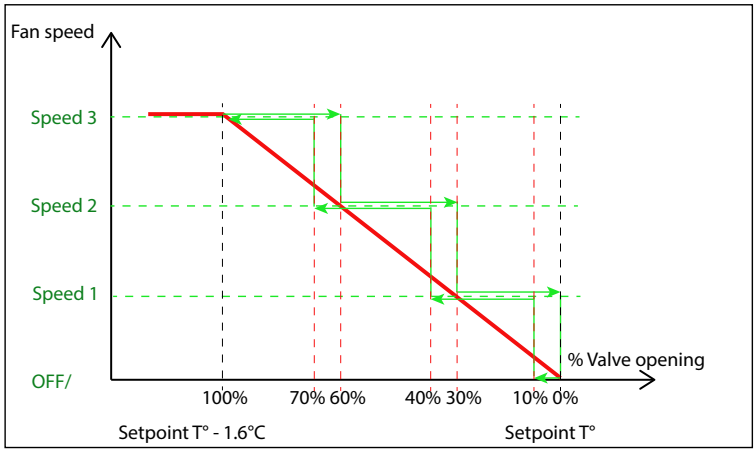
Dead band = Cooling setpoint temperature – Heating setpoint temperature
Legrand recommends a dead band of 4°C minimum.
Delta = 0.1°C
T1 = depends on the heating power rating
T2 = depends on the building heat loss inertia
T3 = depends on the air conditioning power rating
T4 = depends on the building cold loss inertia

Proportional regulation (continued)

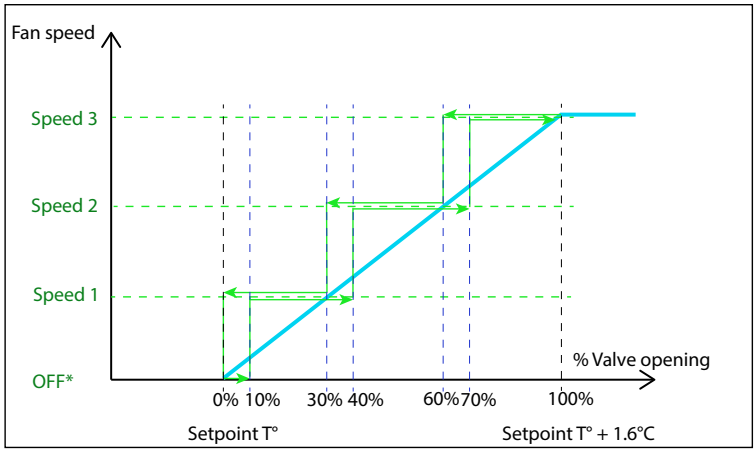
Fan speed control for a fan coil unit with proportional valve

When using a fan coil unit with proportional valve, the fan speed depends on the opening percentage of the proportional valve.

In heating mode



In air conditioning mode

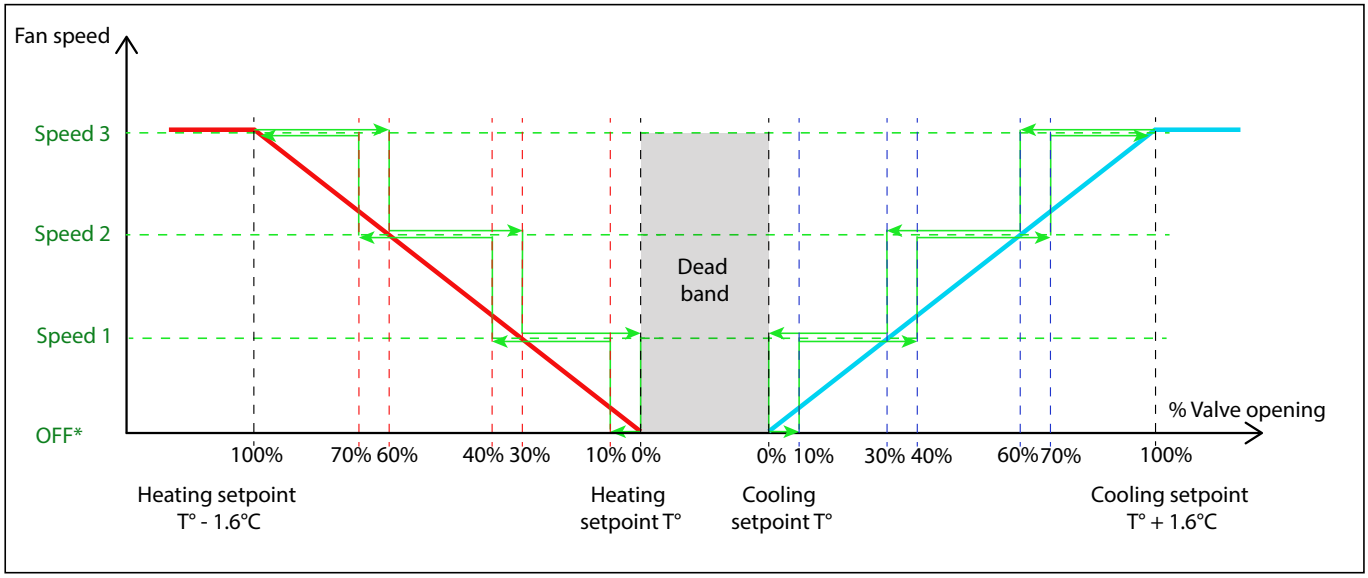


HVAC REGULATION WITH LEGRAND ACTUATOR (CONTINUED)

Proportional regulation (continued)

Fan speed control for a fan coil unit with proportional valve (continued)

In heating and air conditioning with automatic changeover



*If continuous Ventilation mode is enabled, the fan does not stop when the valve closes, it stays on speed 1.

In this case, the fan will switch OFF after the continuous ventilation mode time delay or when the thermostat changes to protection mode or OFF mode. If the continuous mode time delay is set to an infinite time delay, the fan will only switch OFF when the thermostat changes to protection mode or OFF mode.

VIRTUAL KEYCARD

The Virtual keycard function is based on an algorithm which uses detection of movement (via motion sensors) and a door contact (which gives the door open/door closed information). This algorithm is used to determine whether there is anyone in the room or not.

The Virtual keycard function can launch 3 scenarios:
- Door opening scenario
- Arrival scenario
- Leave scenario

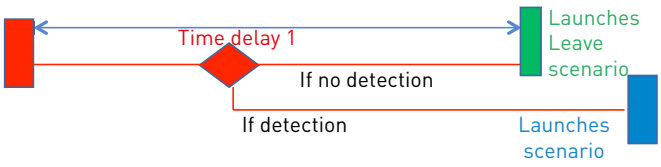
How the Virtual keycard works

■ When the door opens, the system sends the door opening scenario. This scenario switches on the entrance hall light during time delay 1 (adjustable time delay), allowing the person to enter the room and be detected without being in the dark.
- If the person does not enter, the light goes out after the time delay.
- If the person does enter, when they are detected, the system sends the arrival scenario and sends the Presence information in BACNET format over the IP network. The arrival scenario is a welcome scenario defined by the hotel proprietor. The system remains in presence mode until the door is next opened.

In the case of an installation equipped with a PMS integrated with room management, the arrival scenario can be a welcome scenario when a new guest enters, and a Remember previous state scenario when a guest returns to their room (the Remember previous state scenario returns the room to the state in which the guest left it before leaving).

• Room in Absence mode

Door opens



■ When the door closes, the system starts time delay 2 (set at 30 seconds).
- If presence is detected during time delay 2, it is ignored (to prevent any disturbance caused by the door closing).

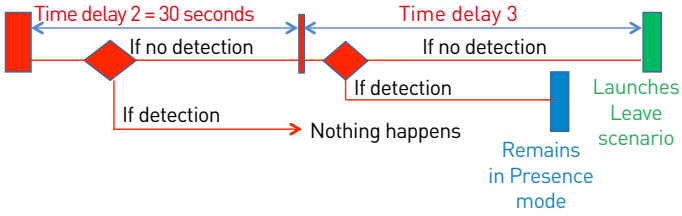
■ After 30 seconds, time delay 3 (adjustable) starts.
- If presence is detected during time delay 3, this means that the room has been booked by several people and at least one person is still there. In this case, the system does nothing...the room remains in presence mode until the door is next opened.
- If no presence is detected during time delay 3, the system sends the leave scenario and sends the Absence information in BACNET format over the IP network. The leave scenario puts the room into ECO mode (all the lights switched off, heating in ECO mode, etc).
- The system might launch the leaving scenario (the room goes into ECO mode), but then a person is detected without the door having been opened (for example the person was on the balcony and is detected when they come back into the room). In this case, the system immediately puts the room into Presence mode and launches the arrival scenario.

In the case of an installation equipped with access control that discriminates between keycard holders (guest/staff), the arrival scenario will be specific to the type of keycard (which allows a scenario to be defined to optimise cleaning: switches on all the lights, opens the curtains/shutters, disables controls so they can be cleaned without sending commands, etc).

In the case of a virtual keycard installation, the Arrival scenario must be a reminder of the room status.

• Room in Presence mode

Door closes



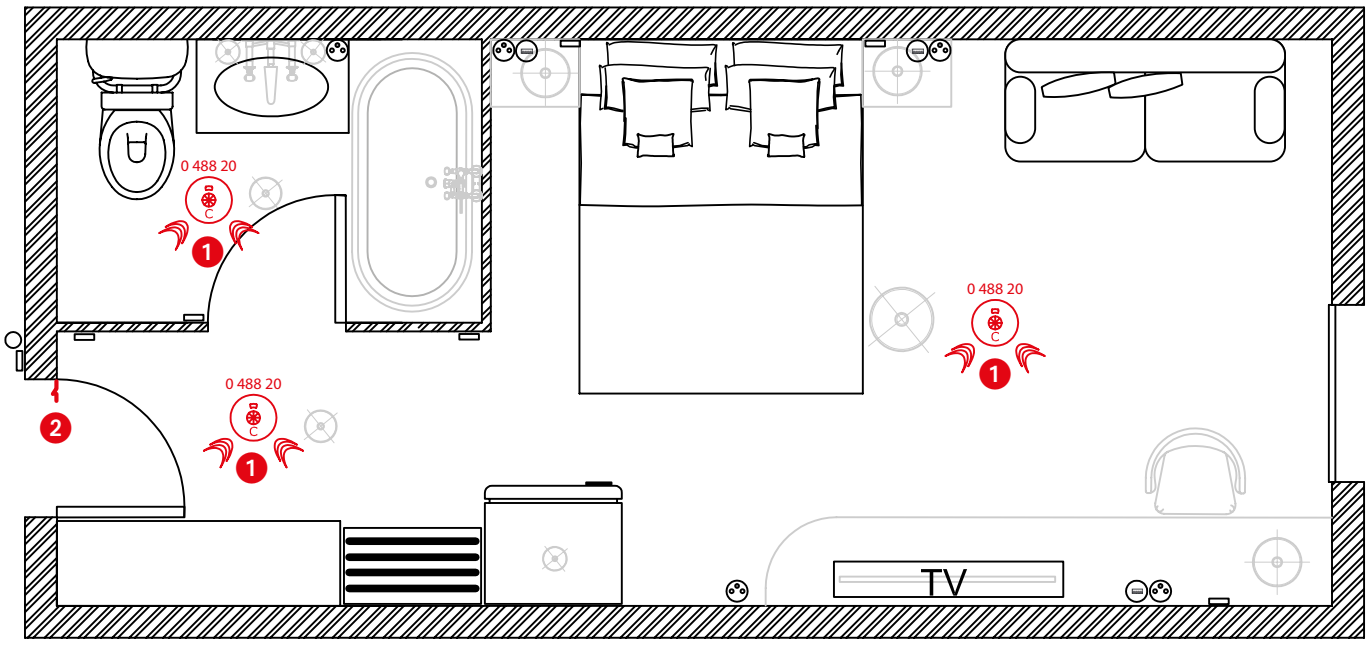
INSTALLING THE VIRTUAL KEYCARD

Installing the Virtual keycard

To ensure the Virtual keycard system works correctly, we recommend covering all areas in the room. In other words, put a sensor in every room, making sure that the areas where the guest is likely to stay still (seat, bed, etc) are within range of the sensors.

It is possible to put a number of sensors (BUS sensors Cat.Nos 0 488 20 or BMSE3001/0 488 22 or BMSE3003 - up to 10) or (self-contained sensor with volt-free contact indicating detection, or not, Cat.No 0 487 78 – no limit, because sensors can be wired in parallel on the same input).

The door contact(s) must be connected to a volt-free contact input on the controller. In the case of an installation with a centralised access control system, the door open/door closed information can be sent to the controller via BACNET.



Example of a room with 3 separate spaces (Room/Entrance/Bathroom) => 3 sensors 1 + a door contact 2

Why have time delays?

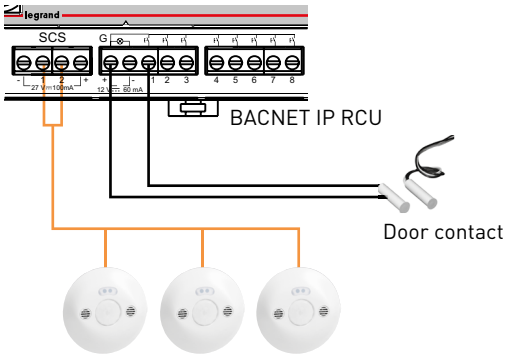
As yet, there is no such thing as a commercially-available presence sensor, only motion sensors are available.

People may stay still for a period of time, so a time delay has to be associated with the motion sensor to allow the system time to detect presence (given that people cannot stay immobile for long).

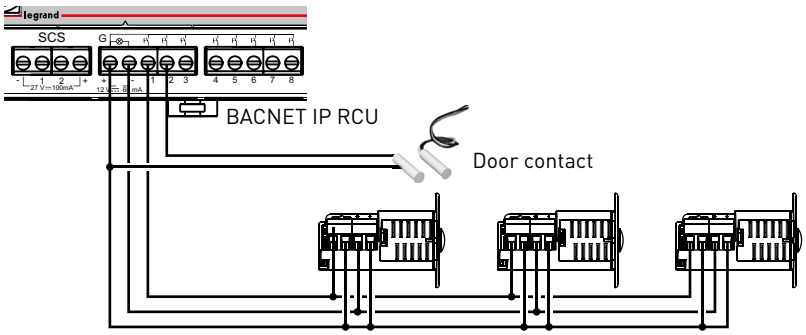
In the case of the Virtual keycard, a long time delay must be set to allow the system time to detect presence or not, if another person is still in the room after the door has been opened. It is also necessary to cover all areas of the room (all rooms...toilet/bathroom/entrance, etc), especially areas where the guest is likely to stay still (bed/desk/armchair, etc).

Wiring diagrams

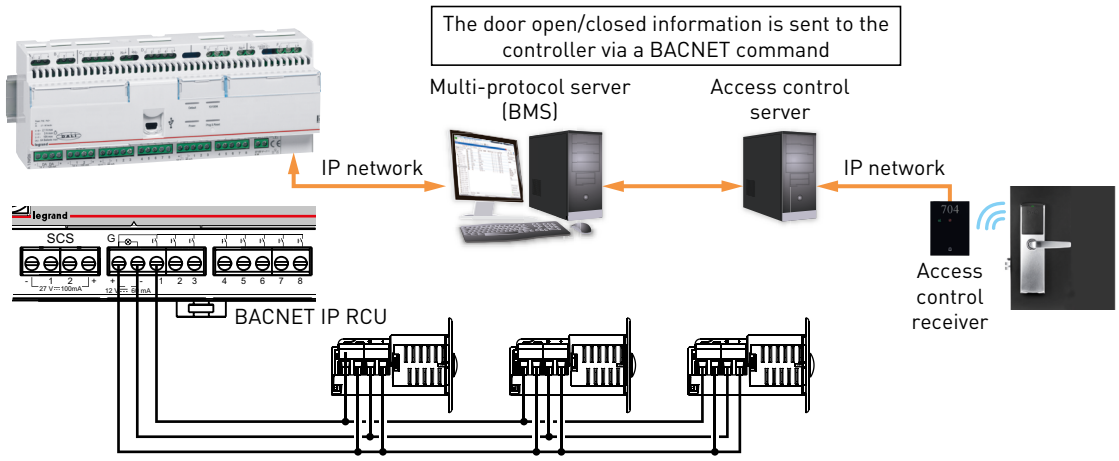
■ Wiring diagram with BUS sensor



■ Wiring diagram with volt-free contact sensor



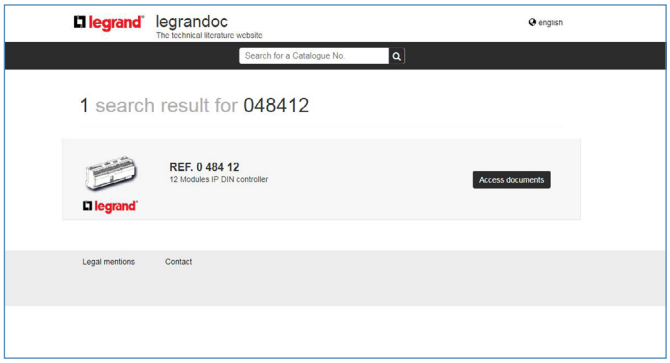
■ Wiring diagram with volt-free contact sensor + centralised access control



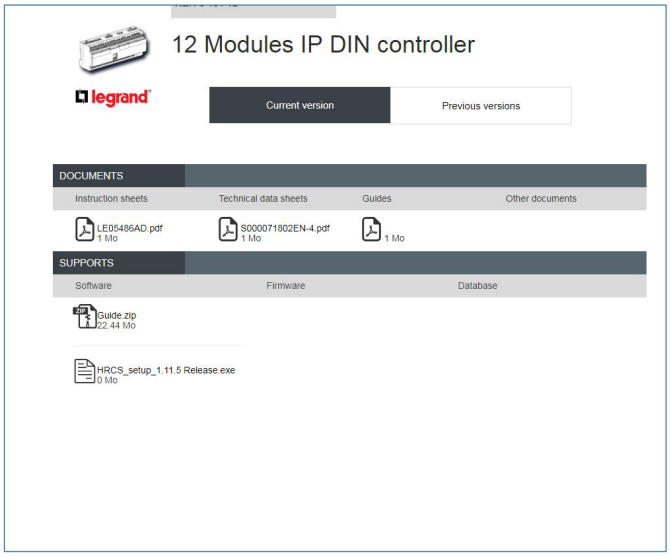
INSTALLING THE SOFTWARE

a. Download the HRC configuration software from www.legrandoc.com

Type in reference 0 484 12 or 0 484 08.



Go to "Access documents".



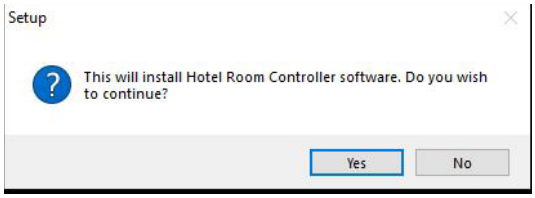
Download the HRCS_setup_x.xx Release.exe program.

To install and use the program, you must be logged on as administrator.
If something goes wrong during installation, check the anti-virus and firewall protection level.

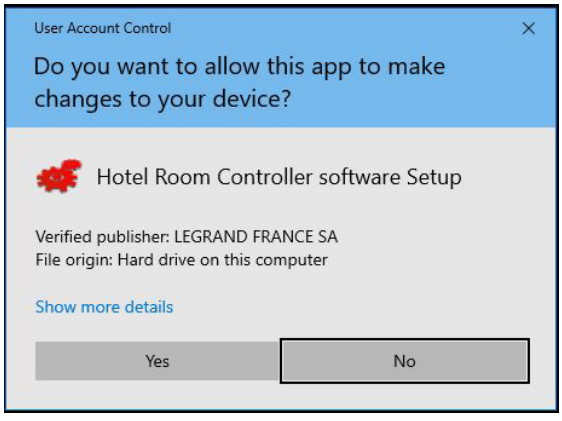
b. Install the software

Once the file has downloaded onto the computer, right-click on the program icon and select "Run as administrator".

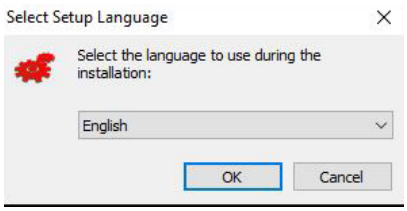
Click Yes.



Click Yes.

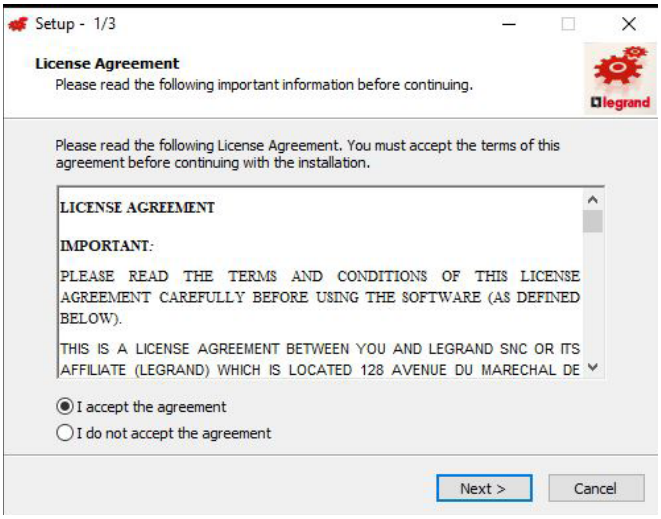


Choose the language.

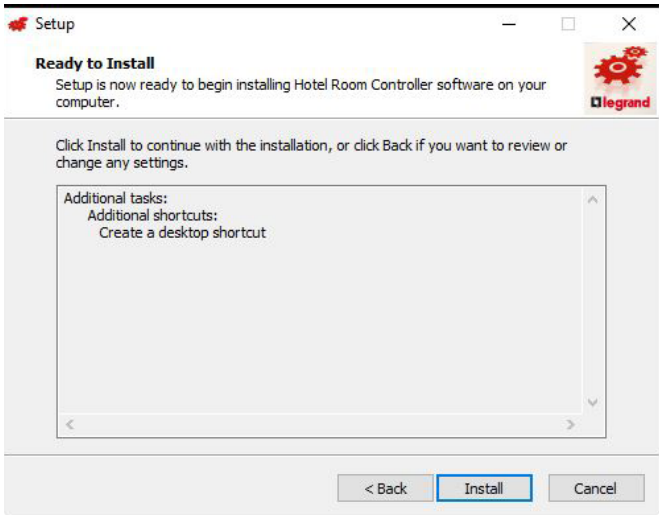


b. Install the software (continued)

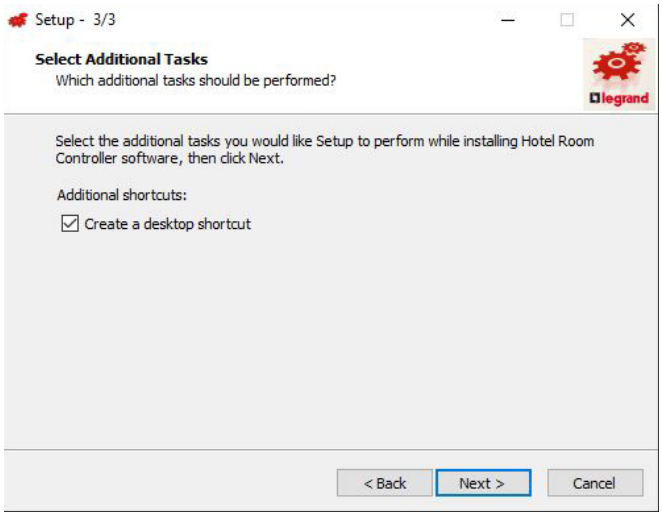
Accept the terms of the contract and click Next.



And start installation by clicking Install.



Choose whether to create an icon on the desktop and click Next.

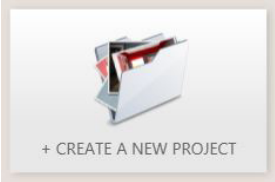


We recommend that OFFline programming is done in the office.
It is advisable to check the cabling and programming on one room first before duplicating across the whole site.

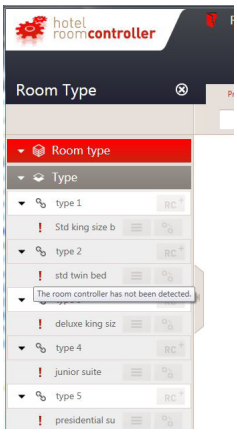
PROGRAMMING ROOM TYPES

1. Creating each room type

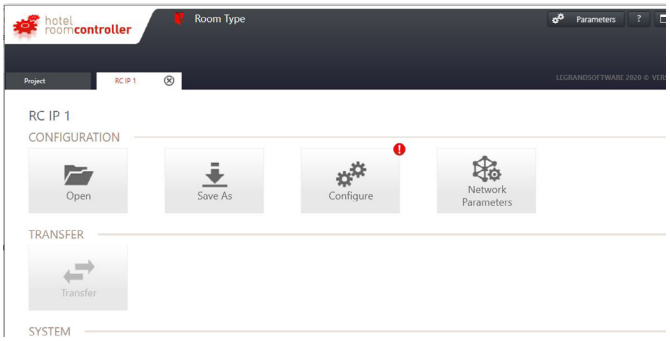
a. Open a new project.



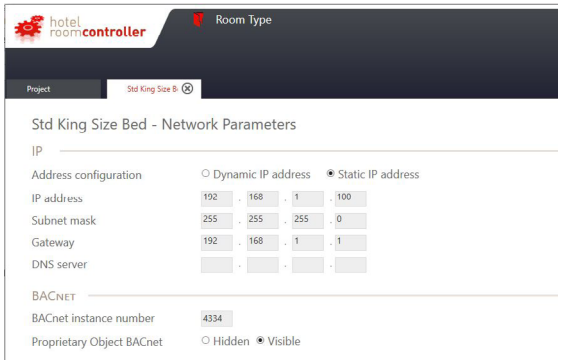
b. Create a tree structure containing one of each room type.



c. Go into a room type and configure it.



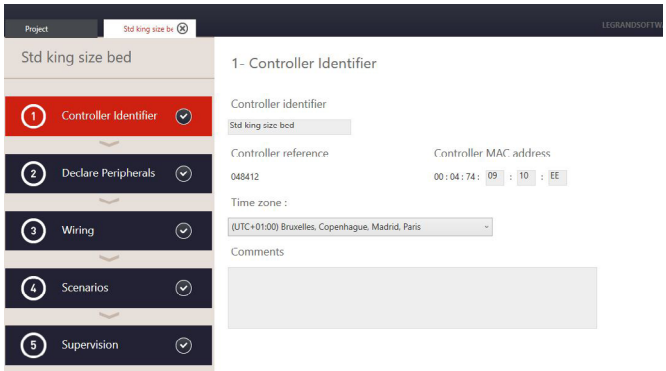
d. Go to "Network parameters" and enter the information as per the hotel construction progress follow-up file.



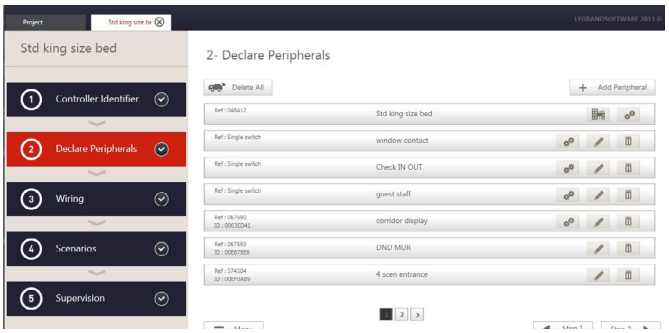
If the data has not yet been received, enter a fixed IP with a local address (192.168.1.xx/255.255.255.0) then return to the modules screen by clicking Ok.

e. Go to "Configure".

f. Step 1: Enter the MAC address as per the "Hotel construction progress follow-up" file. It is possible to name the controller, choose the time zone and record any comments if necessary. Then go to step 2.



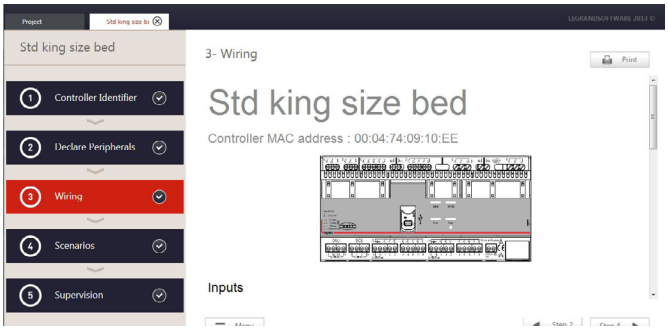
g. Step 2: Add the controller peripherals (additional actuators/ dimmers, BUS and mechanical controls including door/ window contacts, as well as hotel functions such as the virtual keycard function, time scenario, "check in"/"check out" scenario and external scenarios).



For more information, please refer to the "Presentation of the configuration software" section.

Go to step 3.

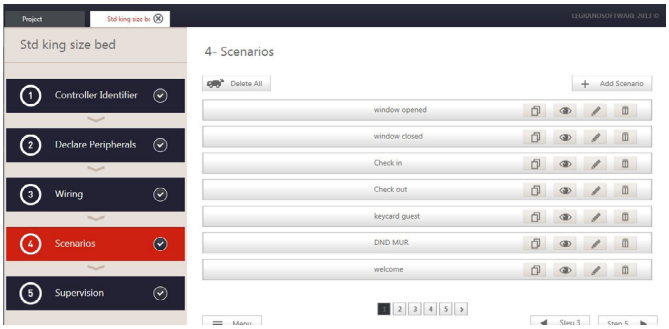
h. Step 3: Opportunity to check the list of added peripherals.



For more information, please refer to the "Presentation of the configuration software" section.

Go to step 4.

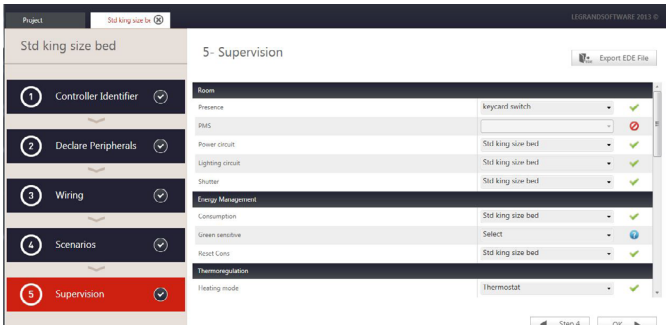
i. Step 4: Create the scenarios.



For more information, please refer to the "Presentation of the configuration software" section.

Go to step 5.

j. Step 5: If linked to a supervisor/BMS, this step can be used to associate the room hotel functions with the BACnet objects.



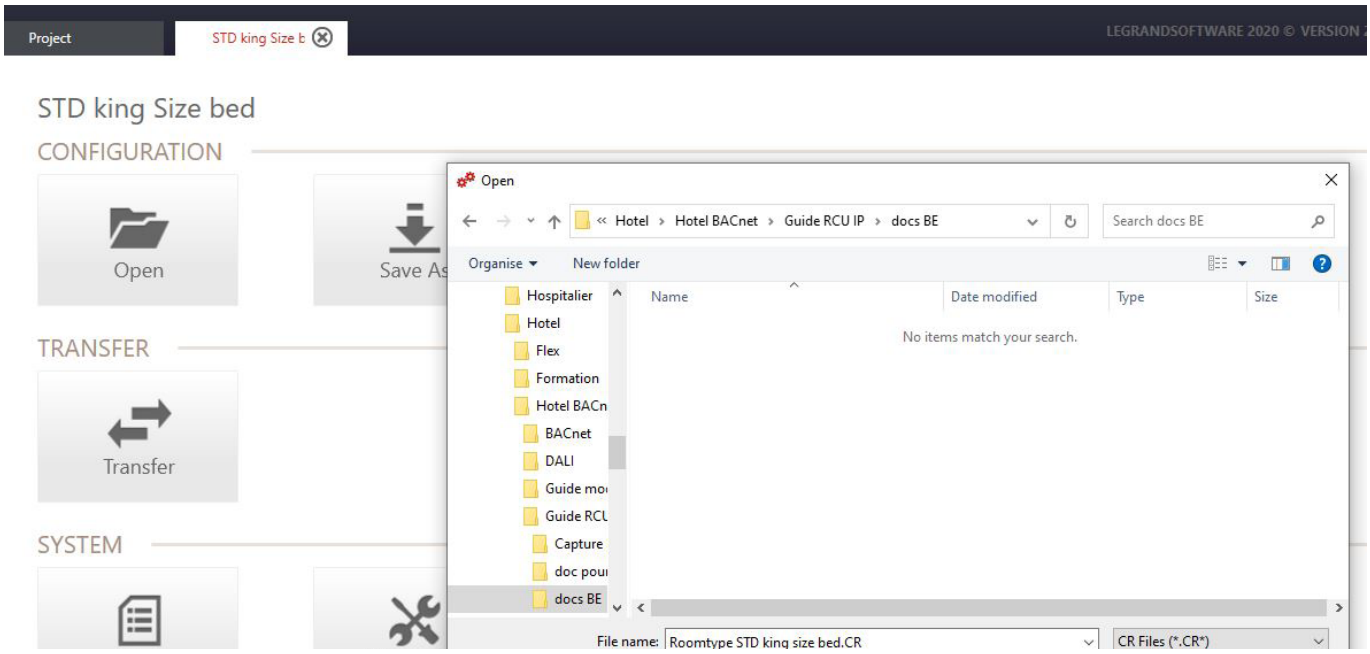
For more information, please refer to the "Presentation of the configuration software" section.

Return to the modules screen by clicking Ok.

PROGRAMMING ROOM TYPES (CONTINUED)

1. Creating each room type (continued)

k. Save the room type configuration with the name "room type.cr".

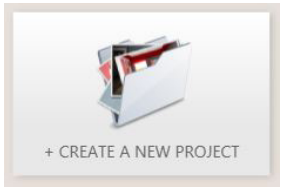


l. Repeat the operation for all room types.

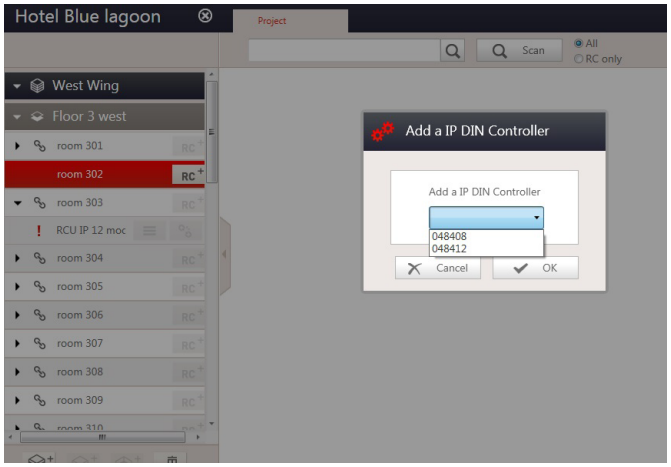
PROGRAMMING THE HOTEL PROJECT

2. Creating the hotel project

a. Create a new hotel project.

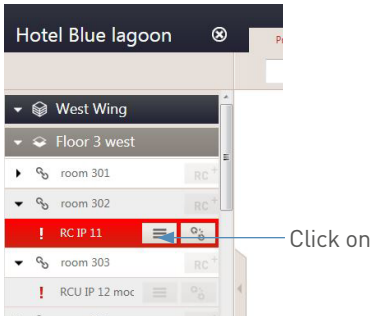


b. Create the hotel architecture as per the "Hotel construction progress follow-up" file.

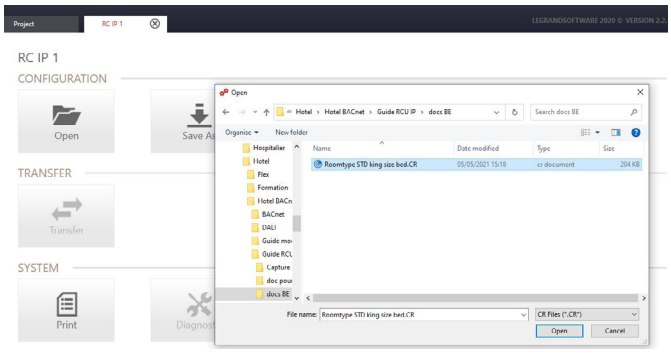


Then add one IP controller per room.

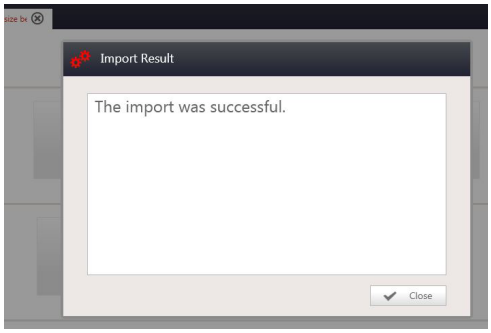
c. Go to the room to be configured.



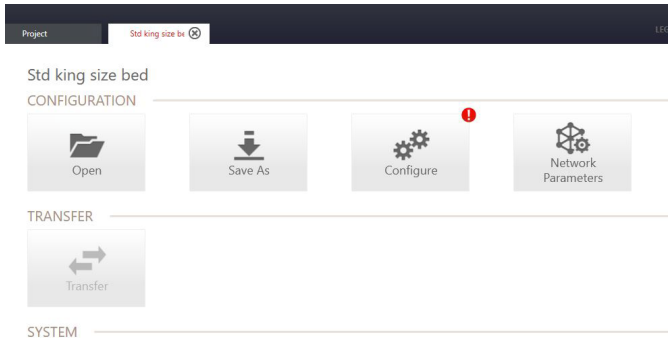
d. Open the configuration corresponding to the room type for that room.



