



SOLUTIONS GUIDE 1.0 - 2024

# **ABB Hospitality Solutions**

Future ready hospitality  
through digital integration

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# About ABB group

ABB's purpose is to enable a more sustainable and resource efficient future with our technology leadership in electrification and automation.

Building on over 140 years of excellence, our more than 105,000 employees are committed to delivering on our purpose by driving innovations that create success for ABB and all our stakeholders. Together, we address the world's energy challenges, transform industries, reduce emissions, preserve natural resources, promote social progress, and push the frontiers of technology to make things possible that were not possible before.

Our solutions connect engineering know-how and software to optimize how things are manufactured, moved, powered, and operated.

ABB's purpose is why we are in business and our guiding star.

## ABB'S PURPOSE

We enable a more sustainable and resource-efficient future with our technology leadership in electrification and automation.

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# ABB in India: 100+ years, 74 years of manufacturing, global R&D and business services



**5** Manufacturing locations



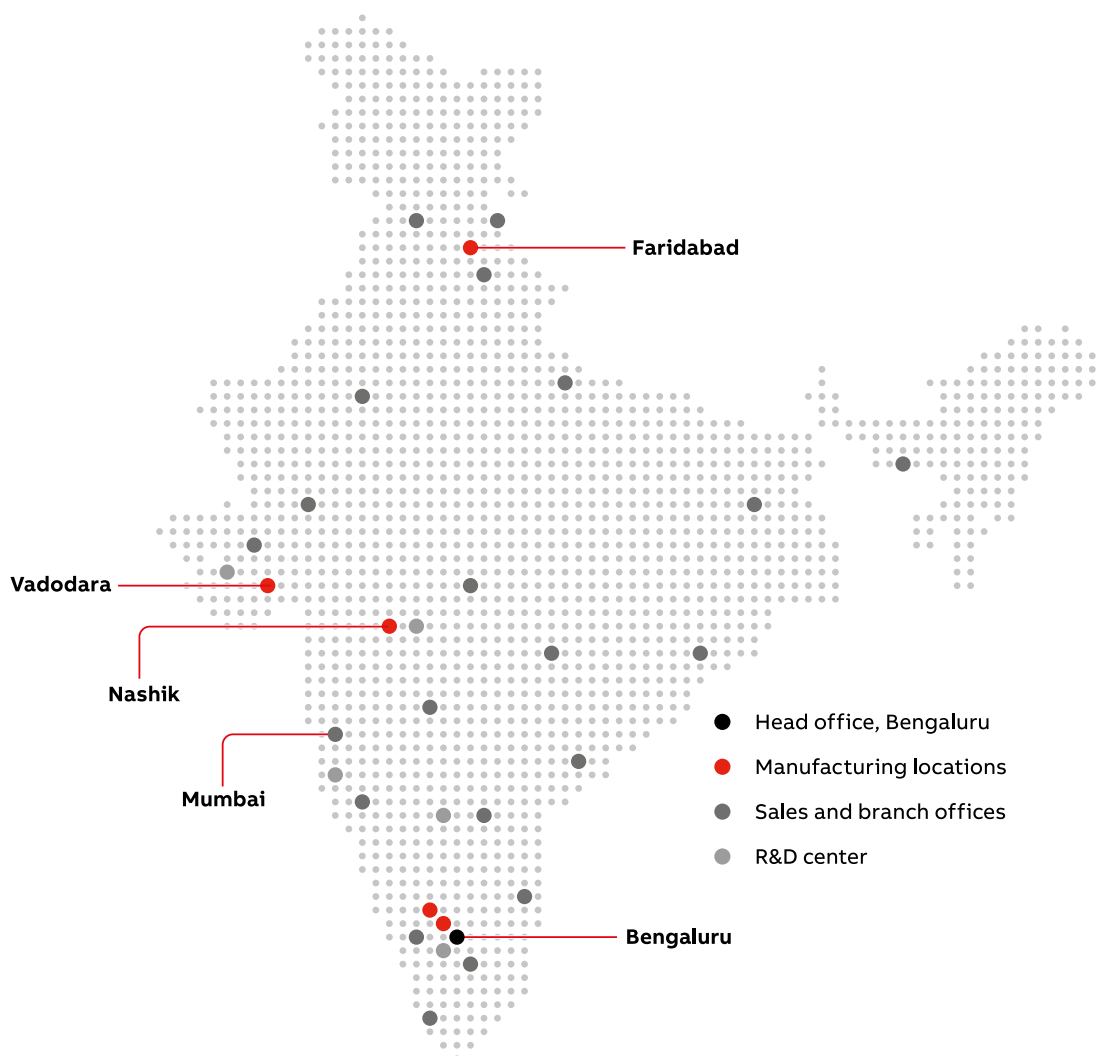
**28** Sales offices



**9,500+** Employees

**25** Plants

**750+** Partners



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# Hospitality solutions

## Introduction

Hospitality and in particular hotels are changing and evolving.

Terms such as budget, business, smart, boutique and luxury are used to describe the premises and the promised experience nurturing the guest's dreams. The hotel is now more than ever described by the experience, which in 90% of times the journey and experience begins with a social media interaction with the hotel.

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## Customer needs



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### Health and comfort

- **Healthier environment:** Highest indoor environmental quality throughout the hotel for guests with high comfort requirements
- **Hotel space efficiency:** Readiness to rapidly deploy sanitary measures in the face of Covid type crises. Additional is required a quick turnaround when facing reduced occupation rates, reallocation of spaces and rooms
- **Guest comfort and unique experience:** Customize guest experience within common facilities. Personalize room controls, device connectivity both for work and entertainment purposes



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### Life cycle cost and value

- **Energy efficient infrastructure:** Funding for implementation of energy saving measures. Critical will be carbon footprint reduction and meeting the highest efficiency standards
- **Energy management:** Multisite centralized energy management across hotel chain, guaranteeing on and off site access to equipment data to optimize operation



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### Environmental performance

- **Hotel certification:** Attraction of environmentally conscious guest by implementing building performance certifications
- **Power supply resilience:** Continuing operation of hotel critical building systems to preserve the safety and accommodation of guests. Enables onsite renewables generation and integration combined with backup power supply and energy storage to prevent failure



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### Future performance

- **Building access data and use:** Digitalization of processes and documentation to deliver streamlined and secure management of both guest and building data
- **Guest room data and security:** Protection of sensitive data types to ensure guest privacy and data sharing and storage within robust and secure systems and processes
- **Integrated and open platform:** Integration of guest room management system applications combined with Bring Your Own Device capability and connectivity for guests

# Guest journey and expectations

## Personal space areas

HVAC controls, lighting, guest room management system, room controls, access controls, safety, and security



### Occupancy

Personal room preferences selected by guest, communications with front desk, access to booked accommodation

## Common transit area

HVAC controls, lighting, guest room management system, room controls, lighting, and shading control, EV charging, access control, safety, and security



### Arrival

First point of contact with the hotel amenities and staff, provision of services based on booked



### Departure

Guest settles accounts based on consumption of services

## Off site

Reservation through hotel management software, specification of customer preferences



### Pre-arrival

Customer selects hotel based on line platform rating, advertisement, word of mouth, travel agency or brand recognition



# Features expected from hotel solution

## Automation, control and supervision

### Communication

**The communication between different sub-systems within the same building or the visualization via the internet of images of the rooms following an alarm, are functions easily achievable in a bus system.**

A bus system can satisfy communication needs related to security, control and entertainment such as the activation of video surveillance cameras or the sending via internet of images of the rooms following an alarm, it allows to understand if there is really the issue or if it is just a false alarm.

All the functions implemented in the various systems of a building can also be controlled remotely through the use of web servers or remote controllers on land or mobile networks.

The video system becomes an integral part of the automation system, allowing, among other functions, communication between the different workstations within the same structure.

The different communication solutions between staff and between them and occupants allow for important results, including ease of use, savings in installation and management and improvement of the service offered.

The main points to be considered are:

- **Simplicity of wiring**

Using bus technology wiring for the connection between the devices, all data and information travel on a simple twisted pair, thus saving on the material and time spent laying the cables. Using a 6-conductor cable, you can also bring power and speech to the various devices.

The possibility of using a simple 6-conductor cable compared to the considerable bundle of cables (or the large multipolar cable) traditionally used, considerably facilitates installation, reducing installation times.

- **Modularity**

By turning to systems that use modular technology, it is possible to make the system evolve over time, starting from the basic functions and subsequently adding the other functions, without nullifying the investments already made.

- **Continuity of service and ease of maintenance**

By taking advantage of the internal self-diagnosis and anomaly recognition functions present in some systems, it is possible to immediately identify any faults. If necessary, the electronic modules can be replaced without having to interrupt the operation of the system, thus ensuring continuity of service. In addition, the electronic room control modules, if installed in the corridor, could be replaced without having to enter the patient's room. In this way, no disturbance is caused to the patients and doctors and nurses can safely continue to operate according to their needs, while the technical maintenance staff can intervene promptly.



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# Features expected from hotel solution

## Automation, control and supervision

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### Access control



#### MODULAR

Modular architecture with standalone graphics or that can be integrated into third party SCADA systems



#### SIMPLE CONFIGURATION

Plug and play system.  
Just add the devices on the KNX line



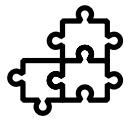
#### SIMPLE MANAGEMENT

Procedures for assigning access permissions, simplified with various levels of user privilege



#### DIAGNOSTICS

Integrated diagnostics for system alarms or faults



#### EXTENSION

Simple and minimally invasive functionality extension

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### Security

**The integration of systems such as the alarm system, video surveillance and technical alarms allows to reduce installation costs without affecting performance.**

The presence alarm system can communicate with the video surveillance, lighting and other systems of the structure: the integration of the different systems therefore allows for a higher level of security and lower costs than single stand-alone systems. Many devices can be used multi-functionally by several systems.



