



ABB KNX solutions for hospitality  
Technology behind a safe and  
comfortable stay

# Automation means integration

## From a logic of individual devices to a system-based logic

KNX is the worldwide standard for Home & Building Automation, effectively usable in all types of buildings with multiple advantages. In particular, ABB's KNX-based solutions are perfectly adaptable not only to the needs of hotel industry operators, but to the hospitality sector in general (apartment hotels, B & Bs, holiday apartments, tourist farm accommodations and resorts).

### Advantages for hotel applications



Maximum comfort for guests: manage all hotel functions via building automation (temperature control, lighting control, shutters and blinds control, real-time monitoring of energy consumption, etc.).



Ultra-easy building monitoring and maintenance thanks to a central display and control point (for example, from the front desk via panel or supervisory software) for the entire system.



Notable reduction in operating and maintenance costs (e.g. thanks to the centralized display of the most important system parameters and the real-time reporting of faults and problems).



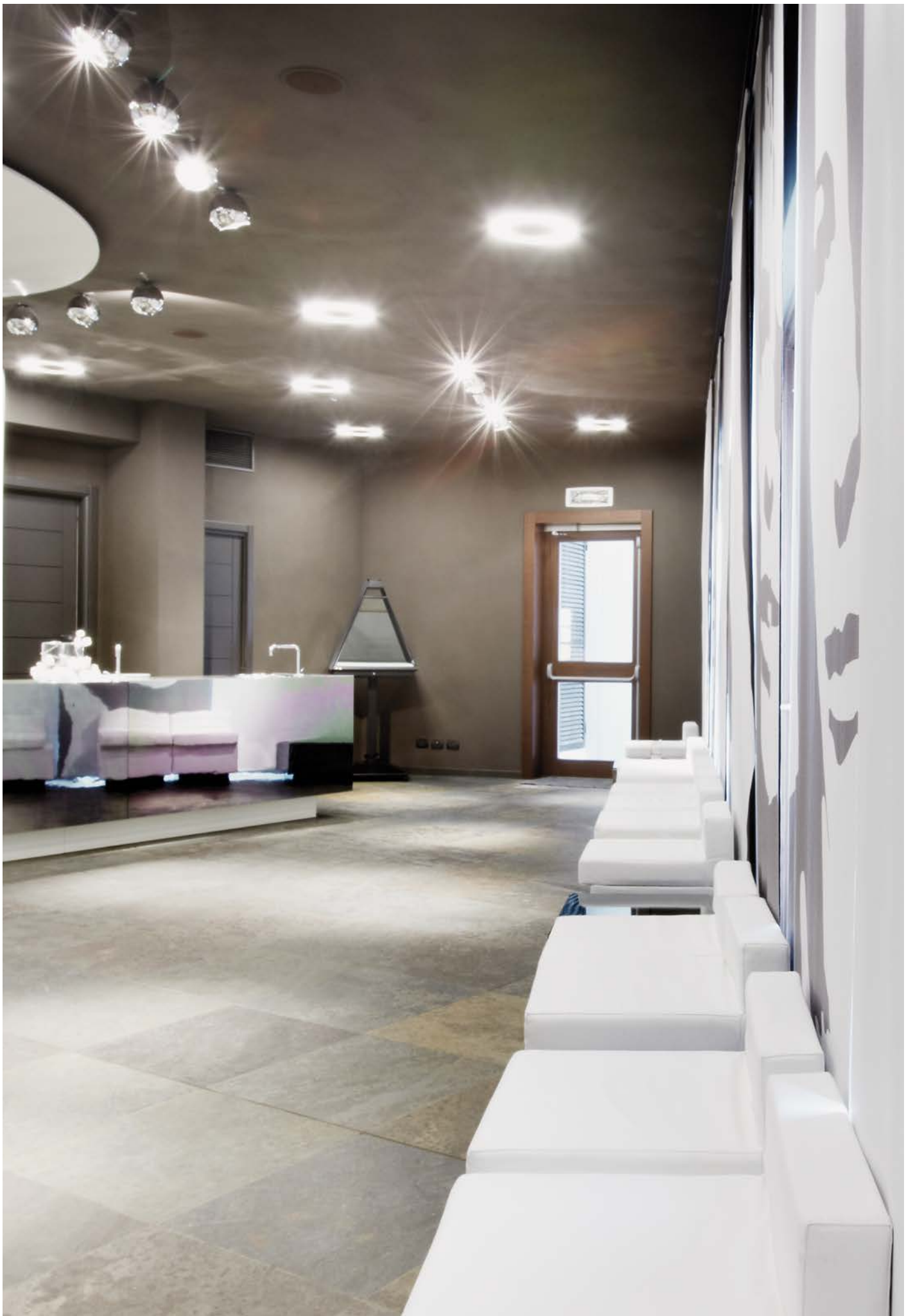
The presence of a single low voltage bus, decoupled with respect to the power cables yet installable in the same conduits, allows not only to considerably reduce the cabling complexity and the design and installation times, but the related costs as well.



An intelligent building management, possible thanks to KNX building automation solutions, ensures considerable energy savings, both as regards lighting and the use of the heating and cooling system.



High flexibility afforded by the ability to reprogram devices - and to easily add new ones - while in operation, even months or years after installation to meet changing needs, to realize new applications, to successfully complete renovations and extensions.



# Technology means flexibility

## Transponder technology for innovative applications in the hotel and commercial sectors

Based on transponder technology, and exploiting their flexibility and security, ABB's solution for access control is fully compatible with the KNX-standard Home & Building Automation System.

The access control system is particularly suited for hotel applications and allows construction of flexible systems with advanced functions to optimize the services provided to hotel guests.

Access control can also be used in the residential or commercial sector: office buildings, laboratories, common areas in apartment buildings, etc..

The flexibility of ABB's access control solution allows device programming and operation also in stand-alone mode, without connection to the KNX bus system.

### Advantages of the access control system



#### **Simplified and centralized management**

of all hotel functions from the front desk via the supervision software:

- check-in/check-out;
- card programming/cancellation
- front desk monitoring of room state (room cleaning, mini bar restocking required, maintenance request, unusable room);
- front desk monitoring of room loads (e.g. temperature control).



#### **Energy efficiency and cost savings**

- Activation of the room's electrical devices (lighting, TV, etc.) only when occupied by the guest.
- Intelligent and optimized air conditioning management (comfort mode activation at guest check-in and during room occupancy; transition to standby/OFF when room is unoccupied and at check-out).



#### **Safety**

- Transponder card for room access.
- Front desk monitoring of guest and hotel staff room occupancy.
- Front desk display of room alarms and messages.



#### **Additional guest services**

- Managing access to any paying areas (wellness or fitness center).
- Managing common areas (conference rooms, car park/parking space, etc.).

## General features

### Mylos



Transponder reader



Transponder holder



Transponder programming device



### Élos



Transponder reader



Transponder holder



Transponder programming device

### Chiara



Transponder reader



Transponder holder



Transponder programming device

- 2 relay outputs 8 A, 250 V.  
Functions: ON/OFF (e.g. electric lock control), staircase lighting, ON/OFF delay (e.g. courtesy light).
- 3 binary inputs.  
Functions:
  - ON/OFF;
  - shutters (using two grouped inputs).
- 17 available KNX communication objects.

- Programming:
  - via ETS and MiniMAC software for KNX bus solutions;
  - with special cards (MASTER TAG) for stand-alone solutions.
- Supplementary power supply (10...32 Vdc /12...24 Vac).
- Installation in rectangular three-module flush-mounting box (Italian standard).
- Device versions available for all ABB wiring accessories series (Mylos, Élos, Chiara).

# Access means service

A single card for many simple to integrate and easy to program functions

## Access control

The **transponder reader** is the basic component of the access control system; it is installed outside rooms and other areas with restricted access. Swiping the appropriate card over the reader (equipped with an electronic circuit that transmits the unique access code) allows or denies access in relation to the authorization level. Like all ABB's range of access control devices, the transponder reader is equipped with three binary inputs and two relays: one is used to open the door, while the other can activate the courtesy light for a programmable time.