A message appears, stating that the import was successful.



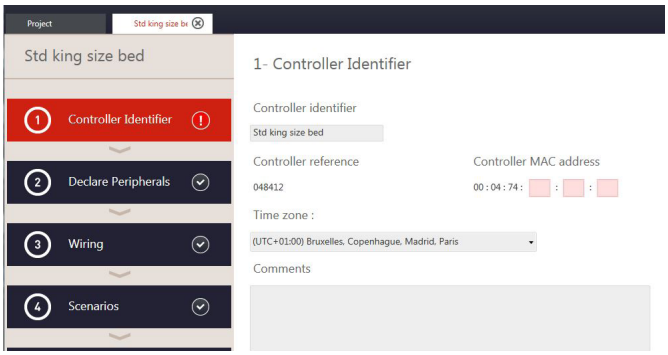
e. Go to "Configure".



PROGRAMMING THE HOTEL PROJECT (CONTINUED)

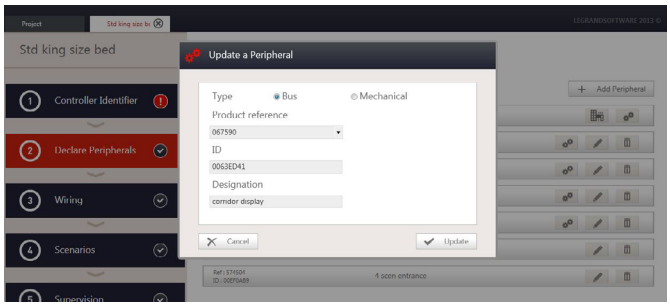
2. Creating the hotel project (continued)

f. Update the MAC address as per the "Hotel construction progress follow-up" file.



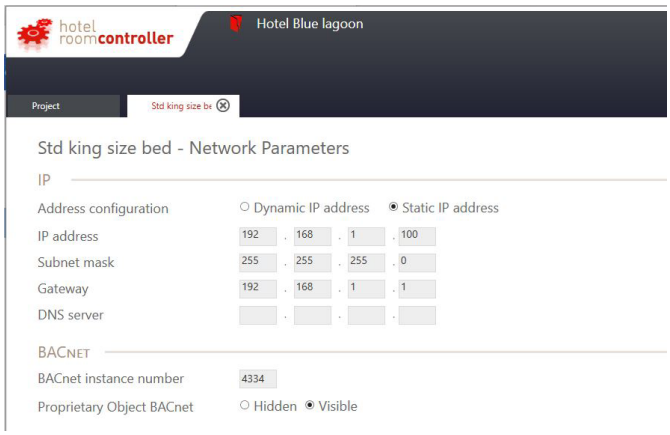
Go to step 2.

g. Update all the ID numbers of the BUS peripherals.



Click on the pencil and change the ID as per the "Hotel construction progress follow-up" file.
Repeat the operation for all the BUS peripherals.

h. Go to "Network parameters" and update the IP address as per the "Hotel construction progress follow-up" file.

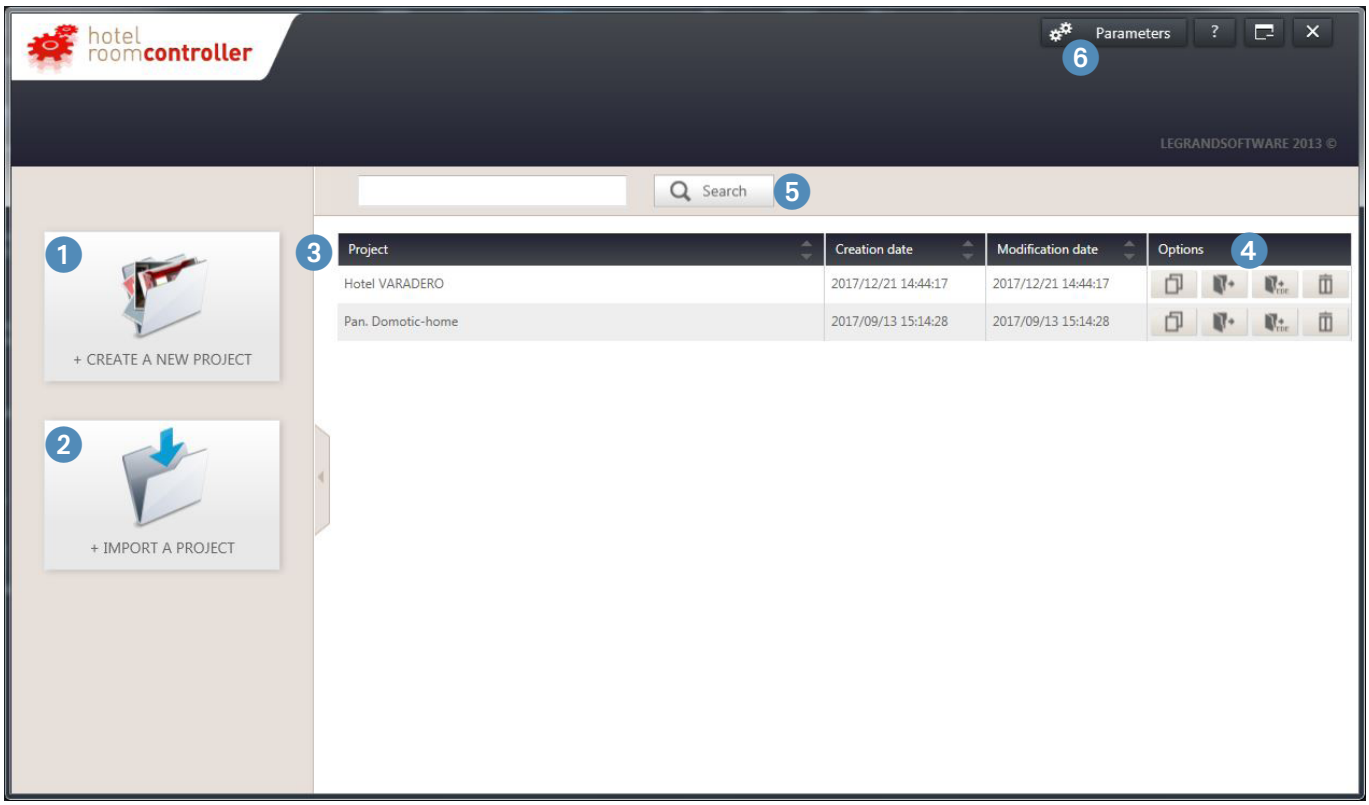


i. Repeat the operation for every room.

Launch the **Hotel Room Controller Software**.

- ONline function: function which only works when the software is connected to the controller.
- OFFline function: works without a connection.

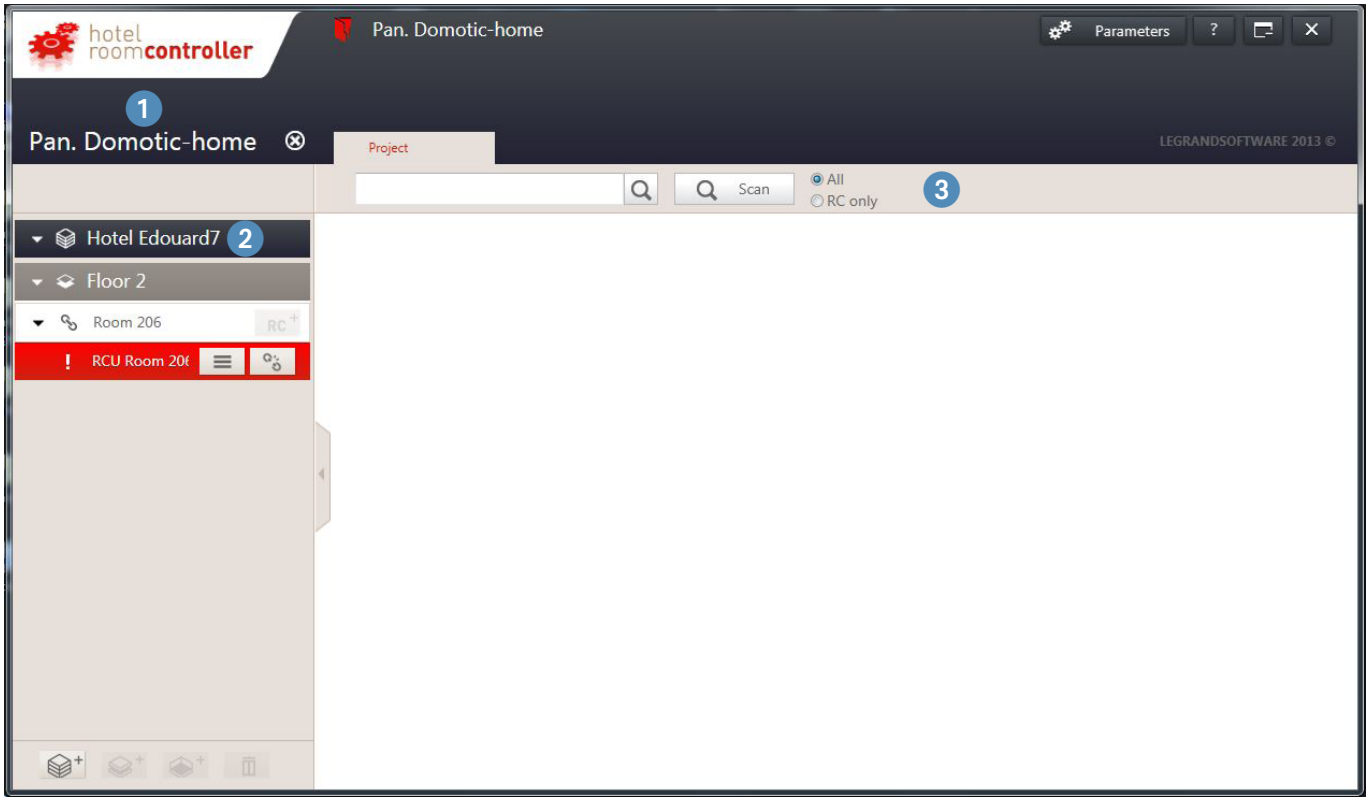
WELCOME SCREEN



1 **New Project button**: creates a new hotel project.
2 **Import a Project button**: used to import an existing hotel project.
3 **Overview screen**: lists all previously-handled hotel projects.
4 **Project options**: a set of project options: copying/saving/exporting in EDE format*/deleting.
5 **Search field**: this field is used to filter projects by searching on the Project name.
6 **Parameters**: application settings used to change the language and the network connection interface (network card).

* EDE format: file format containing the project BACNET objects.

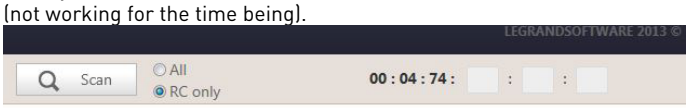
PROJECT SCREEN



1 **Project name**: double-click on this to change the project name.

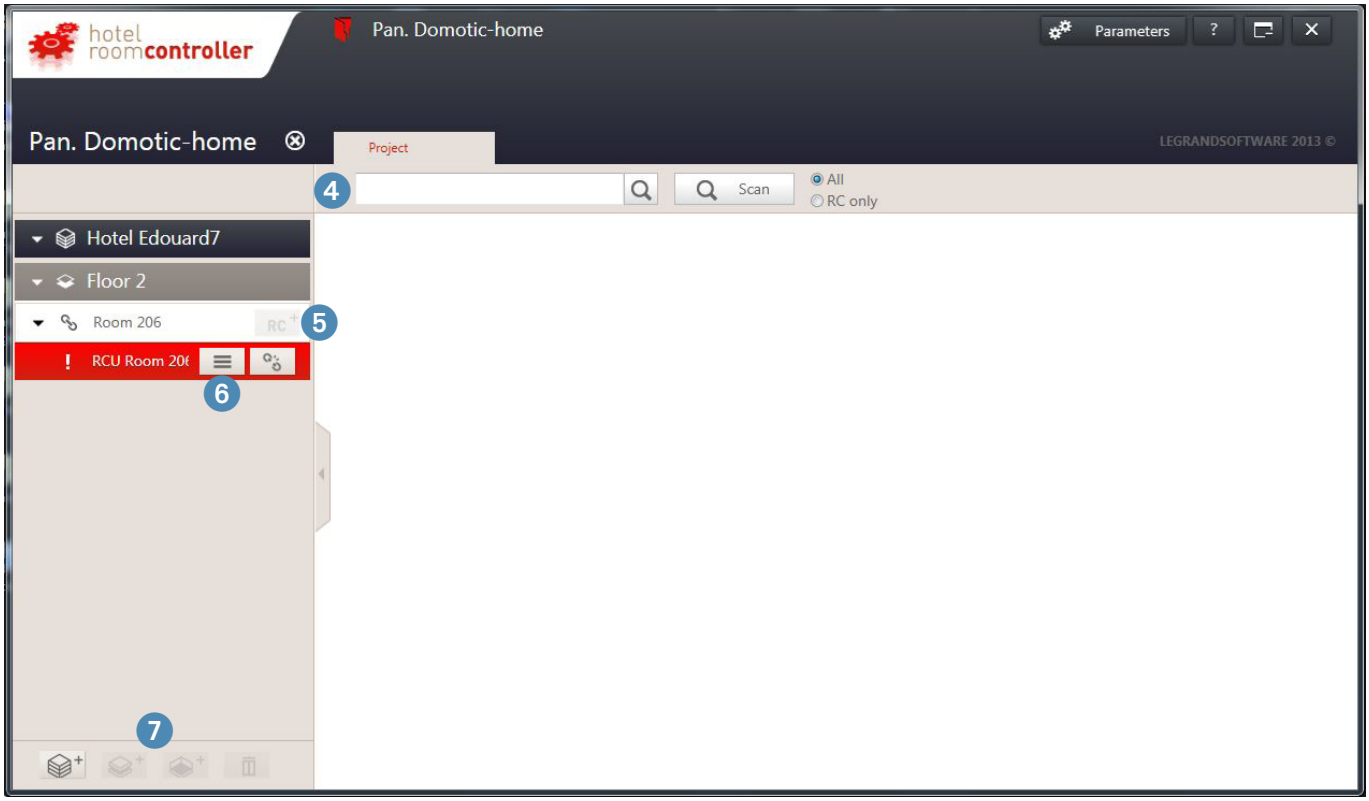
2 **Project tree**: displays the list of buildings/floors/rooms in the project. Double-click on the building/zone/room name to change it.

3 **Scan button (ONline function)**: *All*: used to scan the network to detect any connected controllers.
RC only: used to scan for a dedicated controller via its MAC address (not working for the time being).

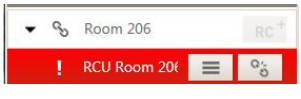


Scan result:

Index	RC	IP	MAC ADDRESS	Instance	Reference	Version	Link	Menu
1	RC IP 1	169.254.254.169	00:04:74:09:10:EE	4334	048412	0.4.10		



4 Search field: if several controllers are detected on the network, this field is used to filter the results by searching on the controller name. The controller can then be dragged into the desired room (ONline function):



- The controller name appears in the room tree structure
- The room name appears in the scan link column.

or a controller can be added manually (see 5).

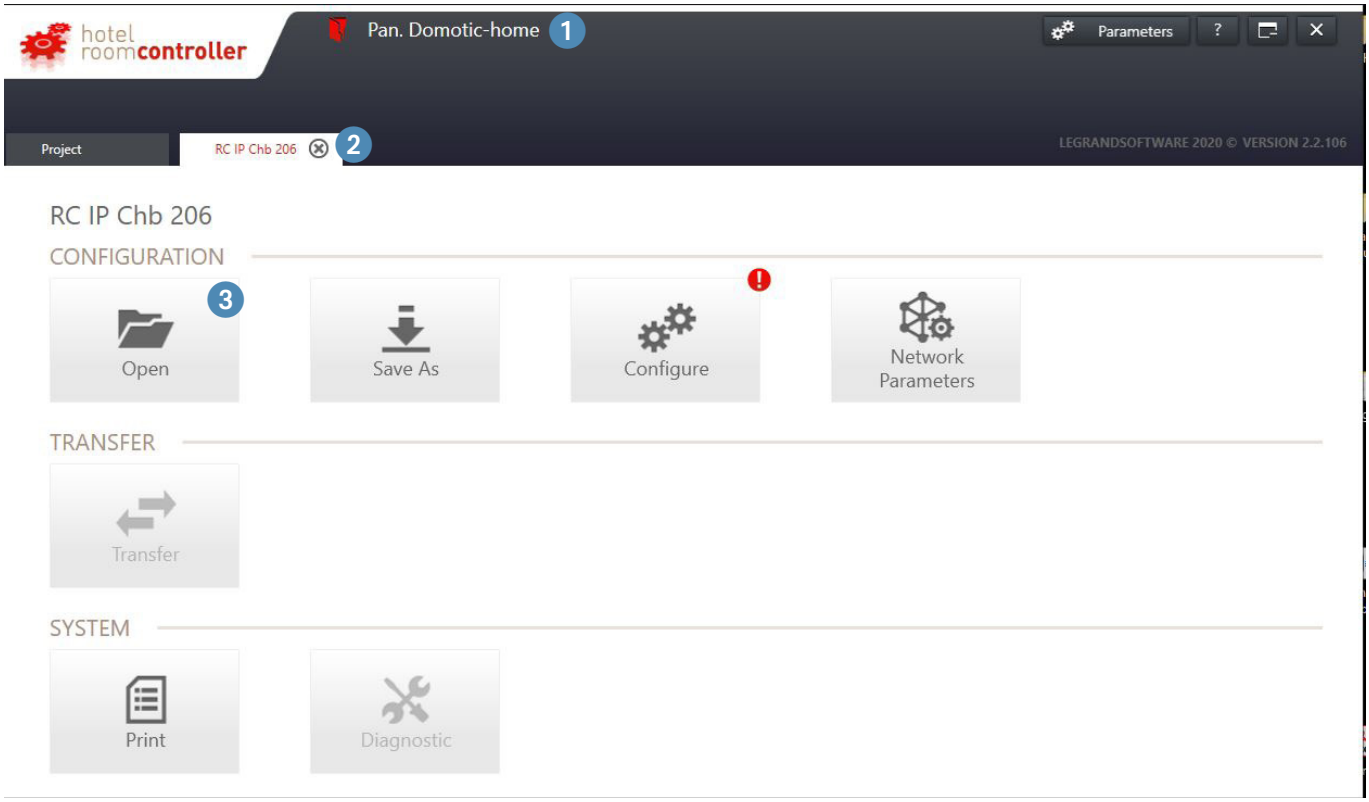
5 Add a controller: RC+ used to add a controller manually (OFFline function).

6 Controller action buttons:

- Configuration button ≡: used to access the controller configuration interface.
- Detach button: used to detach a controller from a room.

7 Add/Delete buttons: this set of buttons can be used to add or delete a building, floor, or room in the project.

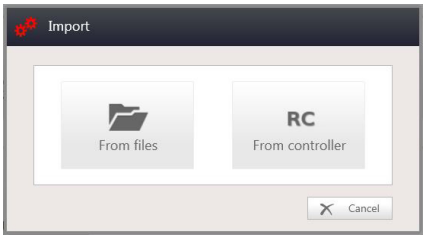
MODULES SCREEN



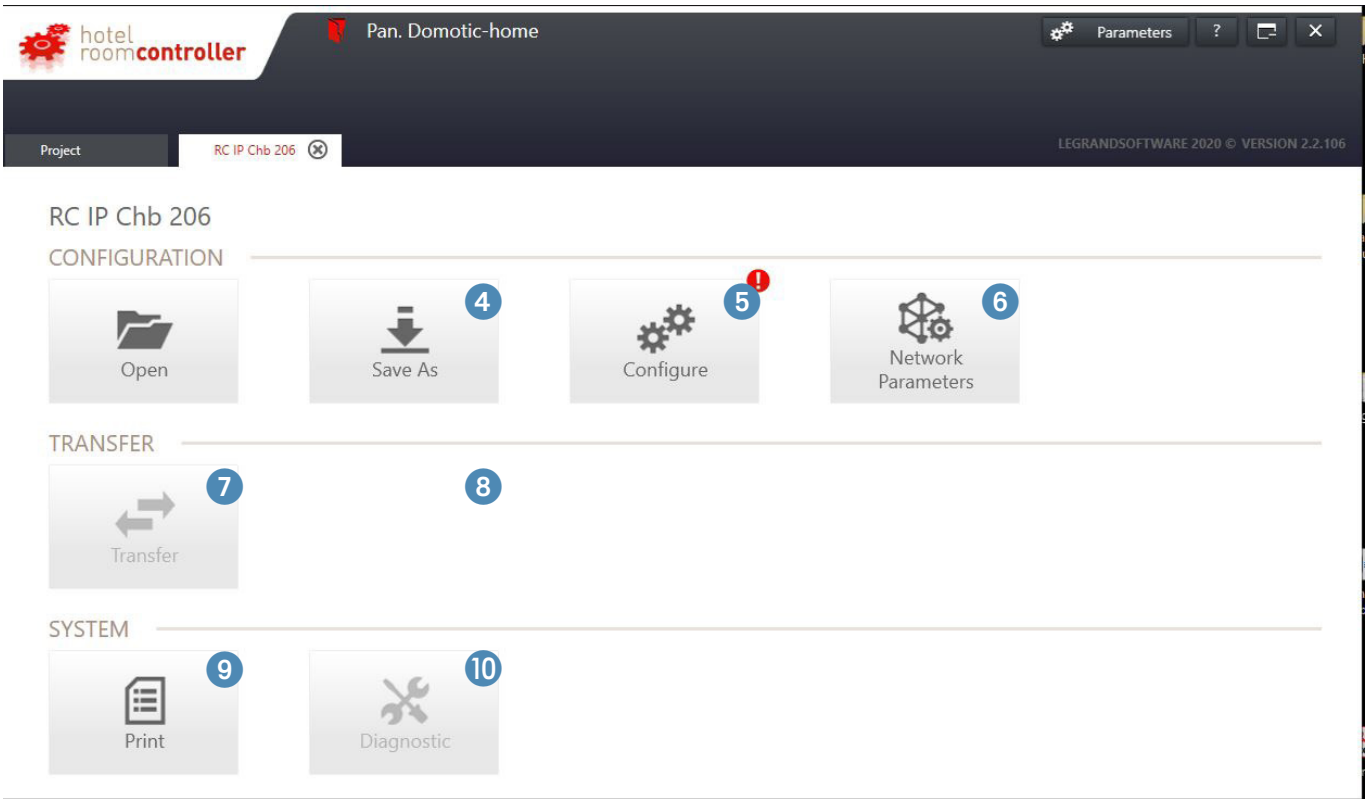
1 **Project name**: the name can be changed in the project screen (previous screen).

2 **Controller name**: the name can be changed in the "configure" module (5).

3 **Open**: used to load an existing controller configuration file (.CR extension).
ONline function: When the controller has been added to the room after a scan, it is possible either to load an existing controller configuration file (.CR extension), or to load the existing configuration into a controller (when importing a configuration, the software will automatically delete the controller MAC address in order to prevent username conflicts).



Transfer confirmation message:



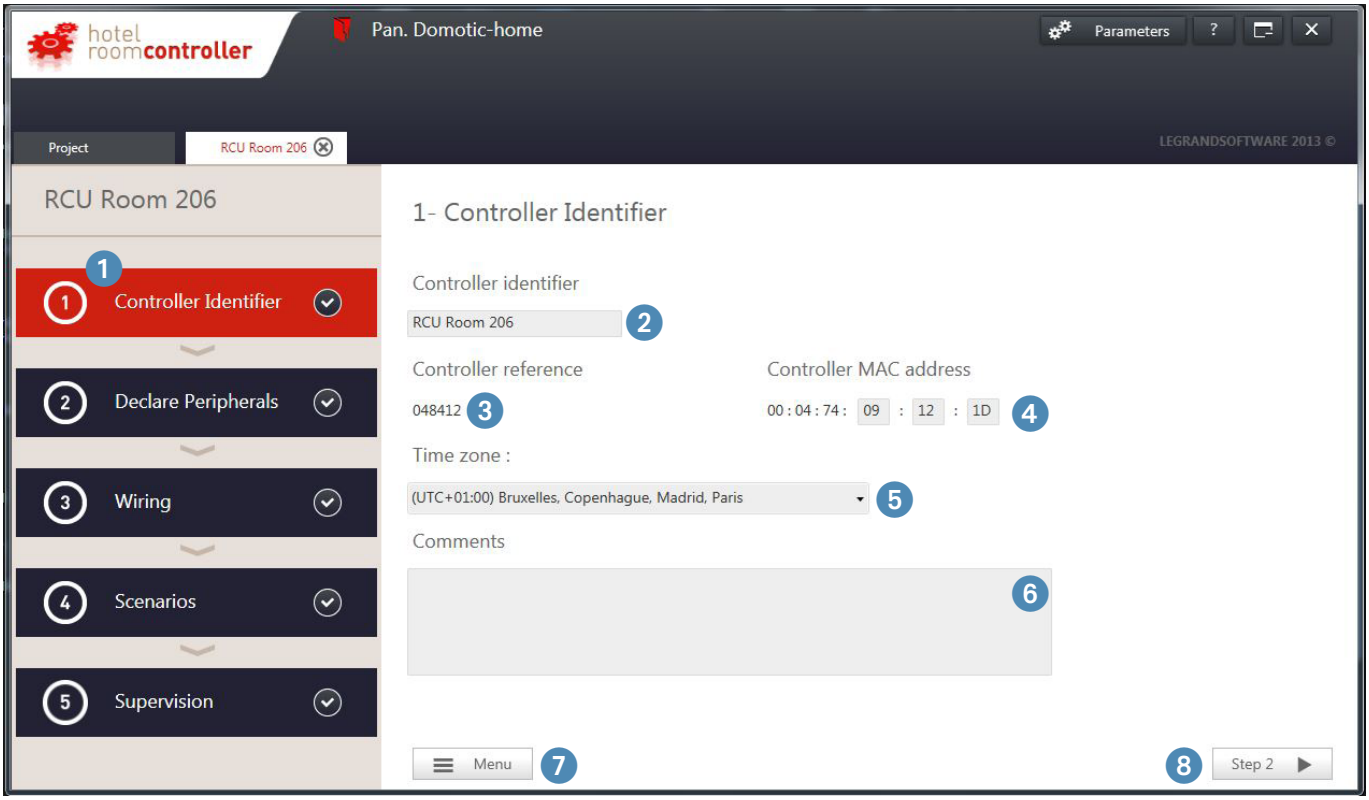
4 **Save As**: used to save the controller configuration (.CR extension).
5 **Configure**: used to configure the room management system (Legrand product).
6 **Network Parameters**: used to configure the controller network parameters.
7 **Transfer**: used to transfer the configuration to the controller and its accessories.
8 **Print**: used to print or export the controller configuration recipe in pdf format
9 **Diagnostics**: used to check the wiring and test that the room is working (ONLINE function).

CONFIGURATOR

Click Configure 

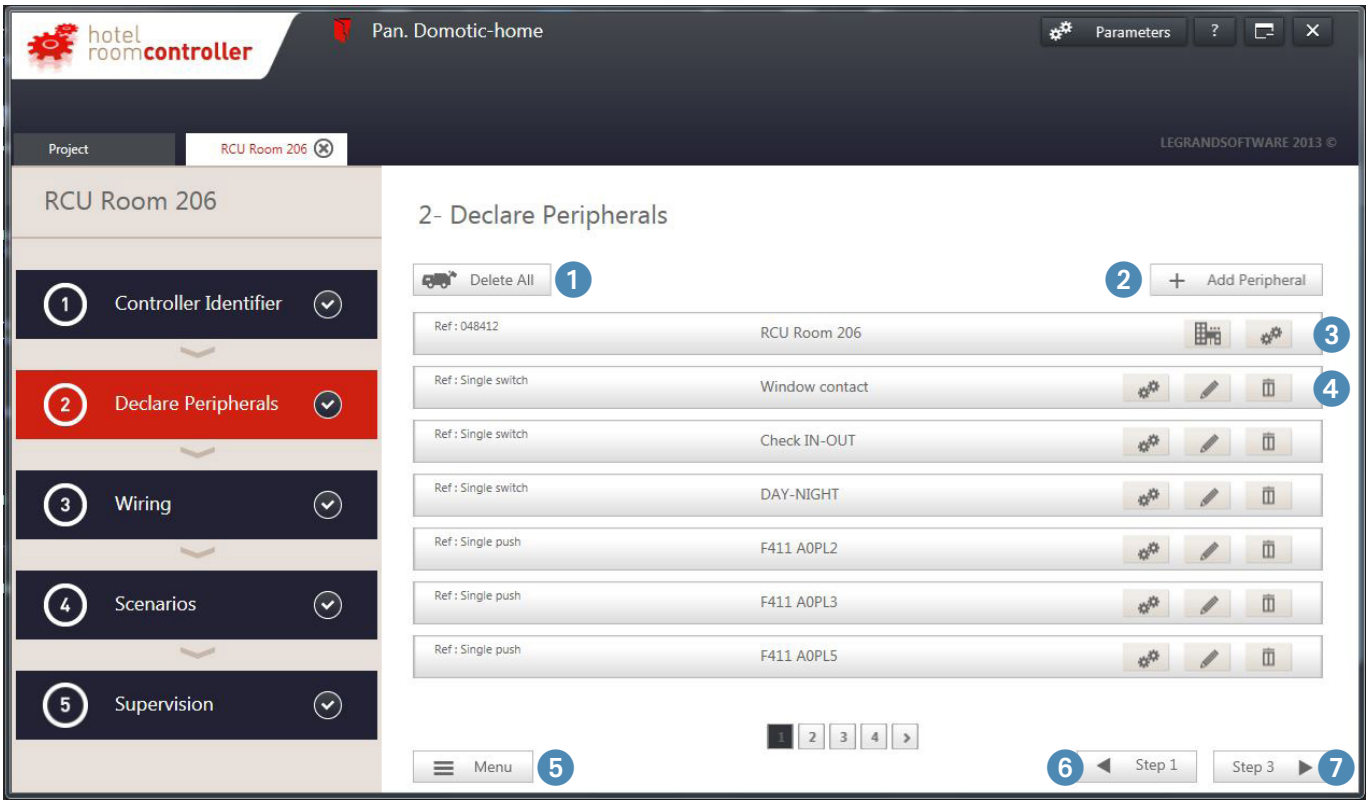
Configuration consists of 5 steps.

■ Step **1**: Identify the controller.



1 **Sequence of 5 steps**.
2 **Controller identifier**: used to name the controller (room identifier). Special characters are not permitted.
3 **Controller reference**: controller model used.
4 **Controller MAC address**: the address is unique and recorded on the controller label in the format 00:04:74:XX:XX:XX.
If the address format is incorrect, the field will appear in red.
5 **Time zone**: used to set the project time zone for scenarios involving time.
6 **Comments**: used to leave a comment about the controller and the room environment.
7 **Menu**: return to the modules screen.
8 **Step 2**: go to the next step (Declare Peripherals).

■ Step **2**: Declare Peripherals



1 **Delete All**: used to delete all the peripherals. Does not delete the controller.

2 **Add Peripheral**: used to add a peripheral connected to the controller (bus or mechanical peripheral).

3 **Controller**: used to access the controller output configuration and special functions.

4 **List of peripherals connected to the controller**: used to access the peripheral configuration (bus) or configure the controller input to which the peripheral is connected (mechanical peripheral).

5 **Menu**: return to the modules screen.

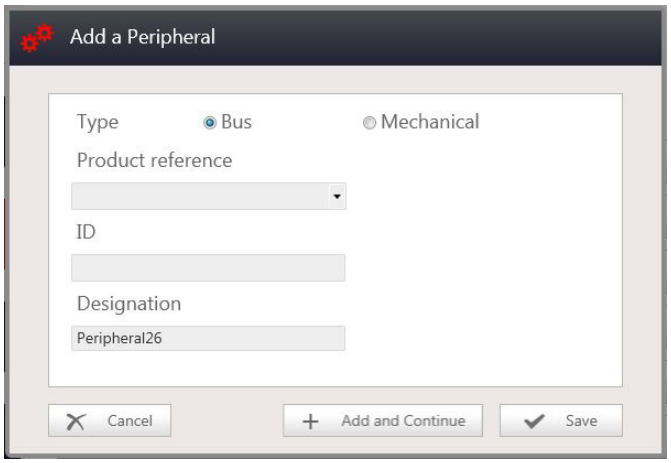
6 **Step 1**: return to the previous step (Controller Identifier).

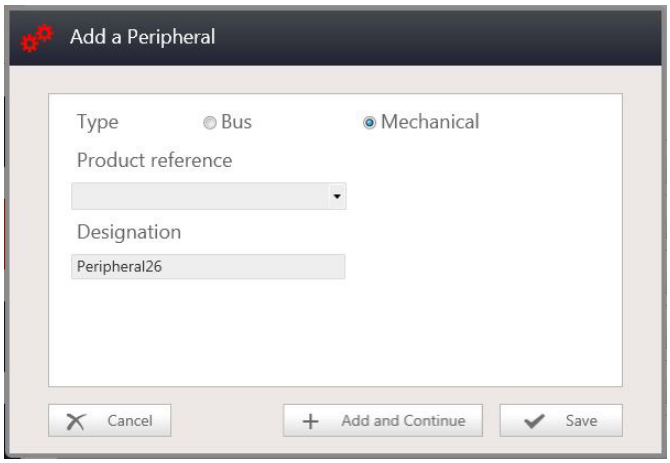
7 **Step 3**: go to the next step (Wiring).

CONFIGURATOR (CONTINUED)

■ Step **2**: Declare Peripherals (continued)

Add a Peripheral 2





Bus: choose the reference from the dropdown menu, add its ID number (found on the product label – an 8-character string in hexadecimal format – it is unique and the field will appear in red until the correct format has been entered), and choose its designation.

Mechanical peripheral: choose the type of control from the dropdown menu and choose its designation.

There are 2 possible options:

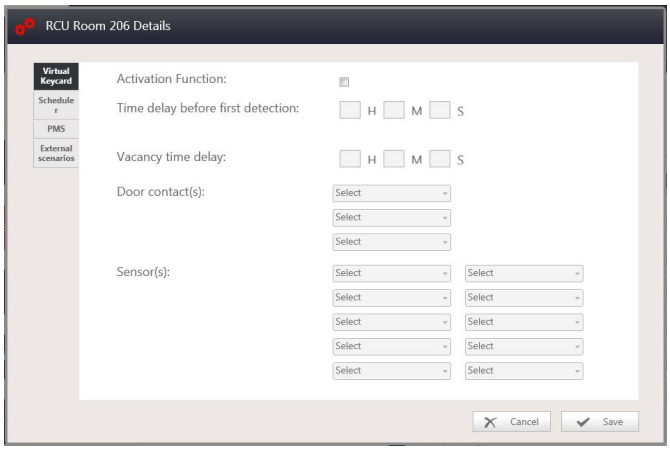
- Add and Continue: used to save the peripheral and opens the window for adding another peripheral.
- Save and close: used to save the peripheral and closes the window.

Configure the outputs and hotel application 3

Hotel application configuration (a)

Function: the virtual keycard is an application for determining whether or not someone is in the room, based on an algorithm which uses data such as door opening and detection of movement.

- Set waiting times before first detection.
- Set the waiting time after last detection.
- Choose door contacts (can be data provided by another system in BACNET format).
- Choose sensors (bus or volt-free contact sensor).



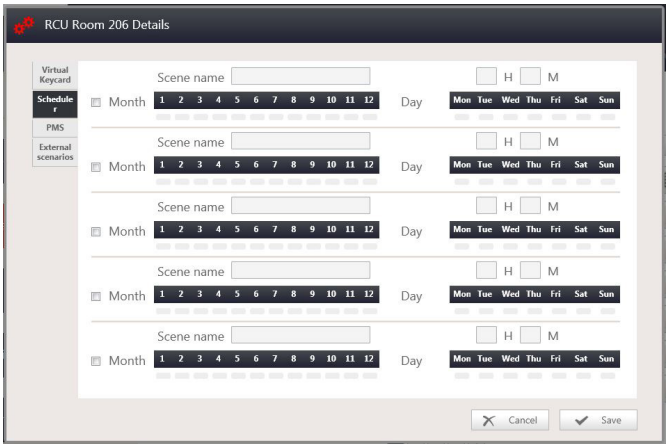
■ Step 2: Declare Peripherals (continued)

Configure the outputs and hotel application 3 (continued)

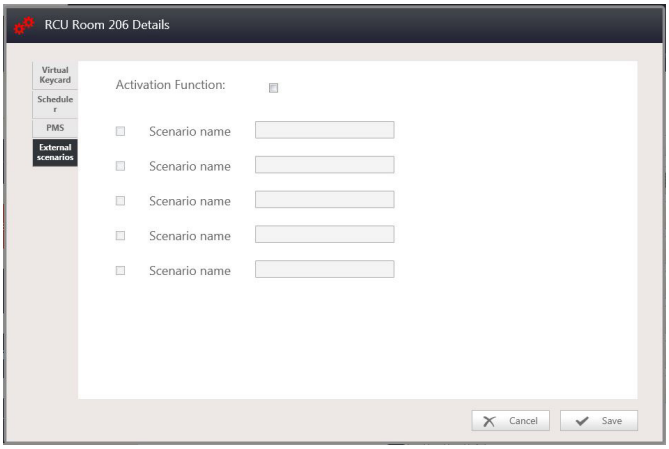
Hotel application configuration (a) (continued)

Scheduler function: used to launch scenarios triggered at a particular time.