# Features expected from hotel solution

## Automation, control and supervision

### Comfort

**The increase in the comfort offered by the building and the quality of living are among the best known advantages of an automation control system.**

Lights and shutters of a room or a series of rooms can be grouped so that they can be controlled automatically or autonomously even by fragile people. This allows to conveniently turn off all the lights in an area with a single gesture, close the windows, put all the systems you want in standby condition (e.g. cooling), activate alarms, etc.

By integrating the traditional functions of an electrical system with the control and automation functions of communication to and from the building, the usability of the structures is increased.

Through thermoregulation, the system plays a fundamental role not only in minimizing consumption, but also in improving comfort.

People with disabilities or with temporary or permanent mobility limitations can receive assistance in using the spaces and their functions.

**The solutions that in most cases meet these needs can be:**

- Video surveillance cameras;
- Dedicated voice commands;
- Remote controls with specific features such as large illuminated buttons;
- Large parade buttons;
- Alarms reported on mobile phones in case of detection of flooding, gas leaks, open doors or windows, etc;
- Emergency call with dedicated or pull button.

### HVAC control - Comfort and efficiency in the same architecture



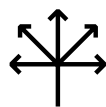
#### HVAC SYSTEMS

All HVAC is managed by the building management system



#### CENTRALIZED THERMAL EQUIPMENT

All the equipment for heating and cooling (Boiler - Chiller-UTA - VRV Free cooling) can be integrated into the system and managed locally by PLC / Inverter



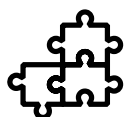
#### INTEROPERABILITY

All the communication protocols can be integrated



#### DISTRIBUTED EQUIPMENT AND SENSORS

All the equipment and sensors distributed in the rooms (fan coils, valves and thermostats) can be integrated and managed on the KNX protocol



#### FLEXIBILITY

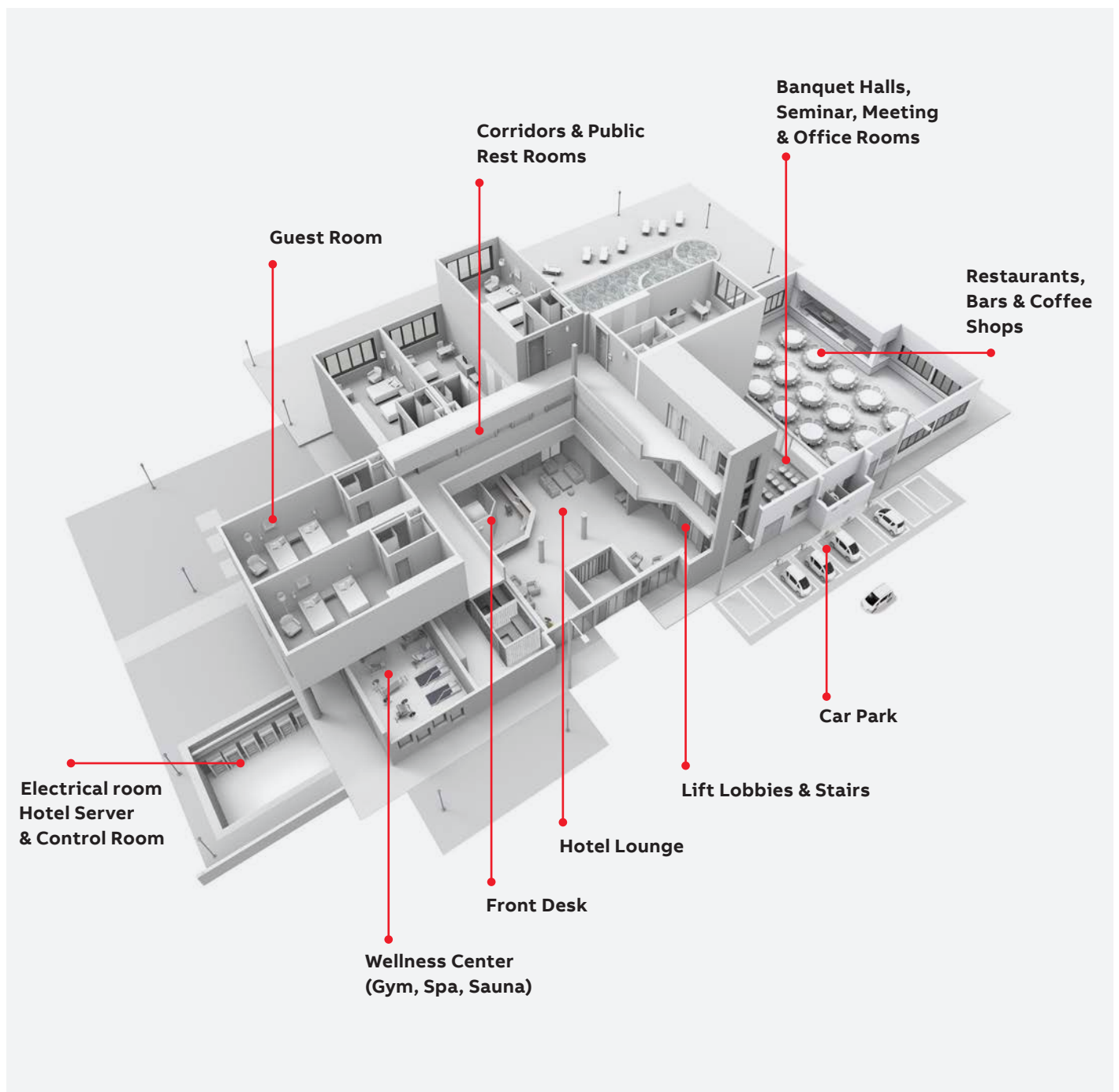
A flexible and modular architecture allowing to face all the possible cases



# Building typology

## Hotel environment

The entire hotel structure may or may not contain several areas dedicated to specific functions.



# Guest Room Management System (GRMS)

Main purpose of the Guest Room Management System (GRMS) is to provide maximum guest comfort through easy-to-use operation, reliable room control products as well as to reduce the consumed energy during guest un-occupancy and reduce the operational cost for the hotel operator.



- Lighting (Switching on/off and dimming)
- Air conditioning (Controlling room temperature and maintaining air quality)
- Curtains / blinds control
- Access control
- Room electrical loads and non-essential power sockets
- Room service Do not disturb (DnD), make up my room (MuR), laundry, and butler services (Outside-Inside courtesy indicator panel)
- Room occupancy detection by means of presence detectors or energy saver key card holder
- Room energy management

**The GRMS also provides integration with the following systems:**

- Property management system
- Online access control system and door locking system
- Building management system



# Guest Room Management System (GRMS)

The GRMS can be programmed to provide lighting, curtains, air-conditioning, and courtesy controls for the individual guest room with the possibility of future upgrades. Components include but not limited to the following for each Guest Room are the following ones.

## Guest Room Control Panel (GRCP):

- KNX room controllers
- Dimmers (DALI or direct dimmer depending on light fixture type)
- HVAC Controllers (Fan coil or heating controller or split unit controls or VAV controls)

## Guest Room Panels:

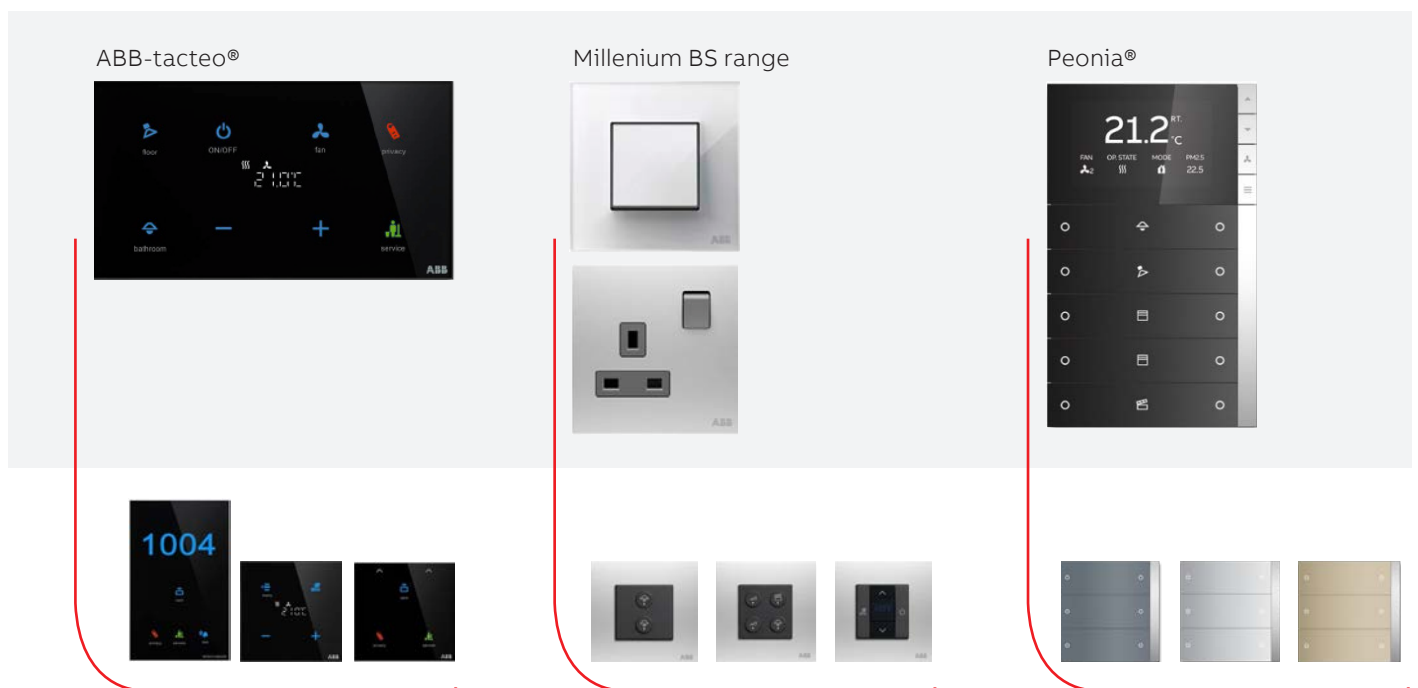
- Outside-Inside Courtesy indicator panel (with or without reader, with or without Room Number)
- Energy Saver Key Card Holder
- Room thermostat
- Bedside Panel (Other ranges of Push buttons are available)
- Entry Panel (Other ranges of Push buttons are available)
- Bathroom Panel (Other ranges of Push buttons are available)

## Room Access Control System:

- Access control devices
- Front desk integration
- Dedicated access control server

## Others:

- In-room Visualization (BYOD or localized touch screen or dedicated smart device control)
- Room call system for disabled rooms(optional)
- Presence detectors (Subject to control philosophy)
- Property management system interface
- Room call system for disabled rooms
- Water and energy monitoring units (Optional door/window contact GRMS server - centralized monitoring/control & interface to third party systems)



# Guest Room Management System (GRMS)

## ABB-tacteo®

The ABB tacteo® KNX sensor is a capacitive control element for the intelligent building automation of high-end luxury hotels.