Mylos wiring accessories range



Élos wiring accessories range



Chiara wiring accessories range



## Occupancy detection

The **transponder holder**, for flush-mounting inside the room, is equipped with a slot in which the guest can insert the card upon entering the room. Thus, in addition to controlling activation of the room electrical devices (lighting, air conditioning, TV, etc.), room occupancy is notified at supervisor level (e.g. supervisor software installed on front desk PCs). Using master cards inserted in the transponder holder slot, hotel staff can notify the room status (room cleaning, minibar restocking required, maintenance request, unusable room) to the front desk PC (via the same supervisor software).

Mylos wiring accessories range



Élos wiring accessories range



Chiara wiring accessories range



## Card programming

**Transponder card programming** and device configuration can be performed from the front desk or from another location where a programmer module is installed, connected to a PC running ABB's Minimac access control supervisor software. To make programming/cancellation operations easier, the transponder programming device is equipped with four LEDs that allow the operator to immediately view the status of the operation being performed.

Mylos wiring accessories range



Élos wiring accessories range



Chiara wiring accessories range



# System management and configuration software



## MiniMAC software features



Access control (management of keys, groups, time bands and staff cards, definition of access to common areas, etc.).



Room state monitoring.



Guest check in/check out.



Front desk room load monitoring.



Management of guest and employee databases.



Front desk management of room climate.



Occupancy and access records and statistics.



Software configuration capability for non-hotel applications.



Front desk monitoring and supervision.

# Interfacing with hotel management software (PMS)

MiniMAC allows integration with hotel management software applications, usually called PMS (Property Management System).

If a hotel is equipped with PMS software and MiniMAC monitoring and configuration software for access control, the two applications can communicate with each other, each performing its own specific function.

- PMS software allows the proprietor and reception staff to manage all the information concerning booking, customer records, billing, management of room and services fees, etc.
- MiniMAC software for the configuration of the access control system (TAG programming, definition of access to rooms and readers, load management, climate control from the reception, display of alarms from the reception, ...)

The interfacing between the two systems allows you to enter the customer in the database from PMS software, which will recall the necessary check-in/check-out and transponder TAG programming operations on MiniMAC software.

Check-in operations are performed by Fidelio/Protel which communicates with MiniMAC through a two-clicks Pop-up in the tray bar of the PC (MiniMAC software is necessary, installed in background, but cannot be used by staff at reception).

MiniMAC by default offer two plug-in available for granting interfacing with two important PMS software:

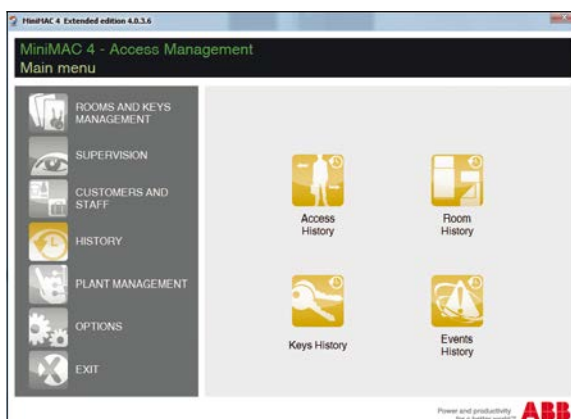
- Micros Fidelio
- Protel



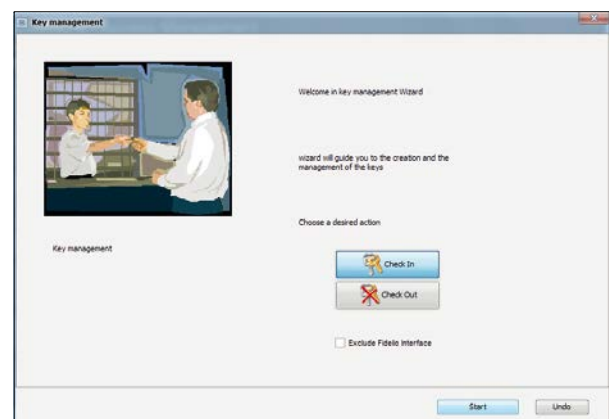
ABB PopUp - card insertion



ABB PopUp - card programming



Access history menu



Check-in and Check-out

# Value-added services for today's and tomorrow's hospitality industry

ABB's Home & Building Automation Systems for hotel applications offer guests an all-round captivating experience, providing also significant operating and financial advantages.

Suitable for all types of hotels, ABB's Home & Building Automation systems offer a perfect match of functionality and savings, of safety and comfort, of protection and efficiency. All with the highest levels of flexibility and reliability. Thanks to ABB's Home & Building Automation solutions, the room's electrical devices can be enabled and activated only when the transponder reader signals the presence of a guest or of service staff, avoiding any waste of energy and resources. Lighting, air conditioning, shutters and blinds, as well as the minibar and the TV, are always within reach and can be managed with flexibility and efficiency, adapting the features to different needs.

Whether on holiday or on business, a guest can be tracked and "coddled" during his entire stay, and offered services that promote a high degree of customer satisfaction and loyalty. In the room, the fitness area, as well as in the business center or in the parking area, the presence of guests is easily, comfortably and efficiently trackable. The openness and flexibility of the KNX-standard Home & Building Automation solutions also allow future integration with intrusion detection and fire protection platforms, ensuring total protection for guests, staff and facilities. Energy management and efficiency, services and design, comfort and technology: ABB's specific solutions for hotel applications leave nothing to chance.



# An access control installation example for hotel use

The access control system is based on the KNX technology, recognized worldwide as the main open standard for control systems in all types of industrial, commercial and residential buildings.

The system design requires the KNX project to be developed using ETS (Engineering Tool Software), with the inclusion of all devices needed to perform the required functions; the access control system functions must be configured using the MiniMAC management software, designed to manage access

and monitor all passages through the access points.

All access control devices are equipped with two freely programmable relay outputs and three digital inputs, which significantly increase the system's flexibility. While the outputs can be used for load control, the digital inputs allow connection of the contacts of devices such as the rods bathroom alarm pull cords, buttons for opening/closing windows and shutters, lighting control switches.

## Basic configuration

The access control system can be adapted to all hotel types.

The functions required in a typical hotel are:

- room access with transponder card;
- access to conference rooms and offices;
- room load control;
- guest and hotel staff room occupancy control;
- cooling system management;
- fitness center access.

## Devices for the functions

The following devices are required to perform these functions:

- access control transponder reader, to be installed outside guest rooms, conference rooms and offices;
- transponder pocket for detecting a guest's presence and for activating utilities, to be installed inside guest rooms;
- transponder reader, to be installed outside the fitness center;
- transponder card programmer.