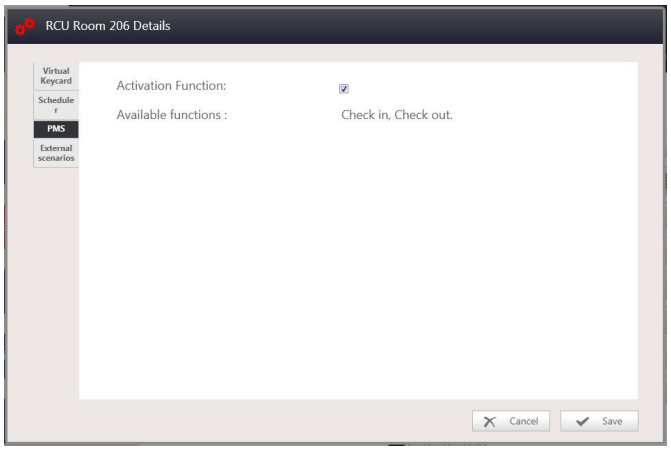
- Enter the scenario designation.
- Enter time/day/month when the scenario needs to be launched.



External scenarios function: used to launch scenarios from an external peripheral via the BACNET protocol (supervisor/gateway type, etc).



PMS function: used to obtain room reserved/free information from the reservation software (PMS) (such as Fidelio Opera, etc).



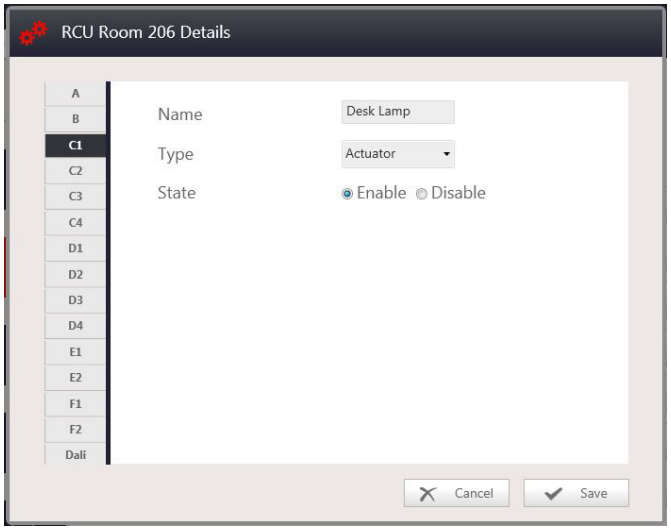
CONFIGURATOR (CONTINUED)

■ Step **2**: Declare Peripherals (continued)

Configure the outputs and hotel application 3 (continued)

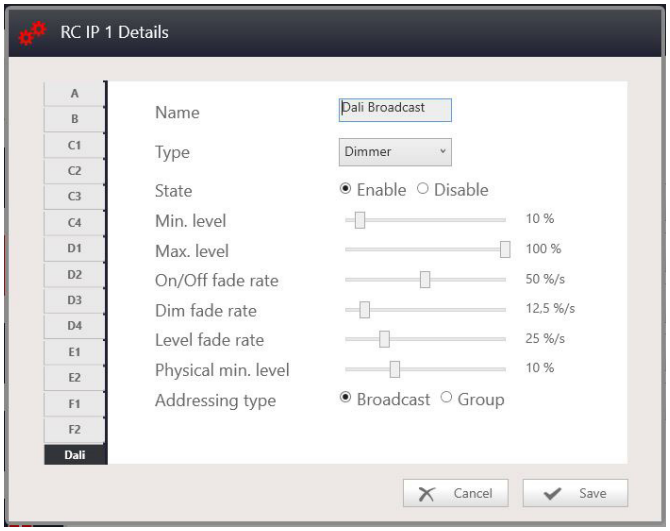
Controller output configuration (b)

- Each controller output can be given a name
- Used to define the output type
- The output can be enabled/disabled



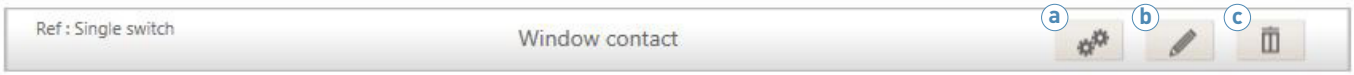
DALI output

- Broadcast mode: the ECGs are controlled in exactly the same way
- Group mode: each ECG is controlled independently



To program groups in the ECGs, see "programming DALI groups in the ECGs" section

Configure peripherals 4



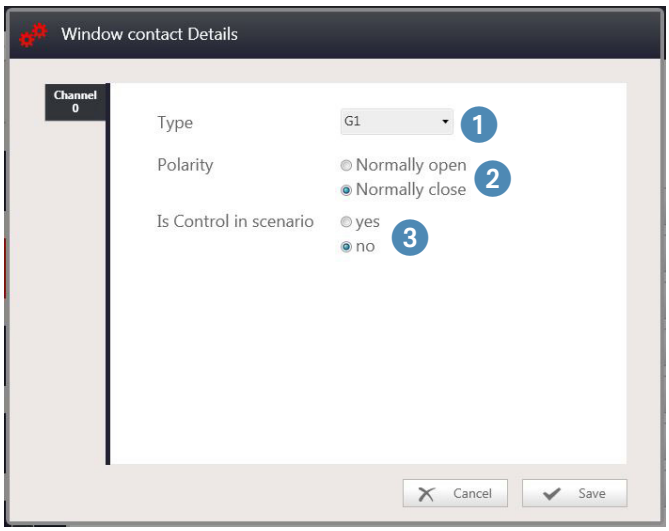
(a) **Configuring the peripheral**: depends on each peripheral. See next section.
(b) **Updating the peripheral**: change the bus reference or controller input.
(c) **Deleting the peripheral**.

■ Step **2**: Declare Peripherals (continued)

Configuring the peripheral according to type

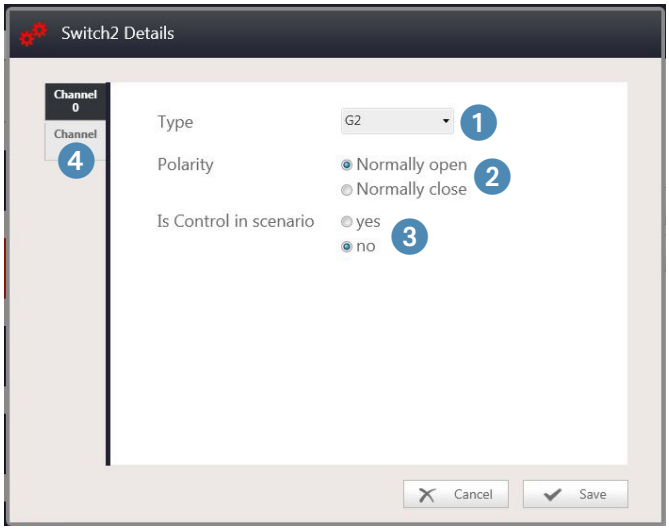
Mechanical peripheral

• Single switch/single pushbutton



1. Select controller contact input.
2. Select contact type.
3. Used to add the control to a scenario in order to be able to enable/disable it.

• Double switch/double pushbutton



1. Select controller contact input.
2. Select contact type.
3. Used to add the control to a scenario in order to be able to enable/disable it.
4. Similar window for each of the 2 channels.

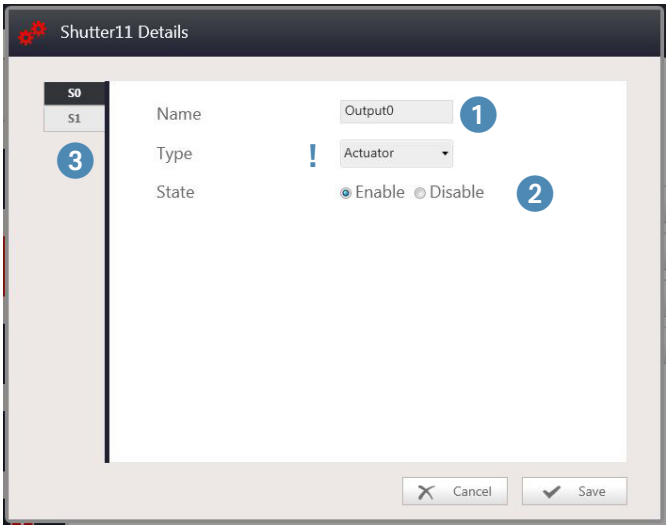
CONFIGURATOR (CONTINUED)

■ Step **2**: Declare Peripherals (continued)

Configuring the peripheral according to type (continued)

Bus

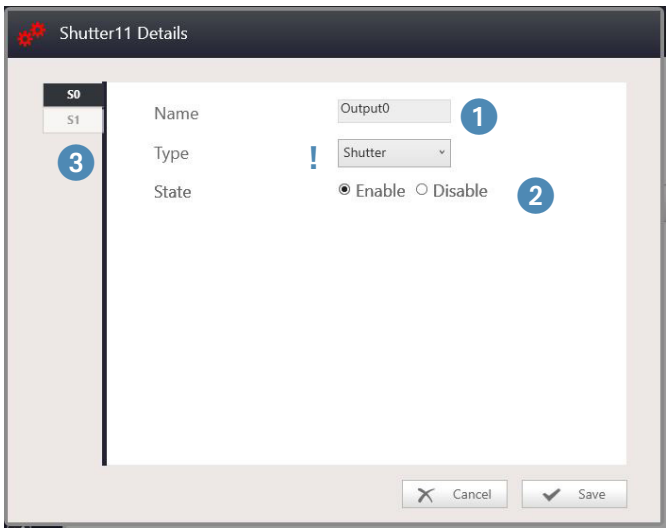
• Actuator with 2 ON/OFF outputs or 1 shutter output (F411U2).



Actuator mode !

1. Give the output a name.
2. Enable/disable the state.
3. Similar window for each of the 2 channels.

• Actuator with 2 ON/OFF outputs or 1 shutter output (F411U2).



Roller shutter mode !

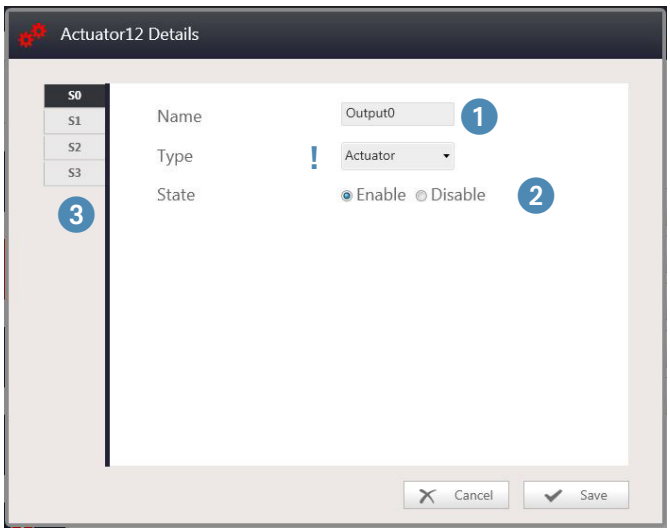
1. Give the output a name.
2. Enable/disable the state.
3. The 2nd channel is greyed-out (inaccessible).

■ Step **2**: Declare Peripherals (continued)

Configuring the peripheral according to type (continued)

Bus (continued)

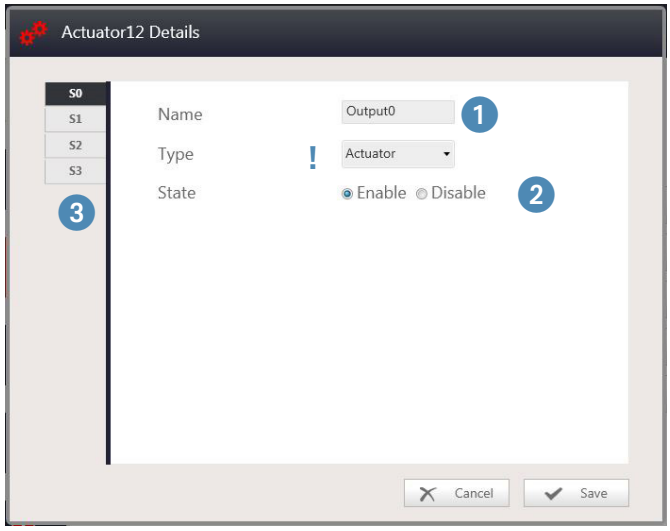
• ON/OFF actuator with 4 outputs (0 026 02, BMSW1003, F411/4).



Actuator mode !

1. Give the output a name.
2. Enable/disable the state.
3. Similar window for each of the 4 channels.

• Roller shutter actuator with 2 outputs (F411/4).



Roller shutter mode !

1. Give the output a name.
2. Enable/disable the state.
3. S1 and S3 are greyed-out (inaccessible).

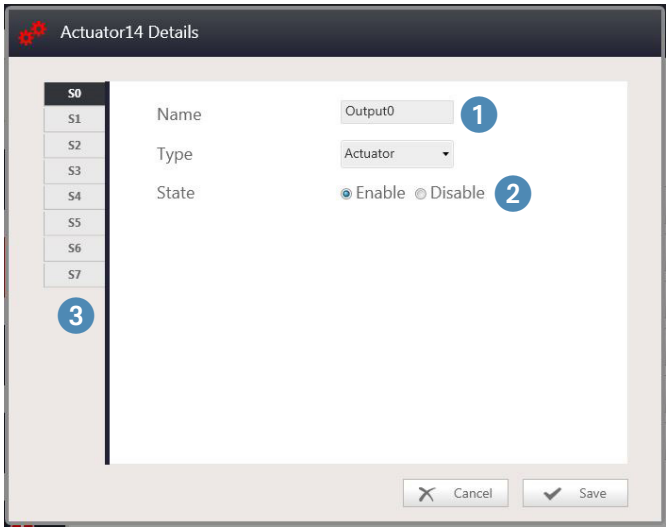
CONFIGURATOR (CONTINUED)

■ Step **2**: Declare Peripherals (continued)

Configuring the peripheral according to type (continued)

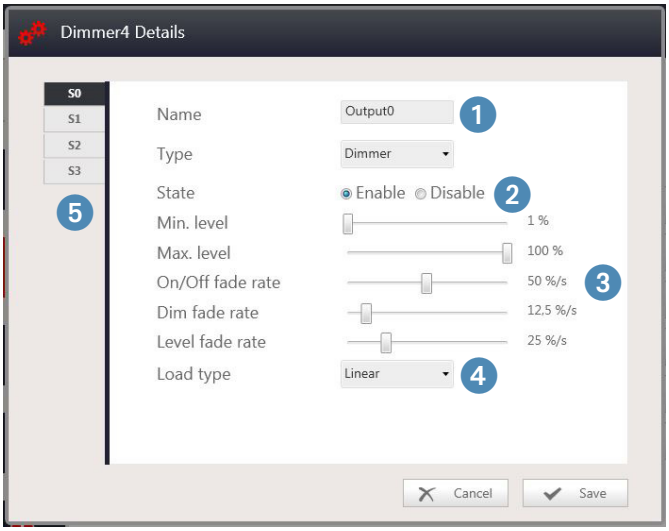
Bus

• ON/OFF actuator with 8 outputs (0 026 04, BMSW1005).



1. Give the output a name.
2. Enable/disable the state.
3. Similar window for each of the 8 channels.

• 0-10 V dimmer with 4 outputs (0 026 12, BMDI1002).



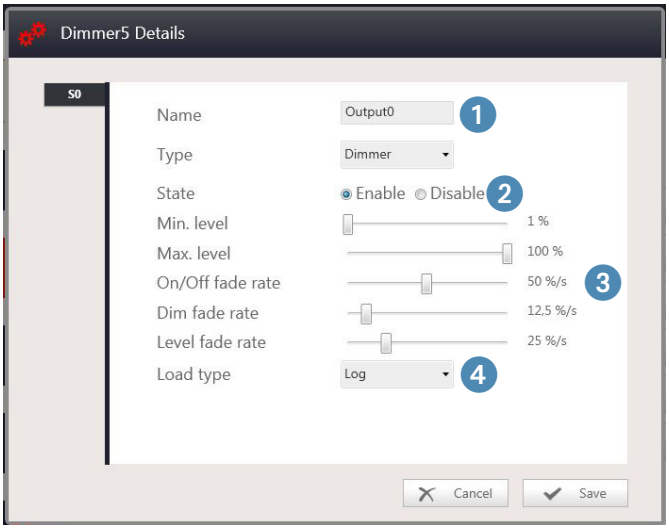
1. Give each output a name.
2. Enable/disable the status memory after a mains failure.
3. Dimming parameters:
   - On/Off fade rate: how quickly the light comes ON
   - Dim fade rate: manual dimming speed
   - Level fade rate: how quickly the light reaches a set level (scenario)
4. Load type: set the 0-10 V dimmer to linear mode.
5. Similar window for each of the 4 channels.

■ Step **2**: Declare Peripherals (continued)

Configuring the peripheral according to type (continued)

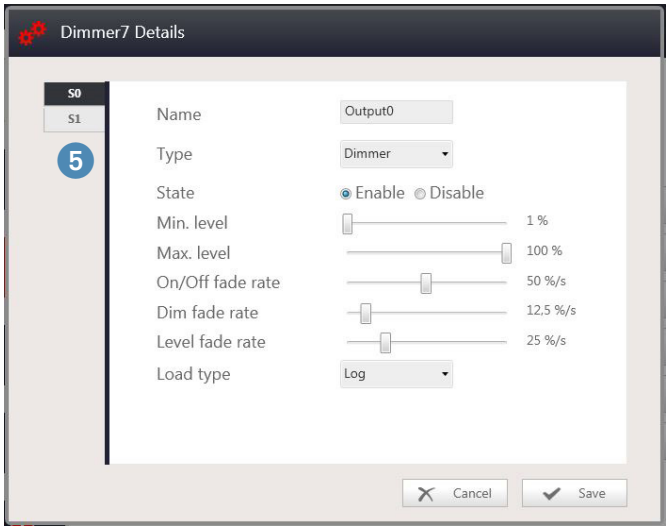
Bus (continued)

• Dimmer for all loads, 0-10 V dimmer with 1 output (F413N), F416U1, F418U2 - 1 output.



1. Give each output a name.
2. Enable/disable the status memory after a mains failure.
3. Dimming parameters:
   - On/Off fade rate: how quickly the light comes ON
   - Dim fade rate: manual dimming speed
   - Level fade rate: how quickly the light reaches a set level (scenario)
4. Load type: set the dimmer for all loads to log mode.

• Dimmer for all loads, (F418U2 - 2 outputs).



1 to 4: see above window

5. For dimmer with 2 outputs, similar window for each of the 2 channels

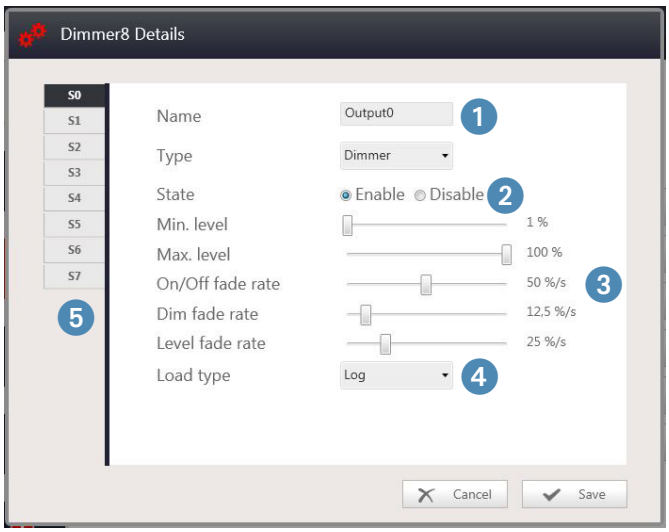
CONFIGURATOR (CONTINUED)

■ Step **2**: Declare Peripherals (continued)

Configuring the peripheral according to type (continued)

Bus (continued)

• DALI dimmer with 8 outputs (0 026 33, BMDI1100).



1. Give each output a name.
2. Enable/disable the status memory after a mains failure.
3. Dimming parameters:
   - On/Off fade rate: how quickly the light comes ON
   - Dim fade rate: manual dimming speed
   - Level fade rate: how quickly the light reaches a set level (scenario)
4. Load type: set the DALI dimmer to log mode.
5. Similar window for each of the 8 channels.

• HVAC actuator (F430V10, F430R3V10, F430/2, F430/4, F430R8)
HVAC (heating, air conditioning, ventilation control) actuators do not have a configuration page. Settings are entered in the thermostat configuration page.

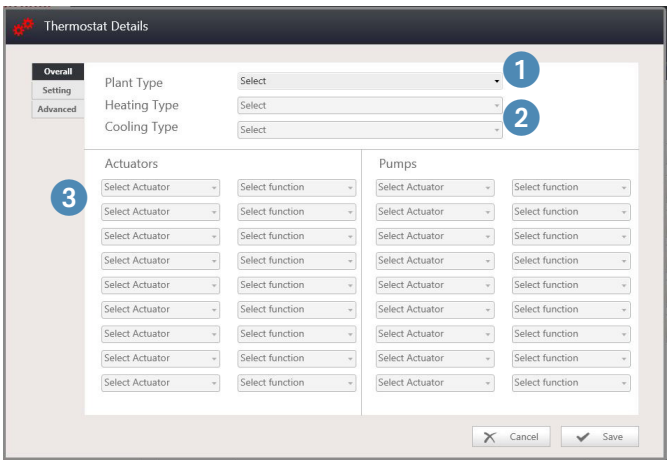
• Contact interface (3477, F428)
Volt-free contact interfaces do not have a configuration page, the type of connected peripheral should be chosen according to the control's design: single pushbutton/double pushbutton/single switch/double switch.

Step 2: Declare peripherals (continued)

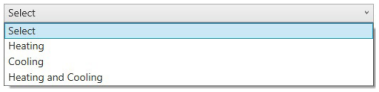
Configuring the peripheral according to type (continued)

Bus (continued)

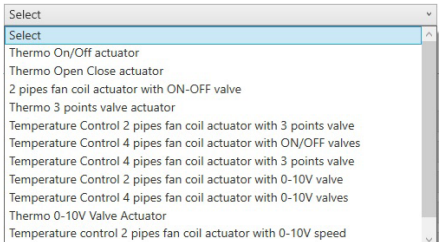
• Thermostat (0 674 59, H4691, LN4691, 0 487 72, 0 487 73, 0 487 82, 0 487 83, FL4653, FL4653W, FL4654, FL4654W, FL4663, FL4664) in master mode.



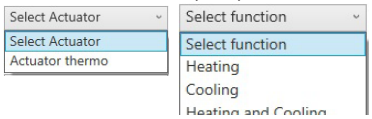
1 Plant type.



2 Heating & cooling type.



3 Select Actuator and pump



In the case of a 4-pipe fan coil unit with 0-10 V speed, in heating and cooling mode, it is possible to choose one or two 0-10 V outputs (see diagram of the F430R3V10)

The Comfort and Eco temperatures must not be identical.
The min. cooling setpoint must not be less than the min. heating setpoint.
The max. cooling setpoint must not be less than the max. heating setpoint.

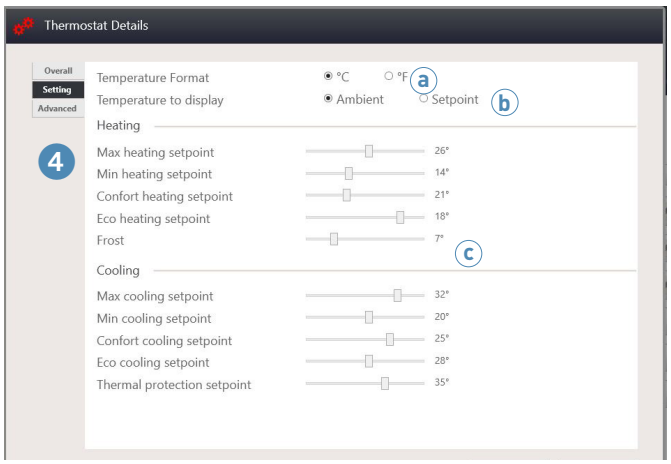
CONFIGURATOR (CONTINUED)

■ Step **2**: Declare peripherals (continued)

Configuring the peripheral according to type (continued)

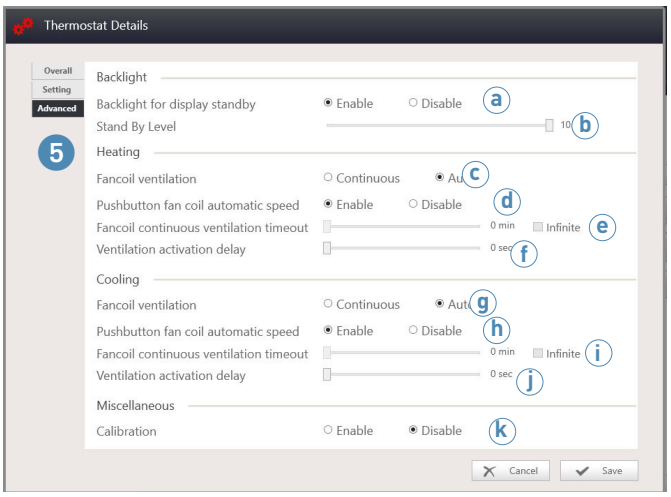
Bus (continued)

• Thermostat (0 674 59, H4691, LN4691, 0 487 72, 0 487 73, 0 487 82, 0 487 83, FL4653, FL4653W, FL4654, FL4654W, FL4663, FL4664) in master mode.



4 Access the temperature setting page
- (a) Select temperature format.
- (b) Select the thermostat display type.
- (c) Temperature settings in heating/cooling mode.

• Thermostat (0 674 59, H4691, LN4691).



5 Access the advanced settings page
- (a) Enable/disable adjustment of the thermostat backlighting luminosity level.
- (b) If setting enabled, can be adjusted from 0 to 10.

For heating system with fan
- (c) Continuous: when the setpoint is reached, the fan continues to run. Possible to control the fan speeds when the valve is closed.
  Auto: when the setpoint is reached, the fan stops. Not possible to control the fan when the valve is closed.
  NOTE: AUTO mode is an energy-saving mode
- (d) Possible to have an automatic speed or not
- (e) When continuous mode is enabled, used to set the continuous ventilation duration after the valve closes. If infinite duration is requested, check "Unlimited".
- (f) Used to set the waiting time so that the air sent is hot before the fan is triggered.

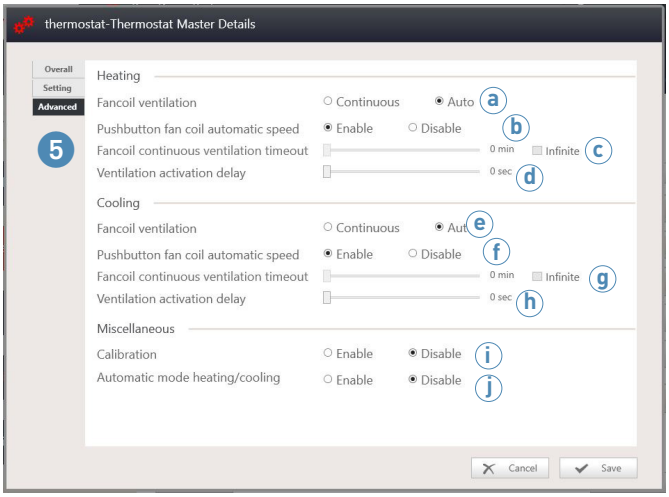
For air-conditioning system with fan
- (g) Same as (c)
- (h) Same as (d)
- (i) Same as (e)
- (j) Same as (f)
- (k) Possible to authorise or deny changing the thermostat calibration (this procedure is described in the "operating modes and local programming of the thermostat" section)

Step 2: Declare peripherals (continued)

Configuring the peripheral according to type (continued)

Bus (continued)

•Thermostat (0 487 72, 0 487 73, 0 487 82, 0 487 83, FL4653, FL4653W, FL4654, FL4654W, FL4663, FL4664) in master mode.



5 Access the advanced settings page

For heating system with fan

a Continuous: when the setpoint is reached, the fan continues to run. Possible to control the fan speeds when the valve is closed.
Auto: when the setpoint is reached, the fan stops. Not possible to control the fan when the valve is closed.
NOTE: AUTO mode is an energy-saving mode

b Possible to have an automatic speed or not

c When continuous mode is enabled, used to set the continuous ventilation duration after the valve closes. If infinite duration is requested, check "Unlimited".

d Used to set the waiting time so that the air sent is hot before the fan is triggered.

For air-conditioning system with fan

Same as e a

f Same as b

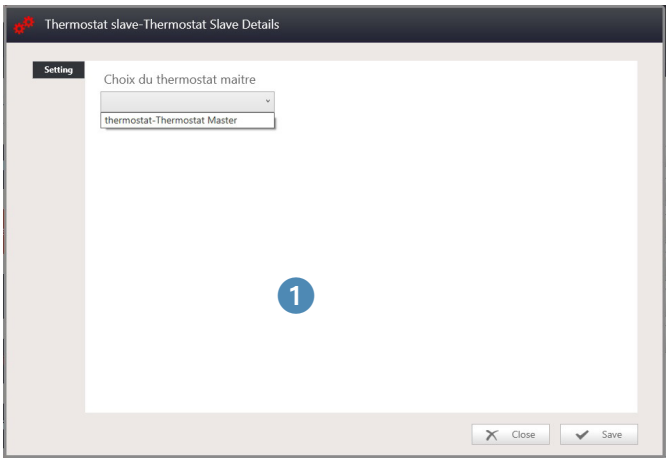
g Same as c

h Used to set the waiting time so that the air sent is cold before the fan is triggered

i Possible to authorise or deny changing the thermostat calibration (this procedure is described in the "operating modes and local programming of the thermostat" section)

j Used to enable/disable automatic switching between winter mode and summer mode

• Thermostat (0 487 72, 0 487 73, 0 487 82, 0 487 83, FL4653, FL4653W, FL4654, FL4654W, FL4663, FL4664) in slave mode.



1 Select master thermostat

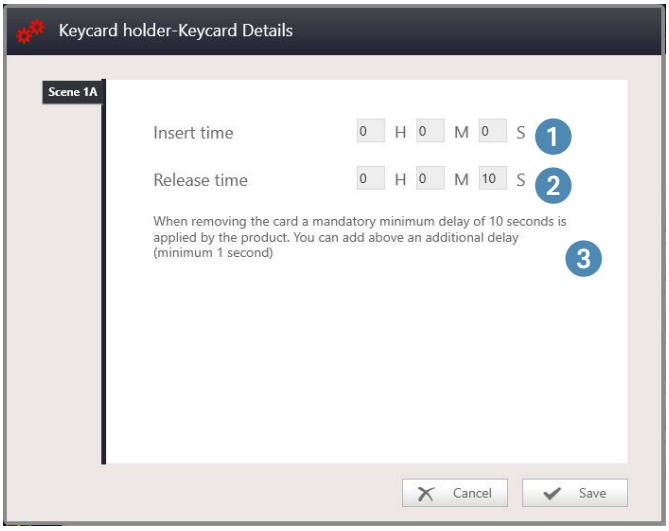
CONFIGURATOR (CONTINUED)

■ Step **2**: Declare Peripherals (continued)

Configuring the peripheral according to type (continued)

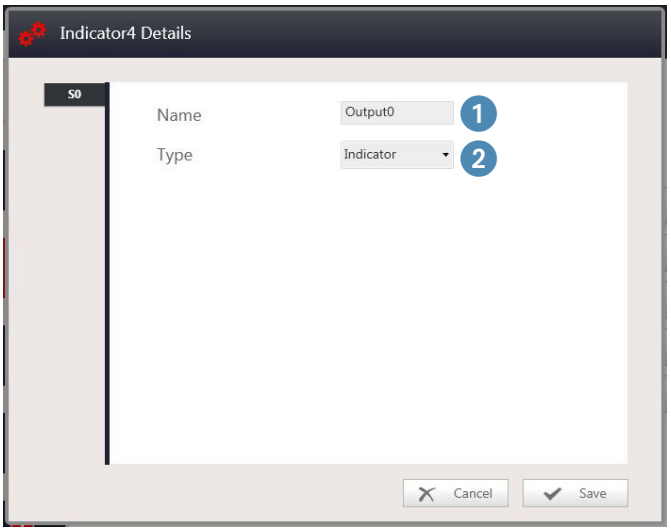
Bus (continued)

• Keycard switch (0 675 65, 5 722 35, 5 727 35, H4649, L4649, LN4649, 0 675 66, 5 722 36, 5 727 36, H4648, L4648, LN4648, 0 487 71, 0 487 81, FL4648, FL4648W, FL4658)



1. Insert time: sends the presence information after the time delay specified for card insertion.
2. Release time: sends the end of presence information after the time delay specified for card removal.
3. ⚠ If release time = 10 s, the total time delay after keycard removal will be 20 s.

• Corridor indicator display panel (0 675 90, H4650, LN4650, 0 487 75, 0 487 85, FL4650, FL4650W, FL4660)



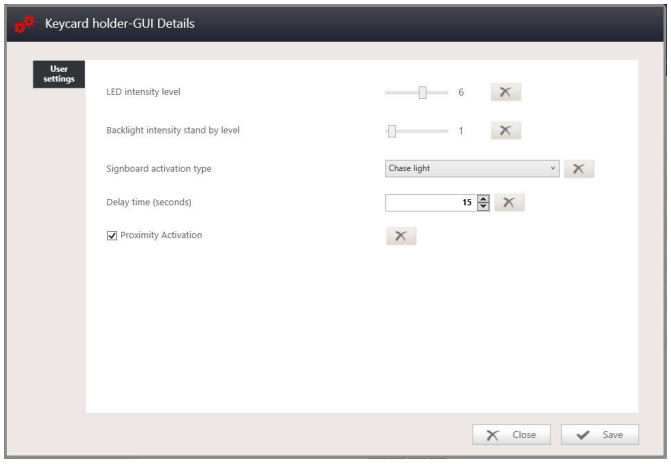
1. Name: give the output a name.
2. Type: select contact type.

■ Step **2**: Declare Peripherals (continued)

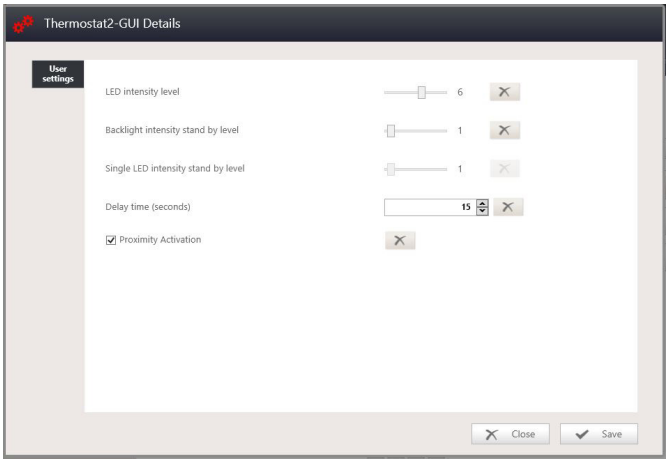
Configuring the peripheral according to type (continued)

Bus (continued)

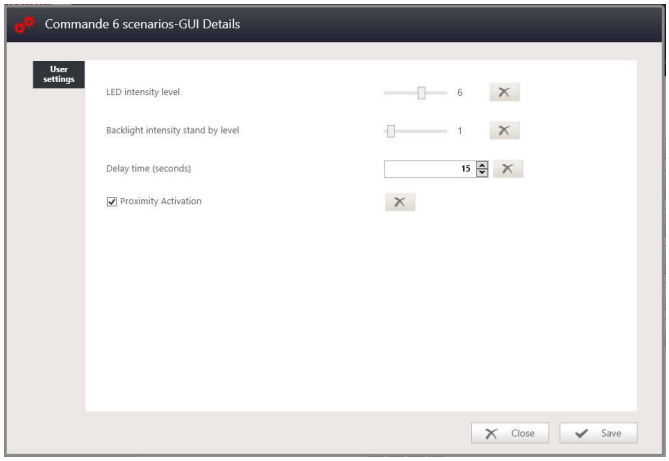
- GUI interface for UX Touch peripherals
  UX Touch controls have a configuration page for adjusting the brightness of icons.



0 487 71/0 487 81/FL4648/FL4648W/FL4658:
UX Touch keycard reader.



0 487 72/0 487 82/FL4653/FL4653W/FL4663: UX Touch bedside panel.
0 487 73/0 487 83/FL4654/FL4654W/FL4664: UX touch thermostat.



0 487 77/0 487 87/FL4655/FL4655W/FL4665: 4 UX Touch controls.
0 487 74/0 487 84/FL4652/FL4652W/FL4662: 6 UX Touch controls.

CONFIGURATOR (CONTINUED)

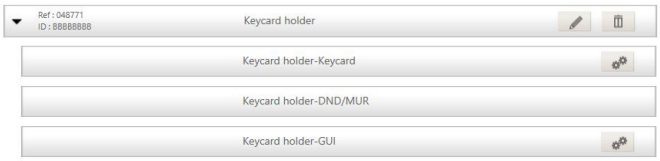
Step 2: Declare Peripherals (continued)

Configuring the peripheral according to type (continued)

Bus (continued)

When a UX Touch peripheral is added, an arrow appears on the left 

This arrow can be used to scroll through the various peripheral functions, particularly the configuration page for adjusting the brightness of icons (GUI).