ABB tacteo® KNX meets all the requirements that a modern design demands – the highest levels of quality and above all comfort: from blinds, lighting and heating to media and access, everything is easy to control.

Are you an architect planning a building with maximum functionality and a personal touch? Do you desire a modern home that is as individual as you are? Design your KNX sensor with the ABB tacteo® configurator, completely as you like. The number of functions is variable and can be determined according to your specific needs and wishes. Individually configured as required, each sensor is unique in design and function.

### Features

- Integrated KNX bus coupler
- Commissioning / parametrisation from ETS4 onwards
- ABB-tacteo® room temperature controllers must be additionally supplied via a separate 24 V DC power supply
- Standard and customized components available
- Customer can create individual devices via online configuration tool
- No extra cost by configuration
- For global markets
- VDE / British Standard / Chinese / Swiss type wallboxes / Italian standard wallboxes / NEMA type wallboxes



- Selection of the color among the standard colors available
- Every device can be freely configured by the customer using a library of ABB icons

- It is also possible to add for every icon/symbol a descriptive text using among a set of fonts provided

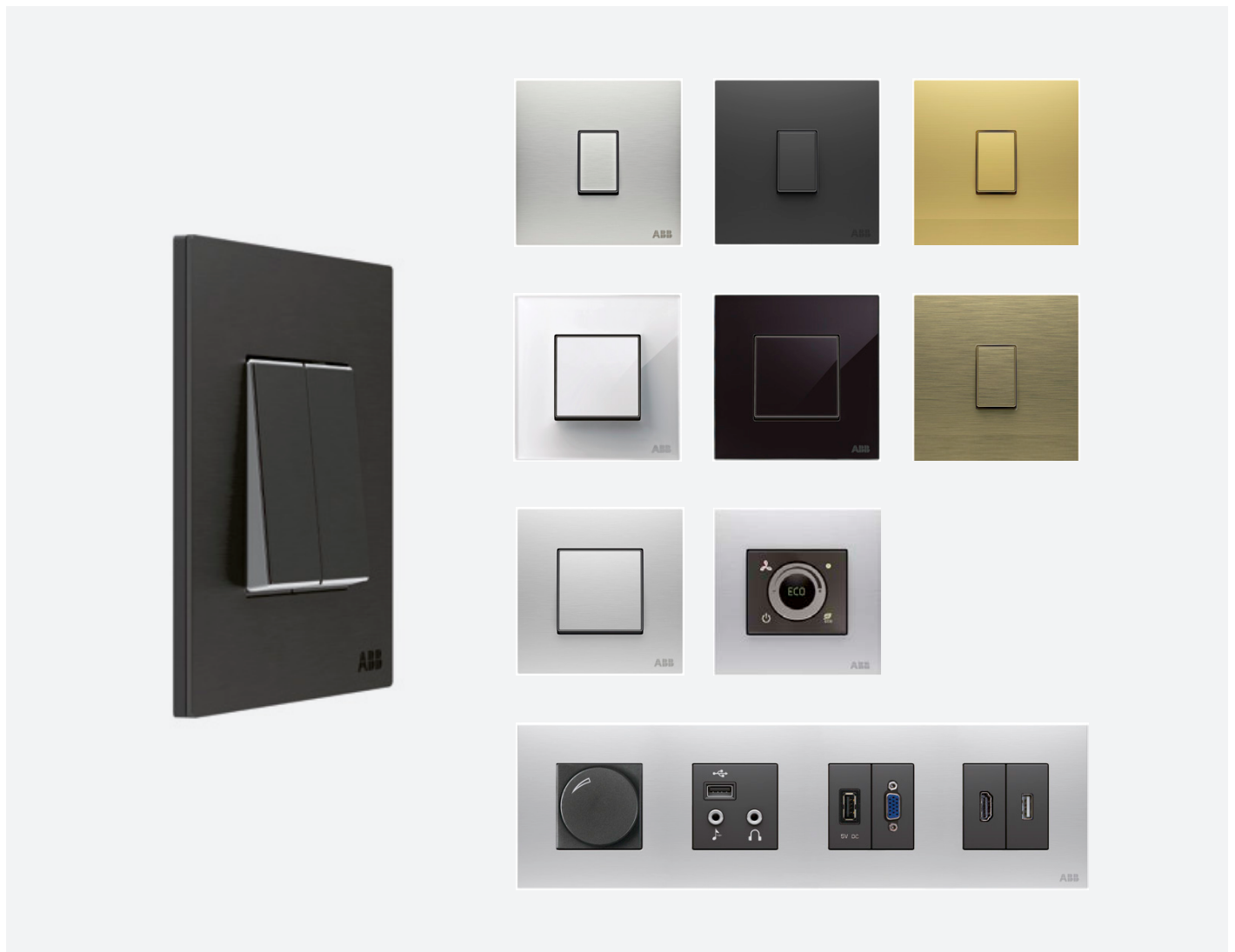
# Guest Room Management System (GRMS)

## Millenium BS range

A Millenium switch is engineered to impress. It perfectly complements cool environments with its striking, ultra-slim design and distinctive, classy metal finish and glass finish, while its wide range of functionality will meet even the highest of customer demands.

### Features

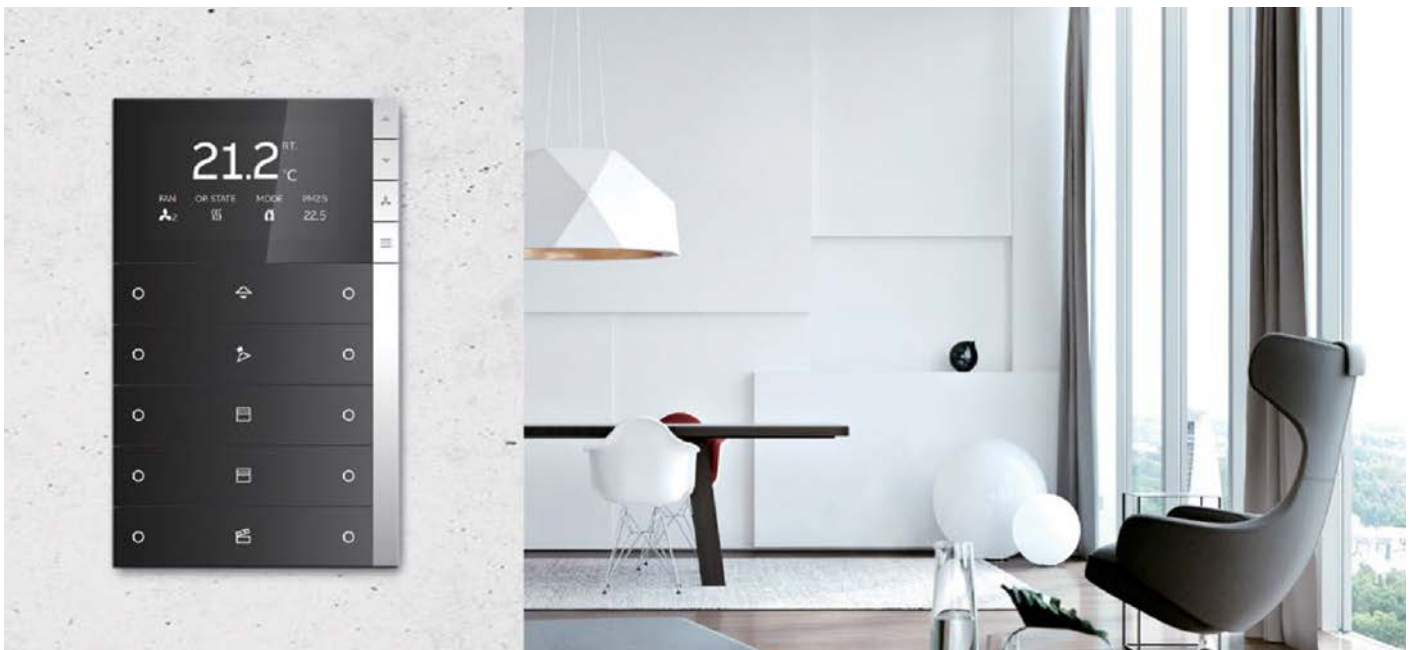
- Slim line design, only 4 mm high with straight and squared lines in the foreground
- Barbell with attractive chrome profile that gives a distinctive eye-catcher
- Easy to install, simple and adaptable, it allows the use of larger screws facilitating installation in any situation and place
- First range of British Standard harnesses with Ecodesign Certificate
- Millenium offers a complete solution for any commercial project and in particular for hotels, including within its range of cabling accessories not only special conventional solutions for hotels, but also VDI connectors, USB chargers, ABB i-bus® KNX, ABB-free@home®, access control and sound system