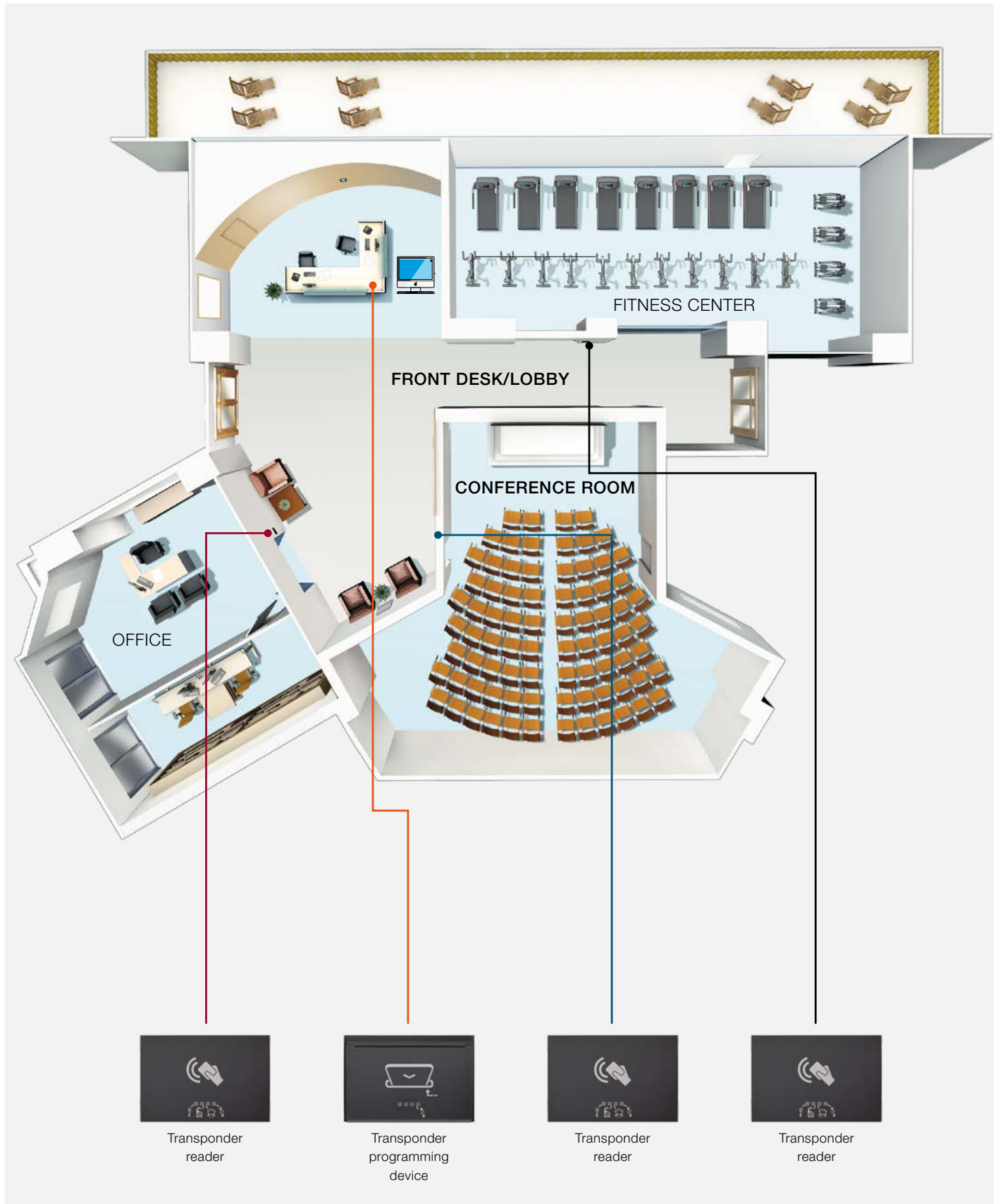
## Example of a hotel facility

The example below applies to a hotel with 50 rooms on three floors.

The front desk/lobby and the fitness center are located on the ground floor, with guest rooms on the first and second floors.