- Do Not Disturb (DND)/Make Up Room (MUR) control (067593, H4653, LN4653)
  DND/MUR controls do not have a configuration page.

- 8-scenario control (0 675 92, H4652, LN4652) and 4-scenario control (0 784 78, 0 791 78, 5 745 03, 5 745 04, HD4680, HS4680, HC4680, L4680, N4680, NT4680, 0 672 17, 0 672 18, 5 739 02, 5 739 03)
  Scenario controls do not have a configuration page.

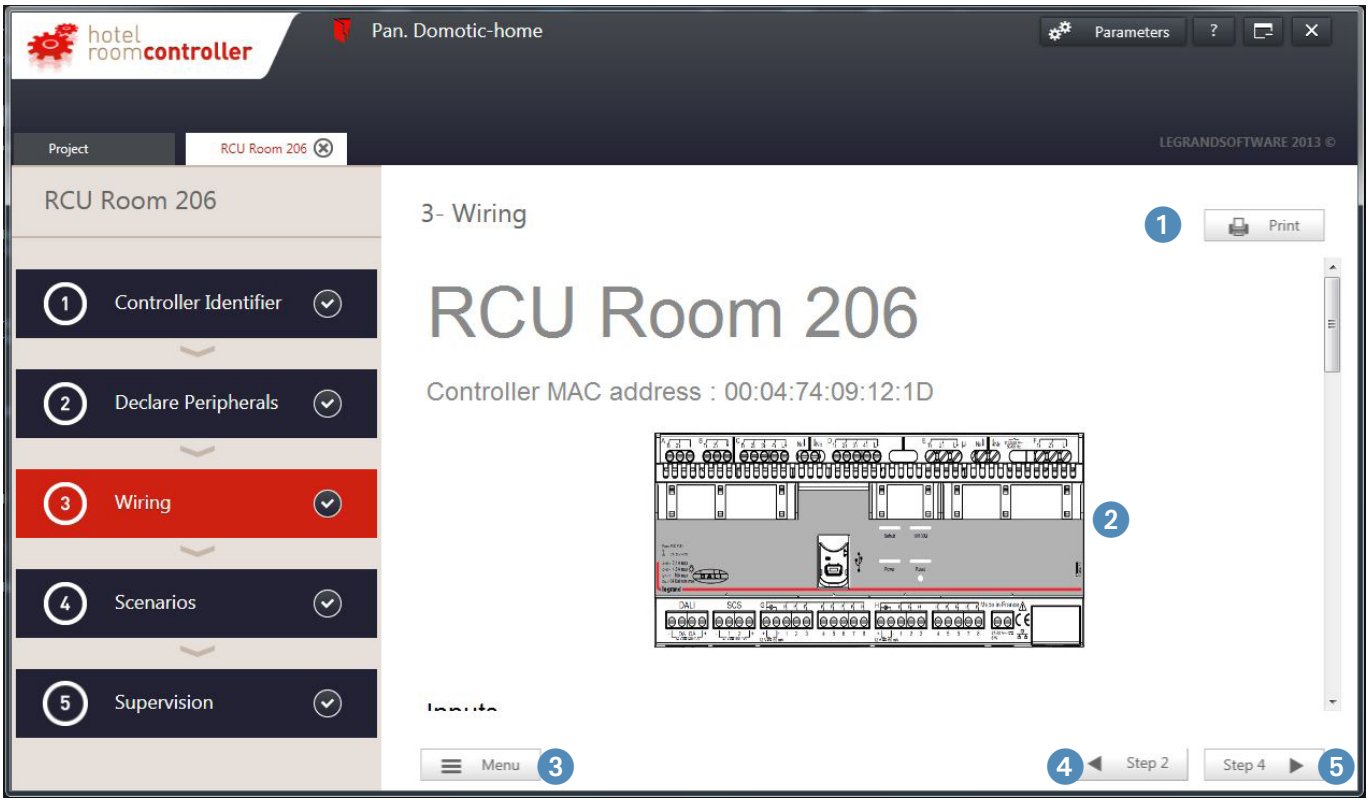
- 1, 2 and/or 3-way switch/pushbutton control (0 784 71, 0 791 71, 0 675 52, H4652/2, L4652/2, 0 784 73, 0 791 73, 0 675 54, H4652/3, L4652/3, 0 784 75, 0 791 75, 0 675 53, H4651M2, L4651M2, 0 784 72, 0 791 72)
  1, 2 and/or 3-way switch/pushbutton controls do not have a configuration page.

- 4, 6 or 8-scenario touch control (5 739 04, 5 739 05, 5 740 89, 5 745 89, 0 672 93, 0 672 95, 0 672 73, 0 672 75, 5 739 12, 5 739 13, HD4657M3, HC4657M3, HS4657M3, HD4657M4, HC4657M4, HS4657M4)
  4, 6 or 8-scenario touch controls do not have a configuration page.

CONFIGURATOR (CONTINUED)

■ Step **3**: Wiring

This step gives an overview of the wiring to be done on the controller



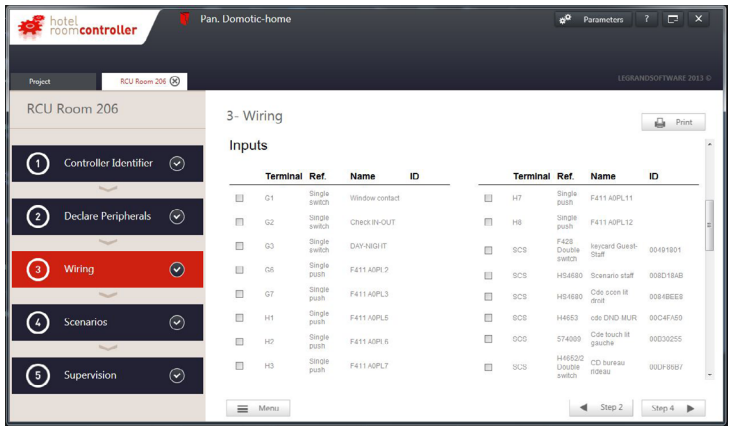
1 Print: used to create an equivalent file in pdf format.
2 Wiring: shows the controller, list of inputs, list of outputs and thermoregulation.
3 Menu: return to the modules screen.
4 Step 2: return to the previous step (Declare Peripherals).
5 Step 4: go to the next step (Scenarios) (see next page).

CONFIGURATOR (CONTINUED)

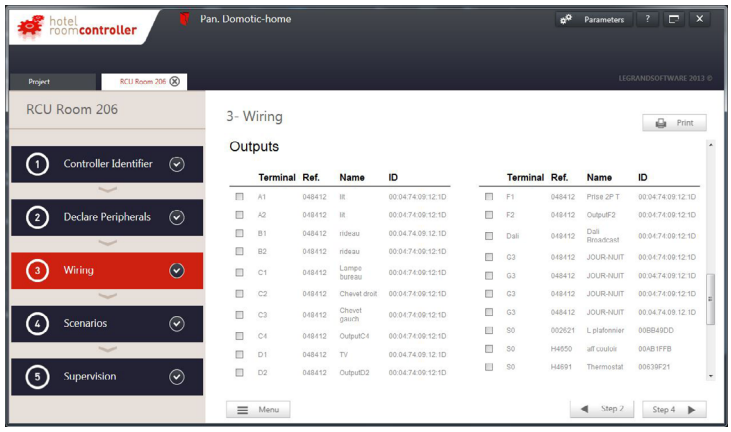
■ Step **3**: Wiring (continued)

2 Wiring: shows the controller, list of inputs, list of outputs and thermoregulation.

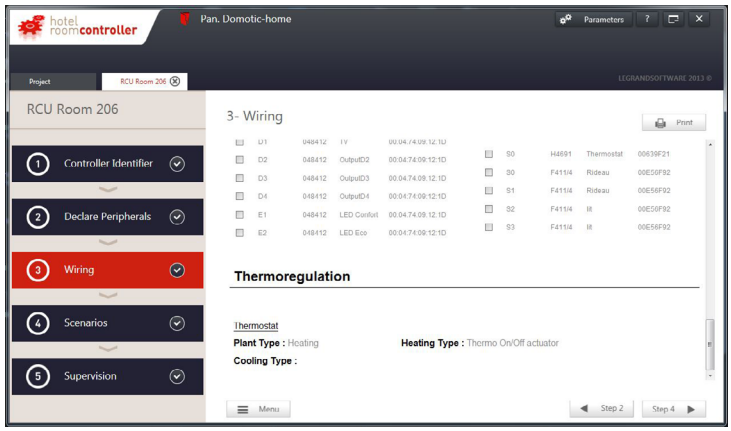
List of inputs:



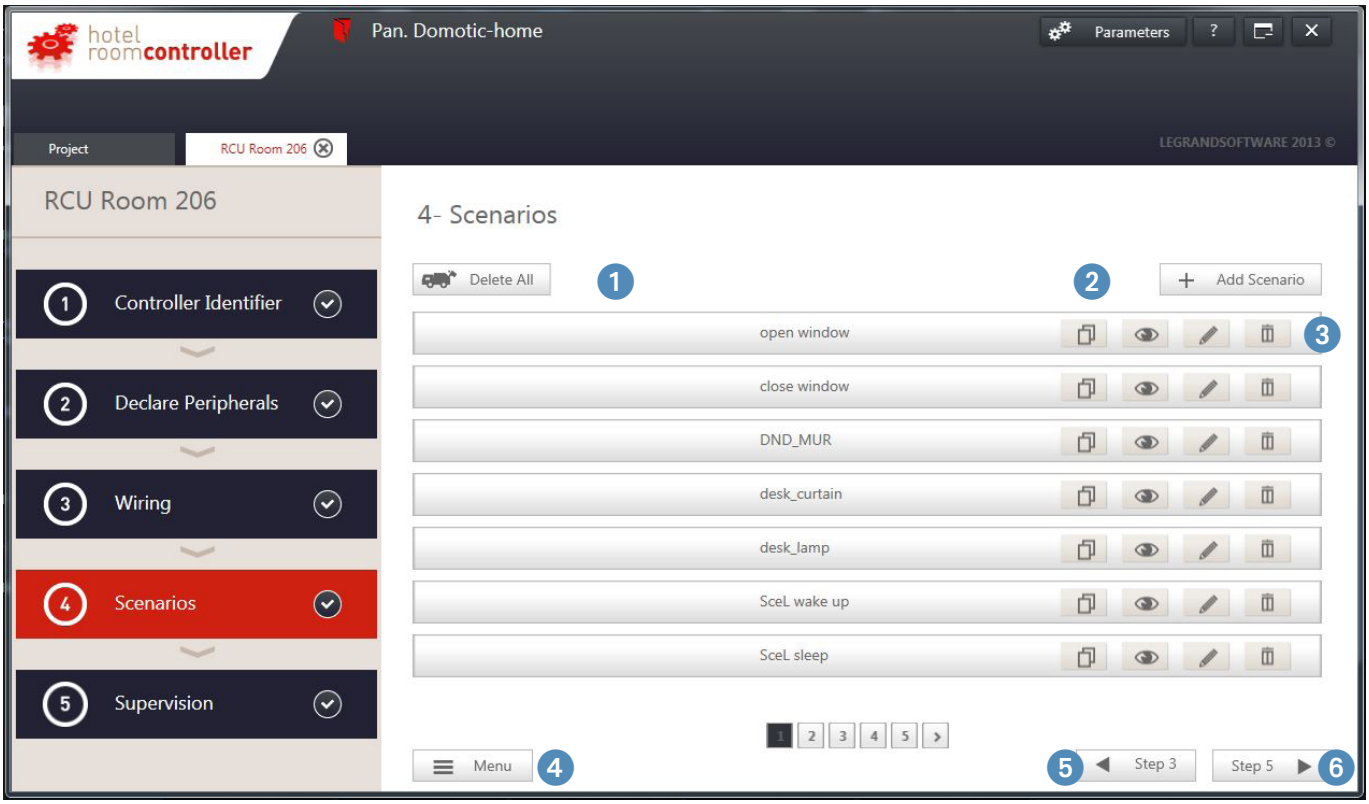
List of outputs:



Thermoregulation:



■ Step **4**: Scenarios

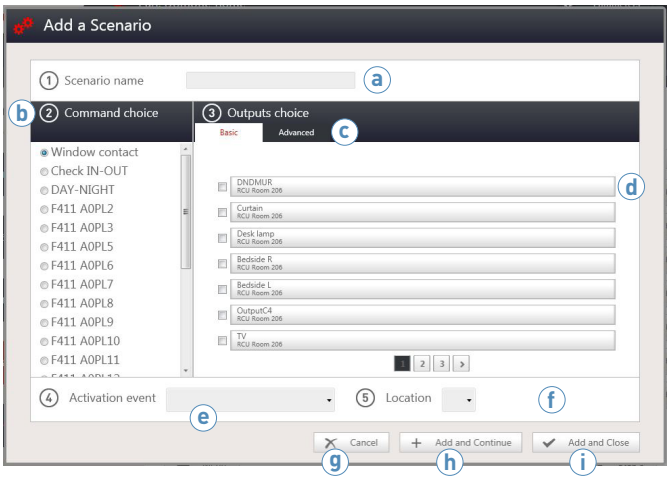


1. Delete All: deletes all the scenarios.
2. Add Scenario: creates a new scenario (see next page).
3. List of scenarios: the scenario is the configuration of all actions that occur after a command is sent. The command can be sent either by a mechanical control, a volt-free contact input, an SCS control, a BACNET control, or a hotel application control unit.
4. Menu: return to the modules screen.
5. Step 3: return to the previous step (Wiring).
6. Step 5 : return to the previous step (Supervision).

CONFIGURATOR (CONTINUED)

■ Step 4: Create scenarios (continued)

Add a scenario in standard mode 2



a **Scenario name**: give the scenario a name. You cannot give more than one scenario the same name, including differentiating them with upper/lower case letters.

b **Command choice**: select which control to configure.

c **Standard mode/custom mode**: standard mode is used to program basic actions/custom mode is used to program advanced actions. Select standard mode.

d **List of actions**: in standard mode, select which outputs to control.

e **Activation event**: selects the design of the control. When there is no dropdown menu, this means that the control has not been selected, or that the location is already in use. If there are no suitable options in the dropdown menu, change the type of control. See g next page.

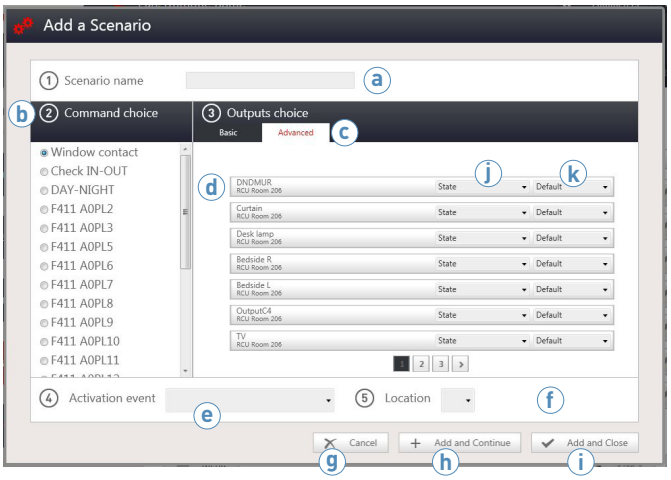
f **Location**: used to select the position of the activation event.

g **Cancel**: used to cancel scenario programming.

h **Add and Continue**: used to confirm, save the scenario and keep the window open for the next scenario. If it is a control with more than one button, the control will stay selected and another location will be suggested.

i **Add and Close**: used to confirm, save the scenario and close the window.

Add a scenario in custom mode 2



a **Scenario name**: give the scenario a name. You cannot give more than one scenario the same name, including differentiating them with upper/lower case letters.

b **Command choice**: select which control to configure.

c **Standard mode/custom mode**: select custom mode

d **List of actions**: in custom mode, you need to configure the state and priority level.

e **Activation event**: see next page.

f **Location**: used to select the position of the activation event.

g **Cancel**: used to cancel scenario programming.

h **Add and Continue**: used to confirm, save the scenario and keep the window open for the next scenario. If it is a control with more than one button, the control will stay selected and another location will be suggested.

i **Add and Close**: used to confirm, save the scenario and close the window.

j **State**: see next page.

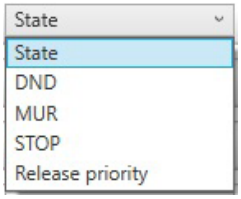
k **Default**: see next page.

■ Step 4: Create scenarios (continued)

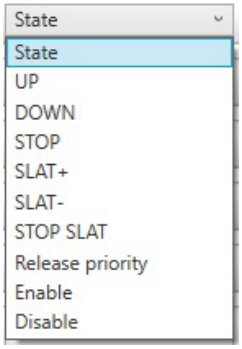
Add a scenario in custom mode 2 (continued)

ⓙ **State**: a dropdown menu gives the list of advanced actions available. The list depends on the type of peripheral or output selected.

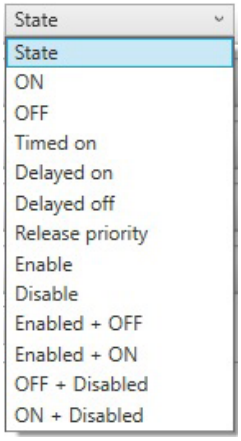
DND/MUR output



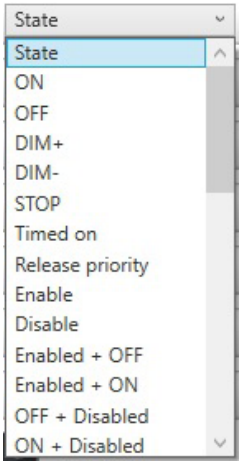
Roller shutter output



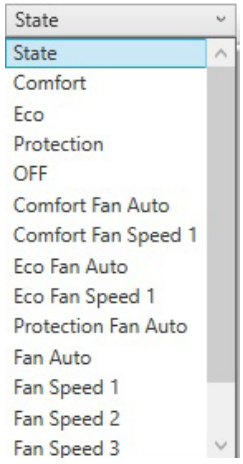
Actuator output



Dimmer output

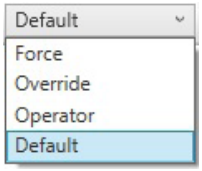


Thermostat output



ⓚ **Priority level**used to manage different scenario levels according to users, create scene calls, create conditional scenarios.

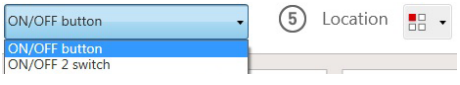
(See explanations in Priority levels section)



ⓔⓕ **Activation event**: used to select the design of the control. When there is no dropdown menu, this means that the control has not been selected, or that the location is already in use. If there are no suitable options in the dropdown menu, change the type of control.

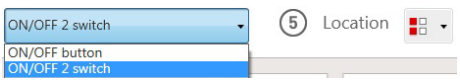
- Scenario control

Push-button mode – standard prog.



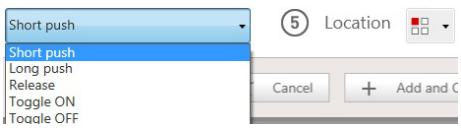
1-button location

Switch mode – standard prog.



2-button location

Switch mode – custom prog.



CONFIGURATOR (CONTINUED)

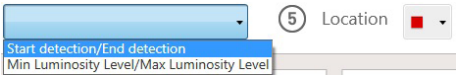
■ Step 4: Scenarios (continued)

Add a scenario in custom mode 2 (continued)

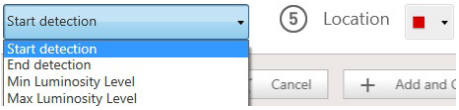
ⓖ Activation event (continued)

- sensor control

Standard prog.

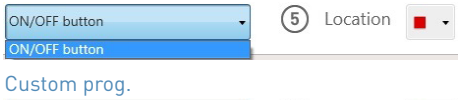


Custom prog.

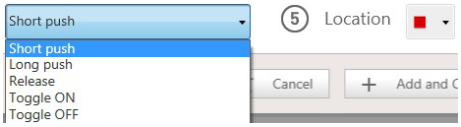


- Pushbutton control

Standard prog.

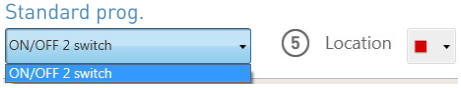


Custom prog.

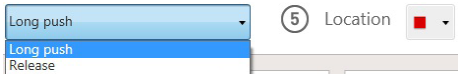


- Switch control

Standard prog.

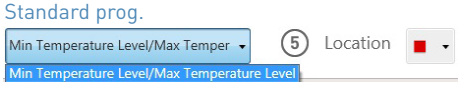


Custom prog.

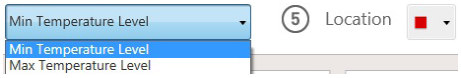


- Probe control

Standard prog.



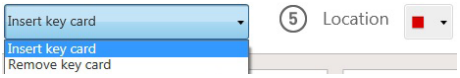
Custom prog.



- Keycard switch control

Standard prog.

Custom prog.



- DND/MUR control

Standard prog.

Custom prog.

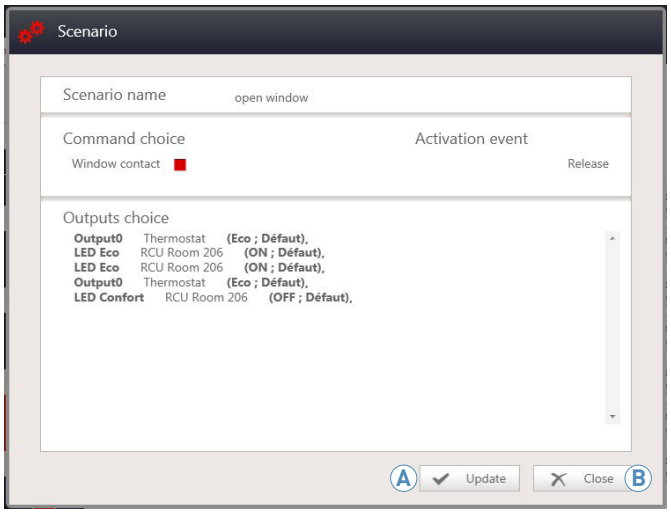
Scenario actions 3 (continued)

■ Step 4: Scenarios (continued)

Scenario actions 3 (continued)

ⓐ Copy button: used to copy a scenario in order to create another similar one.

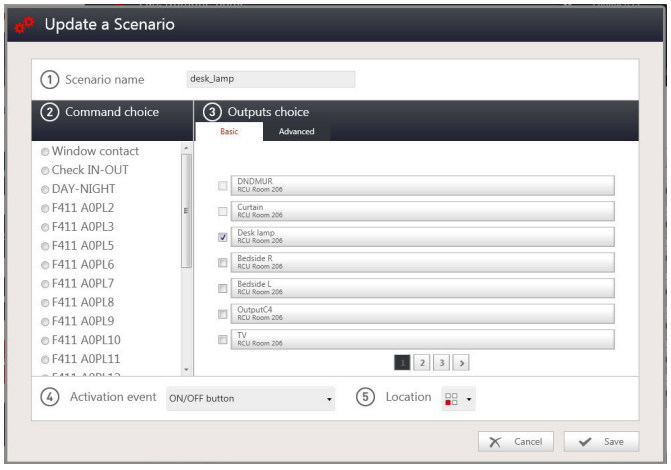
ⓑ Display button: used to display a scenario in detail.



Ⓐ Update button: used to open the Update Scenario window (similar window to Add Scenario 2).

Ⓑ Close button: used to close the display window.

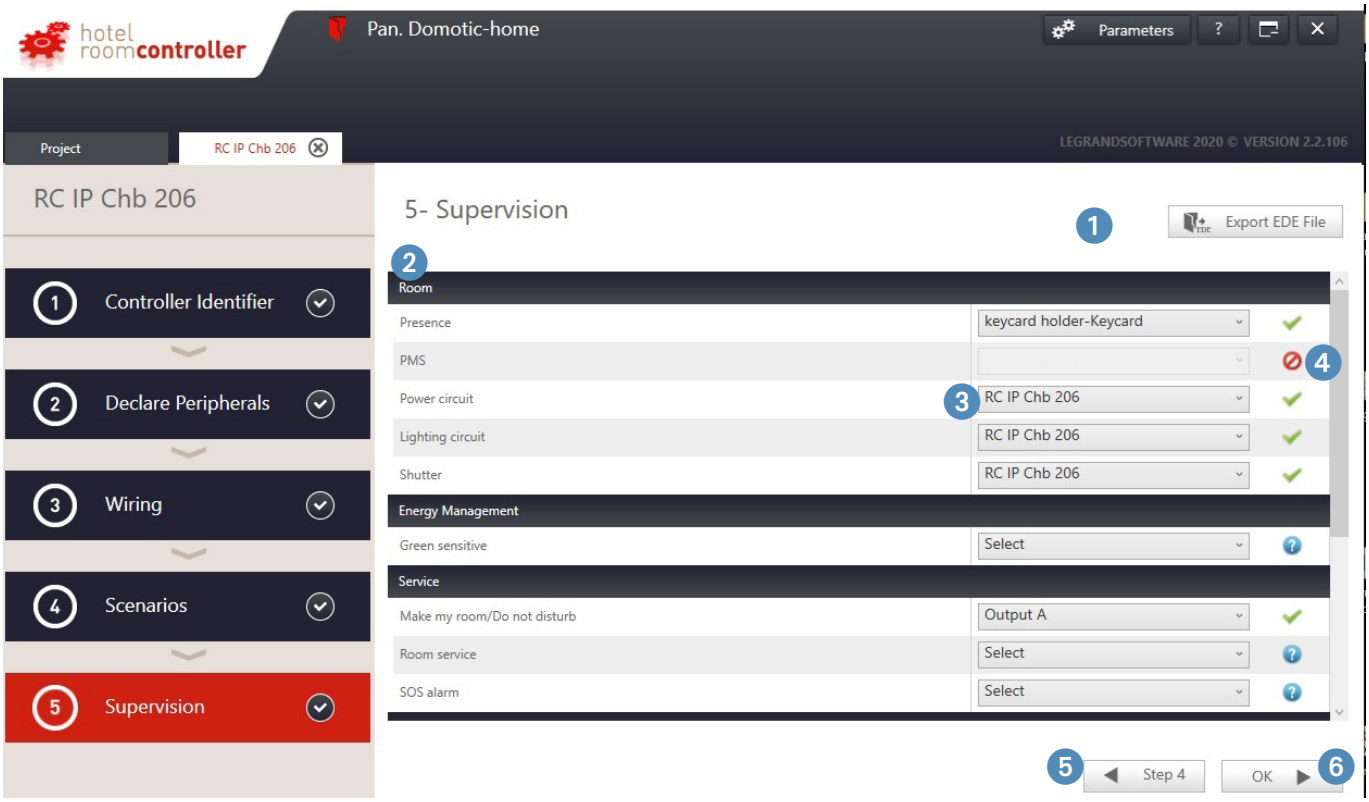
ⓒ Update button: used to change a scenario (similar window to Add Scenario 2).



ⓓ Delete scenario: used to delete the scenario.

CONFIGURATOR (CONTINUED)

■ Step **5**: Supervision



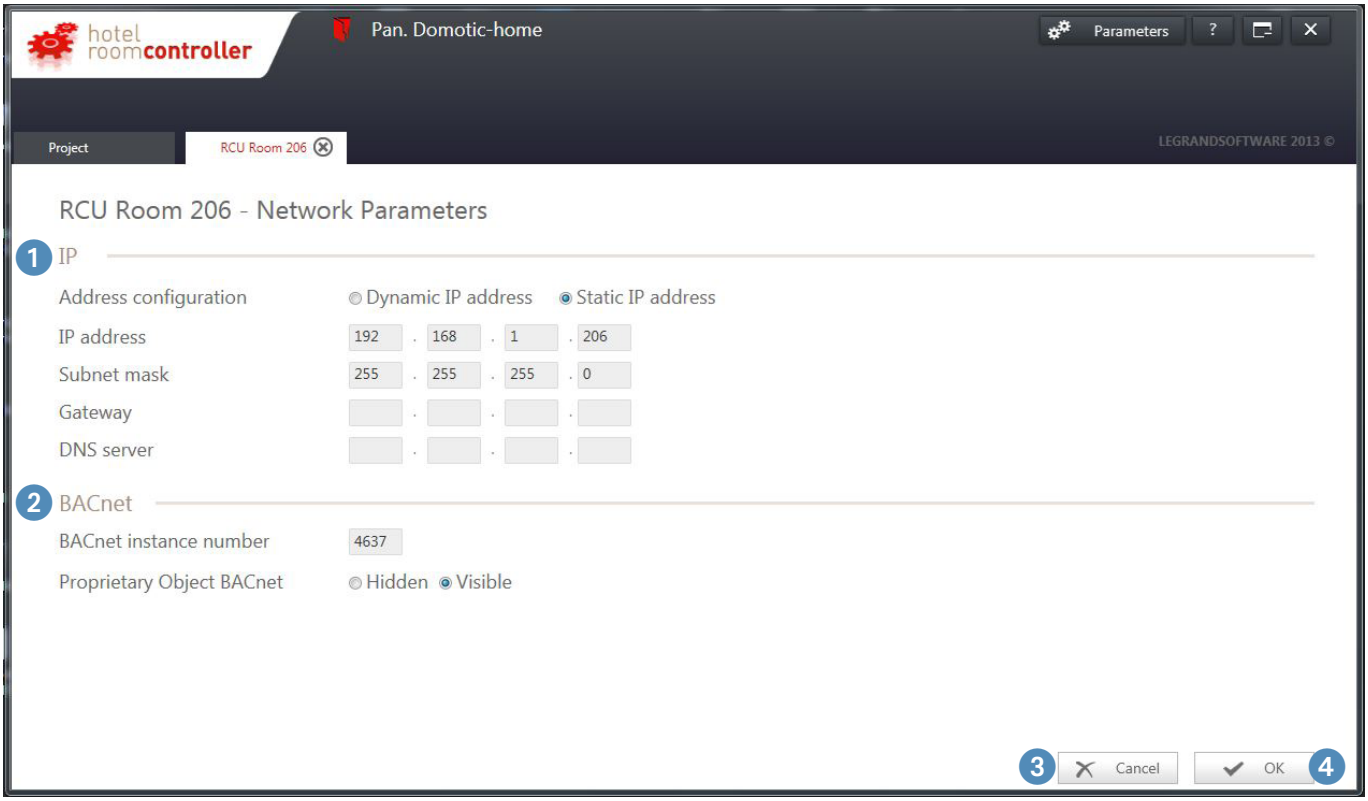
1. Export an EDE file: used to export an EDE file (file in .csv format containing the list of supervised BACNET objects).
2. List of supervised equipment: list of supervised equipment sorted by category (room/energy management/thermoregulation/housekeeping/scenarios/external scenarios).
3. Control device: dropdown list explaining which device is controlling the equipment.
4. Pictograms: used to indicate whether the equipment can be supervised:

✓	The equipment is supervised
?	The equipment can be supervised
⊘	The equipment is not supervised

5. Step 4: return to the previous step (Scenarios).
6. OK: return to the modules screen.

NETWORK PARAMETERS

Click Network Parameters:



1 IP: used to configure the controller IP address. By default the controller is in dynamic IP mode (after a controller reset – return to factory settings – the controller reverts to dynamic IP).

In a commercial installation, Legrand recommends switching the controller to static IP for greater reliability of connection and/or setting the parameters of Supervisors/BMS/centralised HVAC/other systems, etc connected on the IP network and communicating with the controller.

To set the controller IP parameters, retrieve the data from the site system administrator.

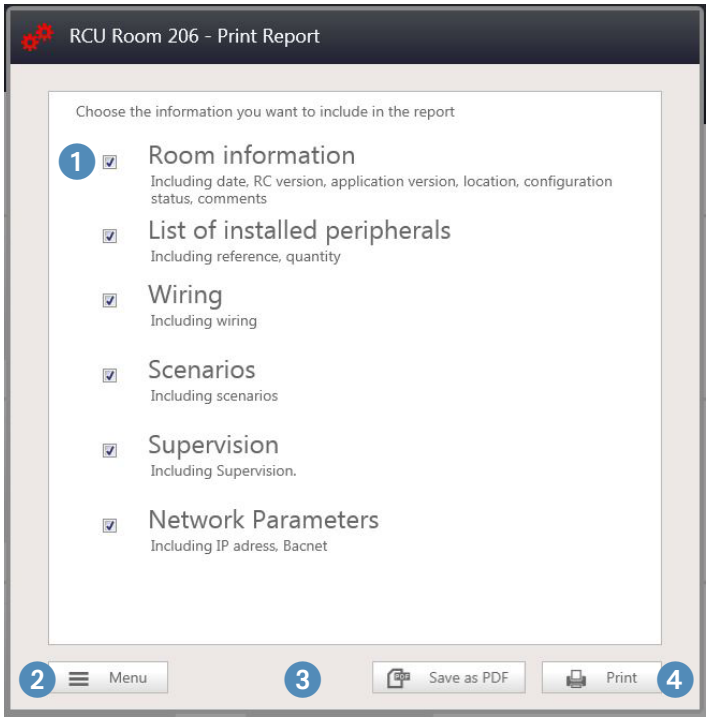
2 BACNET: used to configure the number of BACNET instances.
This instance number is auto-configured with the controller MAC address
and is used to hide/make visible proprietary BACNET objects (these are objects coming from non-standard SCS devices – hiding them means BACNET objects can be scanned more quickly).
To make two controllers communicate with one another, proprietary BACNET objects must be visible.

3 Cancel: used to return to the modules screen without saving changes.

4 OK: used to return to the modules screen and save changes.

PRINTING

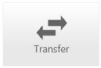
Click Print 

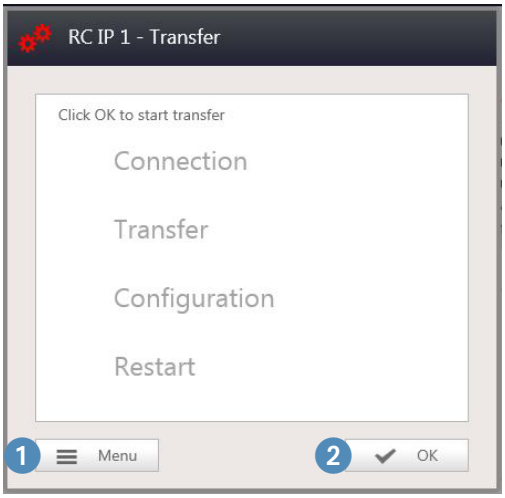


1 Topics: list of topics which can be printed (select desired topics).
2 Menu: return to the modules screen.
3 Save as PDF: saves the report directly in pdf format.
4 Print: exports the report in pdf format and opens the file without saving it.

TRANSFER (ONLINE FUNCTION)

When the controller configuration is complete, it should be transferred to the device.

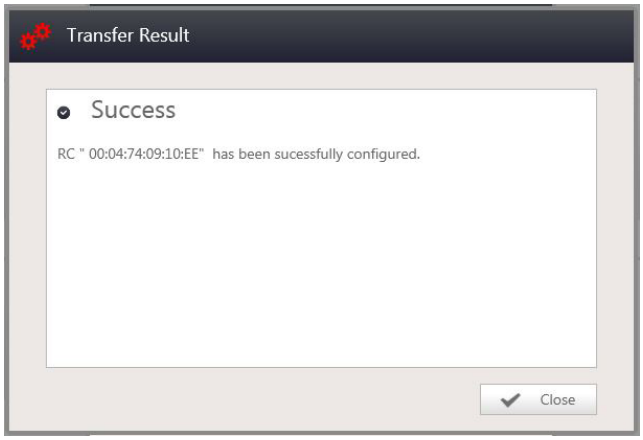
Click Transfer 



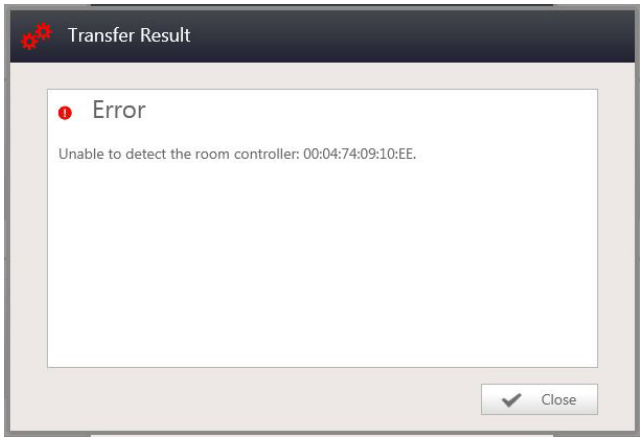
1 Menu: closes the window.

2 OK: sends data to the controller.

Once the configuration has been transferred, the program restarts the controller.



- The transfer was successful, the controller restarts, then the room can be used.
- Click Close and return to the modules screen.