# Guest Room Management System (GRMS)

## Peonia®

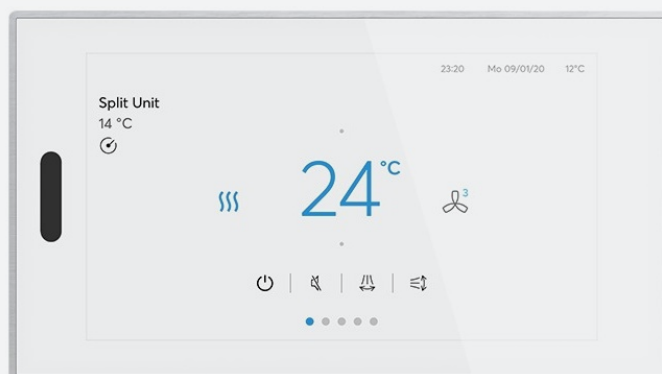
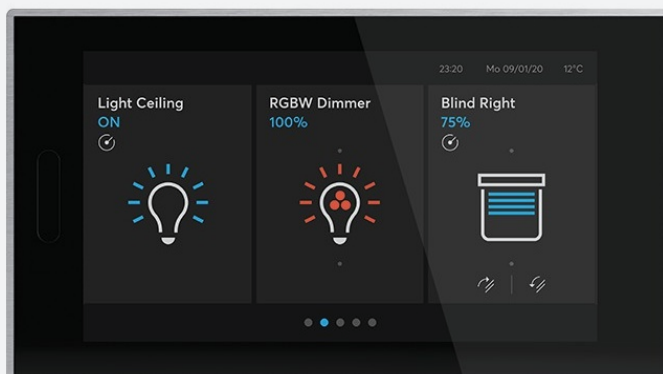
ABB i-bus® KNX sensor PEONIA® with frameless, slim and top classical design to match your imagination. All in one function and free combination with replaceable rocker to make your daily life smarter than ever. The intuitive design of room temperature control and dynamic display screen can offer humanized using experience.



# Guest Room Management System (GRMS)

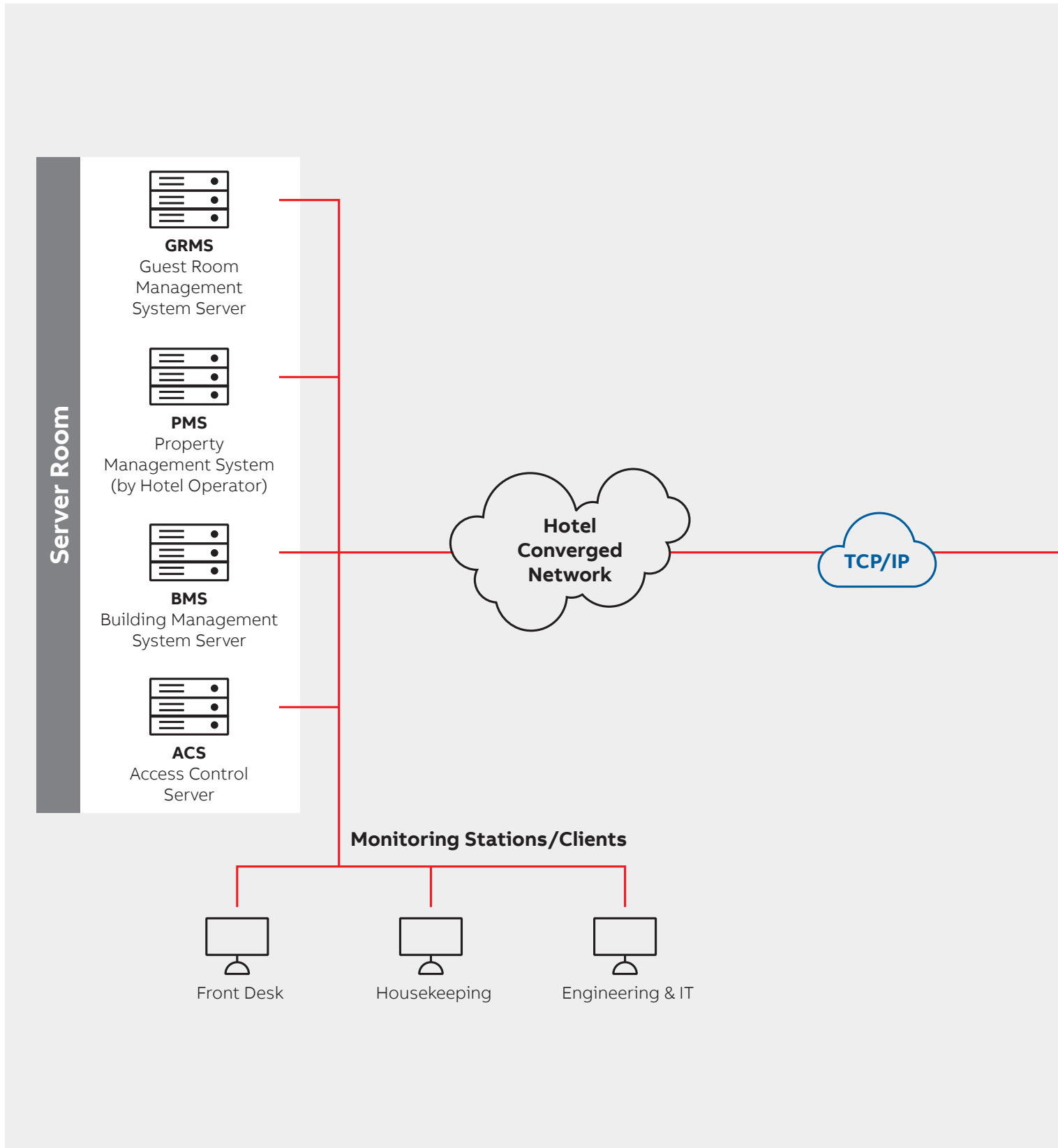
## Room Touch

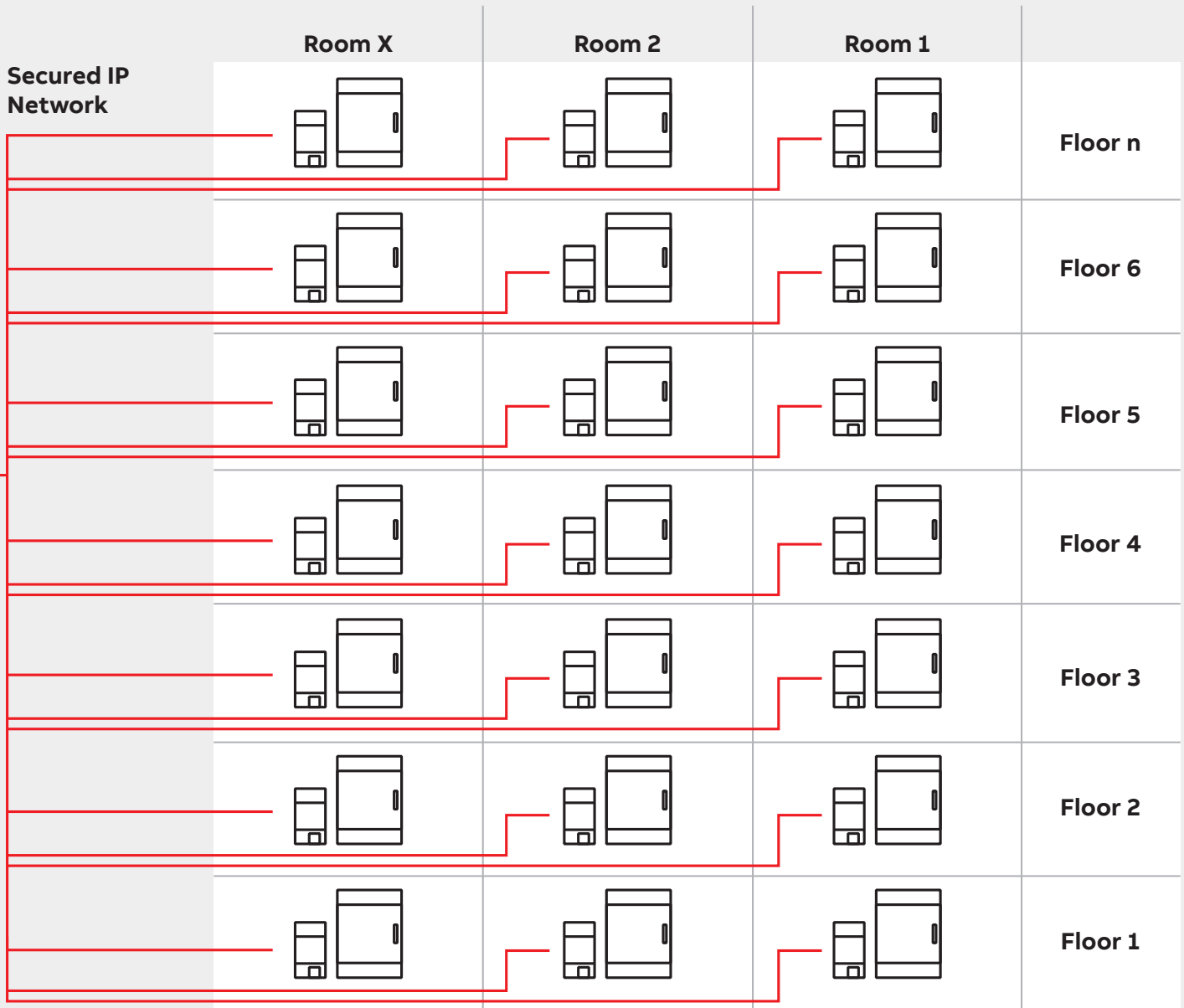
- ABB RoomTouch® will expand our range by an additional high-quality KNX touch panel
- One panel that can be mounted portrait and landscape
- New operating concept for quick operation of your lights, blinds, temperature, scenes and audio
- Flat, good looking device with enough functions for a room and for the right price
- Integrated temperature sensor
- Proximity sensor will switch on the device when I am near to it
- Quick switch off when the room is dark (bedroom application)