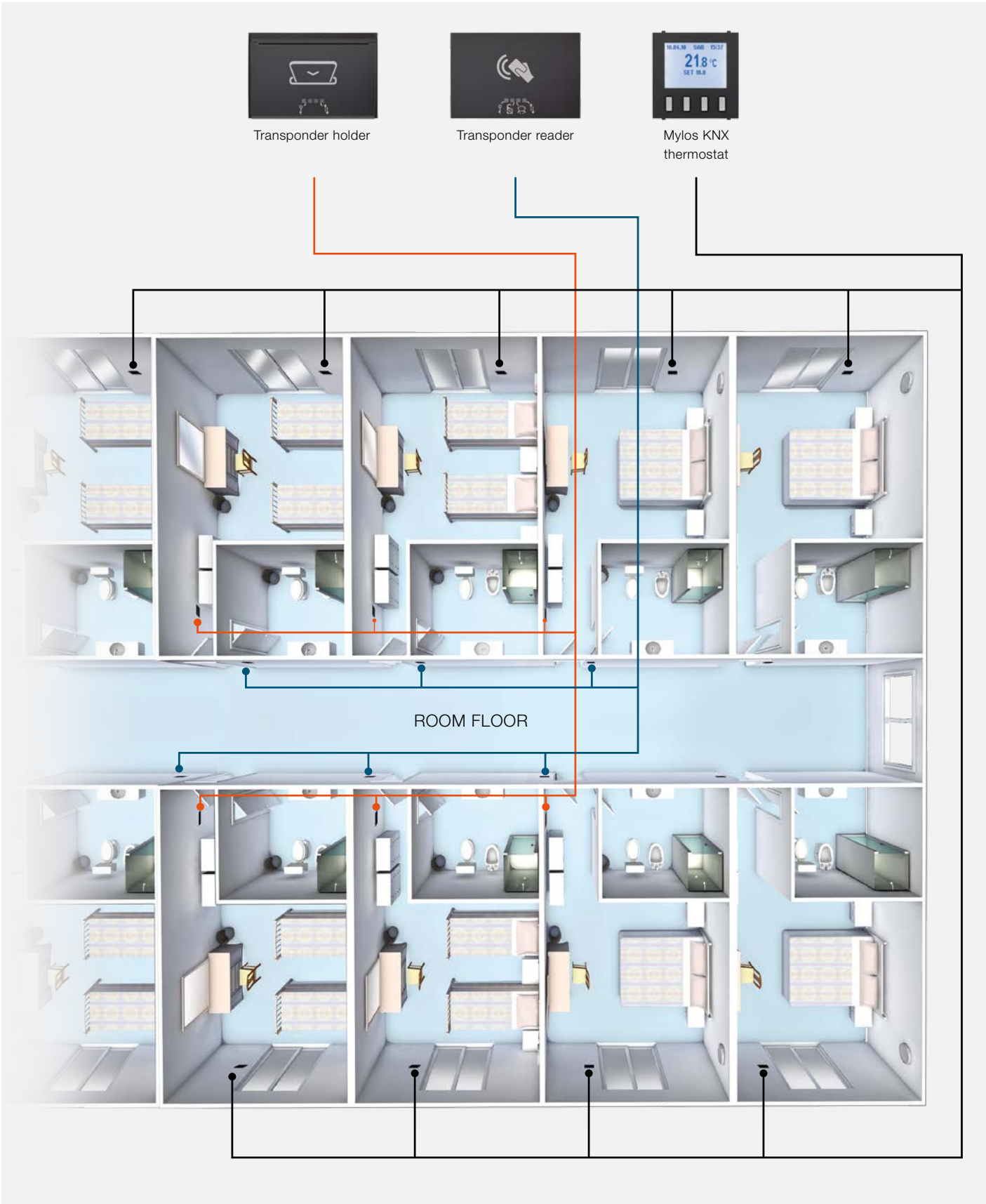
# Access control in hotel applications

## Placement of ground floor devices



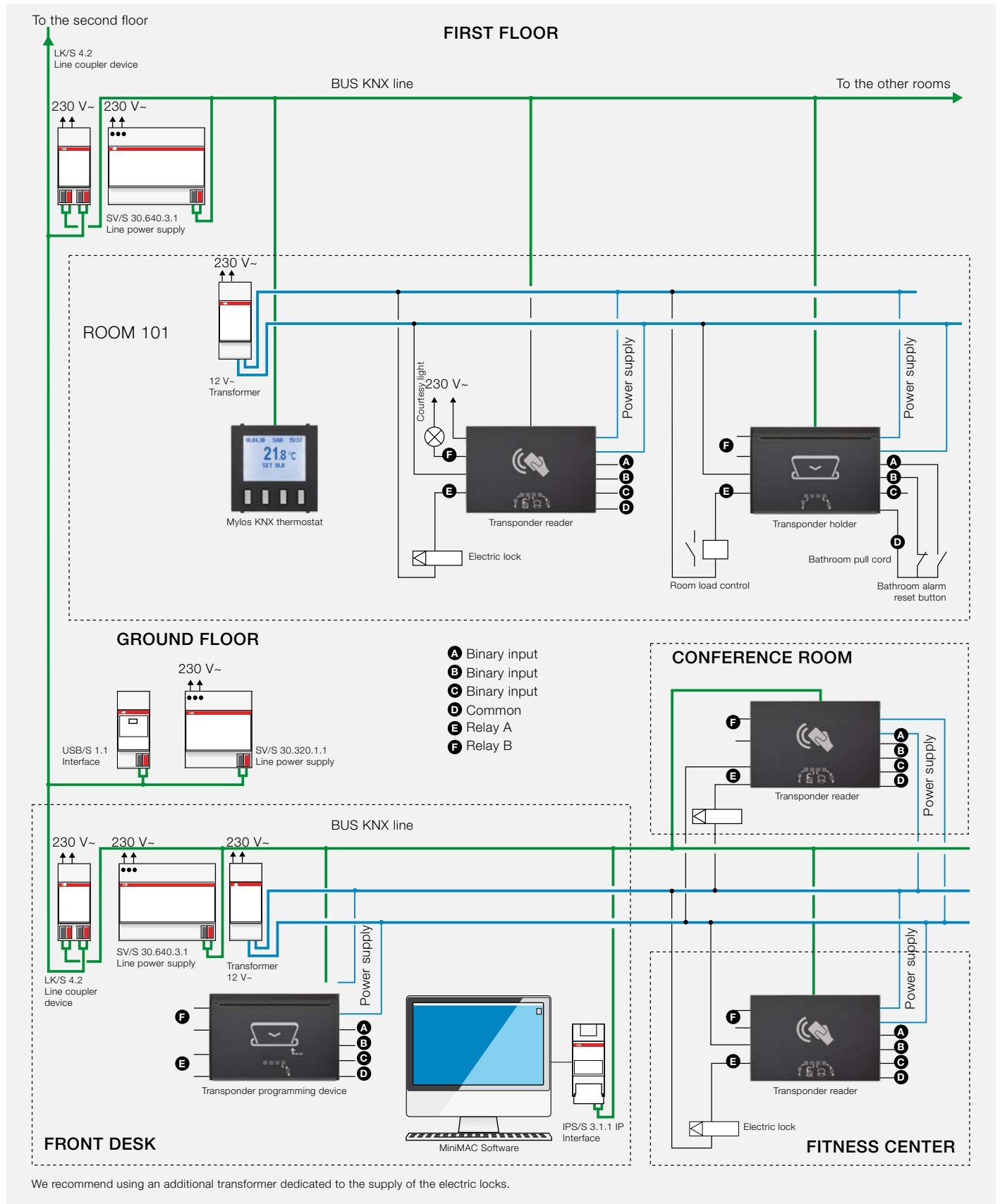
# Access control in hotel applications

## Placement of guest room floor devices



# Access control in hotel applications

## Example of a components connection diagram



# ABB KNX Building Automation Solutions

## ABB's experience at the hotel industry's service

ABB technology for a modern and exclusive hotel means easy access and customized services for guests; reliability and installation flexibility for operators.

The primary objective of hotel operators is to continuously raise the service quality offered to guests, because the function of a modern hotel, with just a few rooms or able to host several hundred people, goes beyond the traditional role of simply providing a place for overnight accommodation. Today, hotels aim increasingly towards providing a suitable environment in which to work, rest and renew a state of physical well-being.

For this reason, hotels now tend to abandon the logic of simple conventional systems in favor of advanced technological solutions and systems that can meet these growing needs.

ABB has the knowledge, skills and products needed to integrate into a single system all equipment and facilities that may be found in a hotel.

An integration that starts from aesthetics - thanks to the elegant civil series Mylos, Élos which offer a full range of available functions - and leads seamlessly to a complete functional integration, achieved with components based on the international KNX standard, in which ABB is an industry leader.

### Hotel "Top"

The first hotel in Riyadh to use ABB's intelligent room control system, the Mövenpick is a luxury property with more than 440 rooms and suites located on King Fahad Road, just two miles from the heart of the city.

Guests of the hotel - the largest in the Saudi capital - benefit from the advanced features of ABB's room management system, one of the most used in luxury facilities throughout the Middle East.

Room Master is the central device at the base of the room's electrical system. It allows guests to handle all room functions, including lighting, heating, ventilation, air conditioning and curtains.

Installed by the Nassli Company, an ABB partner, the Room Master solution is integrated in the system through a KNX-technology bus that allows the system to be expanded with a number of new additional services.

The implementation of the ABB solution offers many practical advantages. For example, the intelligent room management system ensures a double-digit percentage reduction in power consumption, while continuing to provide guests with all the services and high-level details that make the Riyadh Mövenpick Hotel one of the most popular destinations for business travelers in the region.

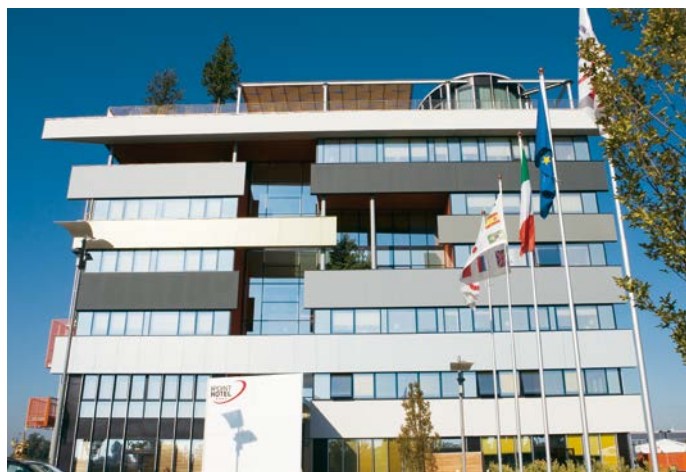


View of Riyadh

## Mid and large-sized hotels

Located between Modena and Bologna, the modern iPointhotel of San Giovanni in Persiceto welcomes guests to a relaxing and hospitable ambiance in a technologically innovative facility. The hotel's functions are based on ABB's KNX i-bus building automation system and on advanced supervision and management software.

The building automation system configuration allowed the implementation of top-level automation in the various hotel systems and installations: in particular, internal, external and underground garage lighting; room temperature control and ventilation; motorized devices; movement of parking lot barriers; lobby flower bed irrigation. The 51 rooms are managed via the access control system, an integral component of the building automation system's functions, whose specific components are technically compatible with the KNX standard.



**iPoint Hotel Bologna - 4-star, 51 rooms**

## Small hotels

The "Il Corazziere" Hotel is located in a lush countryside area and therefore the hotel owners paid particular attention to integrate the newly constructed building into the surrounding natural environment. Designed with a close eye for the real needs of guests and integrating the most modern solutions, the hotel includes a building automation system based on the international KNX standard supplied by ABB.

The building automation system provides room management using a transponder card system that allows guests to access the assigned room and to activate the lights, sockets and all other electrical devices in the room.

Temperature management is organized to obtain optimal comfort, based on pre-programmed setpoints with the possibility of a minimal local adjustment.

The complete system can be managed from the front desk through video screens that display the various indications for each room.

The building automation system controls also the lighting of the common areas: thanks to the sensors managed by the system, the brightness is kept constant throughout the day, also depending on the natural light from outside.



**"Il Corazziere" Hotel, Merone (Como) - 4-star, 36 rooms**

# Access control

## Order codes



Mylos



Élos



Chiara

### Transponder reader

The transponder reader is used for access control in the hotel, residential and commercial sectors (office buildings, business centers, laboratories, etc.). The device is equipped with two bistable relays (8 A, 250 Vac), one of which can be assigned to control electronic lock, and three voltage-free, non-optically insulated inputs; the 5-Vdc scanning voltage is available on the COM terminal.

The device has four LEDs (from left to right for Mylos and Chiara, from top to bottom for Élos) for the following indications:

- LED 1 Green:
- on steady: device on-line;
  - slow blinking: access allowed;
  - fast blinking: access denied.
- LED 2 Yellow:
- on steady: programming with Master Tag in progress.
- LED 3 Yellow/red:
- free programming via ETS.
- LED 4 Green/red:
- green steady: bus voltage present;
  - red steady: bus voltage lacking;

The transponder reader requires a 10...32Vdc/12...24Vac external power supply to ensure its operation even with bus voltage failure.

Civil Series	Type	Code	Modules
Mylos □	LT/U 1.1.MC	2CSYK5000C	3
Mylos ■	LT/U 1.1.MS	2CSYK5000S	3
Élos	LT/U 1.1	EC 289 5	3
Chiara	LT/U 1.1.CH	2CSKK5000C	3

### Transponder holder

The transponder holder is equipped with a slot into which the transponder card is inserted. In a hotel application, this allows occupancy recognition and notification at the supervisory level (e.g. on the front desk computer).

Moreover, room status information can be managed by using special cards (minibar status, maintenance status, usability).

The device is equipped with 2 bistable relays (8A, 250 VAC) and 3 voltage-free, non-optically insulated inputs; the 5-Vdc scanning voltage is available on the COM terminal.