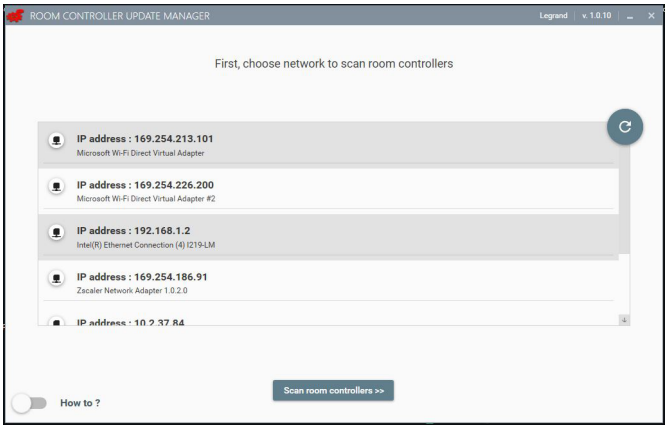


See Common errors page Ⓑ

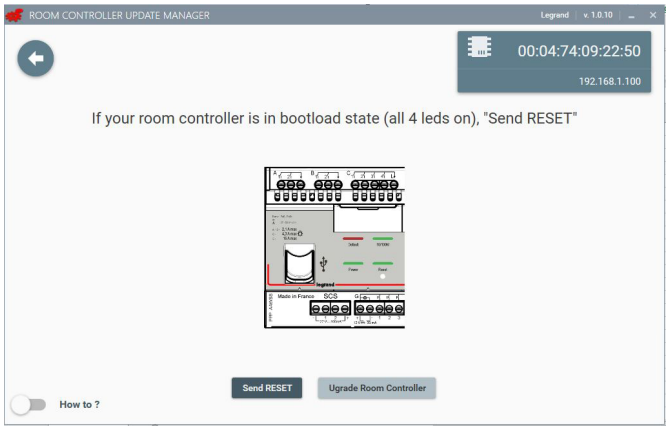
UPDATING THE CONTROLLER FIRMWARE

The firmware is updated via the Update Manager app (available from your sales representative or technical support).

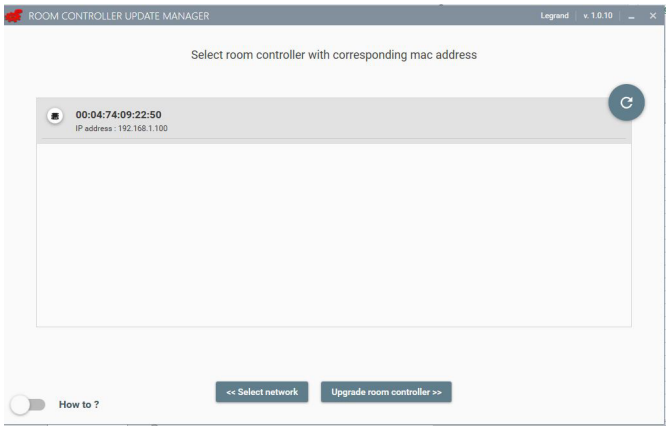
Launch the Update Manager app, once installed.



Select the network card for your computer connected to the controller network and click "Scan room controller".

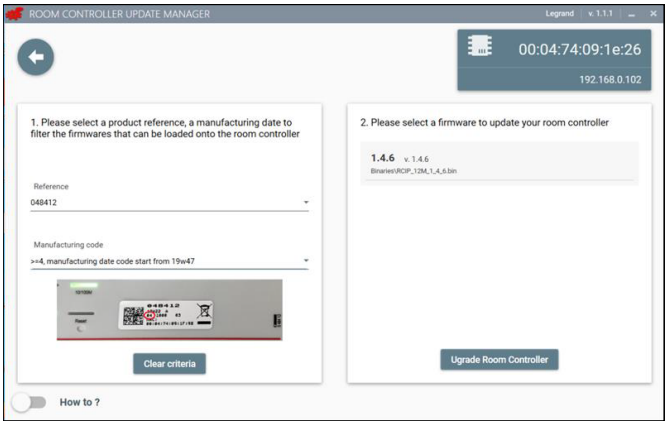


If the controller does not react for any reason, you can click "Send RESET" to exit BOOTLOAD mode (controller updating mode - when the 4 LEDs on the front panel are lit up).



Select the controller to be updated and click "Upgrade room controller".

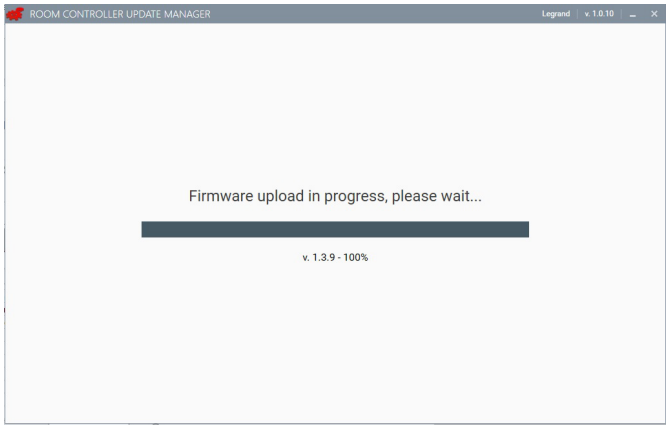
To continue updating the firmware, click "Upgrade room controller".



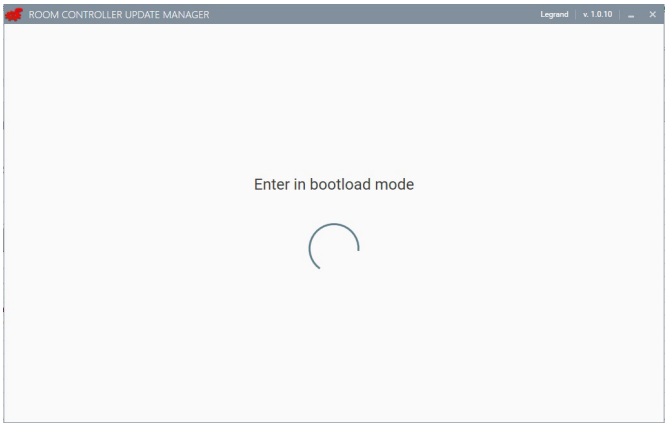
Select the controller reference and hardware version.

Select the firmware.

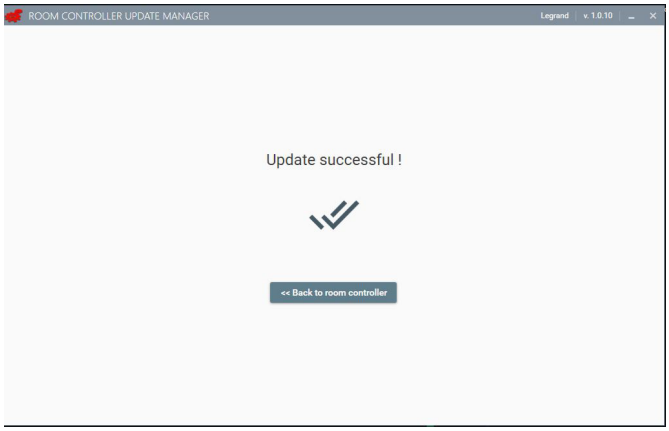
Click "Upgrade room controller".



The firmware is copied into the controller.



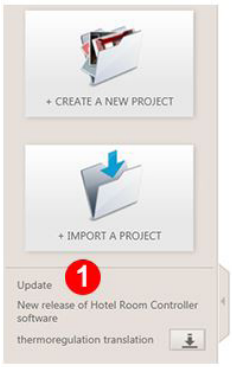
The controller switches to BOOTLOAD mode (the 4 LEDs on the front panel are lit up).



When copying is complete, the device exits BOOTLOAD mode and restarts. The firmware has successfully been updated.

SOFTWARE UPDATE

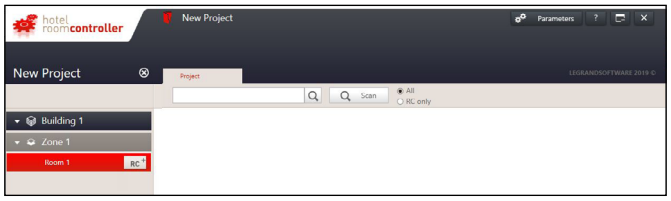
When a software update is available, this is displayed in the left-hand column on the welcome screen.



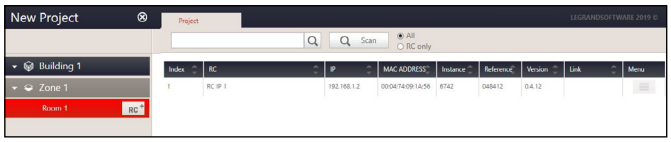
PROCEDURE FOR RETRIEVING THE EXISTING CONFIGURATION FROM A CONTROLLER

PROCEDURE FOR RETRIEVING AN EXISTING CONFIGURATION FROM A CONTROLLER

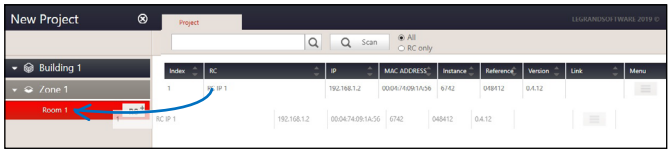
1. Create/open a project with a room without a controller.



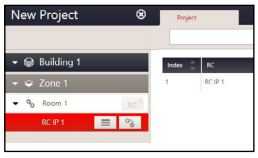
2. Launch a scan to find the controller whose configuration you wish to retrieve.



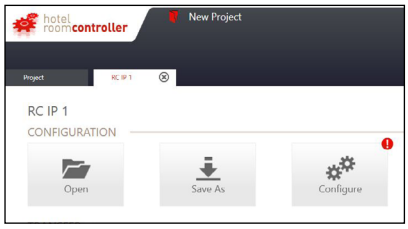
3. Drag and drop the scanned controller in the room.



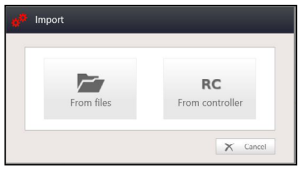
4. Once the controller has been added to the room, click 



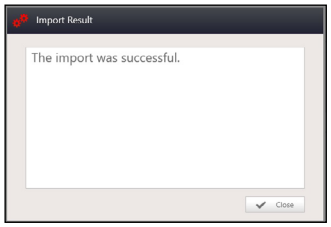
5. Enter the Controller configuration page and click "OPEN".



6. A pop-up window opens; click "RC from controller".



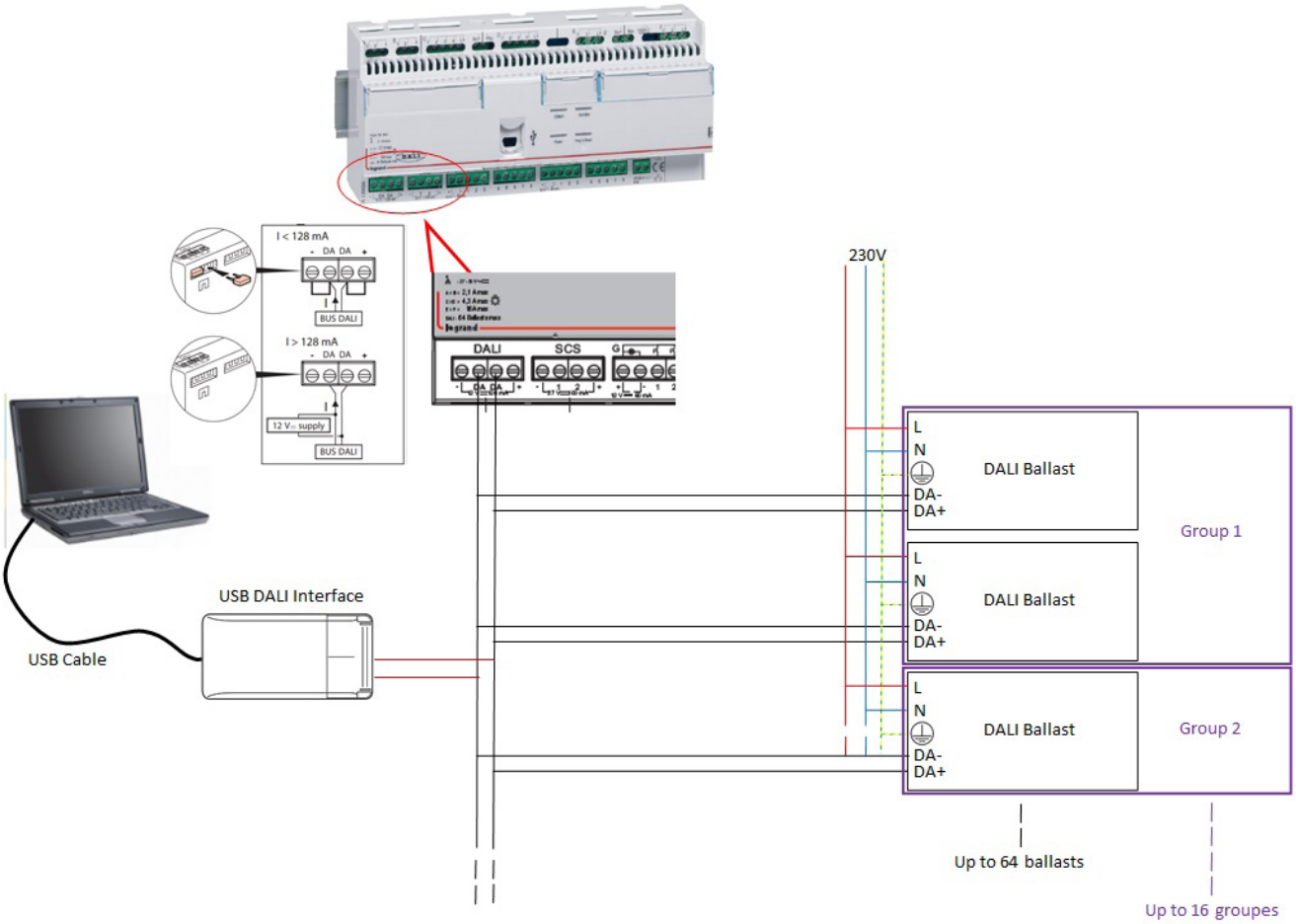
7. Once downloading has finished, a window opens. Click "Close".



The configuration is sent from the controller to the configuration program.

PROGRAMMING THE DALI GROUP

DALI output schematic diagram



PROGRAMMING THE DALI GROUP (CONTINUED)

Programming

To create a configuration with DALI groups (using the 0 484 12 controller DALI output), configure the DALI output in group mode and create the scenarios which control the groups. However, the controller cannot be used to program ECGs. A DALI USB interface must therefore be used, with its own software.

This guide explains how to program ECGs with Tridonic's DALI USB interface. Another manufacturer's interface can of course be used.

NB: Legrand's solution cannot be used to control ECGs individually, only groups are controlled. So in order to control a single ECG, you need to create a group which only contains this ECG.

1. Downloading the software

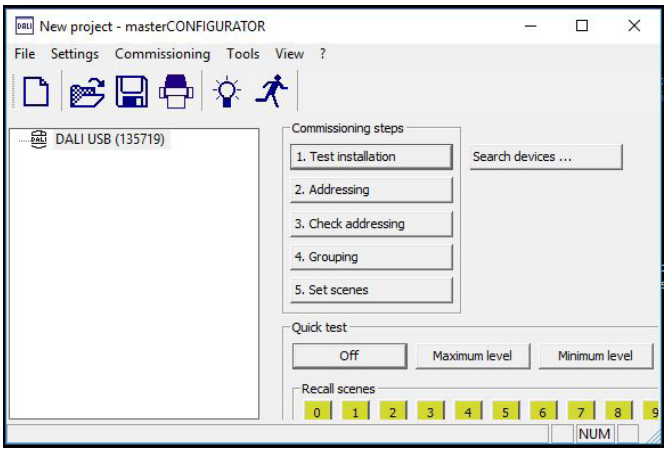
To use the Tridonic interface, you need to download the **masterCONFIGURATOR** configuration software from Tridonic's website

2. Installing the software

Click masterCONFIGURATOR_Vxxx.exe and follow the installation steps

3. Using the software

Launch the Masterconfigurator program (Go to Program>Tridonic>Masterconfigurator)

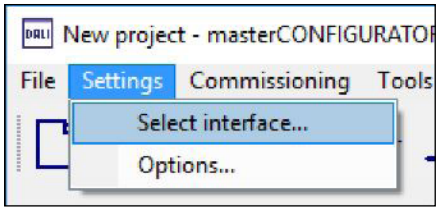


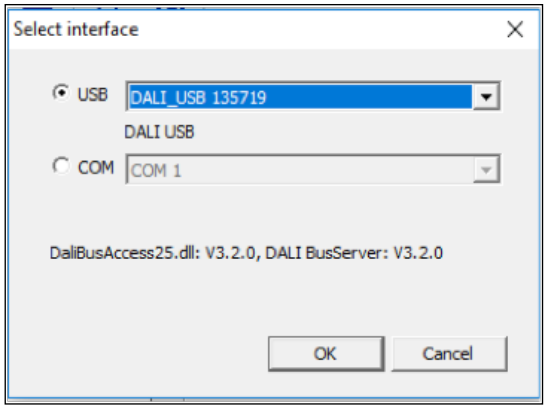
PROGRAMMING THE DALI GROUP (CONTINUED)

Programming (continued)

3. Using the software (continued)

• Select the interface

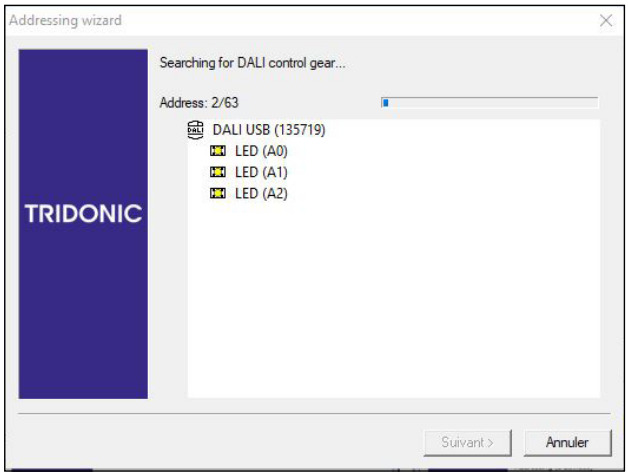


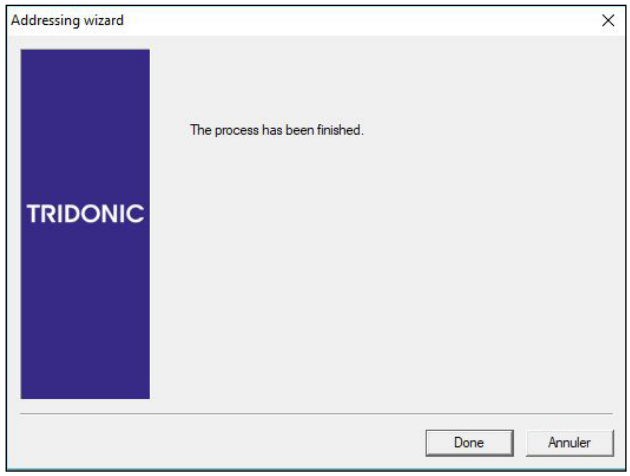


• Create a new project 

• Scan all the DALI ECGs present on the BUS

⇨ Click Search device



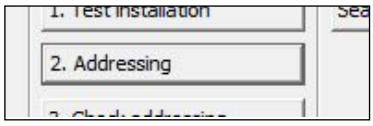


Programming (continued)

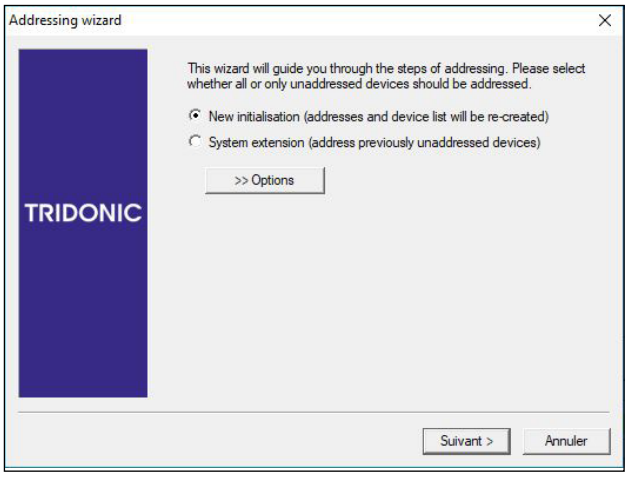
3. Using the software (continued)

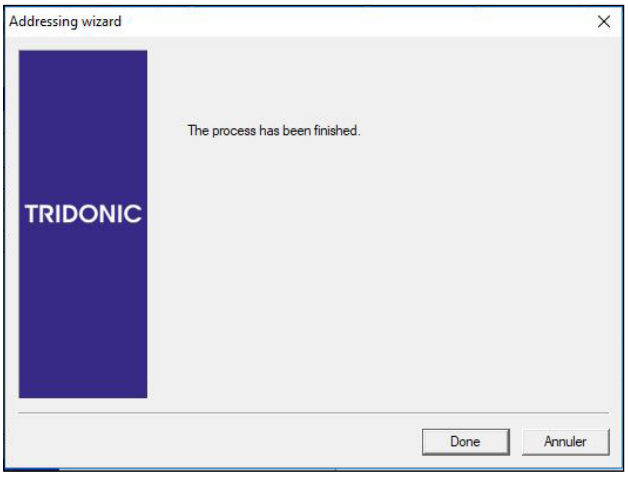
• Give an address to each DALI ECG

⇨ Click Addressing

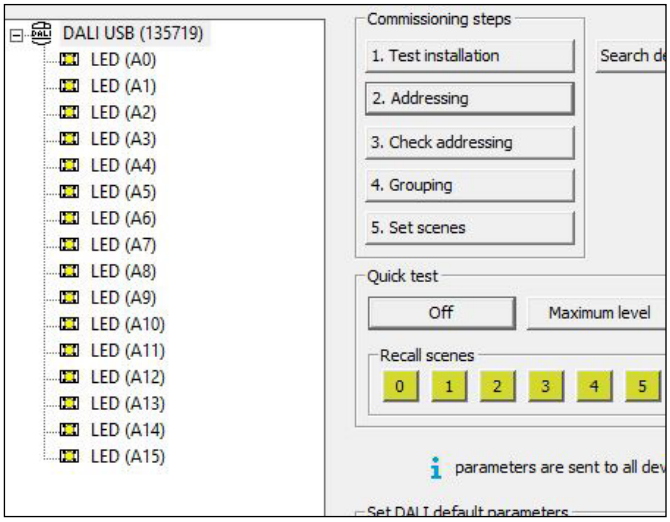


⇨ Select New initialisation





⇨ This is the result (there are 16 ECGs in the scanned installation with addresses A0 to A15)



PROGRAMMING THE DALI GROUP (CONTINUED)

Programming (continued)

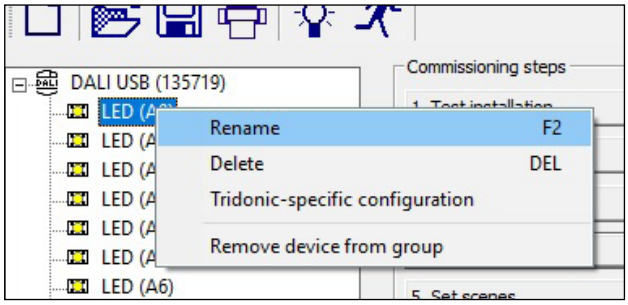
3. Using the software (continued)

• Rename the ECGs

For greater ease of use, the names of the ECGs can be changed

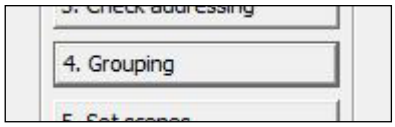
⇨ Right-click on the ECG

⇨ Click Rename

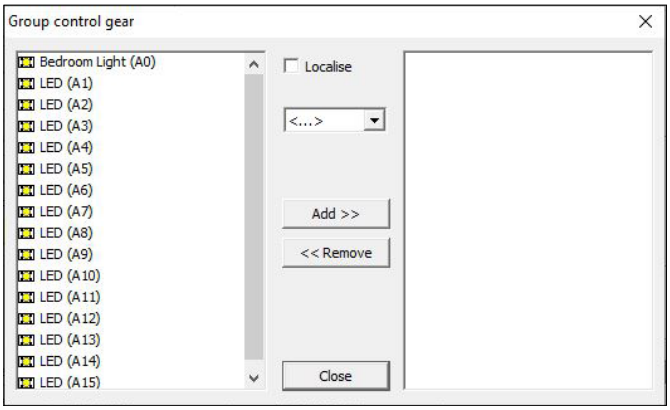


• Assign the ECGs into groups

⇨ Click Grouping



⇨ A window opens



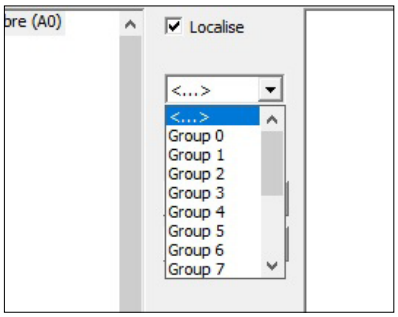
Programming (continued)

3. Using the software (continued)

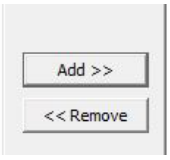
Check "Localise"

This lights up all the ECGs at a low level and when one is selected, it lights up at 100%, so you know which ECG is being added to the group.

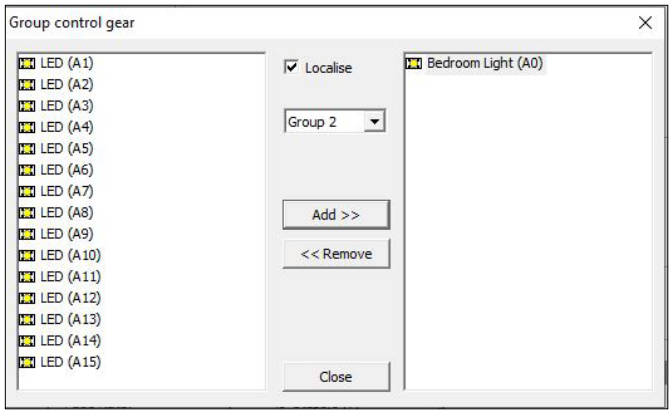
Select the group to which the ECG is to be added. The DALI system can have up to 16 groups



Click "Add"



The "Bedroom light" is in group 2



CAUTION: The system allows the same ECG to be put in several groups...but to make maintenance easier and to ensure that scenario writing is only managed by the HRCS configuration software, each ECG should only belong to one group. One group represents one circuit.

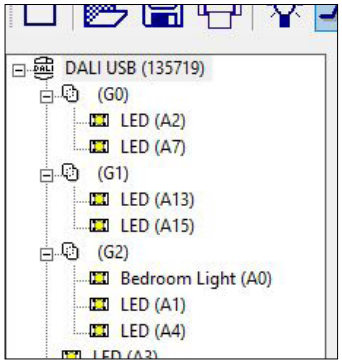
PROGRAMMING THE DALI GROUP (CONTINUED)

Programming (continued)

3. Using the software (continued)

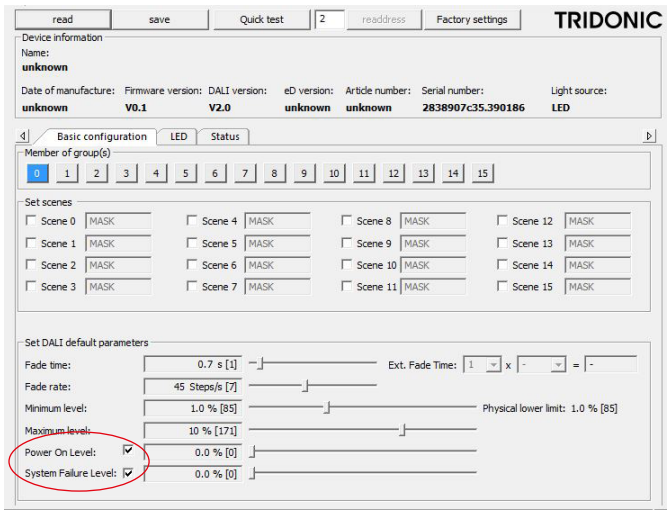
⇨ Assign all the ECGs and click "Close"

⇨ This is the result



• Configure the ECGs

⇨ Click on an ECG (a parameter-setting window opens)



There are 2 parameters which need to be set, the rest will be set in the configuration program.

⇨ Power ON level: This is the light level at which the ECG will come back on after a mains failure.
To avoid waking the room occupant if a mains failure occurs during the night, set the Power ON level to 0% (not all commercially-available ECGs support this parameter => in this case, it is important to warn the hotel manager of this risk of unwanted switch-on)

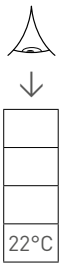
⇨ System Failure Level: This is the light level at which the ECG will come back on if a fault occurs on the DALI bus.
To avoid waking the room occupant if the fault occurs during the night, set the System Failure Level to 0% (not all commercially-available ECGs support this parameter => in this case, it is important to warn the hotel manager of this risk of unwanted switch-on)

PRIORITY LEVELS

The BACnet protocol offers the option to create complex scenarios using priority levels.
The default level is the conventional operating level (this is the level in which an action is written when a control is pressed).

There are 4 priority levels:

- Force (highest level)
- Override
- Operator
- Default (lowest level)



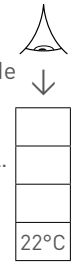
The system "looks at" the output state from the top down and executes the first value it comes to.

In a scenario in custom mode, it is possible to write an action in a given priority...
In another scenario in custom mode, the "release priority" command can clear the action of the given level...

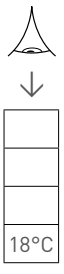
Example: opening/closing a window (no priority)

The scenarios consist of changing the thermostat to ECO when the window is open **without using priorities** (the comfort temperature is 21°C)

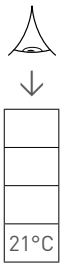
① The guest is in their room, the thermostat is in comfort mode but the guest has altered the temperature, they have set 22°C. The system is at the default level.



② They open the window, and change the thermostat to ECO (18°C) with the default priority "ECO – Default".



③ They close the window, and change the thermostat back to comfort mode in default priority "COMFORT – Default", the thermostat reverts to 21°C.

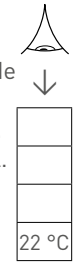


Without any priority, the system loses the 22°C setting entered by the occupant.

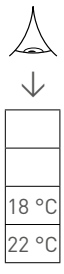
Example: opening/closing a window (with priority)

The scenarios consist of changing the thermostat to ECO when the window is open **using priorities** (the comfort temperature is 21°C)

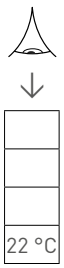
① The guest is in their room, the thermostat is in comfort mode but the guest has altered the temperature, they have set 22°C. The system is at the default level.



② They open the window, and change the thermostat to ECO (18°C) with Operator priority "ECO – Operator".

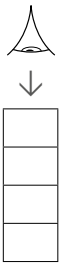


③ They close the window, and change the thermostat to its previous state of 22°C using the function "release priority – Operator" (the "release priority" function has cleared the Operator level value).



Priority allows the previous temperature to remain in the memory.

4 priority levels:
- Force (highest level)
- Override
- Operator
- Default (lowest level)

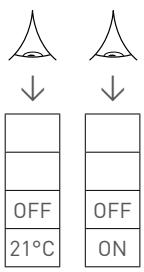


To create this Check In/Check Out example, ensure that:
- In automatic mode, the system is linked to the PMS
- In manual mode, an action is performed by the staff between two guests

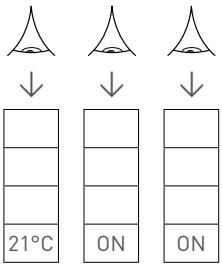
PRIORITY LEVELS (CONTINUED)

Example: Check In/Check Out

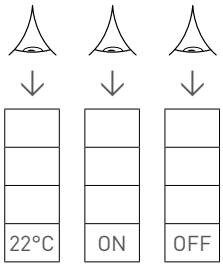
① The guest arrives at reception.
The system sends a welcome scenario at default level. The room stays OFF at Operator level. It is defined by the hotel proprietor: Thermostat in comfort mode 21°C, light A = ON, light B = ON.



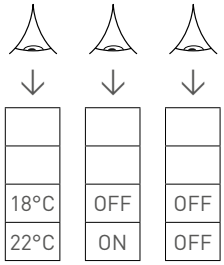
② The guest comes back to their room.
The room switches to default level (the system has cleared the Operator level values).



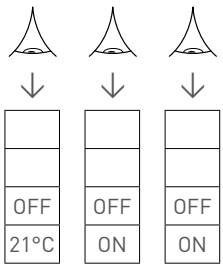
③ The guest is in their room.
They set the temperature to 22°C, leave light A ON and switch light B OFF.



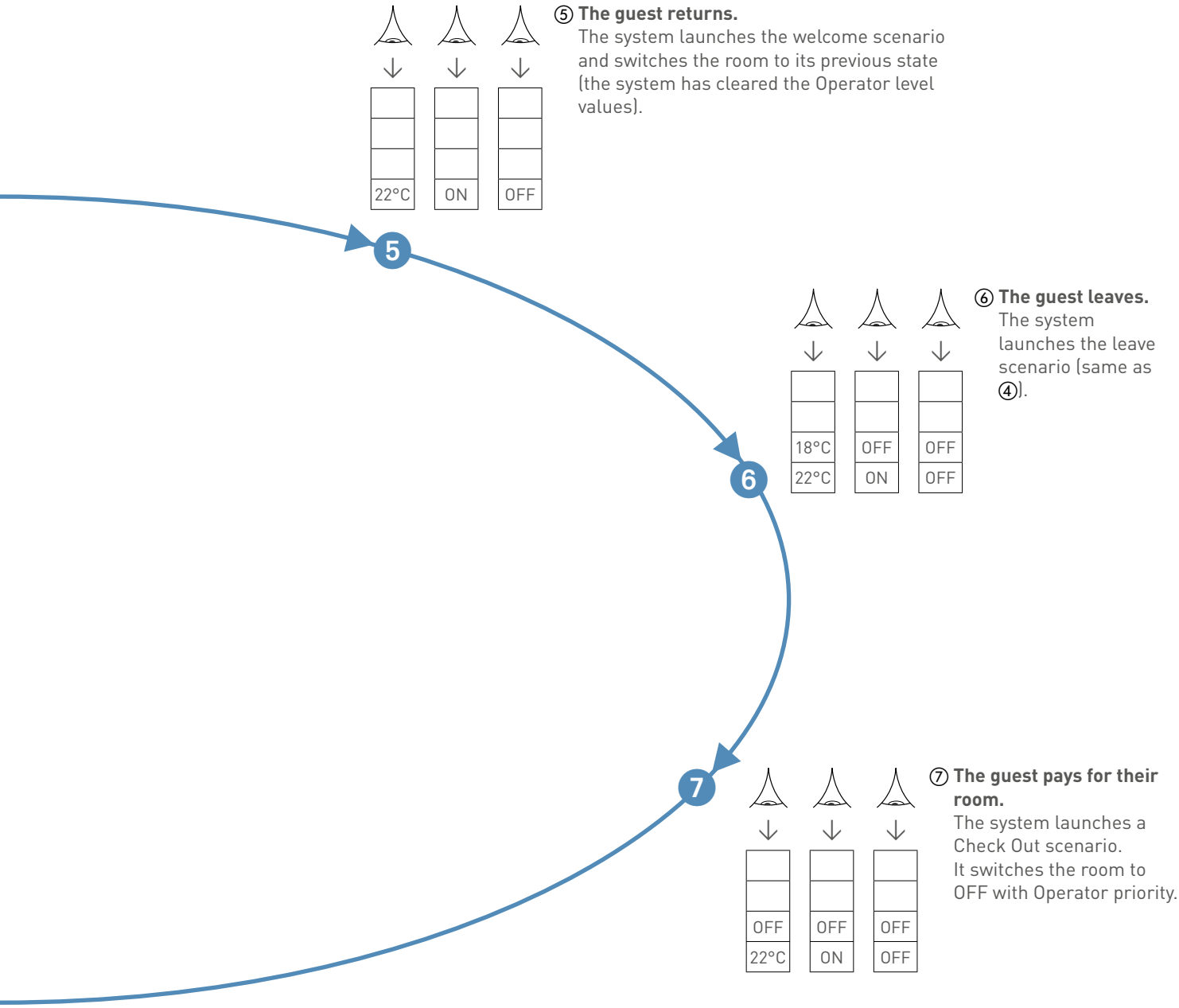
④ The guest leaves their room. The system launches a leave scenario in order to save energy. It switches the thermostat to ECO, light A OFF and light B OFF with Operator priority.



⑧ The next guest arrives.
The system launches a welcome scenario (it resets the welcome scenario defined by the proprietor in Default priority).



Example: Check In/Check Out (continued)



⑤ **The guest returns.**
The system launches the welcome scenario and switches the room to its previous state (the system has cleared the Operator level values).

⑥ **The guest leaves.**
The system launches the leave scenario (same as ④).

⑦ **The guest pays for their room.**
The system launches a Check Out scenario.
It switches the room to OFF with Operator priority.

EXAMPLE OF A ROOM

In this example, the room controller is connected to a PMS and to an access control system with discrimination between keycard holders, via a BMS.
The link with the PMS and the access control system is simulated by two switches (check IN/OUT switch and a guest/staff 2-gang pushbutton).