# Guest Room Management System (GRMS)

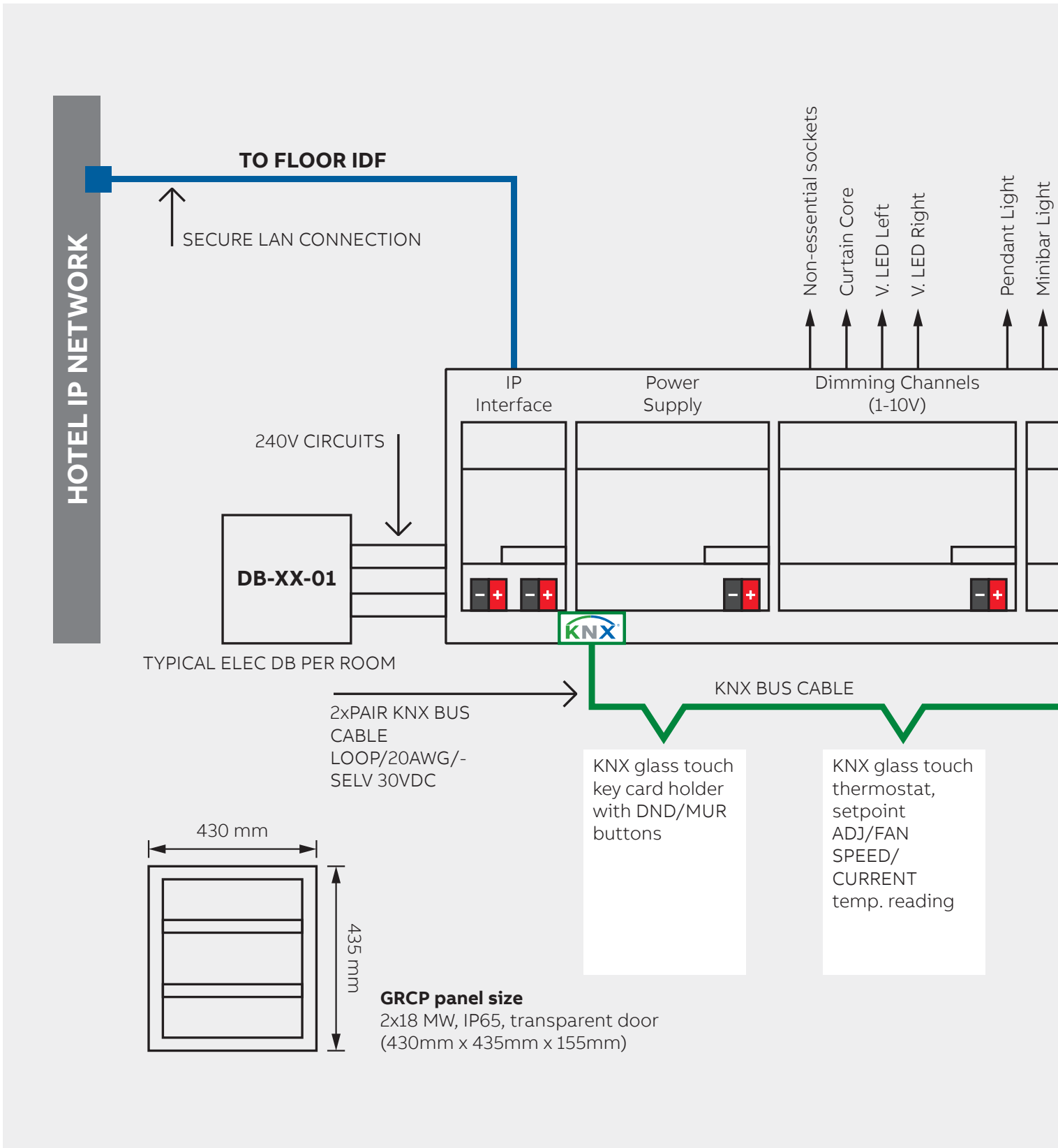
Overall GRMS reference architecture

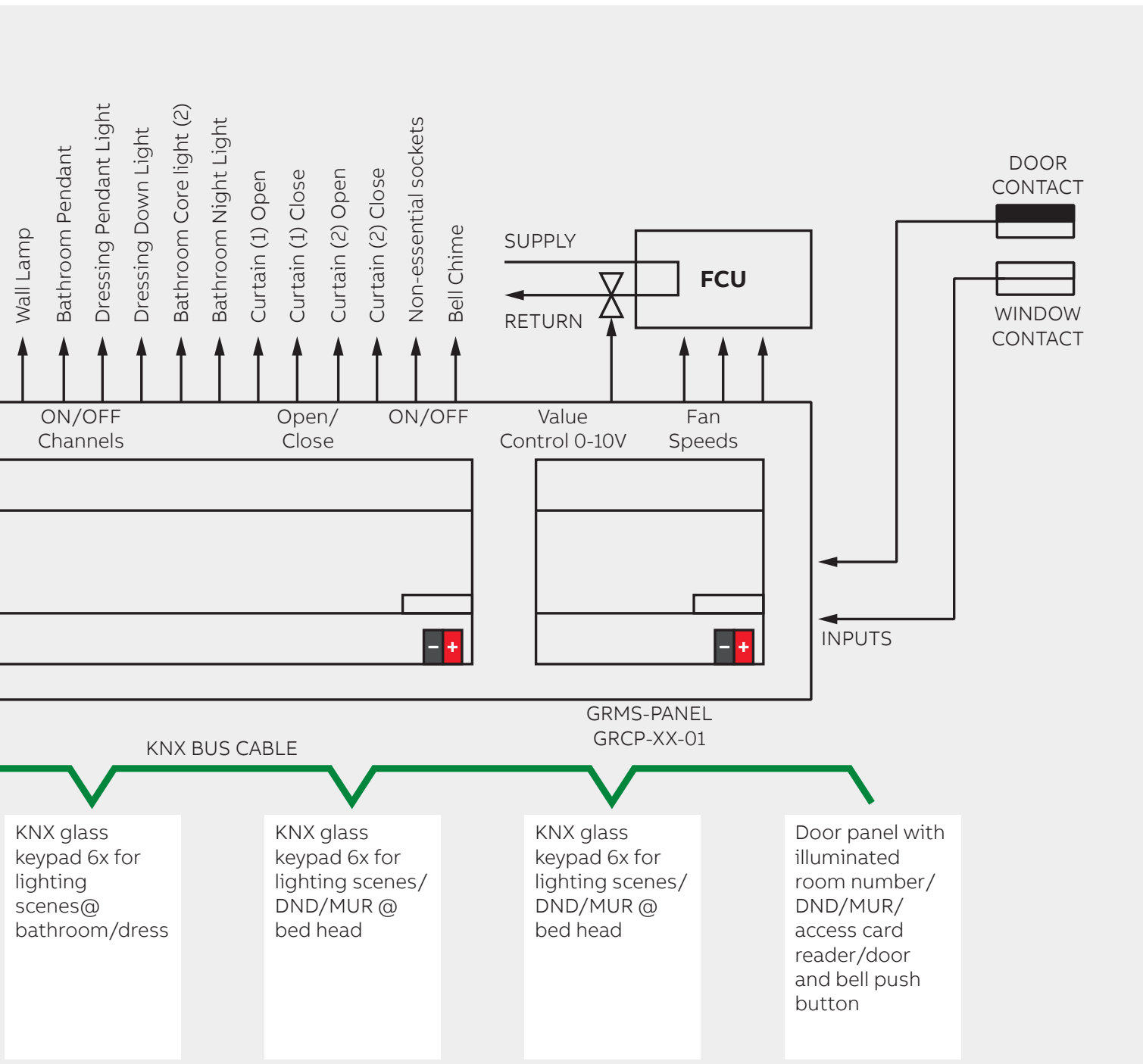




# Guest Room Management System (GRMS)

In-room GRMS reference architecture

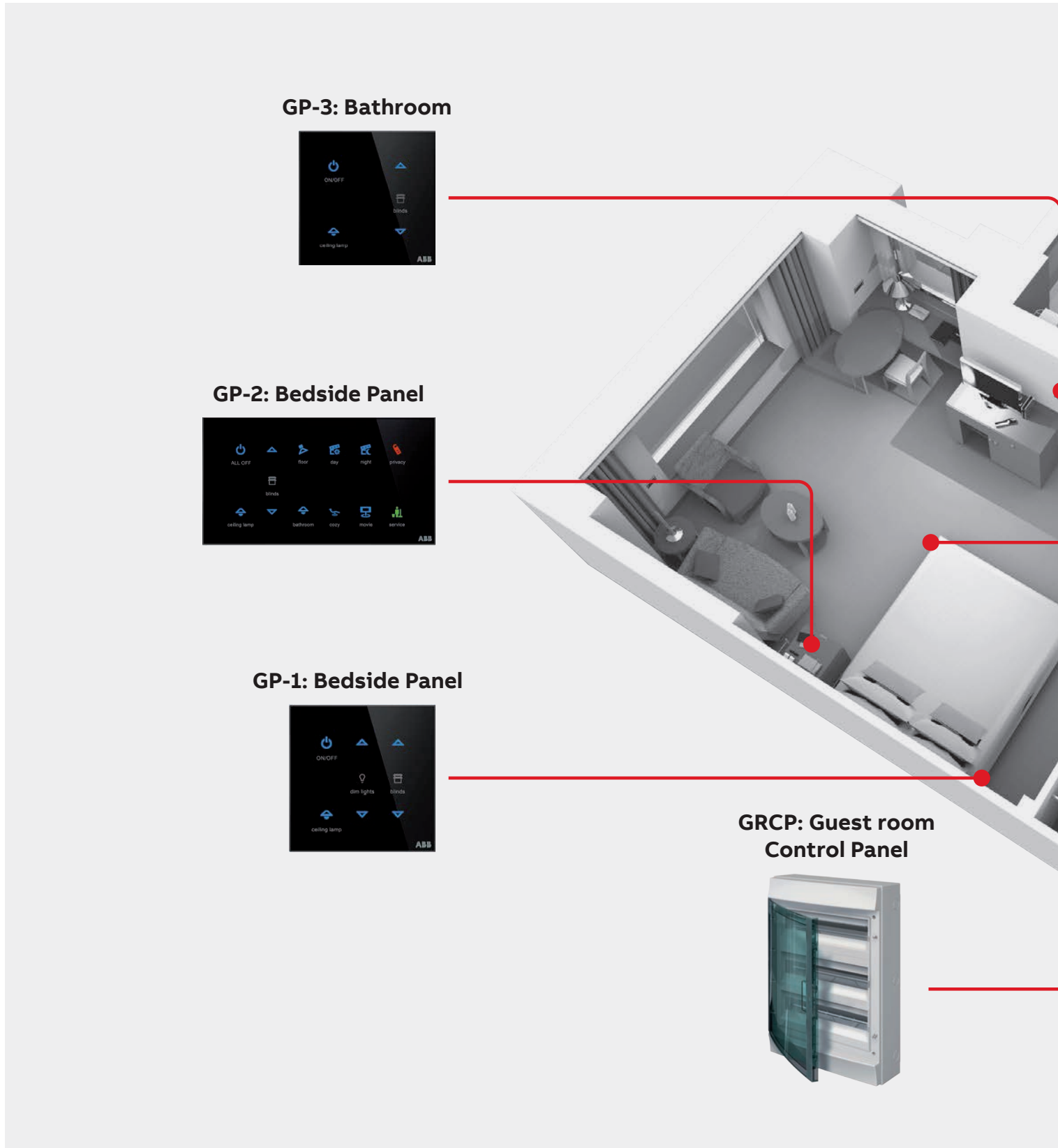


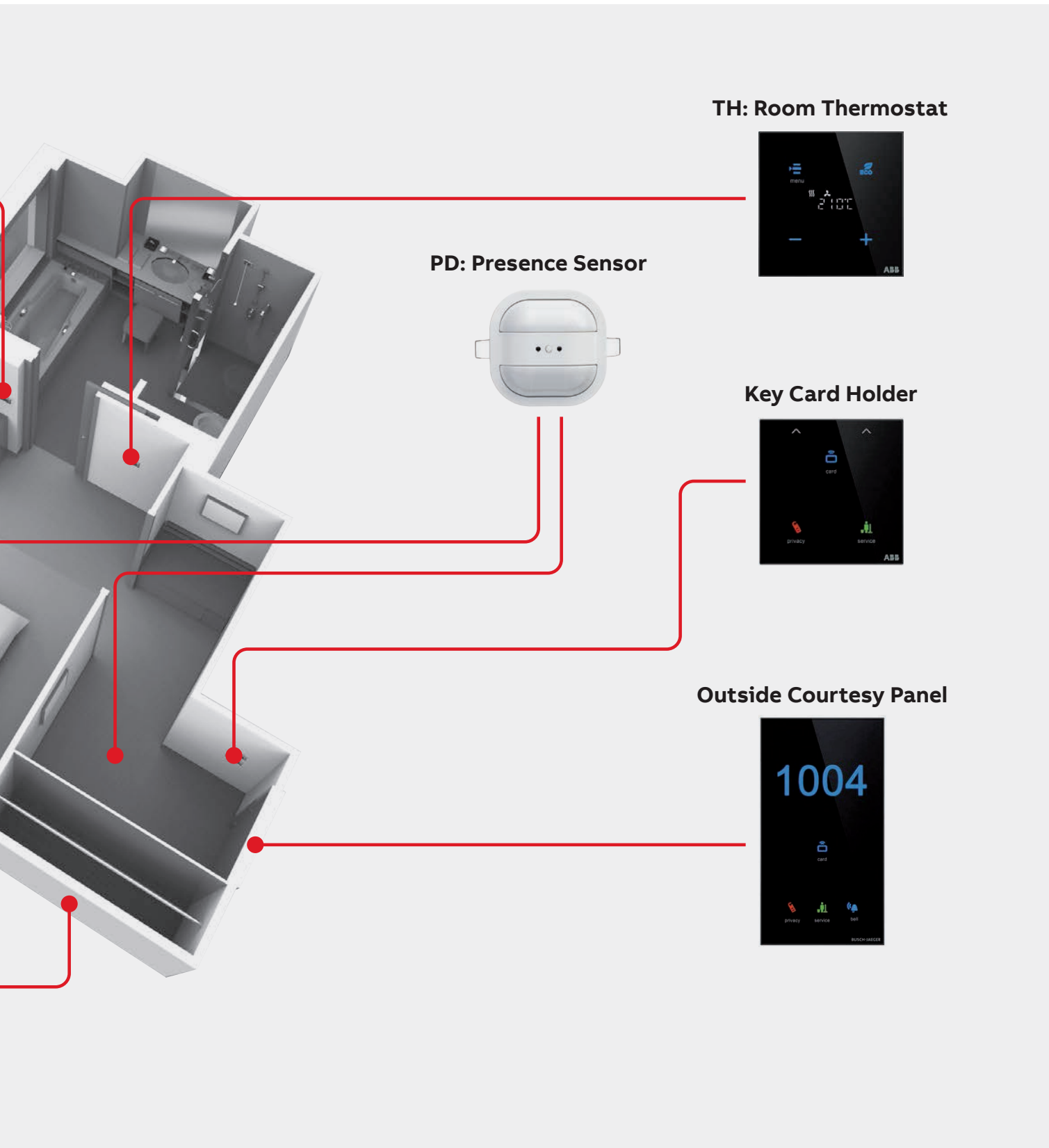


# Guest Room Management System (GRMS)

## Room layout

Layout with Tacteo®





**TH: Room Thermostat**



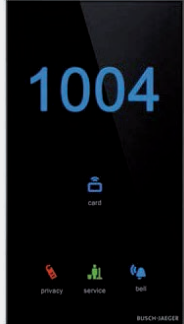
**PD: Presence Sensor**



**Key Card Holder**



**Outside Courtesy Panel**

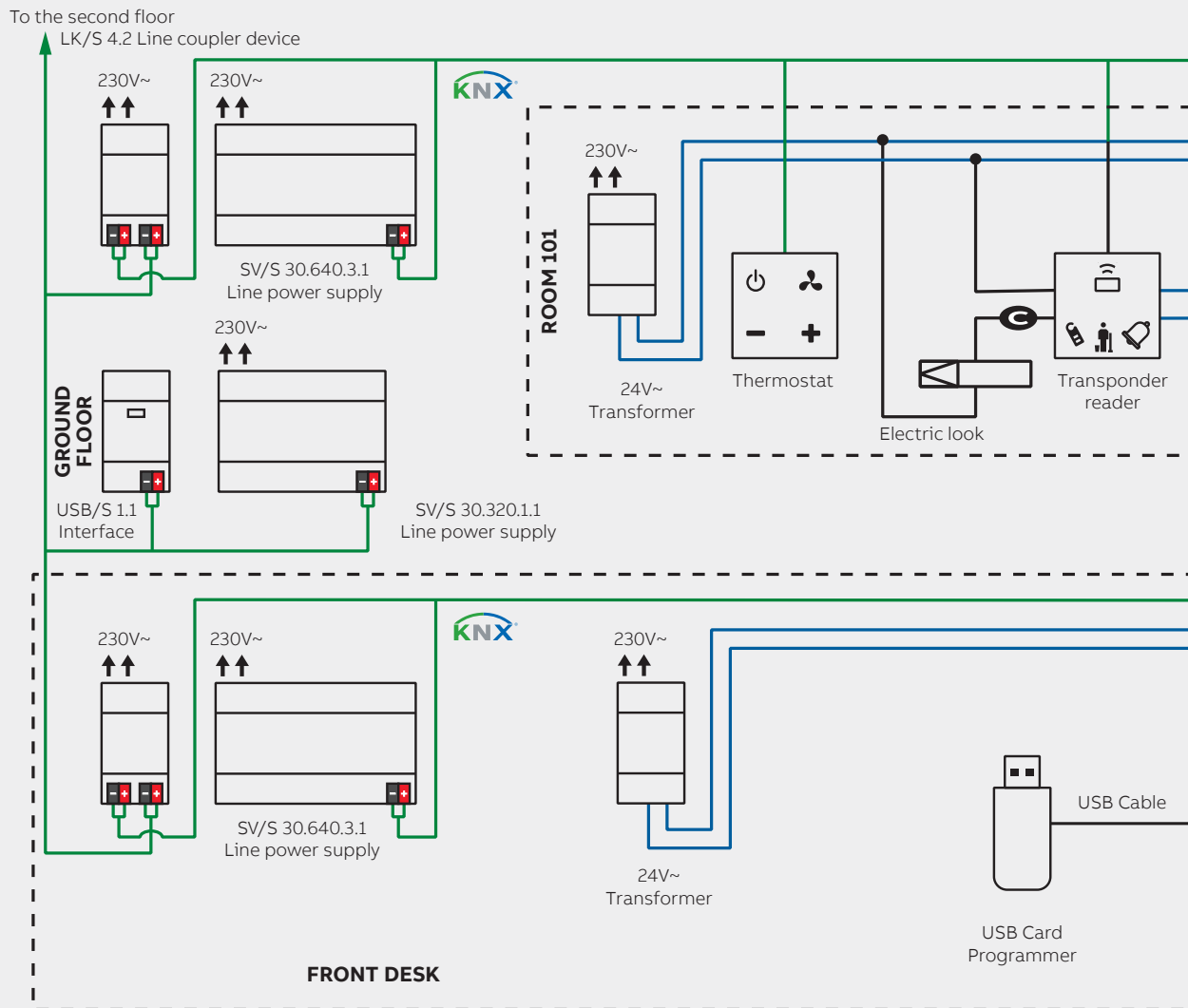