The device has four LEDs (from left to right for Mylos and Chiara, from top to bottom for Élos) for the following indications:

- LED 1 Green:
- slow blinking: transponder card not inserted;
  - on steady: transponder card inserted and valid;
  - fast blinking: transponder card inserted and not valid.
- LED 2 Yellow:
- steadily on: programming with Master Tag in progress.
- LED 3 Yellow/red:
- free programming via ETS
- LED 4 Green/red:
- green steady: bus voltage present;
  - red steady: bus voltage lacking;

The transponder pocket requires a 10...32Vdc/12...24Vac external power supply to ensure its operation even with bus voltage failure.

Civil Series	Type	Code	Modules
Mylos □	PTI/U 1.1.MC	2CSYK5200C	3
Mylos ■	PTI/U 1.1.MS	2CSYK5200S	3
Élos	PTI/U 1.1	EC 563 3	3
Chiara	PTI/U 1.1.CH	2CSKK5200C	3



Mylos



Élos



Chiara



Mylos



Élos



Chiara

### Transponder programming device

The devices allows the programming of transponder cards.

The device is equipped with 2 bistable relays (8A, 250 VAC) and 3 voltage-free non-optically insulated inputs; 5 VDC scanning voltage is available on the COM terminal.

The device has four LEDs (from left to right for Mylos and Chiara, from top to bottom for Élos) for the following indications:

- LED 1 Green: - fast blinking: transponder card detected.
- LED 2 Yellow: - free programming via ETS
- LED 3 Green/red: - red blinking: transponder card detected.
- LED 4 Green/red: - green steady: bus voltage present;  
- red steady: bus voltage lacking;

The transponder programmer requires a 10...32Vdc/12...24Vac external power supply to ensure its operation even with bus voltage failure.

Civil Series	Type	Code	Modules
Mylos □	PRT/U 1.1.MC	2CSYK5300C	3
Mylos ■	PRT/U 1.1.MS	2CSYK5300S	3
Élos	PRT/U 1.1	EC 560 9	3
Chiara	PRT/U 1.1.CH	2CSKK5300C	3

# Access control

## Order codes



### Transponder card

The transponder card uses passive transponder technology operating in radio frequency, without the need for contact between the reader and the card itself. The transponder card is read by swiping it in front of the reader at a maximum distance of 20 mm.

Civil Series	Type	Code	Modules
Mylos	CH/T 2	2CSKK5400C	-
Élos	CH/T 1	EC 113 7	-
Chiara	CH/T 2	2CSKK5400C	-



### MiniMAC - Management and configuration software

The management and configuration software ensures bidirectional communication with the access control system devices, allowing the system's configuration during its installation and its overall management and supervision.

Civil Series	Type	Code	Modules
Mylos	Software MiniMAC	2CSKK5501C	-
Élos	Release 4.1		
Chiara			

# ABB's KNX range for hotel applications

## Heating and cooling

### Temperature control

ABB offers a full range of thermostats that can control any type of KNX actuator for managing temperature control (fan coil actuators, thermoelectric valve drives, electromotor valve drives). The temperature control can be set both in manual and automatic mode and for automatic switching (but also via an external button or the touch screen/supervisor software) from summer to winter mode and vice versa.

The range of devices are adaptable to all installation and interior design requirements: from thermostats for installation in a round box, to the sophisticated design of priOn and Triton, to the comfort and appealing look of Mylos KNX thermostats and programmable thermostats for flush-mounting in Italian-standard rectangular boxes.



# ABB's KNX range for hotel applications

## Heating and cooling



	6138/11-XX	6128/28-XX	6108/08	6108/18-xx	6109/18-xx	
	Thermostat	Thermostat with 2/4 switches	Commercial thermostat			
<b>Control type</b>						
2-point controller	■	■	■	■	■	
PWM controller	■	■	■	■	■	
Continuous controller	■	■	■	■	■	
Fan coil (2-pipe and 4-pipe systems)	■	■	■	■	■	
Automatic summer/winter switching	■	■	■	■	■	
<b>External sensor management</b>						
Additional external temperature sensor management	■	■	■	■	■	
External sensor management (dew point, anti-condensation)	■	■	■	■	■	
<b>Programmable thermostat functions</b>						
Climate zones management with control of remote thermostats		■ (master-slave option)	■ (master-slave option)	■ (master-slave option)	■ (master-slave option)	
Time programming						
<b>Other functions/features</b>						
	Fan coil speed control via integrated button	Integrated switches for ON/OFF, dimming, shutter control, scenarios	No displays or buttons to prevent unauthorized adjustments		Integrated universal inputs: - max. of 5 binary inputs - 4 binary inputs and 1 analogue input for activating sensors with external power supply 1-10 V/0-10 V - 2 binary inputs and 1 analogue input for activating sensors with external power supply 1-10 V/0-10 V and an external temperature sensor PT1000 / T6226	
<b>Installation and connection to bus</b>						
Integrated BCU	■		■	■	■	
Installation type	Protruding (on round box)	Flush-mounting - round box	Flush-mounting - round box	Flush-mounting - round box	Flush-mounting - round box	



	6109/28-xx	6321/38 6321/58 Busch-Triton 3/6 or 5/10 switches with thermostat	priOn with thermostat	2CSYK1202C 2CSYK1202S Mylos KNX thermostat	2CSYK1201C 2CSYK1201S Mylos KNX programmable thermostat
	■	■	■	■	■
	■	■	■	■	■
	■	■	■	■	■
	■	■	■	■	■
	■	■	■	■	■
	■	■	■		
	■	■	■		
	■ (master-slave option)				■ 4 zones (1 master + 3 slave) ■
	Integrated universal inputs: - max. of 5 binary inputs - 4 binary inputs and 1 analogue input for activating sensors with external power supply 1-10 V/0-10 V - 2 binary inputs and 1 analogue input for activating sensors with external power supply 1-10 V/0-10 V and an external temperature sensor PT1000 / T6226 Integrated CO <sub>2</sub> /moisture/air pressure sensor.	Integrated switches for ON/OFF, dimming, shutter control, scenarios, IR Receiver	Version with - triple switch - screen and rotating button	User-friendly configuration menu with four illuminable buttons	User-friendly configuration menu with four illuminable buttons
	■ Flush-mounting - round box	■ Protruding (on round box)	■ Protruding (on round box)	■ Flush-mounting - round box - rectangular box	■ Flush-mounting - round box - rectangular box

# ABB's KNX range for hotel applications

## Temperature control actuators

ABB offers a full range of KNX-standard products suited to meet all needs related to managing building heating and cooling systems, especially in hotel applications

where ABB's KNX solutions allow operators to obtain significant energy savings without sacrificing maximum guest comfort.

### Fan coil actuators



#### A broad and versatile range

- FCL/S for controlling thermoelectric valve drives.
- FCA/S for controlling electromotor valve drives and 0-10 V valves.



#### Full conditioning control

- Fan coil speed control (from 3 to 5 speed depending on the model)
- Fan coil valves control for both heating and cooling (for 2, 3 and 4-pipe systems).



#### Maximum flexibility in conditioning control

- Automatic control: based on the setpoint on the thermostat.
- Manual control: by setting the thermostat to the desired fan coil speed.



#### Energy efficiency

- Automatic deactivation of heating/air conditioning when doors/windows are opened to optimize energy consumption.
- Thanks to the binary inputs integrated on the FCA/S.
  - Thanks to the external binary inputs for the FCL/S.

### Valve control for temperature management



#### A broad and versatile range

- TSA/K: thermoelectric valve drives, both 24 V and 230 V.
- ST/K: electromotor valve drives.



A wide variety of adapters for the main valves on the market are available for both thermoelectric valve drives and electromotor valve drives.



#### Simple and standard control

- The TSA/K thermoelectric valve drives can be controlled either by standard SA/S switching actuators, or by specific actuators such as VAA/S and VAA/A, or by ES/S electronic actuators.
- ST/K electromotor valve drives receives commands directly on the KNX bus from the thermostat.



#### Energy efficiency

- Automatic deactivation of heating/air conditioning when doors/windows are opened to optimize energy consumption.
- Thanks to the integrated binary inputs on the ST/K electromotor valve drives.
  - Thanks to the external binary inputs for thermoelectric valve drives, controlled by the relative actuators.