List of installed peripherals

Ref.	Quantity	Ref.	Quantity	Ref.	Quantity	Ref.	Quantity
048412	X1	Single switch	X3	067590	X1	067593	X1
574504	X1	574089	X1	067459	X1	067592	X1
F430/4	X1	572736	X1				

View the wiring

Inputs

	Terminal	Ref.	Name	ID
☐	G1	Single switch	window contact	
☐	G2	Single switch	Check IN OUT	
☐	G3	Single switch	guest staff	
☐	SCS	067593	DND MJR	00E678E6

	Terminal	Ref.	Name	ID
☐	SCS	574504	4 scen entrance	00EF0AB9
☐	SCS	574089	TOUCH 4 scen	004FCCBA
☐	SCS	067592	8 scen	0063FB03
☐	SCS	572736	keycard holder	0073634C

Outputs

	Terminal	Ref.	Name	ID
☐	A1	048412	OutputA	00:04:74:09:13:BC
☐	A2	048412	OutputA	00:04:74:09:13:BC
☐	B1	048412	OutputB	00:04:74:09:13:BC
☐	B2	048412	OutputB	00:04:74:09:13:BC
☐	C1	048412	sensor	00:04:74:09:13:BC
☐	C2	048412	L entrance	00:04:74:09:13:BC
☐	C3	048412	L ceiling	00:04:74:09:13:BC
☐	C4	048412	Bedside L	00:04:74:09:13:BC
☐	D1	048412	Bedside R	00:04:74:09:13:BC
☐	D2	048412	L living roo	00:04:74:09:13:BC
☐	D3	048412	L corridor	00:04:74:09:13:BC
☐	D4	048412	OutputD4	00:04:74:09:13:BC

	Terminal	Ref.	Name	ID
☐	E1	048412	Led comfort	00:04:74:09:13:BC
☐	E2	048412	Led ECO	00:04:74:09:13:BC
☐	F1	048412	Socket 2P E	00:04:74:09:13:BC
☐	F2	048412	Socket USB	00:04:74:09:13:BC
☐	Dali	048412	Dali Broadcast	00:04:74:09:13:BC
☐	S0	067590	Sortie0	0063ED41
☐	S0	067459	Thermostat	08C414B1
☐	S0	F430/4	Sortie0	08C54020
☐	S1	F430/4	Sortie1	08C54020
☐	S2	F430/4	Sortie2	08C54020
☐	S3	F430/4	Sortie3	08C54020

Thermoregulation

Thermostat

Plant Type : Cooling

Refroidissment Type : 2-pipe fan coil unit with ON/OFF valve

View scenarios

1

Scenario name window opened

Command choice: window contact

Activation event: Long push

Outputs choice

Sortie0 Thermostat **(OFF ; Force),**
Led comfort RCU IP 12 modules **(OFF ; Force),**
Led ECO RCU IP 12 modules **(OFF ; Force),**

2

Scenario name window closed

Command choice: window contact

Activation event: Release

Outputs choice

Sortie0 Thermostat **(Release priority ; Force),**
Led comfort RCU IP 12 modules **(Release priority ; Force),**
Led ECO RCU IP 12 modules **(Release priority ; Force),**

3

Scenario name Check in

Command choice: Check IN OUT

Activation event: Long push

Outputs choice

L ceiling RCU IP 12 modules **(ON ; Default),**
L living roo RCU IP 12 modules **(ON ; Default),**
L corridor RCU IP 12 modules **(ON ; Default),**
Led comfort RCU IP 12 modules **(ON ; Default),**
Socket 2P E RCU IP 12 modules **(ON ; Default),**
Socket USB RCU IP 12 modules **(ON ; Default),**
Sortie0 external indicator **(STOP ; Default),**
sensor RCU IP 12 modules **(OFF ; Default),**
Bedside L RCU IP 12 modules **(OFF ; Default),**
Bedside R RCU IP 12 modules **(OFF ; Default),**
Led ECO RCU IP 12 modules **(OFF ; Default),**
Sortie0 Thermostat **(Comfort ; Default),**

4

Scenario name Check out

Command choice: Check IN OUT

Activation event: Release

Outputs choice

sensor RCU IP 12 modules **(OFF ; Override),**
L entrance RCU IP 12 modules **(OFF ; Default),**
L ceiling RCU IP 12 modules **(OFF ; Override),**
Bedside L RCU IP 12 modules **(OFF ; Override),**
Bedside R RCU IP 12 modules **(OFF ; Override),**
L living roo RCU IP 12 modules **(OFF ; Override),**
L corridor RCU IP 12 modules **(OFF ; Override),**
Led comfort RCU IP 12 modules **(OFF ; Override),**
Led ECO RCU IP 12 modules **(OFF ; Override),**
Socket 2P E RCU IP 12 modules **(OFF ; Override),**
Socket USB RCU IP 12 modules **(OFF ; Override),**
Sortie0 external indicator **(Unoccupied ; Default),**
Sortie0 Thermostat **(OFF ; Override),**

5

Scenario name keycard guest

Command choice: guest staff

Activation event: Long push

Outputs choice

L entrance RCU IP 12 modules **(ON ; Default),**
L ceiling RCU IP 12 modules **(Release priority ; Operator),**
Bedside L RCU IP 12 modules **(Release priority ; Operator),**
Bedside R RCU IP 12 modules **(Release priority ; Operator),**
L living roo RCU IP 12 modules **(Release priority ; Operator),**
L corridor RCU IP 12 modules **(Release priority ; Operator),**
Sortie0 Thermostat **(Release priority ; Operator),**
sensor RCU IP 12 modules **(Release priority ; Operator),**
Led comfort RCU IP 12 modules **(ON ; Default),**
Led ECO RCU IP 12 modules **(OFF ; Default),**

6

Scenario name DND MUR

Command choice: DND MUR

Activation event: Do not disturb/Make my room

Outputs choice

Sortie0 external indicator,

EXAMPLE OF A ROOM (CONTINUED)

View scenarios (continued)

7

Scenario name welcome

Command choice: keycard holder

Activation event: Insert key card

Outputs choice

L ceiling	RCU IP 12 modules	**(Release priority ; Override),**
Bedside L	RCU IP 12 modules	**(Release priority ; Override),**
Bedside R	RCU IP 12 modules	**(Release priority ; Override),**
L living roo	RCU IP 12 modules	**(Release priority ; Override),**
L corridor	RCU IP 12 modules	**(Release priority ; Override),**
Led comfort	RCU IP 12 modules	**(Release priority ; Override),**
Led ECO	RCU IP 12 modules	**(Release priority ; Override),**
Socket 2P E	RCU IP 12 modules	**(Release priority ; Override),**
Socket USB	RCU IP 12 modules	**(Release priority ; Override),**
Sortie0	external indicator	**(Occupied ; Default),**
Sortie0	Thermostat	**(Release priority ; Override),**
sensor	RCU IP 12 modules	**(Release priority ; Override),**

8

Scenario name goodbye

Command choice: keycard holder

Activation event: Remove key card

Outputs choice

sensor	RCU IP 12 modules	**(OFF ; Override),**
L entrance	RCU IP 12 modules	**(OFF ; Default),**
L ceiling	RCU IP 12 modules	**(OFF ; Override),**
Bedside L	RCU IP 12 modules	**(OFF ; Override),**
Bedside R	RCU IP 12 modules	**(OFF ; Override),**
L living roo	RCU IP 12 modules	**(OFF ; Override),**
L corridor	RCU IP 12 modules	**(OFF ; Override),**
Led comfort	RCU IP 12 modules	**(OFF ; Default),**
Led ECO	RCU IP 12 modules	**(ON ; Default),**
Socket 2P E	RCU IP 12 modules	**(OFF ; Override),**
Sortie0	external indicator	**(Unoccupied ; Default),**
Sortie0	Thermostat	**(Eco ; Override),**

9

Scenario name keycard staff

Command choice: guest staff

Activation event: Release

Outputs choice

sensor	RCU IP 12 modules	**(ON ; Operator),**
L entrance	RCU IP 12 modules	**(ON ; Default),**
L ceiling	RCU IP 12 modules	**(ON ; Operator),**
Bedside L	RCU IP 12 modules	**(ON ; Operator),**
Bedside R	RCU IP 12 modules	**(ON ; Operator),**
L living roo	RCU IP 12 modules	**(ON ; Operator),**
L corridor	RCU IP 12 modules	**(ON ; Operator),**
Socket 2P E	RCU IP 12 modules	**(ON ; Operator),**

10

Scenario name 4scn ent entrance ON

Command choice: 4 scen entrance

Activation event: Short push

Outputs choice

L entrance	RCU IP 12 modules	**(ON ; Default),**

11

Scenario name 4scn ent entranc OFF

Command choice: 4 scen entrance

Activation event: Short push

Outputs choice

L entrance	RCU IP 12 modules	**(OFF ; Default),**

12

Scenario name 4scn ent master ON

Command choice: 4 scen entrance

Activation event: Short push

Outputs choice

L entrance	RCU IP 12 modules	**(ON ; Default),**
L ceiling	RCU IP 12 modules	**(ON ; Default),**
L living roo	RCU IP 12 modules	**(ON ; Default),**
L corridor	RCU IP 12 modules	**(ON ; Default),**

13

Scenario name 4scn ent master OFF

Command choice: 4 scen entrance

Activation event: Short push

Outputs choice

sensor	RCU IP 12 modules	**(OFF ; Default),**
L entrance	RCU IP 12 modules	**(OFF ; Default),**
L ceiling	RCU IP 12 modules	**(OFF ; Default),**
Bedside L	RCU IP 12 modules	**(OFF ; Default),**
Bedside R	RCU IP 12 modules	**(OFF ; Default),**
L living roo	RCU IP 12 modules	**(OFF ; Default),**
L corridor	RCU IP 12 modules	**(OFF ; Default),**

SUPERVISOR (PROJECT MANAGER) whose job is to oversee the project	INSTALLER whose job is to pull the cables through, install the peripherals, connect the peripherals to the loads	GRMS PROGRAMMER whose job is to program rooms with the Hotel Room Controller Software (HRCS)	SYSTEMS INTEGRATOR whose job is to program the BMS (Netx for example) ... in order to integrate the GRMS with the other systems
1 Retrieve information from the hotel: - Room architecture - List of IP addresses - The mimic diagram of room types - Plan of room types			
2 Create the follow-up file: - "Construction progress follow-up" tab - "Room architecture" tab - "Network architecture" tab - "ID data" tab - Plan of room types for sticking labels onto (BUS peripherals + Room controller)			
1st rooms ready for the electrical installation (the sample room has already been validated upstream by the client and the prime contractor)			
	3 Pull cables and install peripherals in the room types + stick ID labels for the BUS peripherals on the plans prepared by the supervisor + connect the room panel.	4 Configure the room types.	
5 Update the follow-up file - "ID data" tab.	**Validation of the cabling in room types (level 1 diagnostics)**		-
Validation of room types (validation of scenarios) in presence of the client (investor/hotel manager/architect, etc) => Client validation in writing			
Duplication in the other rooms			
	6 Pull cables and install peripherals in all the rooms + stick ID labels on the plans.	7 Program all the rooms.	
8 Update the follow-up file - "ID data" tab and "Construction progress follow-up" tab.	**Validation of the cabling in all the rooms (level 1 diagnostics)**		-
Active IP network: network engineer + active peripheral present on site			
9 Update the follow-up file - "ID data" tab.	-	**Project validation Check BACnet ID duplicate and IP address duplicate (level 2 diagnostics)**	10 Program the BMS.
		Validate room operation once the other systems have been integrated	
Construction finished => Acceptance and compilation of the set of record drawings			

: Construction progress : Validation stages

All this information must be obtained before commissioning

INFORMATION TO BE OBTAINED

1. Building architecture

Information to be requested from the client or architect:
- List of buildings
- List of floors
- List of rooms with room No. and types

All this information must be exhaustive.

Example:

Hotel name:	0

Building	Floor	Room No.	Room type
West Wing	Floor 3	301	standard - twin beds
West Wing	Floor 3	302	standard - twin beds
West Wing	Floor 3	303	standard - king size bed
...	...	...	...
West Wing	Floor 3	335	standard - twin beds
West Wing	Floor 4	401	standard - king size bed
West Wing	Floor 4	402	standard - king size bed
West Wing	Floor 4	403	standard - twin beds
...	...	...	...
West Wing	Floor 4	432	standard - twin beds
West Wing	Floor 5	501	standard - king size bed
West Wing	Floor 5	502	standard - king size bed
West Wing	Floor 5	503	standard - king size bed
...	...	...	...
West Wing	Floor 5	525	junior suite
West Wing	...	...	...
Central building	Floor 3	340	deluxe - twin beds
Central building	Floor 3	341	deluxe - twin beds
Central building	Floor 3	342	standard - king size bed
...	...	...	...
Central building	Floor 3	370	junior suite
Central building	Floor 4	440	deluxe - twin beds
Central building	Floor 4	441	deluxe - twin beds
Central building	Floor 4	442	standard - king size bed
...	...	...	...
Central building	Floor 4	470	junior suite
Central building	Floor 5	540	deluxe - twin beds
Central building	Floor 5	541	deluxe - king size bed
Central building	Floor 5	542	deluxe - king size bed
Central building	Floor 5	543	deluxe - king size bed
...	...	...	...
Central building	Floor 5	570	Presidential Suite
...	...	...	...

2. IT network architecture

Information to be requested from the network or IT engineer

List of IP addresses

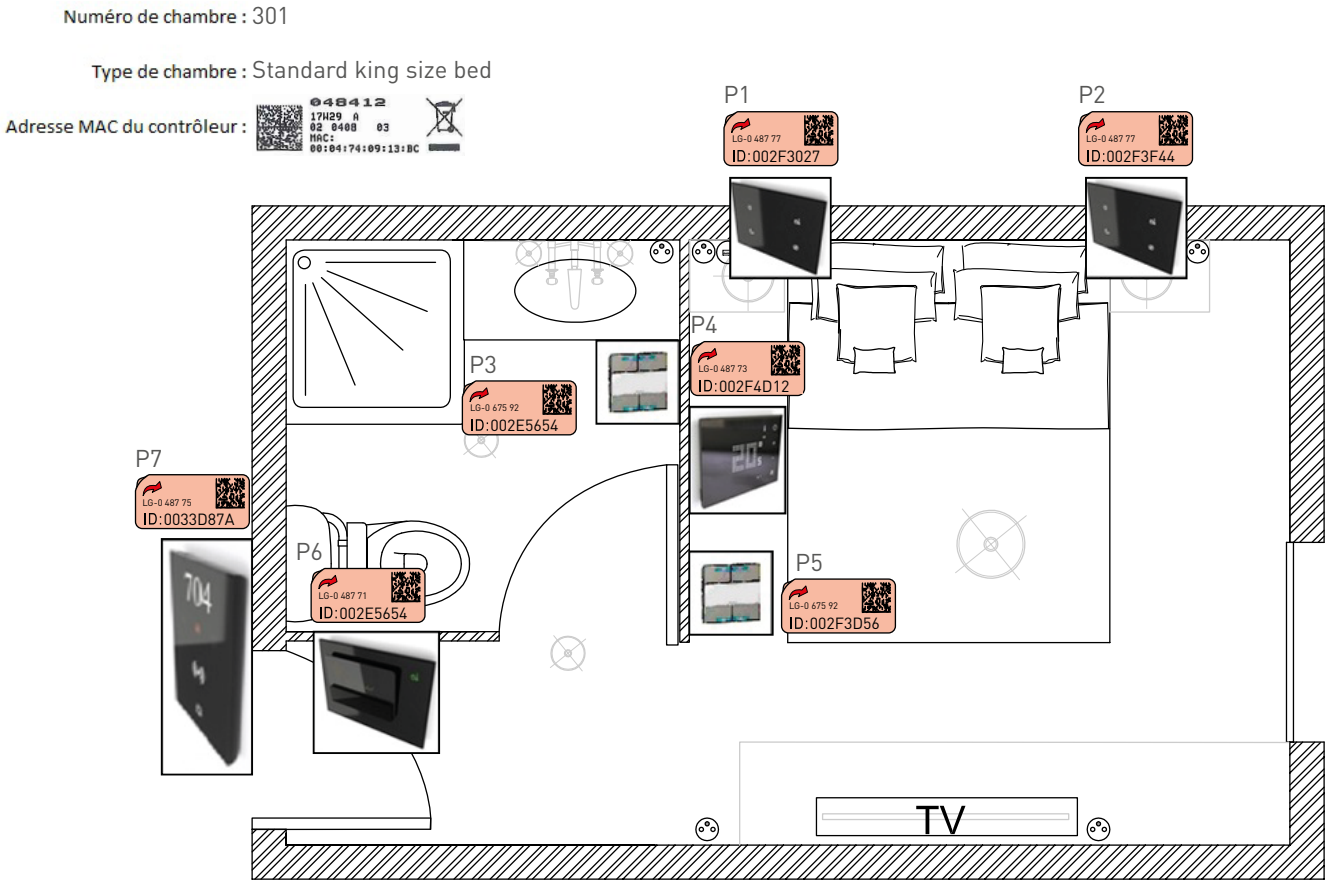
Caution: provide 20% of reserve in the IP address range compared to the number of rooms

IP address range - start list: 192.168.1.2
IP address range - end list: 192.168.1.210
Subnet mask: 255.255.255.0
IP address of the gateway: 192.168.1.1

Installation rules for the room IP network:
- 90 m max between the controller and the active peripheral in the cabinet
- The data link must be acceptance-tested
- Keep the power and data cables separate
- Etc

3. BUS peripheral identifiers

Create one document per room type to be given to the installer so they can stick on labels with the BUS peripheral ID nos. Every BUS peripheral has a label with a peel-off ID no. which can be stuck onto the plan (as shown below).



"HOTEL CONSTRUCTION PROGRESS FOLLOW-UP" FILE

All this information can be used to create a construction progress follow-up file (an example of this file is available for download from the www.legrandoc.com website).

Construction progress follow-up tab

This tab shows the room architecture and can be used to check construction progress step by step.

Hotel name:	

			Drawing ID	OFFLINE Programming	ONLINE Programming	Cabling validated	IP network validated
Building	Floor	Room No.	58%	48%	27%	18%	0%
West Wing	Floor 3	301	ok	ok	ok	ok	
West Wing	Floor 3	302	ok	ok	ok	ok	
West Wing	Floor 3	303					
...	...	...					
West Wing	Floor 3	335	ok				
West Wing	Floor 4	401	ok	ok	ok	ok	
West Wing	Floor 4	402	ok	ok			
West Wing	Floor 4	403					
...	...	...					
West Wing	Floor 4	432					
West Wing	Floor 5	501	ok	ok	ok	ok	
West Wing	Floor 5	502	ok	ok			
West Wing	Floor 5	503	ok	ok	ok		
...	...	...					
West Wing	Floor 5	525	ok				
West Wing	...	...					
central building	Floor 3	340	ok	ok			
central building	Floor 3	341	ok	ok	ok		
central building	Floor 3	342					
...	...	...					
central building	Floor 3	370	ok	ok	ok	ok	
central building	Floor 4	440	ok	ok	ok	ok	
central building	Floor 4	441	ok	ok			
central building	Floor 4	442	ok	ok			
...	...	...					
central building	Floor 4	470	ok	ok	ok		
central building	Floor 5	540					
central building	Floor 5	541	ok	ok			
central building	Floor 5	542	ok	ok			
central building	Floor 5	543					
...	...	...					
central building	Floor 5	570	ok				
...	...	...					

- OFFline programming: validated when all the rooms have been programmed with their definitive IDs in the configuration software.
- ONline programming: validated when the configuration has been sent to the peripherals without error.
- Cabling validated: validated after testing every room button and checking that the scenarios played out are correct (level 1 diagnostics).
- IP network validated: when the IP network is operational, it is essential to check that there are no duplicate IP addresses or duplicate
  BACnet IDs (level 2 diagnostics).

Hotel room architecture tab

This tab shows the room architecture with their associated type (data provided by the client (architect, etc).

Hotel name:	0

Building	Floor	Room No.	Room type
West Wing	Floor 3	301	standard - twin beds
West Wing	Floor 3	302	standard - twin beds
West Wing	Floor 3	303	standard - king size bed
...	...	...	...
West Wing	Floor 3	335	standard - twin beds
West Wing	Floor 4	401	standard - king size bed
West Wing	Floor 4	402	standard - king size bed
West Wing	Floor 4	403	standard - twin beds
...	...	...	...
West Wing	Floor 4	432	standard - twin beds
West Wing	Floor 5	501	standard - king size bed
West Wing	Floor 5	502	standard - king size bed
West Wing	Floor 5	503	standard - king size bed
...	...	...	...
West Wing	Floor 5	525	junior suite
West Wing	...	...	...
Central building	Floor 3	340	deluxe - twin beds
Central building	Floor 3	341	deluxe - twin beds
Central building	Floor 3	342	standard - king size bed
...	...	...	...
Central building	Floor 3	370	junior suite
Central building	Floor 4	440	deluxe - twin beds
Central building	Floor 4	441	deluxe - twin beds
Central building	Floor 4	442	standard - king size bed
...	...	...	...
Central building	Floor 4	470	junior suite
Central building	Floor 5	540	deluxe - twin beds
Central building	Floor 5	541	deluxe - king size bed
Central building	Floor 5	542	deluxe - king size bed
Central building	Floor 5	543	deluxe - king size bed
...	...	...	...
Central building	Floor 5	570	Presidential Suite
...	...	...	...

IP network architecture tab

This tab gives the range of IP addresses reserved by the room controllers (data provided by the hotel network administrator/client, etc).
We recommend allowing 20% reserve capacity in the IP address range compared to the number of rooms.

List of IP addresses

Caution: provide 20% of reserve in the IP address range compared to the number of rooms

IP address range - start list: 192.168.1.2
IP address range - end list: 192.168.1.210
Subnet mask: 255.255.255.0
IP address of the gateway: 192.168.1.1

DNS server address (if needed):

ID data tab

This tab gives the list of IP addresses, BACnet IDs, controller MAC addresses and IDs of the BUS peripherals for every room.

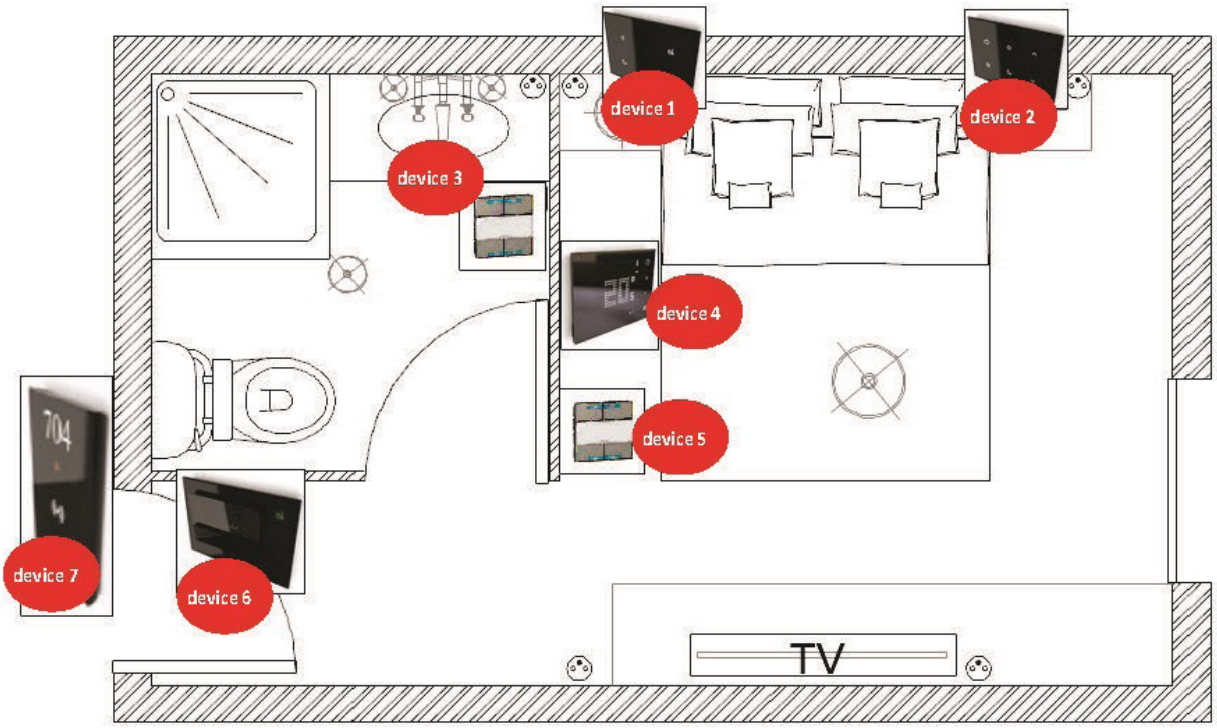
Building	Floor number	room number	room type	description	room data
West Wing	Floor 3	301	standard king size bed	MAC address	00:04:74:09:10:F1
West Wing	Floor 4	301	standard king size bed	ID BACNET	4337
West Wing	Floor 5	301	standard king size bed	IP Address	192.168.1.2
West Wing	Floor 6	301	standard king size bed	Sub MASK	255.255.255.0
West Wing	Floor 7	301	standard king size bed	IP gateway	192.168.1.1
West Wing	Floor 8	301	standard king size bed	ID SCS device 1	002F3D27
West Wing	Floor 9	301	standard king size bed	ID SCS device 2	002F3F44
West Wing	Floor 10	301	standard king size bed	ID SCS device 3	002E5654
West Wing	Floor 11	301	standard king size bed	ID SCS device 4	002F4D12
West Wing	Floor 12	301	standard king size bed	ID SCS device 5	002F3D56
West Wing	Floor 13	301	standard king size bed	ID SCS device 6	002E56DA
West Wing	Floor 14	301	standard king size bed	ID SCS device 7	0033D87A
West Wing	Floor 15	302	standard king size bed	MAC address	00:04:74:09:08:C6
West Wing	Floor 16	302	standard king size bed	ID BACNET	2246
West Wing	Floor 17	302	standard king size bed	IP Address	192.168.1.3
West Wing	Floor 18	302	standard king size bed	Sub MASK	255.255.255.0
West Wing	Floor 19	302	standard king size bed	IP gateway	192.168.1.1
West Wing	Floor 20	302	standard king size bed	ID SCS device 1	002F3D29
West Wing	Floor 21	302	standard king size bed	ID SCS device 2	002F4D34
West Wing	Floor 22	302	standard king size bed	ID SCS device 3	002E5A88
West Wing	Floor 23	302	standard king size bed	ID SCS device 4	002F3E19
West Wing	Floor 24	302	standard king size bed	ID SCS device 5	002E56FA
West Wing	Floor 25	302	standard king size bed	ID SCS device 6	002E2FD8
West Wing	Floor 26	302	standard king size bed	ID SCS device 7	0033DA93
West Wing	Floor 27	303	standard king size bed	MAC address	00:04:74:09:10:EE
West Wing	Floor 28	303	standard king size bed	ID BACNET	1774
West Wing	Floor 29	303	standard king size bed	IP Address	192.168.1.3
West Wing	Floor 30	303	standard king size bed	Sub MASK	255.255.255.0
West Wing	Floor 31	303	standard king size bed	IP gateway	192.168.1.1
West Wing	Floor 32	303	standard king size bed	ID SCS device 1	002F3AAC
West Wing	Floor 33	303	standard king size bed	ID SCS device 2	00EF34DE
West Wing	Floor 34	303	standard king size bed	ID SCS device 3	003EE538
West Wing	Floor 35	303	standard king size bed	ID SCS device 4	002F3E7C
West Wing	Floor 36	303	standard king size bed	ID SCS device 5	003E5665
West Wing	Floor 37	303	standard king size bed	ID SCS device 6	002F3D33
West Wing	Floor 38	303	standard king size bed	ID SCS device 7	0033D95E
...	...	...	...	...	...

"HOTEL CONSTRUCTION PROGRESS FOLLOW-UP" FILE (CONTINUED)

Plan of room type with standard king size bed

This tab (1 per room type) shows the layout plan of the BUS peripherals, which can be used to make the link between the plans with the labels provided by the installer and the "ID data" tab.

Room type: standard king size bed



You can find this template for the hotel construction progress follow-up file on www.legrandoc.com

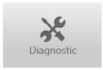
ON-SITE COMMISSIONING

Once the programming file has been completed in the office, the configuration must be sent to the peripherals:

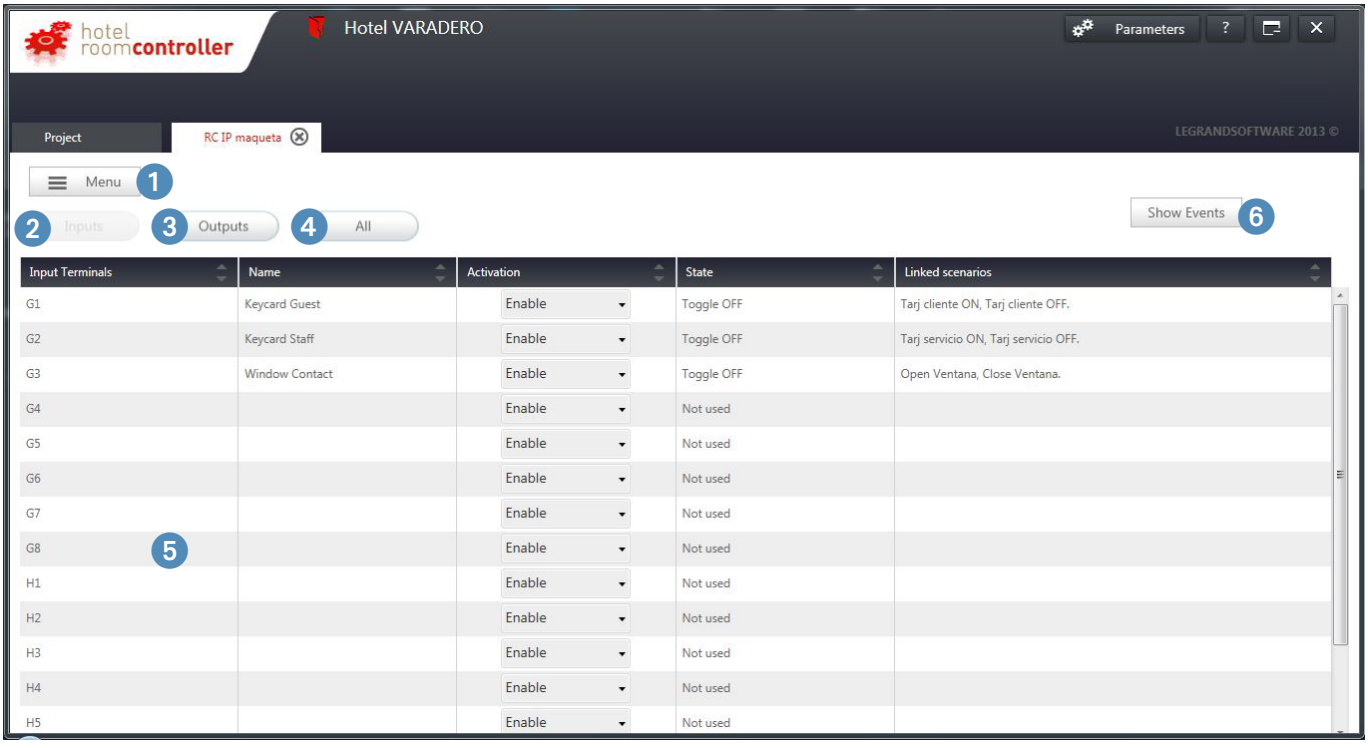
1. Obtain an IP router
2. Connect the 1st room controller and the computer to the router
3. Open the configuration file and go into the configuration for the room to which it is connected
4. Send the configuration to the peripherals:
   If an error message appears:
   - Check the ID number of the faulty peripheral on the peripheral, in the progress follow-up file and in the programming.
   - If the ID number is correct, check the BUS supply voltage and the wiring.
5. Check that the programmed scenarios have been implemented correctly by pressing every control in the room
   - In the event of an error: ask the installer to check the wiring (level 1 diagnostics can be used to identify wiring errors)
6. Repeat these operations for every room.
7. Run level 2 diagnostics to ensure that there are no duplicate IP addresses and BACNET ID numbers (see level 2 diagnostics)

LEVEL 1 DIAGNOSTICS (ONLINE FUNCTION)

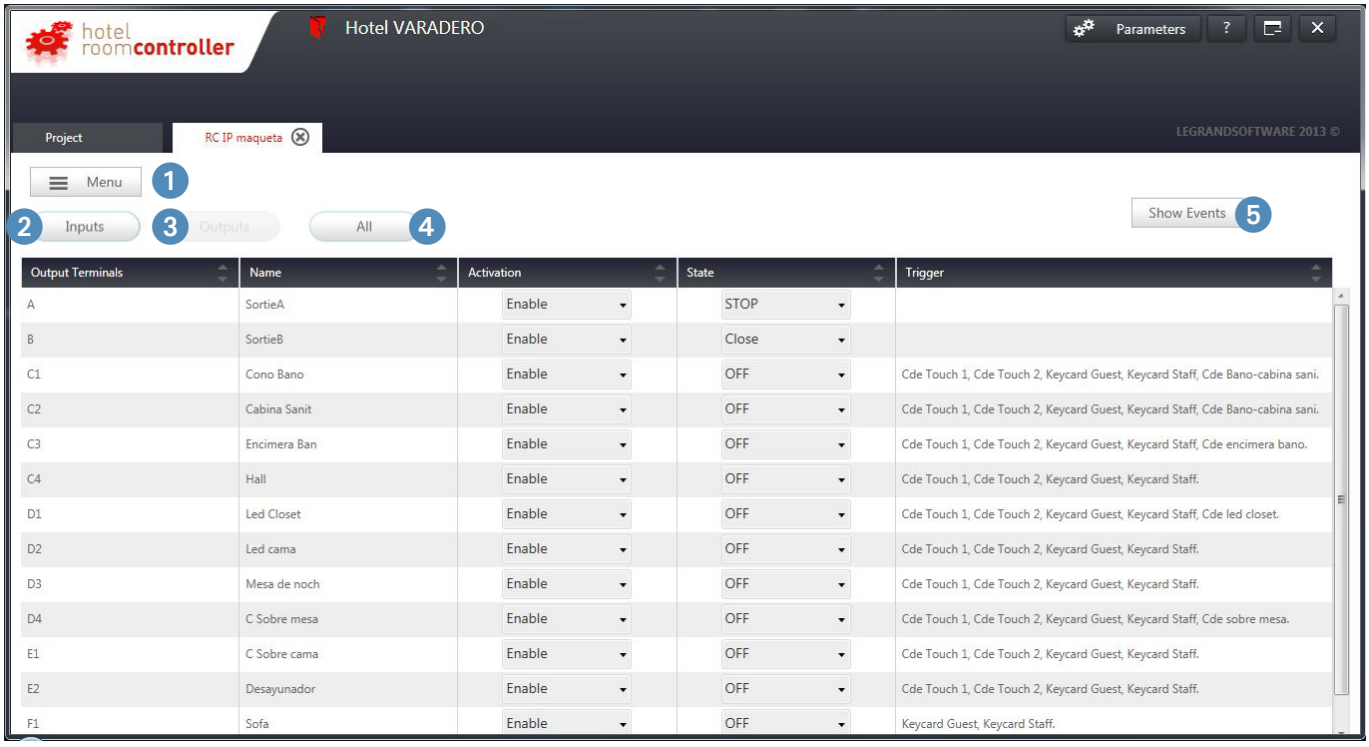
The purpose of level 1 diagnostics is to validate that the room is working (validation of cabling and validation of scenarios).

Click on Diagnostic 

To launch diagnostics, the device must be in fixed IP mode or the controller and the PC must be linked via a router.