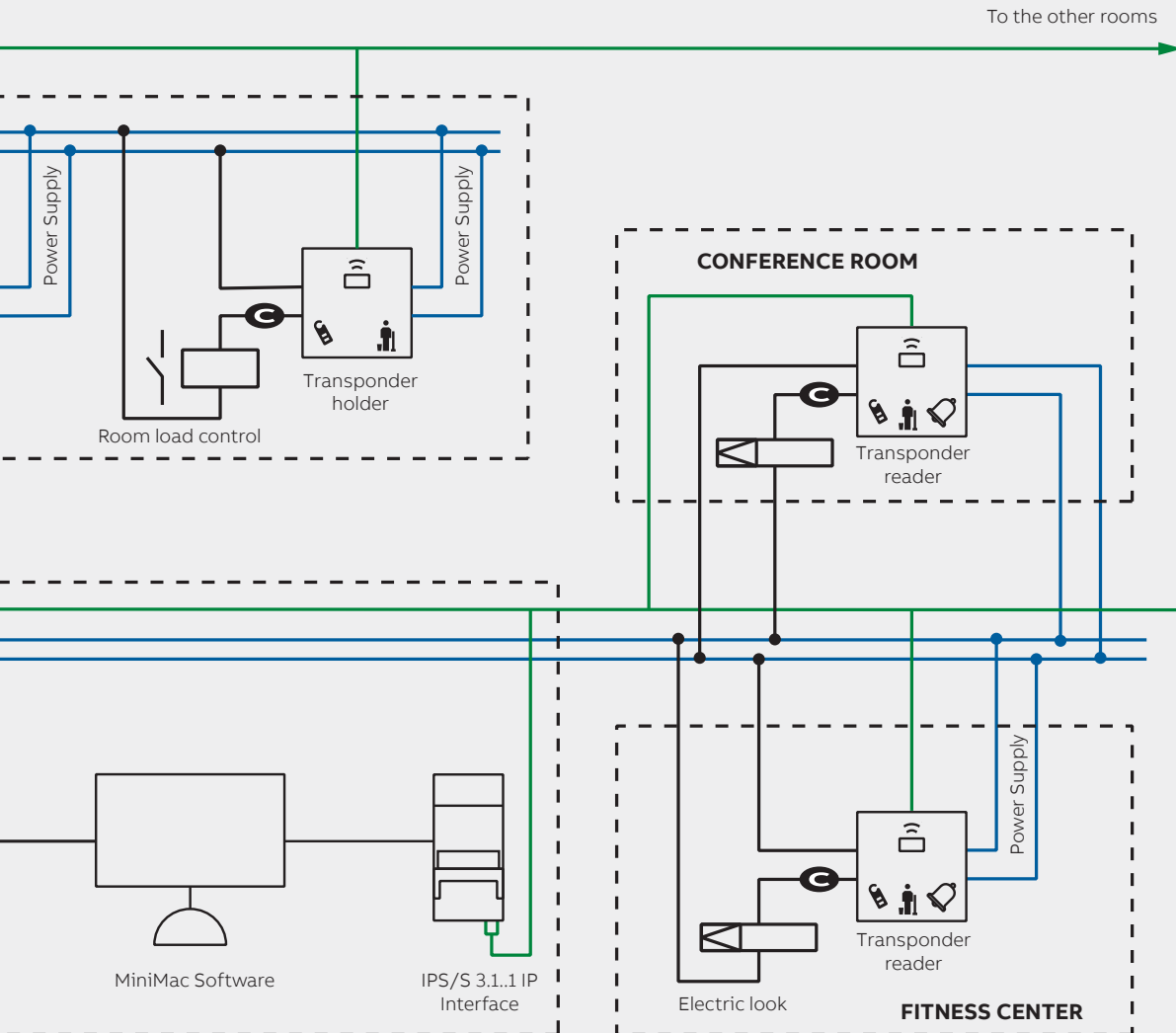
# Guest Room Management System (GRMS)

## Access control

GRMS access control reference architecture

As an alternative, in KNX hotel installation main/backbone line are IP-based, in order to grant higher transmission speed (10/100 Mbit/s instead of 9.600 bit/s) and simplifying the cabling. In this case, KNX IP routers replace KNX line couplers. It is highly recommended, in a hotel application, providing IP Router Secure in order to have encrypted KNX communication on main/backbone lines.