# ABB's KNX range for hotel applications

## Mylos KNX

Mylos KNX is an exclusive series of compact flush-mounting devices, fully integrated with the refined and elegant design ABB's Mylos wiring accessories range. Mylos KNX is the ideal solution for hotel applications: full comfort and efficiency of building automation without sacrificing aesthetics. These are KNX certified products for installation on Italian-standard rectangular boxes, so ready for installation in the room and already integrated in the KNX bus without the need to provide for additional devices (input modules) and wiring. All Mylos KNX devices are available in two colors, black and white, perfectly integrated with the wide range of Mylos wiring accessories range.



### The advantages



A full range of solutions.



KNX features comparable to those of modular devices.



KNX devices with pre-integrated switches to optimize the project and reduce the number of required devices.



All devices are available in two colors, black and white, perfectly integrated with the wide selection of Mylos wiring accessories range.



The devices can be installed either in round flush-mounting boxes or in Italian-standard flush-mounting boxes to ensure total flexibility.

### The range



2 binary inputs module:

- with no switch;
- with one switch;
- with two switches.



Switch Actuator, 16A. 1-fold:

- with no switch;
- with one switch;
- with two switches.

Switch Actuator, 8A. 2-fold:

- with two switches.



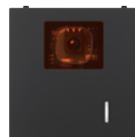
Shutter actuator, 230V, 1-fold:

- with no switch;
- with one switch;



Dimmer actuator, 1-fold:

- 350W;
- 1..10v.



IR Receiver for remote controls.



- Thermostat with display.  
- Programmable thermostat with display.

# ABB's KNX range for hotel applications

## Room Automation

Room Master and Room Controller of ABB's KNX range are the ideal solution for hotels and apartment hotels, and in general for all those applications in which there is need to save space and optimize the installation by being able to control all room or environment functions, for example by combining management of inputs, lighting, temperature control and shutters in a single device.



### Installation types suitable for all needs

- Room Master is a device for DIN rail installation.
- Room Controller is a device for underfloor or suspended ceiling installation.



### Two different concepts to support the system design

- Integration: Room Master already incorporates all functions needed to control a room/environment in a single device.
- Modularity: Room Controller consists of a fixed base into which the modules for managing the desired function can be easily inserted using the plug-in mode.



### A wide range to ensure maximum selection flexibility












- The Room Master range consists of four different devices, which differ based on the number and type of integrated functions.
- Room Controller is available in both the 4-module (single phase) and in the 8-module (three-phase) versions.



### Improved safety and cost optimization

The significant reduction in wiring minimizes the flammable load improving the protection of persons and buildings.






## Room Master RM/S

	RM/S 1.1 Basic	RMS/ 2.1 Premium	RM/S 3.1	RM/S 4.1	Applications	
<b>Binary inputs</b> (contact scanning)	8	18	12	8	Connection of push-buttons or switches (lights on/off, shutters up/down, bathroom fan on/off, general command on/off, etc.) or sensors (window and door contacts, water and water condensation sensors, badge reader)	
<b>Outputs</b>						
20A (16 AX)	1	3	-	-	Electrical devices switching	
16A (20AX)	-	-	4	-	Electrical devices switching	
16A (10AX)	2	1	-	-	Auxiliary electrical heating of the fan coil unit, lighting	 
6A	3	12	-	8	Auxiliary electrical heating of the fan coil unit, lighting, fan coil speed	  
0,5A electronic	4	4	-	-	Valve control (heating/cooling)	
6A contact in switching	-	1	4	-	Motorized devices management (blinds, shutters)	
<b>Number of managed scenarios</b>	10	16	16	16	Check-in/check-out, card removal/ insertion and other scenarios	

## Room Controller



	RC/A 4.2	RC/A 8.2
<b>Number of modules</b>	4	8
<b>Number of phases</b>	Single-phase	Three-phase

Module type	Range	
Binary inputs	BE/M 4.230.1 – Binary Input Module, 4-fold (115/230 V AC o DC) BE/M 4.24.1 – Binary Input Module, 4-fold (12/24 V AC o DC) BE/M 4.12.1 – Binary Input Module, 4-fold (contact scanning)	
Switching actuators	SA/M 2.6.1 – Switch Actuator Module, 2-fold, 6 AX SA/M 2.16.1 – Switch Actuator Module, 2-fold, 16 A	
Shutters actuator	JA/M 2.230.1 – Shutter Actuator Module, 2-fold (115/230 V AC) JA/M 2.24.1 – Shutter Actuator Module, 2-fold (12/24 V DC)	
Dimmer 1-10V	LR/M 1.6.2 – Light Controller Module 1-10V, 1-fold, 6 AX UD/M 1.300.1 – Universal Dim Actuator Module, 1-fold, 300 VA	
Electronic actuator	ES/M 2.230.1 – Electronic Switch Actuator Module, 2-fold (115/230 Vac) ES/M 2.24.1 – Electronic Switch Actuator Module, 2-fold (12/24 Vdc)	

# ABB's KNX range for hotel applications

## Energy consumption monitoring

Energy monitoring is an increasingly important application in modern hotel projects, with the objective of maximizing cost reduction by optimizing energy consumption and reducing and rationalizing maintenance of systems.

Main applications related to Energy Management are:

- metering of energy consumption, monitoring and supervision;
- ability to measure not only power, but also gas and water consumption;
- ability to monitor consumption in different hotel areas in order to easily detect waste and inefficiencies;
- graphical, immediate and intuitive display of consumption, on Touch Screen and/or supervision software;
- pre-verification of actual consumption compared to that recorded in utility operator invoices to identify any billing errors.



### ABB's KNX solutions for Energy Management

Function	Applications	Range
<b>Absorbed current measurement</b>	<ul style="list-style-type: none"> <li>- Preventive identification of lamp faults (in the event of no or under-threshold absorption).</li> <li>- Maintenance optimization.</li> </ul>	Switching actuators with current detection: <ul style="list-style-type: none"> <li>- SA/S x.16.6.1</li> </ul>
<b>Interfacing with meters</b>	<ul style="list-style-type: none"> <li>- Precise measuring of energy consumption and of other electrical variables.</li> <li>- Data transmission to the KNX bus for viewing consumption via touch screen and/or supervisor software.</li> </ul>	KNX ZS/S 1.1 meter interface module + An ABB meter of the A series (A41, A42, A43, A44), all certified according to the MID European Directive.
<b>Electrical consumption monitoring</b>	<ul style="list-style-type: none"> <li>- Energy consumption monitoring in various sections of the system.</li> <li>- Data transmission to the KNX bus for viewing consumption via touch screen and/or supervisor software.</li> <li>- Any load switching logics when consumption thresholds are exceeded.</li> </ul>	<ul style="list-style-type: none"> <li>- EM/S 3.16.1 energy module.</li> <li>- SE/S 3.16.1 energy actuator for any additional automatic load switching logics.</li> </ul>
<b>Water and gas consumption monitoring</b>	<ul style="list-style-type: none"> <li>- Display of consumption on touch-screen and/or supervisor software.</li> <li>- Signal transmission when consumption thresholds are exceeded.</li> </ul>	Binary inputs to scan for voltage-free contacts: <ul style="list-style-type: none"> <li>- BE/S x.20.2.1</li> </ul> + <ul style="list-style-type: none"> <li>- Gas/water meters equipped with pulse output.</li> </ul>

# ABB's KNX range for hotel applications

## Motion and occupancy detectors

The motion and presence detectors ensure substantial electricity savings by automatically turning off lighting in areas that remain unoccupied for longer periods of time (such as hallways leading to the guest rooms in hotels or underground parking levels).



### A wide range of device suited for any type of application

- Motion detectors: to be used in areas where people move actively within the detection area (e.g. walking through). Typical environments are entries, stairs, access points to external hotel areas, public bathrooms.
- Presence detectors: used in areas in which people move only sporadically over a certain time interval, e.g. offices, conference rooms.



### Flexibility

Simple switching from automatic to manual control via KNX buttons and switches (useful for example for cleaning and maintenance staff).



## Wiring accessories series for all interior environments When technology and design harmonize



With Mylos, Chiara and Élos, ABB combines a wealth of features with a wide range of finishes, materials and colors to meet all your needs.