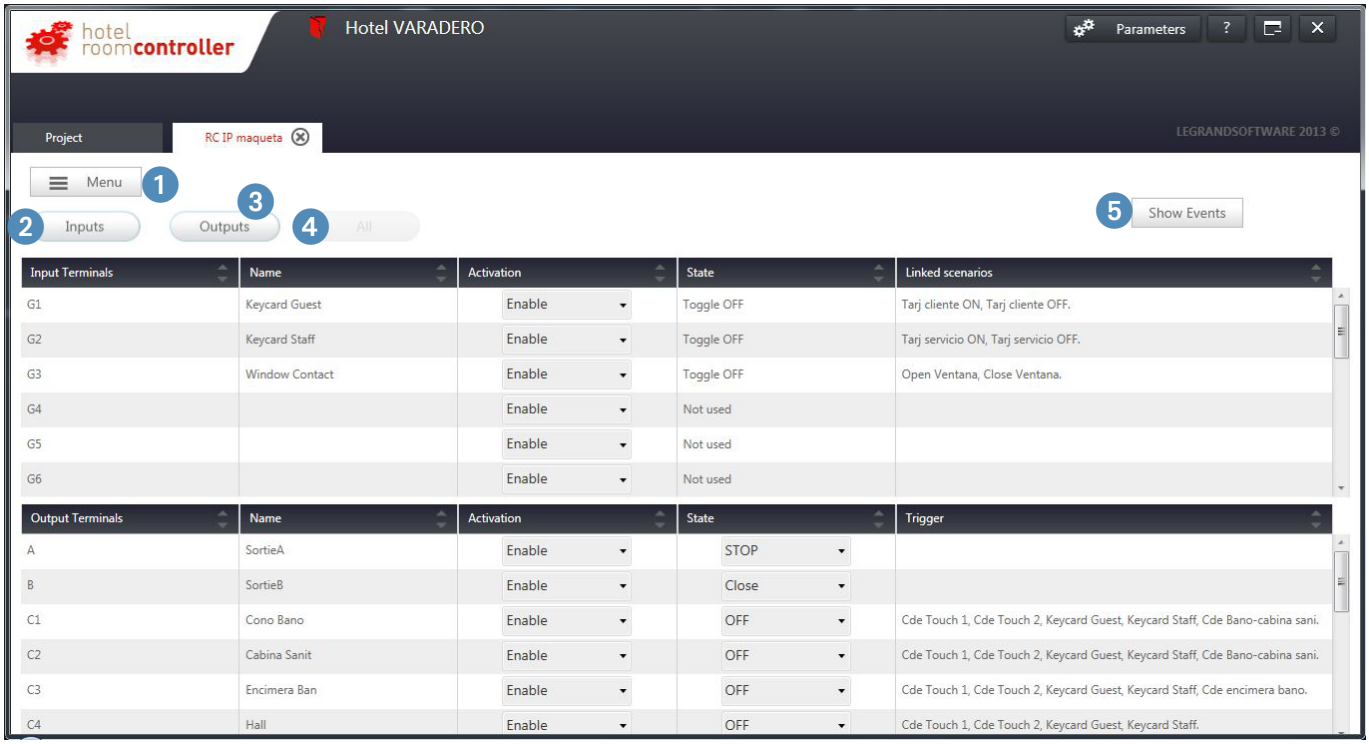


1 Menu: return to the modules screen.
2 Inputs: used to view the inputs.

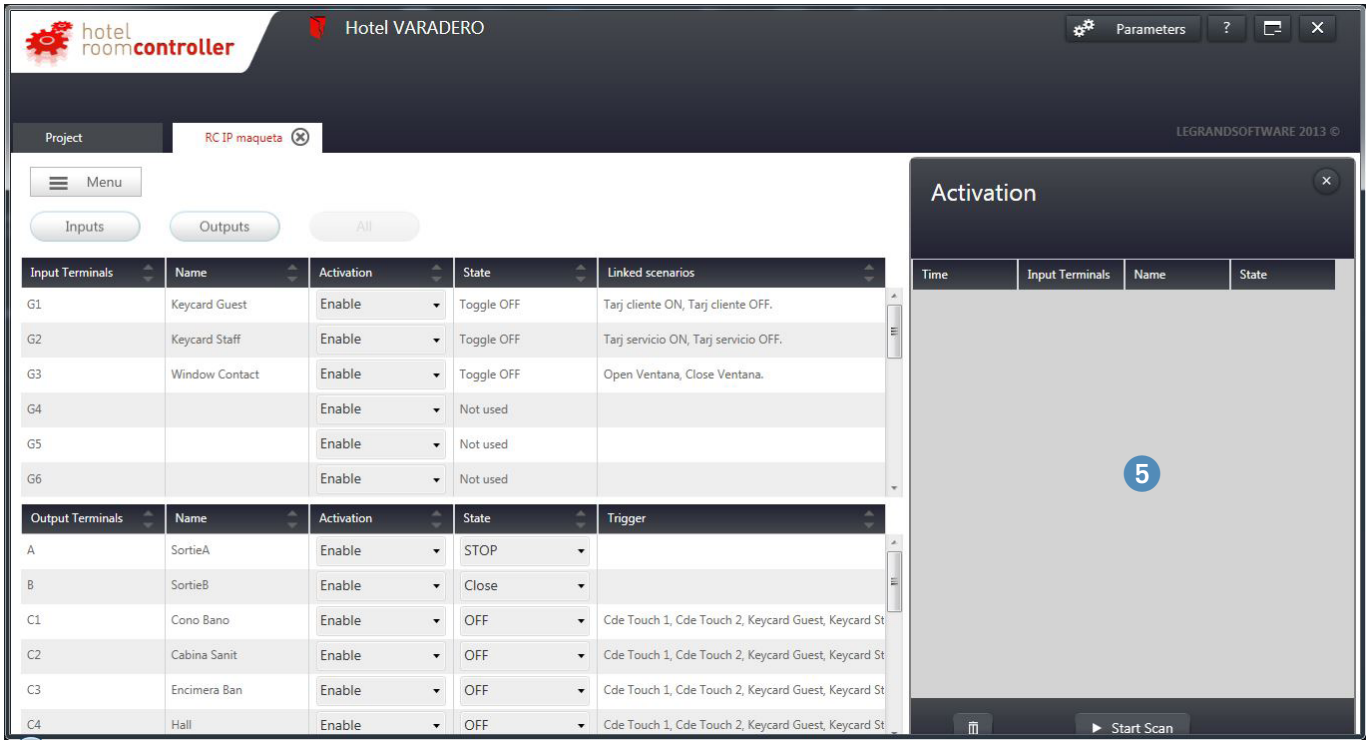


3 Outputs: used to display the outputs and change their state in order to check the wiring (see next page).

LEVEL 1 DIAGNOSTICS (ONLINE FUNCTION) (CONTINUED)

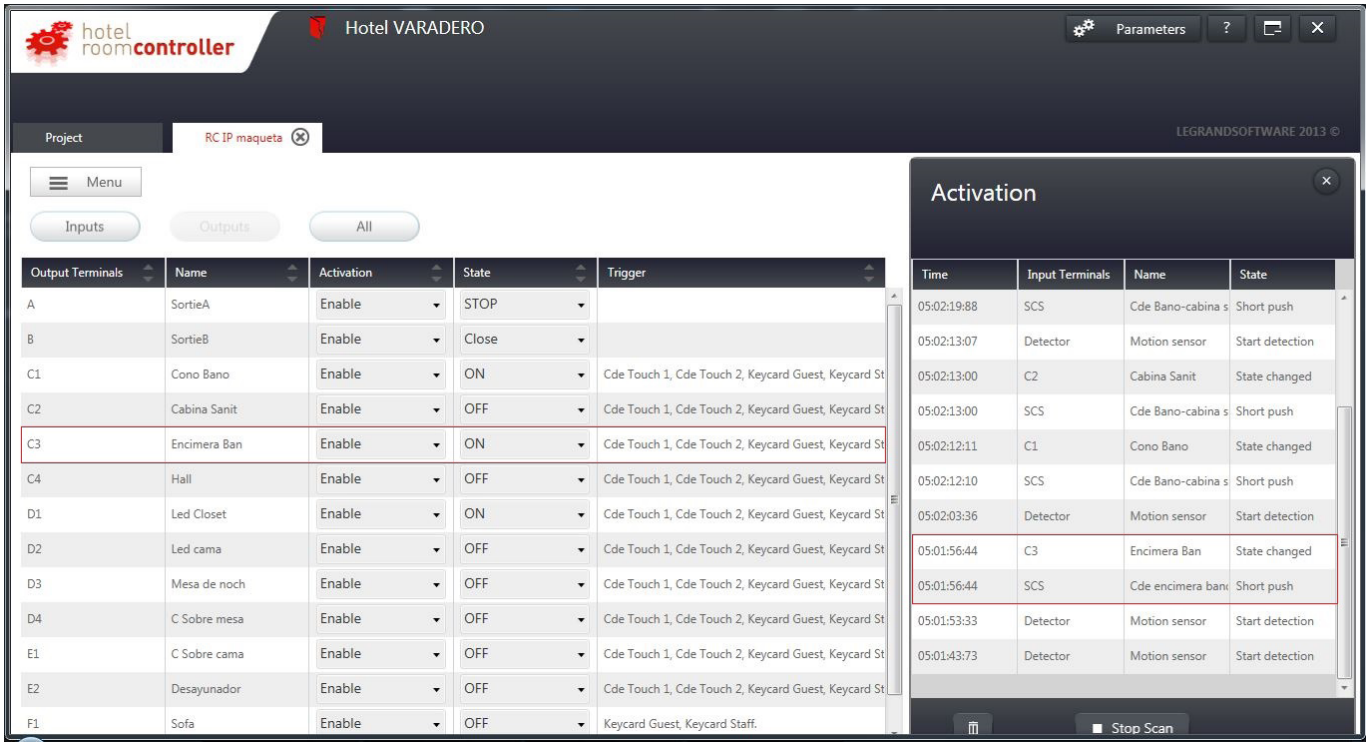


4 All: used to view the inputs and outputs.
Enables/disables the inputs and changes the output state in order to check the wiring.



5 Events: displays a new tab, used to test the controls in the room and see the impact on the outputs.

LEVEL 1 DIAGNOSTICS (ONLINE FUNCTION) (CONTINUED)



EXAMPLE: short press on the 8-scenario control => changes the state of output D2 which is connected to L Living room - the output switches to ON

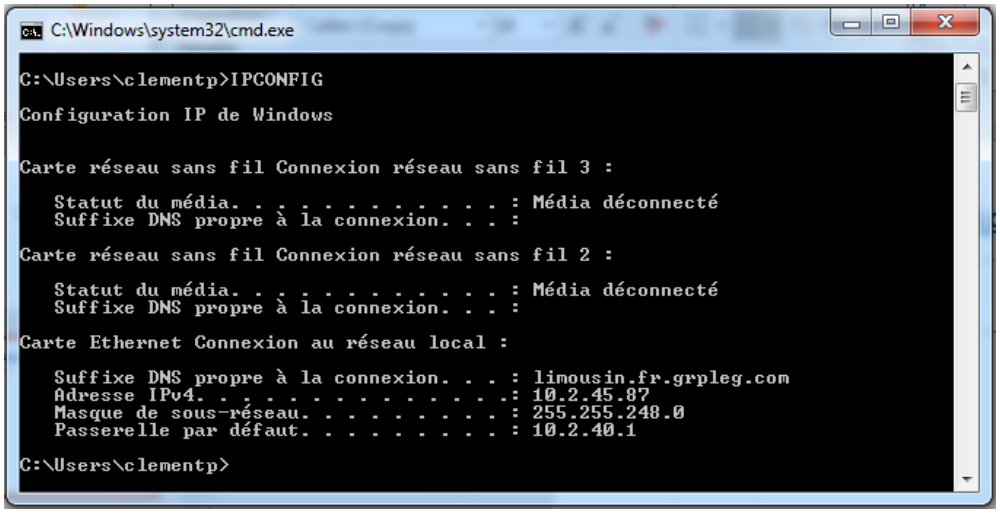
LEVEL 2 DIAGNOSTICS (ONLINE FUNCTION)

The purpose of level 2 diagnostics is to validate the complete hotel project in order to allow integration with a third-party system (validation of IP addresses and BACnet IDs).

■ Step **1**: Check the laptop network configuration

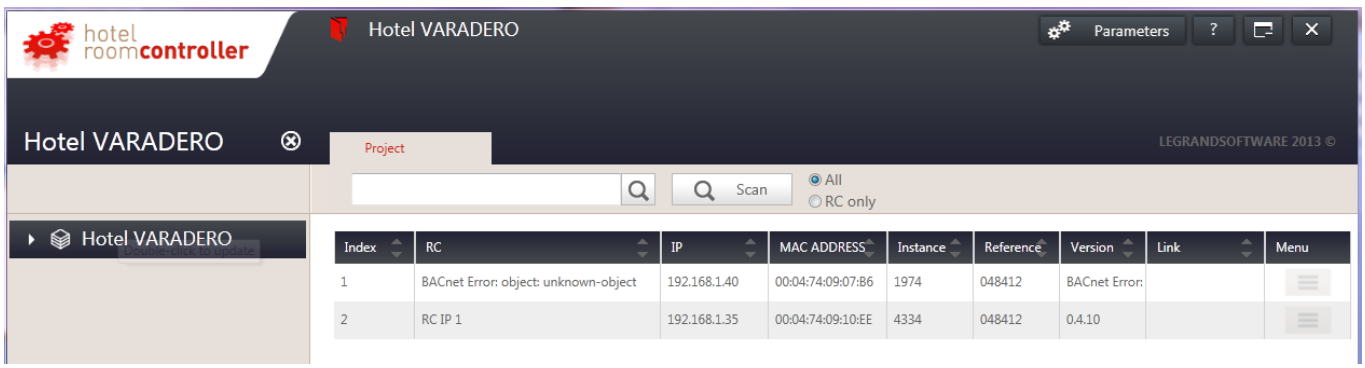
1 Open a cmd.exe window

2 Type "IPCONFIG"



3 You can check the laptop IP address. Make sure you are in the same group of IP addresses as the peripheral.
For example: if the controller address is 192.168.1.xx, the laptop should be in 192.168.1.yy.

■ Step **2**: Run a scan of the configuration software



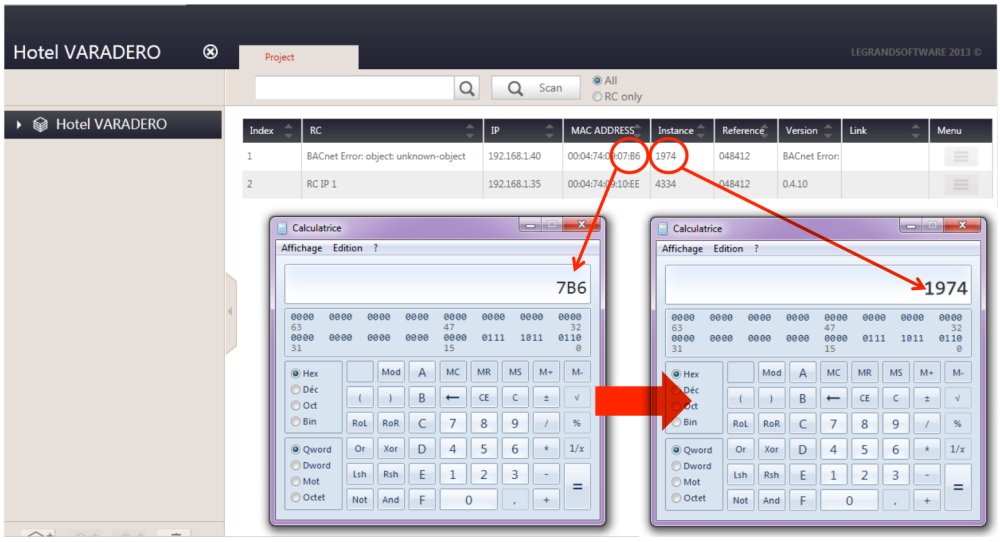
When you have run a scan with the configuration software, you may find a few errors! : BACnet Error object

These errors can occur for one of 2 reasons:
- 2 controllers with the same BACnet ID
- 2 controllers with the same IP address

Caution, when 2 controllers have the same IP address or the same BACnet ID, the scan only brings up one peripheral

LEVEL 2 DIAGNOSTICS (ONLINE FUNCTION) (CONTINUED)

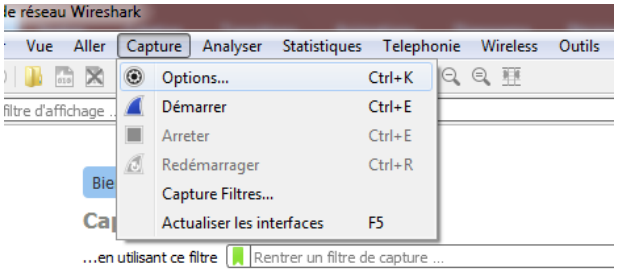
■ Step **3**: Check compatibility of the MAC address/BACnet ID



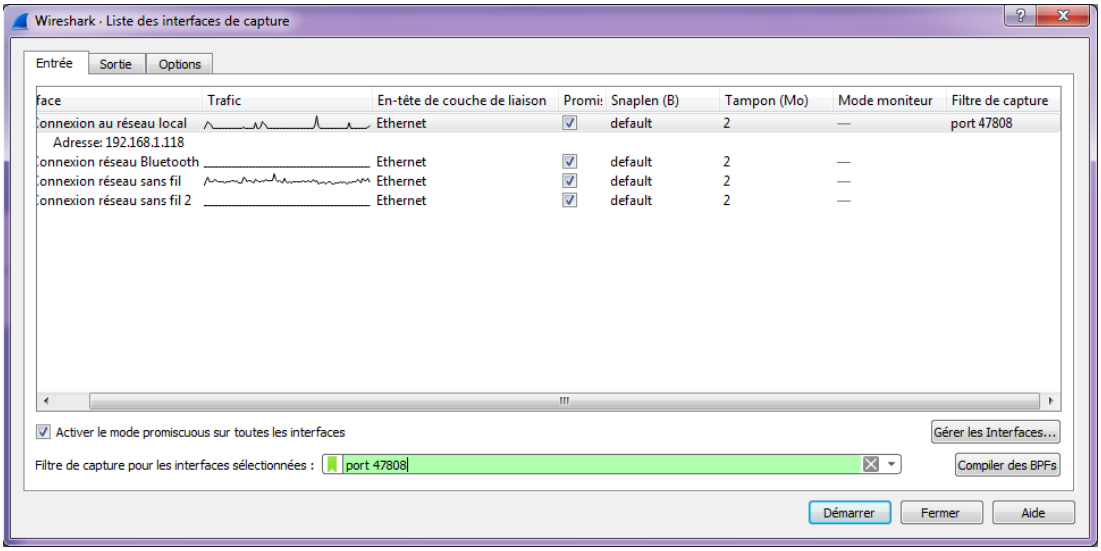
1. Take the last 4 characters of the MAC address: 07B6 in the example
2. Type these characters into the calculator in hexadecimal mode
3. Convert to decimal mode => this will give you the BACnet ID: 1974 in the example
   => this means that the BACnet ID 1974 is correct for the controller with the MAC address...: 07:B6

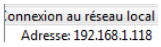
■ Step **4**: Scan the IP addresses (via the Wireshark program)

1. Download the Wireshark program (a free version is available on the WEB)
2. Install Wireshark
3. Launch Wireshark
4. Open the Capture/Options tab



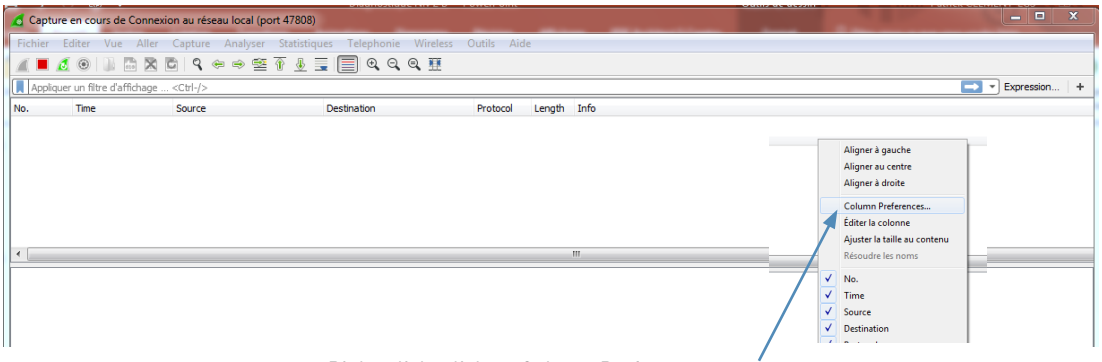
■ Step **4**: Scan the IP addresses (via the Wireshark program) (continued)



5 Select the local network card 

6 Enter the BACnet port (capture filter): port 47808

7 Launch the scan 

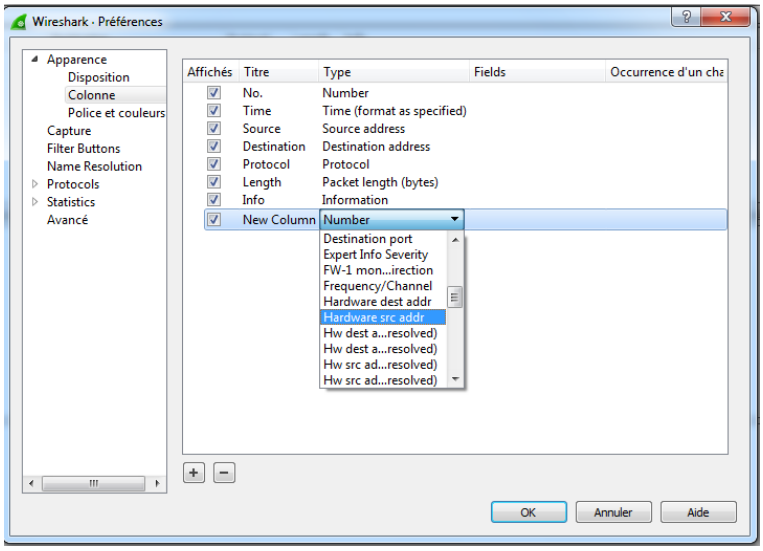


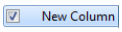
Right-click: click on Column Preferences...

8 Add a new column – this opens a pop-up window.

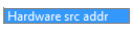
LEVEL 2 DIAGNOSTICS (ONLINE FUNCTION) (CONTINUED)

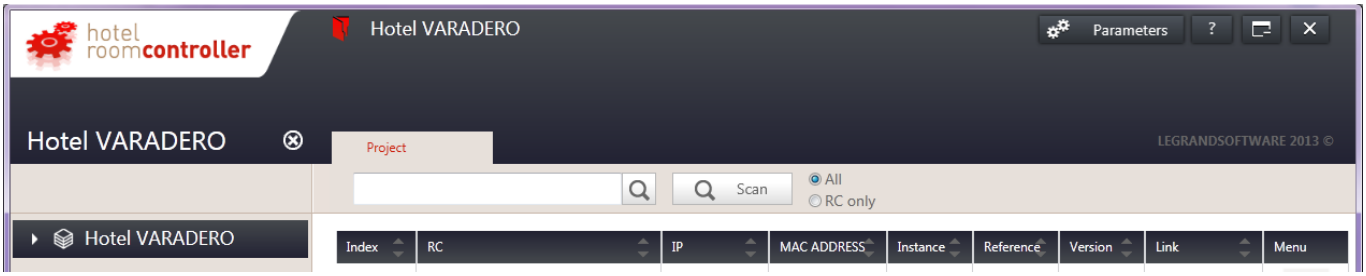
■ Step **4**: Scan the IP addresses (via the Wireshark program) (continued)



9 Add a new column 

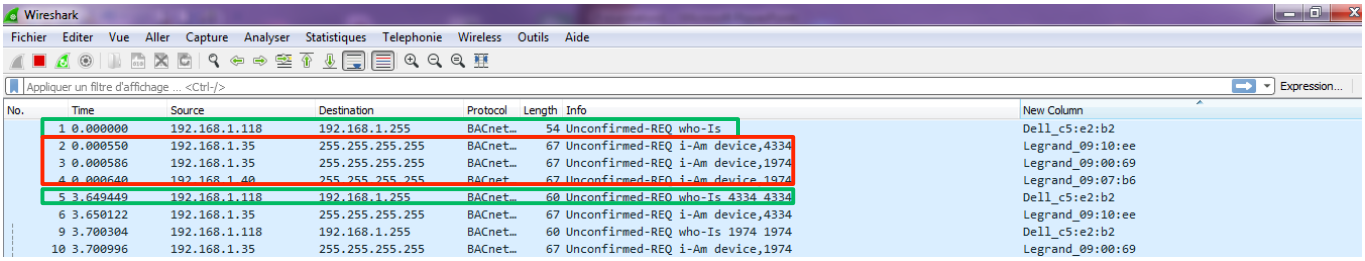
10 Double-click on Number 

11 Select hardware_src_address 

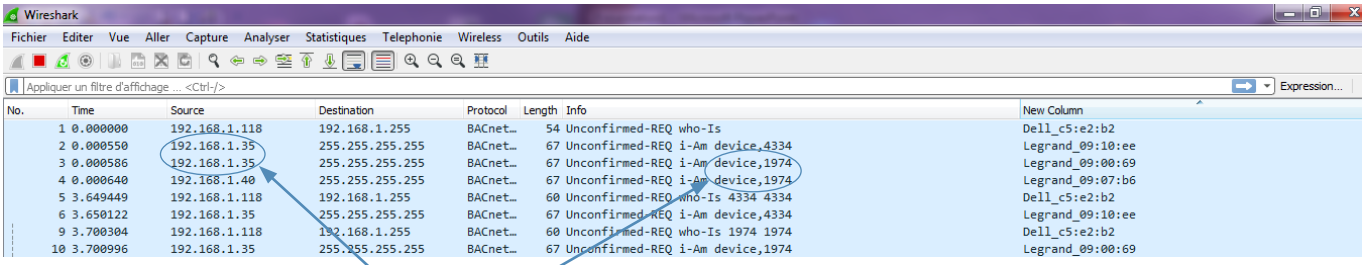


12 Launch the scan in the configuration software 

Step 4: Scan the IP addresses (via the Wireshark program) (continued)



You can see the result between 2 of the laptop addresses (green rows)
Between these 2 rows, you will find the list of all controllers connected to the network (red rows – there are 3 controllers in our example)



You can see:
. 2 controllers with the same IP address
. 2 controllers with the same BACnet ID

1974 —OK→ 07 b6

1974 —NOK→ 00 69

So you can now check whether there are 2 controllers with the same IP address or the same BACnet ID

13 Check the list of IP addresses with the IP network administrator (the IP network administrator MUST give you the list of available IP addresses for the controllers in every room)

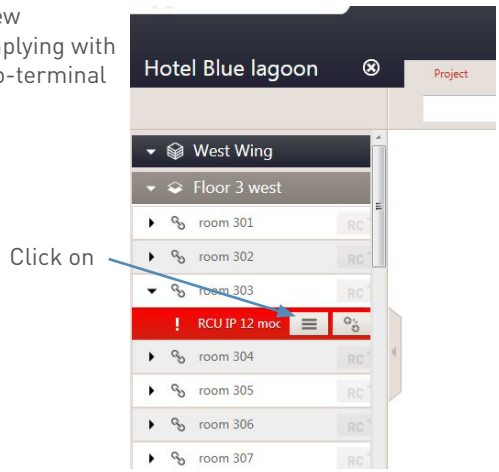
MAINTENANCE OF ROOM CONTROLLER AND BUS PERIPHERALS

This section explains how to replace a room controller or a faulty BUS peripheral. Mechanical peripherals are not programmed. To replace them, the terminal-to-terminal wiring must be correct.

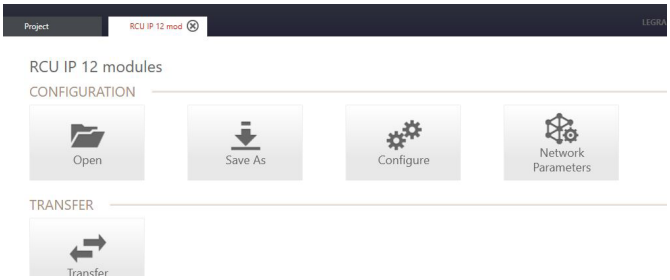
1. Replacing the room controller

a. Connect the new controller, complying with the terminal-to-terminal wiring.

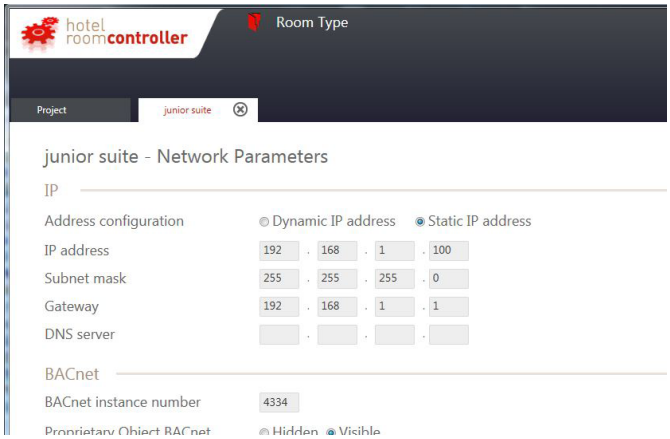
b. Open the room configuration file.



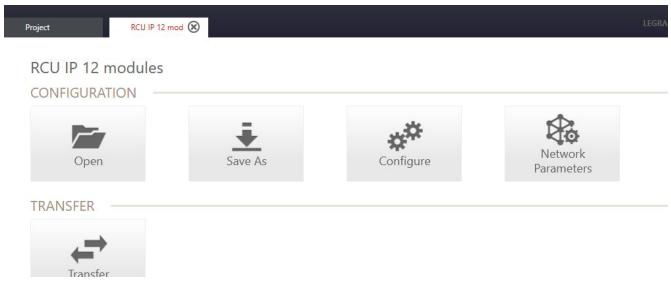
c. Go into "Network Parameters".



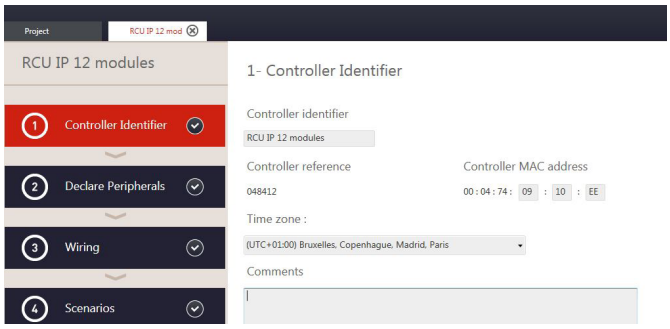
d. Record the BACnet ID number (1974 in the example).



e. Return to the modules screen and go into "Configure".



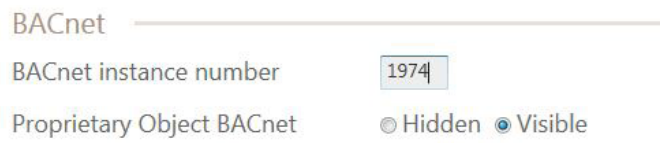
f. Update the MAC address of the old controller with that of the new one.



Then return to the modules screen by clicking "Menu".

g. Return to "Network Parameters". The BACnet ID has automatically been updated in line with the new MAC address.

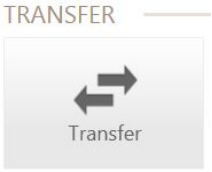
To retain the links to the BMS/supervisor, you need to put in the old BACnet ID number, as recorded in step b.



Then return to the modules screen by clicking "OK".

1. Replacing the room controller (continued)

h. Transfer the room configuration to the controller then test that the room works.



i. Update the MAC address in the "Hotel construction progress follow-up" file.

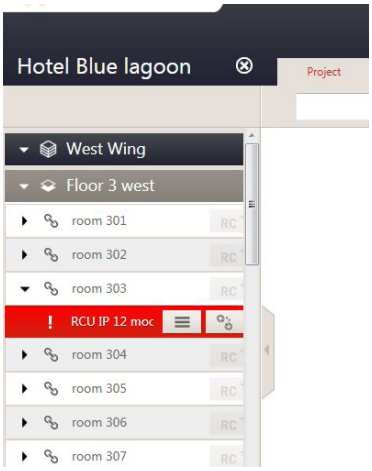
st Wing	Floor 26	302	standard king size bed	ID SCS device 7	0033DA93
st Wing	Floor 27	303	standard king size bed	MAC address	00:04:74:09:06:B7
st Wing	Floor 28	303	standard king size bed	ID BACNET	1974
st Wing	Floor 29	303	standard king size bed	IP Address	192.168.1.3
st Wing	Floor 30	303	standard king size bed	Sub MASK	255.255.255.0
st Wing	Floor 31	303	standard king size bed	IP gateway	192.168.1.1
st Wing	Floor 32	303	standard king size bed	ID SCS device 1	002F3AAC
st Wing	Floor 33	303	standard king size bed	ID SCS device 2	00EF34DE
st Wing	Floor 34	303	standard king size bed	ID SCS device 3	003EE538
st Wing	Floor 26	302	standard king size bed	ID SCS device 7	0033DA93
st Wing	Floor 27	303	standard king size bed	MAC address	00:04:74:09:10:EE
st Wing	Floor 28	303	standard king size bed	ID BACNET	1974
st Wing	Floor 29	303	standard king size bed	IP Address	192.168.1.3
st Wing	Floor 30	303	standard king size bed	Sub MASK	255.255.255.0
st Wing	Floor 31	303	standard king size bed	IP gateway	192.168.1.1
st Wing	Floor 32	303	standard king size bed	ID SCS device 1	002F3AAC
st Wing	Floor 33	303	standard king size bed	ID SCS device 2	00EF34DE
st Wing	Floor 34	303	standard king size bed	ID SCS device 3	003EE538

Do not change the BACnet ID as it is this ID number which creates the link to the BMS/supervisor.

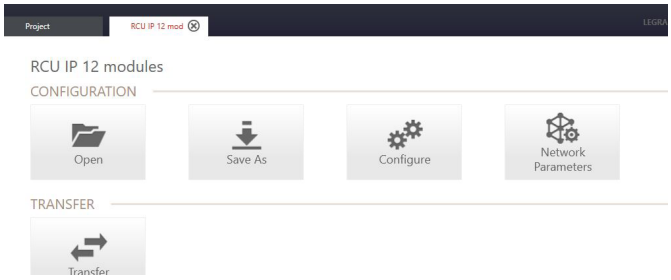
2. Replacing a BUS peripheral

a. Replace the BUS peripheral.

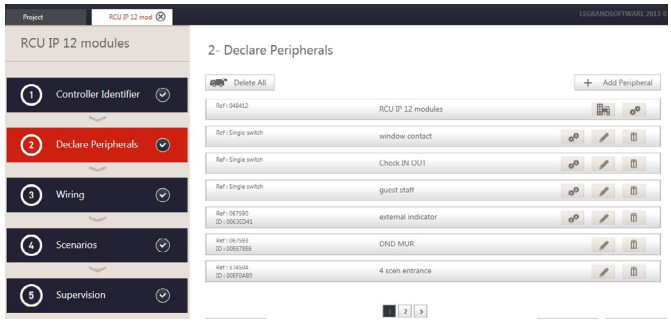
b. Open the room configuration file.



c. Go to "Configure".



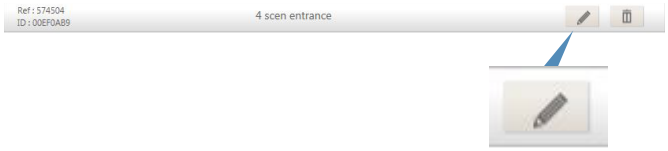
d. Go to step 2.



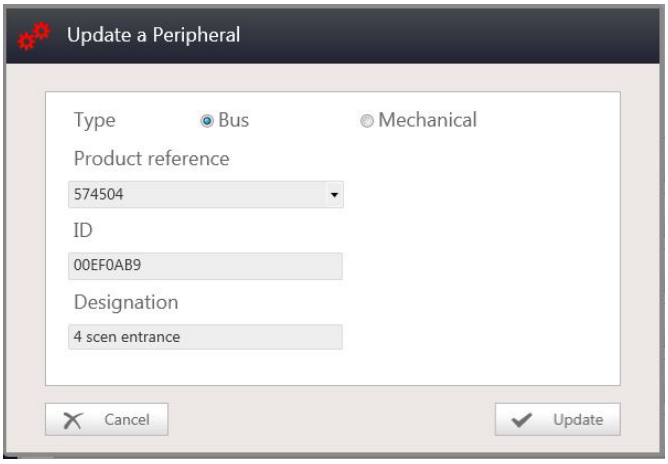
MAINTENANCE OF ROOM CONTROLLER AND BUS PERIPHERALS (CONTINUED)

2. Replacing a BUS peripheral (continued)

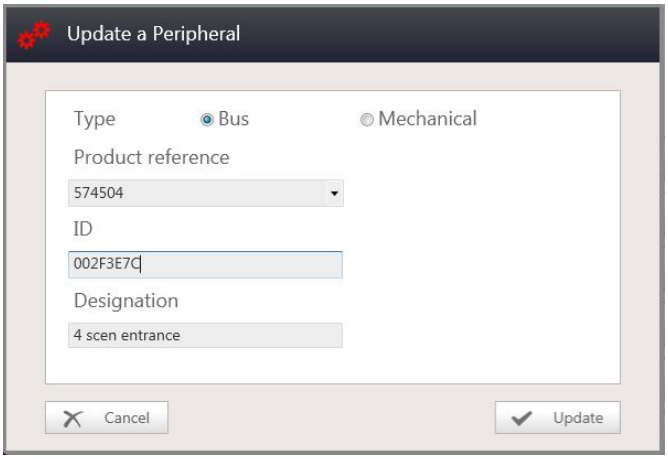
e. Find the BUS peripheral to be replaced and click on the pencil.



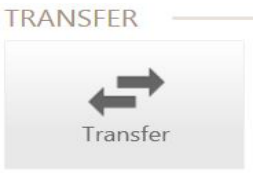
f. A window opens.



g. Update the peripheral ID number and click "Update".



h. Return to the modules screen and send the configuration to the peripherals.