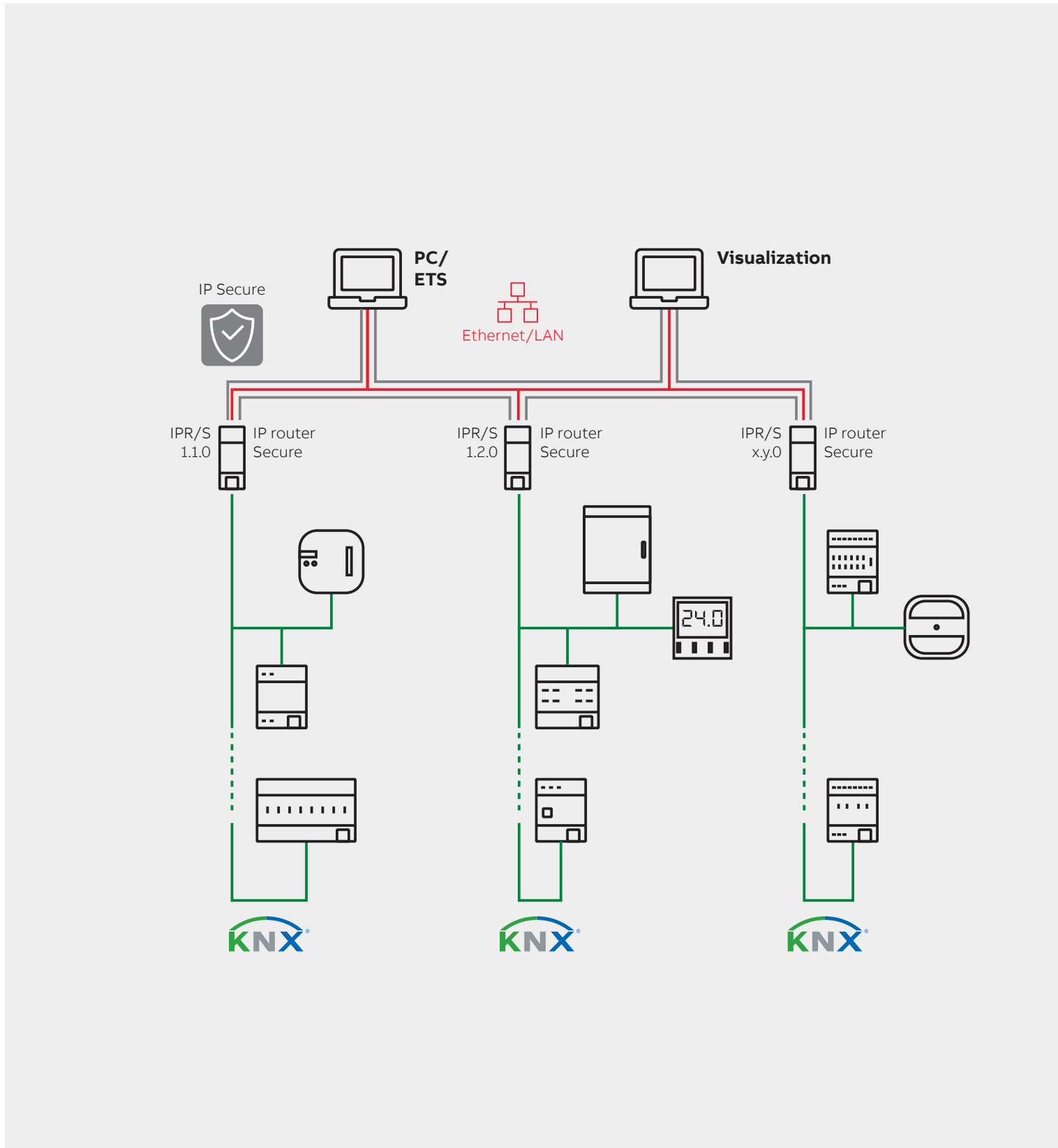


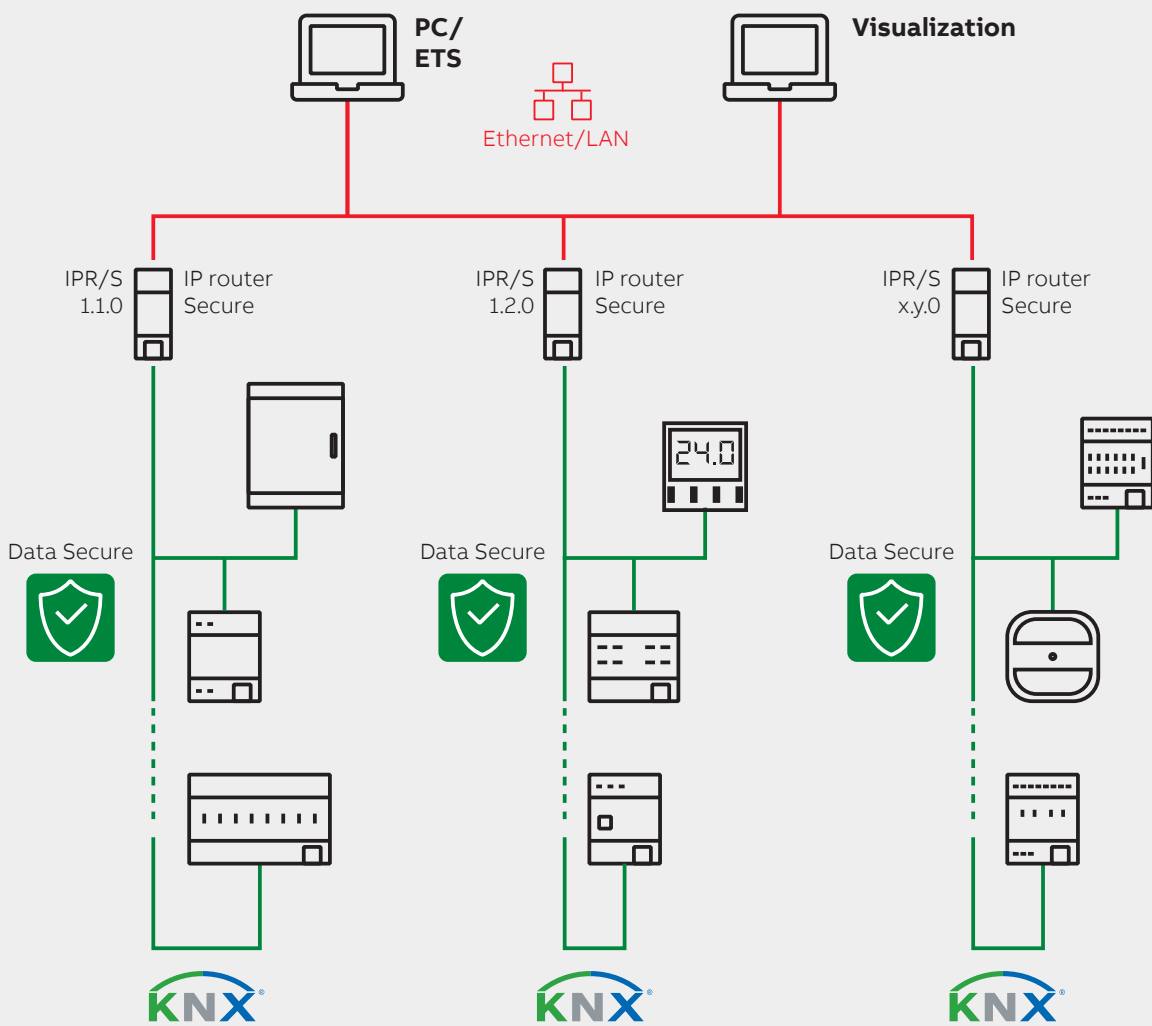


# Guest Room Management System (GRMS)

## Data security

Reference architecture

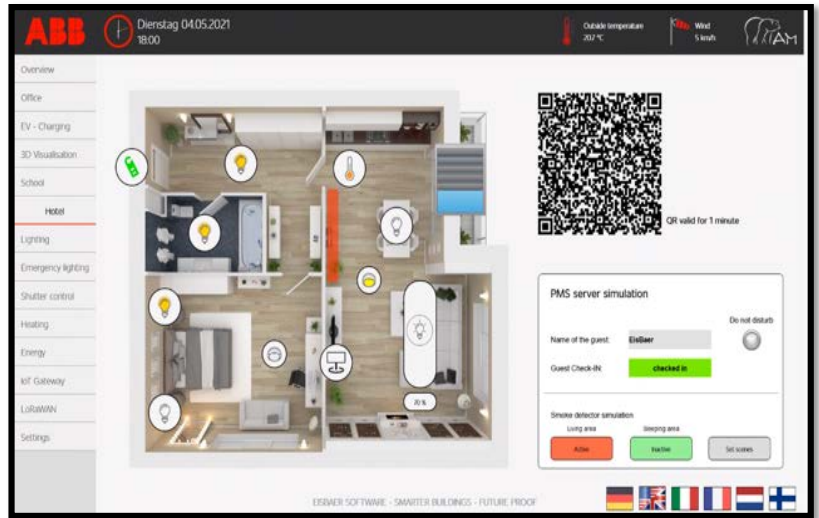




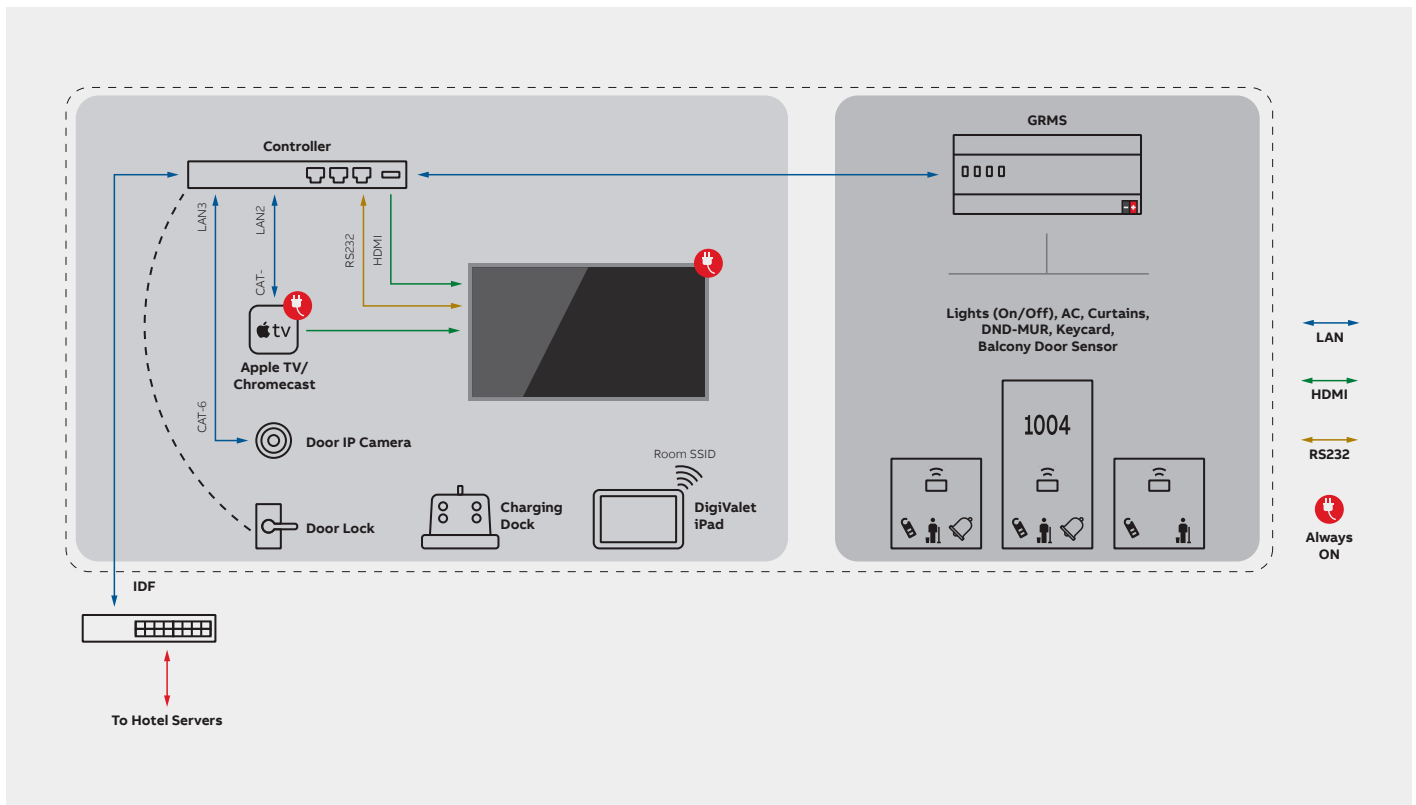
# Guest Room Management System (GRMS)

## Third-party integration

Here guest uses his/her own smart device (IOS/ Android) when guest checks into room he/she is provided with QR code either via email or located in room and when scanned, guest gets access to room controls from lighting, shades, curtains, AV control, etc. in required guest language. This access is provided to guest from the time he/she checks-in until he checks-out. After the check-out date time the QR access is automatically disabled, and the process continues for new guest. This concept provides better cost saving for hotel operators as they don't have to provide any dedicated controls for such a functionality & during the current age cleaning & disinfecting rooms, such solution provides a greater advantage to guests and hotel operator. This feature is mainly enabled in the central server and all communication is routed through a secured IP network to the central server.



## TV/Movies & food on demand



# Guest Room Management System (GRMS)

## Bill of materials

The bill of material for the Guest Room Management System (GRMS) equipment in the reference architecture is summarized in the following table:

Module	Order Code	Description
<b>Lighting control and General In/Out</b>	2CDG110260R0011	SA/S 12.10.2.2, Switch Actuator
	2CKA006197A0047	UD/S4.210.2.1
<b>Shutter Control</b>	2CDG110120R0011	JRA/S 2.230.2.1, Blind / Roller Shutter Actuator with Manual Operation, 2-fold, 230 V AC, MDRC
<b>HVAC Control</b>	2CDG110212R0011	FCC/S1.2.1.1 FanCoilCtrl,2x0-10V,3st
	2CDG110237R0011	HIL/S 20.1.1
	2CDG120037R0011	CP-D 24/2.5, Power Supply, 24 V, 2.5 A, MDRC
	GHQ3201972R0011	MRS/W, Magnet Reed Contact Bell chime optional
<b>GRMS Enclosure and System Components</b>	1SAE231111R0640	ESB25-40N-06 Installation Contactor
	1SL1205A00	MISTRAL65 transparent door 36M 2F
<b>Wall Control Plates and Sensors</b>		
Outdoor Panel	2CKA006300A1603	TSN/U.2.1-CG,Ro out sen/RoNr
Key Card Holder	2CKA006300A1552	TKK/U.1.1-CG,Card holder Konv.
Room Thermostat	2CKA006300A1547	TR/U.1.1-CG,RTC
Gang Glass Switch-Entrance	2CKA006300A1541	TB/U4.4.1-CG,Control element 4.f.
6 Gang Glass Switch Bedhead-left	2CKA006300A1602	TB/U6.5.1-CG,Control element 6.f.
Gang Glass Switch Bedhead-right	2CKA006300A1602	TB/U6.5.1-CG,Control element 6.f.
<b>Software</b>	S12.04.0.01.0006	Core Server CUSTOMIZED 7500 dp
	E12.04.0.02.02	Ving Card interface - 5 per door lock
	E12.04.5.01.00	Oracle Hospitality Fidelio/Opera - 5 per room
	H00.00.0.00.04	NETxLAB® USB Dongle for hardware independent licensing

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