ABB offers a range of products suited to all environments, from the most traditional to the most technological. In the Mylos series, technology and beauty go hand in hand. Clean and rational, the exclusive "square" or "round" design are meant to harmonize with modern furnishings, combining shapes and high-tech inspired precious materials with a surprisingly soft tactile effect. Mylos KNX devices, which can be fully integrated with the Mylos wiring accessories range, are conceived with an eye for ergonomics and style, to offer all the comfort and efficiency of building automation without sacrificing aesthetics.

With Chiara and Élos, simplicity becomes harmony. The purity of shapes and materials make this series the perfect choice for those looking for practicality. From the most sophisticated to the most essential environments, the unique and unmistakable lines offer a refined and sinuous, yet at the same time simple and lightweight profile, which shows personality and substance in an ideal match of powerful features and strong character. Whether you are guided by the purity of Chiara, the elegance of Élos or the modernity of Mylos, the integrated sets of ABB Home & Building Automation will transform your every gesture in a new sensory experience.

# ABB wiring accessories series

## Serving hotel applications

Discover the broad range of the ABB Mylos, Élos and Chiara wiring accessories series, with a selection of products designed specifically for hotel applications.



### Shaver socket outlets

The shaver socket outlets incorporate a 20-VA-power insulating transformer, which also allows management of a supplementary 125 V ~ output. It can accommodate both standard P11 European type 2-P plugs and also standard American 2-P plugs to satisfy even foreign guests!



### Flush-mounted USB charger

The flush-mounted USB charger for the Mylos and Chiara wiring accessories adds comfort to guest rooms and common areas by offering guests a convenient charging point compatible with all portable electronic devices (smartphones, tablets, cameras, mp3 players, etc.).



### LED lamp for emergency or stairwell lighting

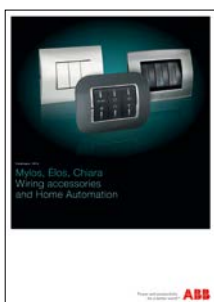
A single product to ensure a powerful source of auxiliary lighting in the event of a power failure or to illuminate walkways, stairways and passageways in marker mode. Light brightness adjustable via remote control.



### Universal badge switch

To control inputs and functions that do not require central management by the access control system, ABB offers universal badge switches that can be perfectly matched to the look of the wiring accessories series chosen. Available in 3-module (Mylos, Élos, Chiara) and 2-module (Mylos, Chiara) versions.

Discover all other available products in the Wiring accessories and Home Automation catalog



Mylos, Élos, Chiara  
Wiring accessories  
and Home Automation  
2CSC600290D0201



# Application examples using ABB KNX solutions

## Room





Curtain and shutter control



HVAC management



Alarm signaling



Lighting management



Access control



# Application examples using ABB KNX solutions

## Room

A cozy and comfortable room that right from entry, controlled by a transponder reader, provides a pleasant and relaxing stay. By inserting the transponder card issued at check-in into the transponder holder right after entering the room, the lighting is activated, the climate control is set to "comfort" and the room occupancy signal appears on the front desk computer. When the guests leaves the room and takes out the card, the lighting is turned off and the air conditioning system resumes the economy operating mode. The lighting on/off or dimmer switches are replicated in several places as required: near the entrance, in the vicinity of the light source and next to the bed. The temperature can be adjusted using the thermostat, whose screen can also display messages sent from the front desk. Curtains and shutters are motorized and can be controlled from several points, as is the case for lighting.

The outside curtains are also motorized and are rewound automatically for safety reasons when the weather station indicates strong wind. Sensors are applied to openings to the outside, i.e. windows and French doors: when they are open and people are present they interrupt the air conditioning operation to avoid waste; conversely, they send an alarm signal to the front desk if the system detects that a room is unoccupied, for example, due to the absence of the card in the transponder holder. Through special transponder cards reserved for hotel staff it is possible to signal the room state (room cleaning, mini bar to be restocked, maintenance requests, unusable room) to the front desk via the MiniMAC supervisor software.

There is a pull cord in the bathroom that activates a specific alarm signal at the front desk; the alarm can then be canceled from the front desk after an appropriate verification, or directly in the room using the specific button.

### Access control



#### Chiara transponder reader

- Opens the door and activates the courtesy light.
- LED signals outside the room and at the front desk (Do not disturb, Make up room).



#### Chiara transponder holder

- Activates the room's electrical supply upon guest or staff entry.
- Signals room occupancy to the front desk.
- Activates the standby temperature control when a guest leaves the room.

### Lighting



#### Chiara wiring accessories series control devices (push-buttons, switches) + KNX binary inputs (US/U x.2 or BE/S x.20.2.1)

Local manual control of lighting loads:

- ON/OFF.
- Dimmer function (if available).
- Scenario recall.



#### Modular KNX switching actuators, SA/S range

- ON/OFF switching of lighting loads.
- Scenario management.
- Definition of room logic.
- Controlled outlets for standby management (e.g. TV).



#### KNX modular dimmers (to be chosen depending on the type of lamps to be regulated): universal dimmers, dimmers for 1..10 V or DALI Gateway controllers.

- Room brightness control
- Scenario management.

## Shutters/blinds



### Chiara wiring accessories series control devices (push-buttons, switches) + KNX binary inputs (US/U x.2 or BE/S x.20.2.1)

Local manual control of motorized shutters, blinds and sun-shield awnings:

- up-down;
- stop (slat adjustment on blinds);
- scenario recall.



### KNX shutter actuators, JRA/S modular range

- Motor control of motorized shutters/blinds.
- Scenario management.
- Management of any weather alarms sent by the KNX weather stations.

## Climate control



### KNX 6138/11-xx thermostat for protruding installation

- Temperature control adjustment (transmission of control signals to fan coil actuators).
- Manual adjustment of temperature setpoint by guests.
- Manual setting of the fan coil speed by guests.
- Modification of temperature setpoint and operating mode from the front desk.



### KNX fan coil actuators

- Speed control of fan coils and relative valves.

### Thermolectric Valve Drives

- ON/OFF switching of valves

### Electromotor Valve Drive

- Proportional control of motorized valves

## Alarms



### Chiara wiring accessories series bathroom pull cord (push-buttons, switches) + KNX binary inputs (US/U x.2 or BE/S x.20.2.1)

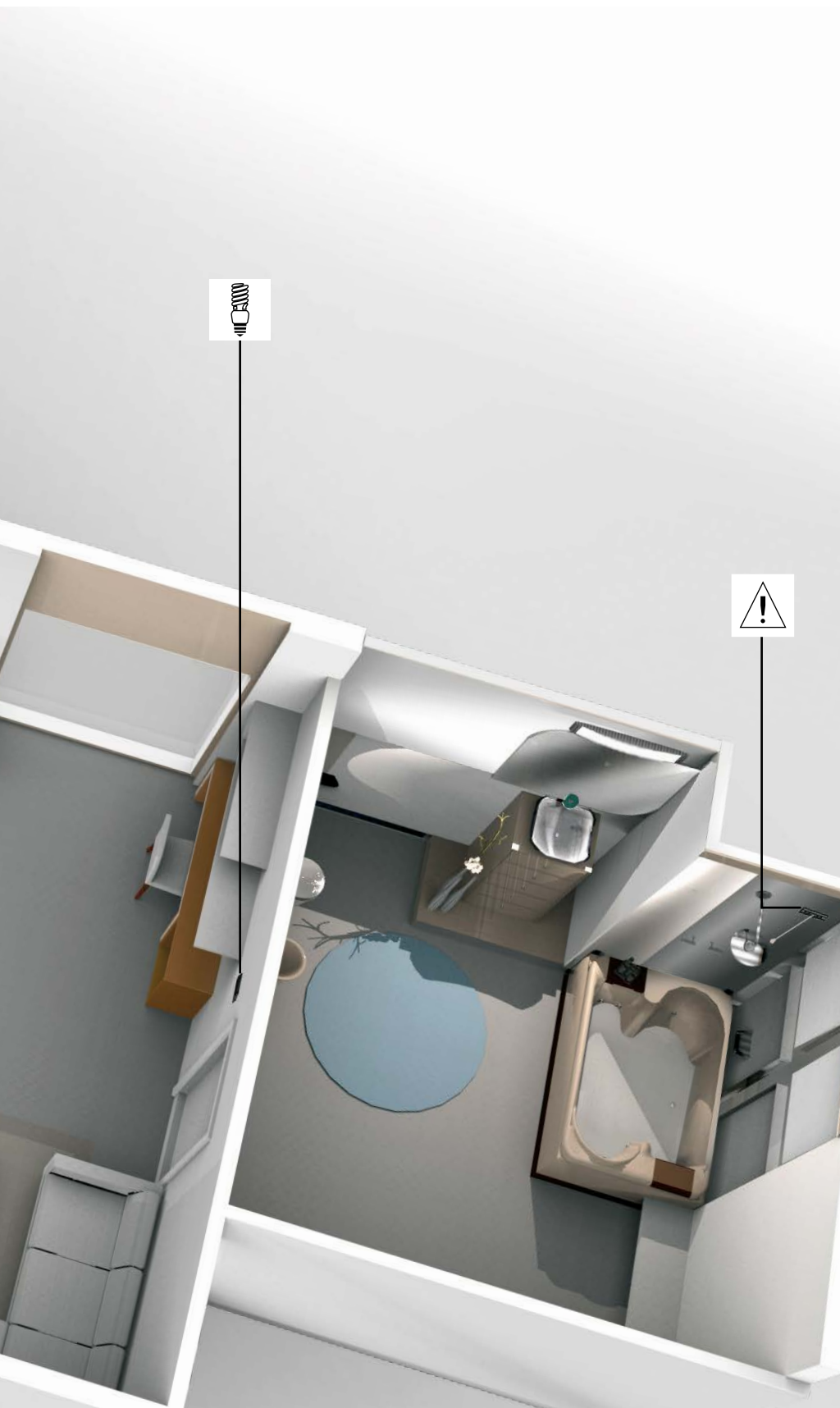
- Bathroom alarm with local and front desk signaling.
- Local or front desk reset of bathroom alarm signal.