Then test the new peripheral.

i. Update the BUS peripheral ID number in the "Hotel construction progress follow-up" file.

st Wing	Floor 30	303	standard king size bed	Sub MASK	255.255.255.0
st Wing	Floor 31	303	standard king size bed	IP gateway	192.168.1.1
st Wing	Floor 32	303	standard king size bed	ID SCS device 1	002F3AAC
st Wing	Floor 33	303	standard king size bed	ID SCS device 2	00EF34DE
st Wing	Floor 34	303	standard king size bed	ID SCS device 3	003EE538
st Wing	Floor 35	303	standard king size bed	ID SCS device 4	00EF0AB9
st Wing	Floor 36	303	standard king size bed	ID SCS device 5	003E5665
st Wing	Floor 37	303	standard king size bed	ID SCS device 6	002F3D33
st Wing	Floor 30	303	standard king size bed	Sub MASK	255.255.255.0
st Wing	Floor 31	303	standard king size bed	IP gateway	192.168.1.1
st Wing	Floor 32	303	standard king size bed	ID SCS device 1	002F3AAC
st Wing	Floor 33	303	standard king size bed	ID SCS device 2	00EF34DE
st Wing	Floor 34	303	standard king size bed	ID SCS device 3	003EE538
st Wing	Floor 35	303	standard king size bed	ID SCS device 4	002F3E7C
st Wing	Floor 36	303	standard king size bed	ID SCS device 5	003E5665
st Wing	Floor 37	303	standard king size bed	ID SCS device 6	002F3D33

STANDARD BACNET OBJECTS

Function	Name	Object type		Property	Instance	Type	Peripheral
Room	Presence	Binary Input	3	Present Value	0	Read only	SCS keycard reader or Virtual keycard
	Door contact for Virtual keycard function	Binary Output	4	Present Value	11	Write only	Virtual keycard
	PMS	Binary Value	5	Present Value	14	Read/ Write	Hotel function - PMS
	Power circuit	Binary Value	5	Present Value	0 to 3	Read/ Write	Room controller
	Lighting circuit	Binary Value	5	Present Value	4 to 11	Read/ Write	Room controller
	SCS ON/OFF circuit	Binary Value	5	Present Value	48 to 63	Read/ Write	BUS SCS ON/OFF actuator
	DALI lighting circuit	Analog Value	2	Present Value	53 to 68	Read/ Write	Room controller
		Binary Value	5	Present Value	64 to 79	Read/ Write	Room controller
	SCS dimmer lighting circuit	Analog Value	2	Present Value	21 to 52	Read/ Write	BUS SCS dimmer
		Binary Value	5	Present Value	16 to 47	Read/ Write	BUS SCS dimmer
	Roller shutter/curtain circuit	Multistate Value	19	Present Value	0 to 1	Read/ Write	Room controller
	SCS roller shutter/curtain circuit	Multistate Value	19	Present Value		Read/ Write	BUS SCS Shutter/curtain actuator
Energy management	Green sensitive PB	Binary Input	3	Present Value	1	Read only	Choice of control

STANDARD BACNET OBJECTS (CONTINUED)

Function	Name	Object type		Property	Instance	Type	Peripheral
Temperature management	Ambient temperature	Analog Input	0	Present Value	8	Read only	BUS SCS thermostat no. 1
	Setpoint temperature	Analog Value	2	Present Value	0	Read/ Write	BUS SCS thermostat no. 1
	Mode	Multistate Value	19	Present Value	2	Read/ Write	BUS SCS thermostat no. 1
	Summer/Winter	Multistate Value	19	Present Value	3	Read/ Write	BUS SCS thermostat no. 1
	Fan Speed	Multistate Value	19	Present Value	5	Read/ Write	BUS SCS thermostat no. 1
	Minimum setpoint in heating mode	Analog Value	2	Present Value	1	Read/ Write	BUS SCS thermostat no. 1
	Maximum setpoint in heating mode	Analog Value	2	Present Value	2	Read/ Write	BUS SCS thermostat no. 1
	Minimum setpoint in cooling mode	Analog Value	2	Present Value	3	Read/ Write	BUS SCS thermostat no. 1
	Maximum setpoint in cooling mode	Analog Value	2	Present Value	4	Read/ Write	BUS SCS thermostat no. 1
	Change of unit (°C/°F)	Binary Output	4	Present Value	12	Write only	BUS SCS thermostat no. 1
	Ambient temperature	Analog Input	0	Present Value	9	Read only	BUS SCS thermostat no. 2
	Setpoint temperature	Analog Value	2	Present Value	5	Read/ Write	SCS BUS thermostat no. 2
	Mode:	Multistate Value	19	Present Value	6	Read/ Write	SCS BUS thermostat no. 2
	Summer/Winter	Multistate Value	19	Present Value	7	Read/ Write	SCS BUS thermostat no. 2
	Fan speed	Multistate Value	19	Present Value	9	Read/ Write	SCS BUS thermostat no. 2
	Minimum setpoint in heating mode	Analog Value	2	Present Value	6	Read/ Write	SCS BUS thermostat no. 2
	Maximum setpoint in heating mode	Analog Value	2	Present Value	7	Read/ Write	SCS BUS thermostat no. 2
	Minimum setpoint in cooling mode	Analog Value	2	Present Value	8	Read/ Write	SCS BUS thermostat no. 2
	Maximum setpoint in cooling mode	Analog Value	2	Present Value	9	Read/ Write	SCS BUS thermostat no. 2
	Change of unit (°C/°F)	Binary Output	4	Present Value	13	Write only	BUS SCS thermostat no. 2

Function	Name	Object type		Property	Instance	Type	Peripheral
Temperature management	Ambient temperature	Analog Input	0	Present Value	10	Read only	BUS SCS thermostat no. 3
	Setpoint temperature	Analog Value	2	Present Value	10	Read/ Write	SCS BUS thermostat no. 3
	Mode	Multistate Value	19	Present Value	10	Read/ Write	SCS BUS thermostat no. 3
	Summer/Winter	Multistate Value	19	Present Value	11	Read/ Write	SCS BUS thermostat no. 3
	Fan Speed	Multistate Value	19	Present Value	13	Read/ Write	SCS BUS thermostat no. 3
	Minimum setpoint in heating mode	Analog Value	2	Present Value	11	Read/ Write	SCS BUS thermostat no. 3
	Maximum setpoint in heating mode	Analog Value	2	Present Value	12	Read/ Write	SCS BUS thermostat no. 3
	Minimum setpoint in cooling mode	Analog Value	2	Present Value	13	Read/ Write	SCS BUS thermostat no. 3
	Maximum setpoint in cooling mode	Analog Value	2	Present Value	14	Read/ Write	SCS BUS thermostat no. 3
	Change of unit (°C/°F)	Binary Output	4	Present Value	14	Write only	BUS SCS thermostat no. 3
	Ambient temperature	Analog Input	0	Present Value	11	Read only	BUS SCS thermostat no. 4
	Setpoint temperature	Analog Value	2	Present Value	15	Read/ Write	BUS SCS thermostat no. 4
	Mode	Multistate Value	19	Present Value	14	Read/ Write	BUS SCS thermostat no. 4
	Summer/Winter	Multistate Value	19	Present Value	15	Read/ Write	BUS SCS thermostat no. 4
	Fan speed	Multistate Value	19	Present Value	17	Read/ Write	BUS SCS thermostat no. 4
	Minimum setpoint in heating mode	Analog Value	2	Present Value	16	Read/ Write	BUS SCS thermostat no. 4
	Maximum setpoint in heating mode	Analog Value	2	Present Value	17	Read/ Write	BUS SCS thermostat no. 4
	Minimum setpoint in cooling mode	Analog Value	2	Present Value	18	Read/ Write	BUS SCS thermostat no. 4
	Maximum setpoint in cooling mode	Analog Value	2	Present Value	19	Read/ Write	BUS SCS thermostat no. 4
	Change of unit (°C/°F)	Binary Output	4	Present Value	15	Write only	BUS SCS thermostat no. 4

STANDARD BACNET OBJECTS (CONTINUED)

Function	Name	Object type		Property	Instance	Type	Peripheral
Service	Do not disturb/ Make up room	Multistate Value	19	Present Value	4	Read/ Write	Room controller or corridor display unit
	Ward + room number	Binary Value	5	Present Value	12	Read/ Write	Choice of control
	SOS	Binary Value	5	Present Value	13	Read/ Write	Choice of control
	Generic room service	Binary Value	5	Present Value	15	Read/ Write	UX Touch corridor display unit in configured mode
Internal scenarios	Internal scenario no. 1	Binary Output	4	Present Value	1	Write only	Room controller
	Internal scenario no. 2	Binary Output	4	Present Value	2	Write only	Room controller
	Internal scenario no. 3	Binary Output	4	Present Value	3	Write only	Room controller
	Internal scenario no. 4	Binary Output	4	Present Value	4	Write only	Room controller
	Internal scenario no. 5	Binary Output	4	Present Value	5	Write only	Room controller
External scenarios	External scenario no. 1	Binary Output	4	Present Value	6	Write only	Room controller
	External scenario no. 2	Binary Output	4	Present Value	7	Write only	Room controller
	External scenario no. 3	Binary Output	4	Present Value	8	Write only	Room controller
	External scenario no. 4	Binary Output	4	Present Value	9	Write only	Room controller
	External scenario no. 5	Binary Output	4	Present Value	10	Write only	Room controller

DESCRIPTION OF VALUES

COV (Change On Value)

The following BACnet objects: Binary Input, Binary Value, Analog Input, Analog Value, Multistate Value, are compatible with COV subscription. The controller limits the number of simultaneous COV subscriptions to 128.

Presence

In order to have Presence information, you need a BUS SCS keycard reader or to activate the Virtual keycard function, otherwise the system will say that this part cannot be supervised.
It is a read-only Binary Input (3) instance 0 with the value:

0 = absence
1 = presence

Door contact for Virtual keycard function

When the Virtual keycard function is enabled with the door contact via BACnet in the "hotel functions" section, the access control system door open/closed information needs to be linked to BACnet Binary Output (4) object instance 11.
The values are:

0 = door open
1 = door closed

PMS

For the PMS function, you need to enable this function in the "hotel functions" section and integrate it with a PMS program.
It is a read/write Binary Value (5) instance 14 with the value:

0 = room not booked
1 = room booked

POWER circuit

The Power circuits affect controller outputs in block E and F. Instances range from 0 to 3: instance 0 for output F2 and instance 3 for output E1.
These are read/write Binary Values (5) instances 0 to 3 (again 0 for F2 and 3 for E1) with the value:

0 = OFF
1 = ON

Lighting circuit

The Lighting circuits affect controller outputs in block C and D. Instances range from 4 to 11: instance 4 for output D4 and instance 11 for output C1.
These are read/write Binary Values (5) instances 0 to 11 (again 0 for D4 and 11 for C1) with the value:

0 = OFF
1 = ON

BUS SCS ON/OFF circuit

Up to 16 ON/OFF outputs on BUS SCS ON/OFF actuators can be supervised. The ON/OFF circuits affect BUS SCS ON/OFF actuator outputs*. Instances range from 48 to 63. Instances are created in the order in which peripherals were added in the "Declare peripherals" step. Instance 48 will be for output 1 of the first BUS SCS ON/OFF actuator added and instance 63 for the last output of the last BUS SCS ON/OFF actuator added.
These are read/write Binary Values (5) instances 48 to 63 with the value:

0 = OFF
1 = ON

*For outputs 17 to 32, please contact customer service.

DALI dimmer lighting circuit

The 16 DALI groups can be supervised when the controller DALI output is configured in group mode. When the controller DALI output is configured in Broadcast mode, group 0 must be supervised. There are two supervision options: ON/OFF status and lighting percentage.

- **ON/OFF status:**

Instances range from 64 to 79 (64 for group 0 and 79 for group 15). These are read/write Binary Values (5) instances 64 to 79 with the value:

0 = OFF
1 = ON

(the output is recorded as ON as soon as its value is between 1% and 100%)

- **Lighting percentage:**

Instances range from 53 to 68 (53 for group 0 and 68 for group 15). These are read/write Analog Values (2) instances 53 to 68 with the value: anything between 0 and 100

DESCRIPTION OF VALUES (CONTINUED)

BUS SCS dimmer lighting circuit

Up to 32 dimmer outputs on BUS SCS dimmers can be supervised. Instances are created in the order in which products were added in the "Declare products" step.
There are two supervision options: ON/OFF status and lighting percentage.

- **ON/OFF status:**

Instances range from 16 to 47. Instance 16 will be for output 1 of the first BUS SCS ON/OFF dimmer added and instance 47 for the last output of the last BUS SCS ON/OFF dimmer added. These are read/write Binary Values (5) instances 16 to 47 with the value:

0 = OFF
1 = ON

(the output is recorded as ON as soon as its value is between 1% and 100%)

- **Lighting percentage:**

Instances range from 21 to 52. Instance 21 will be for output 1 of the first BUS SCS ON/OFF dimmer added and instance 52 for the last output of the last BUS SCS ON/OFF dimmer added. These are read/write Analog Values (2) instances 21 to 52 with the value: anything between 0 and 100

Roller shutter/Curtain circuit

Roller shutter/Curtain circuits affect controller outputs in block A and B when these blocks are configured in shutter mode. Instances range from 0 to 1 (instance 0 for B and instance 1 for block A). These are read/write Multistate Values (19) instances 0 to 1 (again 0 for Block B and 1 for Block A) with the value:

0 = Up
1 = Down
2 = Undefined (Stop)

BUS SCS Roller shutter/Curtain circuit

Under construction

"Green Sensitive" control

For the "Green sensitive" control, a control can be chosen which you wish to supervise. This control should be a control coming from a BUS SCS control or a mechanical control connected to the controller contact inputs. It is a read-only Binary Input (3) instance 1 with the value:

0 = Disable
1 = Enable

Temperature management

For this section, you need a BUS SCS thermostat in MASTER mode. Up to 4 MASTER thermostats can be supervised. The instances mentioned below are in the order in which products were added in the "Declare products" step.

- **Ambient temperature:**

These are read-only Analog Values (0) instances 8, 9, 10, 11 with the value:

Value between 0 and 40 if unit in °C
Value between 32 and 104 if unit in °F

- **Setpoint temperature**

These are read/write Analog Values (2) instances 0, 5, 10, 15 with the value:

Value between 3 and 40 if unit in °C
Value between 37 and 104 if unit in °F

- **Summer/winter mode**

These are read/write Multistate Values (19) instances 3, 7, 11, 15 with the value:

0 = Winter
1 = Summer
2 = Hybrid

- **Operating mode:**

These are read/write Multistate Values (19) instances 2, 6, 10, 14 with the value:

0 = Comfort
1 = Comfort-2
2 = Eco
3 = Frost guard/thermal protection
4 = OFF
5 = Manual

DESCRIPTION OF VALUES (CONTINUED)

Temperature management (continued)

• Fan speed:
These are read/write Multistate Values (19) instances 5, 9, 13, 17 with the value:
0 = Automatic
1 = Slow speed
2 = Medium speed
3 = Fast speed

• Minimum setpoint in heating mode:
These are read/write Analog Values (2) instances 1, 6, 11, 16 with the value:
Value between 3 and 39 if unit in °C
Value between 37 and 102 if unit in °F

• Maximum setpoint in heating mode:
These are read/write Analog Values (2) instances 2, 7, 12, 17 with the value:
Value between 10 and 40 if unit in °C
Value between 50 and 104 if unit in °F

• Minimum setpoint in cooling mode:
These are read/write Analog Values (2) instances 3, 8, 13, 18 with the value:
Value between 5 and 35 if unit in °C
Value between 41 and 95 if unit in °F

• Maximum setpoint in cooling mode:
These are read/write Analog Values (2) instances 4, 9, 14, 19 with the value:
Value between 5 and 40 if unit in °C
Value between 41 and 104 if unit in °F

• Change of unit (°C/°F)
These are write-only Binary Outputs (4) Instances 12, 13, 14, 15 with the value:
0 = °C unit
1 = °F unit

Do not disturb/Make up room services

The Do not disturb/Make up room services affect controller outputs in block A and B when these blocks are configured in housekeeping mode or affect the BUS SCS corridor display unit. Up to 4 BUS SCS corridor display units can be supervised. To supervise the Housekeeping function, you need to choose which block or which BUS SCS corridor display unit will be linked to the BACnet object in the "supervision" section. It is a read/write Multistate Value (19) instance 4 with the value:
0 = Do not disturb
1 = Make up room
2 = Stop/no housekeeping

"Room service" control

For the "Room service control, a control can be chosen which you wish to supervise.
This control should be a control coming from a BUS SCS control or a mechanical control connected to the controller contact inputs. It is a read/write Binary Value (5) instance 12 with the value:
0 = Disable
1 = Enable

"SOS" control

For the "SOS" control, a control can be chosen which you wish to supervise. This control should be a control coming from a BUS SCS control or a mechanical control connected to the controller contact inputs. It is a read/write Binary Value (5) instance 13 with the value:
0 = Disable
1 = Enable

Generic room service

To supervise the Generic room service function, you need a UX Touch corridor display unit in configured mode. It is a read/write Binary Value (5) instance 15 with the value:
0 = Disable
1 = Enable

Internal scenarios

To supervise internal scenarios, you need to link the scenarios created to the internal scenarios in the "supervision" section. There are 5 internal scenarios numbered from 1 to 5 (internal scenario no. 1 at instance 1 and internal scenario no. 5 at instance 5). These are read-only Binary Outputs (4) instances 1 to 5: change of value 0 to 1 or 1 to 0: launches the scenario.

External scenarios

To supervise external scenarios, you need to activate external scenarios in the "hotel functions" section. There are 5 external scenarios numbered from 1 to 5 (external scenario no. 1 at instance 6 and external scenario no. 5 at instance 10). These are read-only Binary Outputs (4) instances 6 to 10: change of value 0 to 1 or 1 to 0: launches the scenario.

TROUBLESHOOTING

Ⓐ When the Configure button has an exclamation mark in a red circle alongside, it means one of the configuration steps is invalid.

As long as a configuration is invalid, the Transfer button remains greyed-out on the modules page.

- 1. Room identifier not filled in

The Room identifier field, found in step 1 of the Controller configuration, is compulsory and only accepts alphanumeric characters. See the Step 1 section.

- 2. Controller MAC address not filled in or in incorrect format

The Controller MAC address field, found in step 1 of the Controller configuration, is compulsory. The MAC address is recorded on the Controller casing in the format 00:04:74:XX:XX:XX. If the MAC address is invalid, the field appears in red. See the Step 1 section.

- 3. Peripheral ID not filled in

A communicating peripheral must always have an ID. Its ID number can be found on the product label – an 8-character string in hexadecimal format. This is unique and the field will appear in red until the correct format has been entered. See the Step 2 Add Peripheral section.

- 4. Control type peripheral missing

A Controller must always have a control type peripheral. See the Step 2 Add Peripheral section.

- 5. No scenario created

For a Controller configuration to be valid, a scenario must be present in it.
See the Step 4 Add Scenario section.

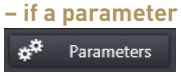
- 6. Error message after sending the configuration to the controller

- Check the BUS wiring of the communicating peripheral
- Check the peripheral ID

Ⓑ Error during transfer/during a scan

- Check the connection.
- Check that the MAC address corresponds to that of the peripheral.
- If the computer is connected directly to the controller, check the network card configuration (configure it as fixed IP if the controller is fixed IP – the first 3 digits of the IP address must be common/configure it as dynamic if the controller is dynamic IP).
- Check the computer's firewall and antivirus settings.

Tip: run a scan before transferring a configuration, to see whether the controller is connected to the computer – if a parameter has changed on the computer network card, the network card must be re-validated by clicking



and validating the card.

TROUBLESHOOTING (CONTINUED)

(C) Thermostat errors: when the screen displays the message "E" followed by a number, the thermostat is signalling an error condition.

The errors which can occur are described below:

E1	No response from the pump.
E2	No response from the actuator.
E3	No response from the auxiliary probe.
E4	Incorrect temperature sensor operation.
E5	Internal device error.

In the event of "E1", "E2" and "E3" errors, the thermostat stays in the present mode and the displayed error condition can be cleared (by pressing any button). If the error condition persists, after 15 minutes, the error page is displayed again.

In the event of "E4" and "E5" errors, the thermostat changes to OFF mode and any action by the user, for example pressing the buttons, is blocked.

Below is an example of an error page (*).

(*) NOTE: If either the message "E4", or a very different temperature to that seen after the initial installation, is displayed, wait for at least 5 hours before checking operation again or recalibrating.

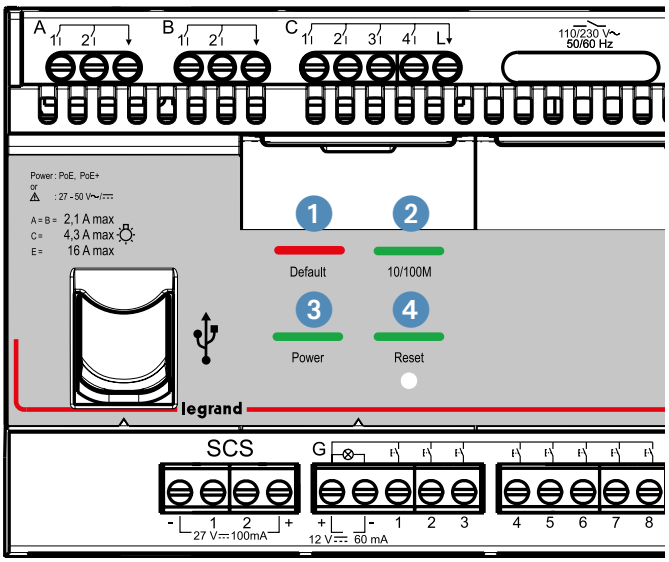
(D) Controller IP address: by default (factory mode) is in dynamic IP
IP address: 169.254.254.169

(E) In the case of a mechanical switch connected to a controller contact input: after a power cut, on the first change of state, the controller will perform a "short press" rather than a "long press" or "release".

Example: In the case of a mechanical keycard reader connected to a contact input => the Welcome scenario will be launched on a "long press" and the Leave scenario will be launched on a "release". If a power cut occurs while the card is still in the reader, and the occupant removes their card and leaves the room, the Leave scenario will not be launched. A second Leave scenario therefore needs to be created which will be launched on a "short press".

TROUBLESHOOTING (CONTINUED)

Ⓕ LED operation on the front of the controller



1. Fault LED:
. The LED comes on with a steady light in BOOTLOAD mode*
. The LED comes on with a steady light if there is a problem during initialisation of the controller hard disk (problem with formatting, initialisation, access to the disk)
. The LED comes on with a steady light if there is a problem with the controller network peripheral
. The LED comes on with a steady light if the COV.bin file is full
. The LED comes on flashing if there are more configured SCS devices than possible SCS addresses.

2. 10/100 Mbps LED:
. The LED comes on with a steady light in BOOTLOAD mode*
. The LED comes on when the controller is connected to the IP network:
. When it comes on with a green light, this indicates a speed of 100 Mbps
. When it comes on with an orange light, this indicates a speed of 10 Mbps

3. Power LED:
. The LED comes on with a steady light in BOOTLOAD mode*
. The LED is lit when the device is powered up:
. When it flashes, this means that the device does not have an IP address (the controller is in dynamic addressing mode but the DHCP server has not provided it with an IP address)
. When it is steady, this means that the device has an IP address (either it is in static addressing mode, or the DHCP server has provided it with an IP address)

4. Reset LED
. The LED comes on with a steady light in BOOTLOAD mode*.
. The LED flashes when the reset procedure is launched
(the reset procedure is used to reset the device to dynamic addressing mode:
. On a short press, the LED flashes slowly (the controller sends "I am BACnet" to the IP network)
. Follow with a long press (around 10 seconds), until the LED burst flashes
. Release. When the LED goes out, the device restarts in dynamic IP mode)

* BOOTLOAD mode is the controller starting mode. In this mode, the firmware and the transferred configuration are not taken into account. This mode is enabled when a USB cable is connected or by holding down the "reset" button when powering up the controller. This mode is used to access the controller disks to transfer the default files to restore the controller factory settings and update the controller firmware.

The first time the controller is switched on and while its hard disk is being formatted, the LEDs all flash.

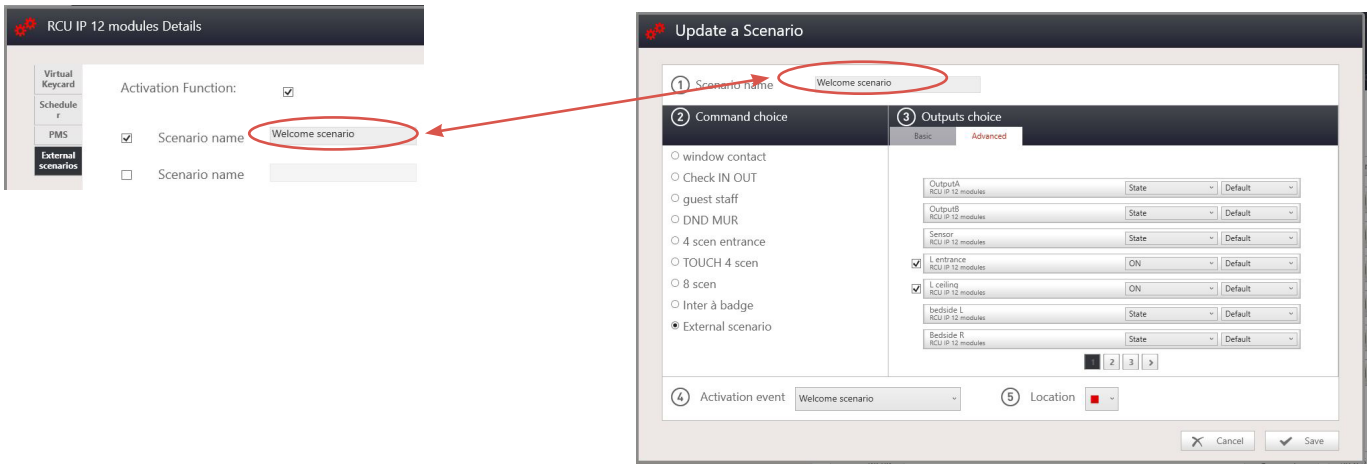
Ⓖ All 4 LEDs are off
The device is frozen in abnormal mode. Power down the controller, press the Reset button on the front of the controller, power the controller back up by pressing and holding down until the device comes on (the device goes into BOOTLOAD mode - all 4 LEDs are on with a steady light). Then update the firmware again via the Update Manager app.

Ⓗ All 4 LEDs are flashing
The device is frozen in abnormal mode. Power down the controller, press the Reset button on the front of the controller, power the controller back up by pressing and holding down until the device comes on (the device goes into BOOTLOAD mode - all 4 LEDs are on with a steady light). Then update the firmware again via the Update Manager app.

Ⓘ All 4 LEDs are on with a steady light
The device is frozen in BOOTLOAD mode. Send a "send Reset" via the Update Manager app.

Ⓙ Scenario name
You cannot give two scenarios the same name, and note that the system does not differentiate between upper and lower case letters. WELCOME scenario, welcome Scenario, Welcome Scenario: these are all the same scenario name.

Ⓚ External scenario
In order to be able to delete an external scenario, the name created in the hotel function and the scenario name must be identical.



Ⓛ When links for communicating between two controllers have been created in expert mode, and neither controller is communicating: check that the proprietary BACnet objects are visible (see "network parameters" module)

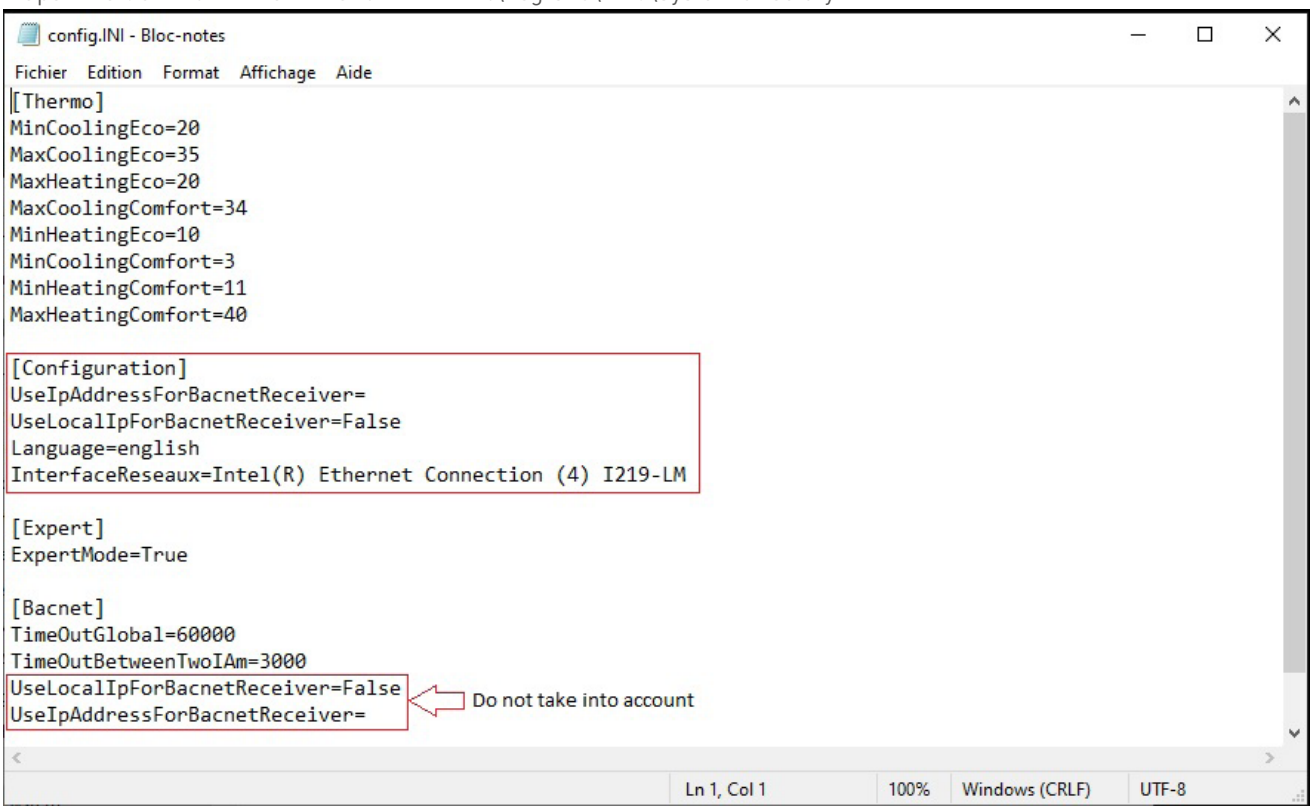
TROUBLESHOOTING (CONTINUED)

Ⓜ Controller scanning problem

If the PC can see the controller PING, the Update Manager app manages to scan the controller but not Hotel Room Controller Software

Change the options for finding BACnet:

Open the CONFIG.INI file in the %APPDATA%\Legrand\HRC\System directory



In the [Configuration] section, 2 options are available to you:

. UseLocalIpForBacnetReceiver: Used to specify that you wish to use the PC's local IP address to obtain responses to the BACnet discovery frame.

Set this option to True.

This option solves 99% of issues.

. UseIpAddressForBacnetReceiver: Used to specify the IP address where responses to the BACnet discovery frames should arrive. This option is useful when the network is configured so as to have different addresses on the same physical network interface. The value must be an IP address. The UseLocalIpForBacnetReceiver option must be reset to False.

SUMMARY OF TECHNICAL UPDATES

CAT.NO	DESCRIPTION	VERSION	UPDATE	APPLICATION DATE
0 484 08/12	Room Controller Unit	0403 03	• Creation • Compatible with HRCS_1.7.2 FW_0.4.03	13W48
		0408 03	• Software modification • Compatible with HRCS_1.11.5 FW_0.4.08	15W47
		0408 03	• Deletion of measurement on relay outputs • Compatible with HRCS_ FW_0.4.08	18W39
		0412 03	• Software modification • Compatible with HRCS_1.16.4 FW_0.4.12	19W01
		1370 04	. Compatibility of new controller hardware . Addition of COV property for MultiState Value/Analog Value/Binary Value/Analog Input/Binary Input . Number of standard BACnet objects increased (MSV=>24/BV=>96/AV=>64/AI=>16/BO=>30) . Number of arithmetic object instances increased (=>32)/ comparator (=>10)/SCS dimmer (=>32) . Max. number of COV subscriptions at 128 . 10 s after restarting, the thermostats send their status . Addition of "short push release" property	19W47
		1390 04	. Number of SCS control unit instances increased to 128 . Bug correction	20W28
		1460 04 (048412) 1470 04 (048408)	. Number of SCS actuator instances increased to 32 . First press taken into account after a power cut . Number of SCS control unit instances reduced to 104 (the total number of SCS control unit instances must be less than 255)	20W47
-	Hotel Room Controller Software	1.7.2	• Creation FW_0.4.03	14W16
		1.11.5	• BUG correction • Addition of level 1 diagnostic tool • 10 sensors in UC synchro UR and output B FW_0.04:08	16W38

SUMMARY OF TECHNICAL UPDATES (CONTINUED)

CAT.NO	DESCRIPTION	VERSION	UPDATE	APPLICATION DATE
	Hotel Room Controller Software	1.13.1	. Addition of "advanced" settings page for the thermostat and reminder of previous state via the "priority release" . Memorising of dimmer levels . Synchronisation of bus controls FW_0.04:08	18W39
		1.14.3	. Bug correction . Addition of 16 DALI groups, F418U2, F413N FW_0.04:12	18W47
		1.16.1	. Addition of UX Touch peripherals . Master/slave function for UX thermostat . Addition of "Changeover" mode . Addition of RGS service . Bug correction FW_0.04:12	19W06
		1.16.4	. Bug correction FW_0.04:12	19W10
		2.0.16	. Bug correction . Addition of BACnet objects for DALI group . Addition of standard BACnet objects for SCS peripherals/4 regulation zones FW_1.3.70	19W47
		2.1.0	. Bug correction . Possible to put 10 digits in the TROC_VALUE (expert mode) . Possible to use the "ramp" function in an external scenario . 2 scenarios cannot have the same name . Number of bus controls limited to 128 instances . Possible to control the fan speeds in scenarios . Deletion of comfort-2 mode . Possible to set the ECO value below 25°C . BACnet object for changing the °C/°F temperature unit . New F430R3V10 mode . Expert mode accepted up to 2500 rows . More settings for thermostat ventilation time delay . Toggle synchro done by the last in the list of circuits in a scenario FW_1.3.90	20W10
		2.2.0	. Bug correction . Improved display on scroll bars . Improved "scan controller" function . "Update Manager" app used to update the controller firmware . Legrand Cat.No 573996 replaced with Bticino 3477 FW_1.3.90	20W14

CAT.NO	DESCRIPTION	VERSION	UPDATE	APPLICATION DATE
-	Hotel Room Controller Software	2.2.106	. Number of bus controls limited to 104 instances . Backup file compressed for very large rooms FW_1.4.60 (0 484 12) FW_1.4.70 (0 484 08)	20W41
		2.3.2	. Eco + fan auto parameter correction . Installation issue correction (VC++ 2010 embedded) . Importation of .HRC correction FW_1.4.60 (0 484 12) FW_1.4.70 (0 484 08	20W01WW
-	Room Controller Update Manager	V1.0.5	. Contains the FW_1.3.70 firmware	19W48
		V1.0.6	. Contains the FW_1.3.90 firmware	20W12
		V1.1.1	. Contains the firmware: . FW_1.4.60 for 0 484 12 . FW_1.4.70 for 0 484 08	20W47
H4691 LN4691 0 674 59	BUS/SCS thermostat	-	. Compatible	16W47
F418U2	Universal dimmer 2 x 300 W/1 x 600 W	-	. Compatible	18W26
F413N	0-10 V dimmer 1 output	-	. Compatible	19W01
048771	UX Touch keycard reader.	1.2.6	. Creation	18W27
		1.3.1	. Bugs correction	21W44
048772	UX Touch bedside panel	1.2.0	. Creation	18W27
		1.3.2	. The "fan" button is off if the HVAC system does not have a fan . The "fan" button is locked when the heating, cooling or continuous ventilation mode is not enabled . The buttons are locked (apart from the "ON/OFF" button) when the device is in "OFF" or "protection" mode . The heating/cooling icon is available on the device when it is in slave mode . No need for a pre-press when changing the setpoint by pressing the "+/-" buttons . Programmed min/max values taken into account even without HVAC actuator . Device configured automatically in slave mode . Allows continuous ventilation even in "OFF" and "Protection" mode	20W08

SUMMARY OF TECHNICAL UPDATES (CONTINUED)

CAT.NO	DESCRIPTION	VERSION	UPDATE	APPLICATION DATE
048772	UX Touch bedside panel	1.3.3	. Bug correction . Continuous ventilation deleted in "OFF" and "Protection" mode	20W44
		1.3.3	. Enhancement of touch function	21W30
048773	UX Touch bedside thermostat	3.2.0	. Creation	18W27
		3.3.2	. The "fan" button is off if the HVAC system does not have a fan . The "fan" button is locked when the heating, cooling or continuous ventilation mode is not enabled . The buttons are locked (apart from the "ON/OFF" button) when the device is in "OFF" or "protection" mode . The heating/cooling icon is available on the device when it is in slave mode . No need for a pre-press when changing the setpoint by pressing the "+/-" buttons . Programmed min/max values taken into account even without HVAC actuator . Device configured automatically in slave mode . Allows continuous ventilation even in "OFF" and "Protection" mode	20W08
		3.3.3	. Bug correction . Continuous ventilation deleted in "OFF" and "Protection" mode	20W44
		3.3.3	. Enhancement of touch function	21W30
048774	UX Touch 6-scenario panel	1.0.4	. Creation	18W27
		1.0.4	. Enhancement of touch function	21W30
048775	UX Touch corridor display unit	1.1.0	. Creation	18W27
048777	UX Touch 4-scenario control	1.0.4	. Creation	18W27
		1.0.4	. Enhancement of touch function	21W30

GLOSSARY

BACnet®: Building Automation and Control Network*

BMS: Building Management System

DND: Do Not Disturb

GRMS: Guest Room Management System

GUI: Guest User Interface

HVAC: Heating Ventilation and Air Conditioning

MUR: Make Up Room

PMS: Property Management System: hotel booking/billing software

RGS: Room Generic Service: (extra service defined by the hotel proprietor, for example: collecting laundry)

RMS: Revenue Management System: software for optimising hotel management, including staff management

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