### Window contact + KNX binary inputs (US/U x.2 or BE/S x.20.2.1)

- Intrusion detection signaling when room is not occupied by the guest.
- Air conditioning deactivation command signal when the window is opened.

Application examples using ABB KNX solutions  
Suite





Curtain and shutter control



HVAC management



Alarm signaling



Lighting management



Access control

# Application examples using ABB KNX solutions

## Suite

In the suite one sees all the features discussed in the room description. Mylos KNX is the specific and ideal solution for suites and, in general, for all hotels that want to maximize the advantages of KNX Building Automation in terms of comfort and energy efficiency, without sacrificing the design and looks of rooms and environments.

Mylos KNX is a range of compact devices for installation in Italian-standard flush-mounting boxes, perfectly integrated with the sophisticated and exclusive finishes of the Myos wiring accessories series, which are well suited to any type of need and taste. The integration of inputs or relays and buttons in the devices allows to optimize the system design and installation.

### Access control



#### Mylos transponder reader

- Opens the door and activates the courtesy light.
- LED signals outside the room and at the front desk (Do not disturb, Make up room).



#### Mylos transponder holder

- Activates the room's electrical supply upon guest or staff entry.
- Signals room occupancy to the front desk.
- Activates standby temperature control when a guest leaves the room.

### Lighting



#### Mylos KNX flush-mounting switching actuators

- ON/OFF switching of lighting loads.
- Scenario management.
- Definition of room logic.
- Controlled outlets for standby management (e.g. TV).

Mylos □	Mylos ■	Description
2CSYK1101C	2CSYK1101S	Switch Actuator, 16A. 1-fold
2CSYK1102C	2CSYK1102S	Switch Actuator, 16A. 1-fold, with rocker switch
2CSYK1103C	2CSYK1103S	Switch Actuator, 16A. 1-fold, with 2 rocker switches
2CSYK1106C	2CSYK1106S	Switch Actuator, 8A, 2-fold, with 2 rocker switches

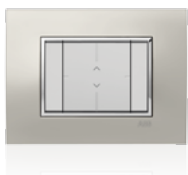


#### Mylos KNX flush-mounting dimmer

- Room brightness control.
- Scenario management.

Mylos □	Mylos ■	Description
2CSYK1205C	2CSYK1205S	Universal dimmer actuator, 350W, 1-fold, with switch
2CSYK1206C	2CSYK1206C	Dimmer 1..10V, 1-fold, with switch

### Shutters/blinds



#### Mylos KNX flush-mounting shutter actuators

- Motor control of motorized shutters/blinds.
- Scenario management.

Mylos □	Mylos ■	Description
2CSYK1104C	2CSYK1104S	Shutter actuator, 230V, 1-fold
2CSYK1105C	2CSYK1105S	Shutter actuator, 230V, 1-fold, with switch

## Climate control



### Mylos KNX flush-mounting thermostat

- Temperature control (transmission of a control signal to the fan coil actuators).
- Manual adjustment of temperature setpoint by guests.
- Manual adjustment of fan coil speed by guests.
- Temperature adjustment and operating mode from the front desk.



### KNX fan coil actuators

- Speed control of fan coils and relative valves.



### Thermoelectric Valve Drives

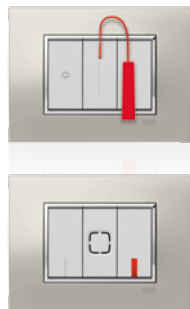
- ON/OFF switching of valves

### Electromotor Valve Drive

- Proportional control of motorized valves

Mylos □	Mylos ■	Description
2CSYK1202C	2CSYK1202S	Thermostat

## Alarms



### Mylos wiring accessories series bathroom pull cord + Mylos KNX binary inputs

- Bathroom alarm with local and front desk signaling.
- Local or front desk reset of bathroom alarm signal.
- Valves.

Mylos □	Mylos ■	Description
2CSYK1001C	2CSYK1001S	2-binary-inputs module
2CSYK1002C	2CSYK1002S	2-binary-inputs module with one rocker-switch
2CSYK1003C	2CSYK1003S	2-binary-inputs module with two rocker-switches

### Window contact + Mylos KNX binary inputs

- Intrusion detection signaling when room is not occupied by the guest.
- Air conditioning deactivation command signal when the window is opened.
- Valves.

Mylos □	Mylos ■	Description
2CSYK1001C	2CSYK1001S	2-binary-input module
2CSYK1002C	2CSYK1002S	2-binary-input module with one integrated switch
2CSYK1003C	2CSYK1003S	2-binary-input module with two integrated switches

# Application examples using ABB KNX solutions

## Front Desk





Hotel management and supervision

# Application examples using ABB KNX solutions

## Front Desk

In the lobby, the guest has the first contact with the quality of service offered by the hotel. At the front desk there is a computer to assign the room and issue the transponder card. Using this card, the guest can access his/her room and the other restricted areas at guests' disposal, and also use the exclusive services. The same computer displays the status of individual rooms and any alarms that may be indicated. During the day, the lobby is lit by natural light, which is integrated automatically when and where required by artificial lighting. The sunlight is filtered through motorized blinds that are adjusted automatically and continuously to ensure a constant level of light without glare. The blinds can also be controlled using the manual controls arranged in their vicinity or at the front desk. In the evening, the lighting is managed by the pre-set scenarios, which control the various light sources.

The lighting of particular lobby areas, such as shop windows and displays, can be activated by motion detectors in order to attract the attention of the guests passing near them. All light sources can also be controlled manually from the front desk.

The air conditioning system automatically ensures maximum comfort during normal guest attendance time bands, maintaining a low energy consumption temperature in other periods of the day. If necessary, the temperature of the environment can be changed manually by setting the local thermostat or activating a different operating mode.

Access points are closed and video surveillance is activated during the night hours, allowing the front desk staff to open the doors remotely when required.

### System supervision and management



#### **Mylos or Chiara transponder programming device**

- transponder card programming for check-in and check-out.



#### **MiniMAC - Access control management and configuration software**

System configuration and management software:

- check-in/check-out;
- room temperature control;
- guest occupancy control for room state verification;
- definition of fees for access to services for payment;
- definition of time bands and groups;
- display of room events/alarms and transmission of commands;
- interface capability with hotel management software, such as Micros Fidelio.



# Contacts

**ABB SACE**  
A division of ABB S.p.A.

[www.abb.com/knx](http://www.abb.com/knx)  
[ABB Access Control solution](#)  
[ABB offer for Hotels](#)

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