



BUILDING AUTOMATION SOLUTIONS

ABB Building and Home Automation Solutions

Disclaimer

Note:

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Smarter Buildings

Agenda

- Overview of Various Systems (KNX, Free@home, DES, Wiring Accessories& Cylon)
- KNX Home Automation Solutions
- Overview of System Architecture& KNX Products
- Basics of ABB Free@home System
- Product Overview of ABB Free@home

Fully decentralized business model with 21 Divisions

BUSINESS AREA

Electrification



Distribution Solutions

Smart Power

Smart Buildings

Installation Products

Power Conversion

E-mobility

Motion



IEC LV Motors

Large Motors & Generators

NEMA Motors

Drive Products

Systems Drives

Service

Traction

Mechanical Power Transmission

Process Automation



Energy Industries

Process Industries

Marine & Ports

Turbocharging

Measurement & Analytics

Robotics & Discrete Automation



Robotics

Machine Automation

DIVISION

Smarter Buildings

Building and Home Automation Solutions

Our innovative Home and Building Automation sustainable solutions are helping to provide comfort, efficiency and safety to all kinds of buildings where people live, work and leisure.

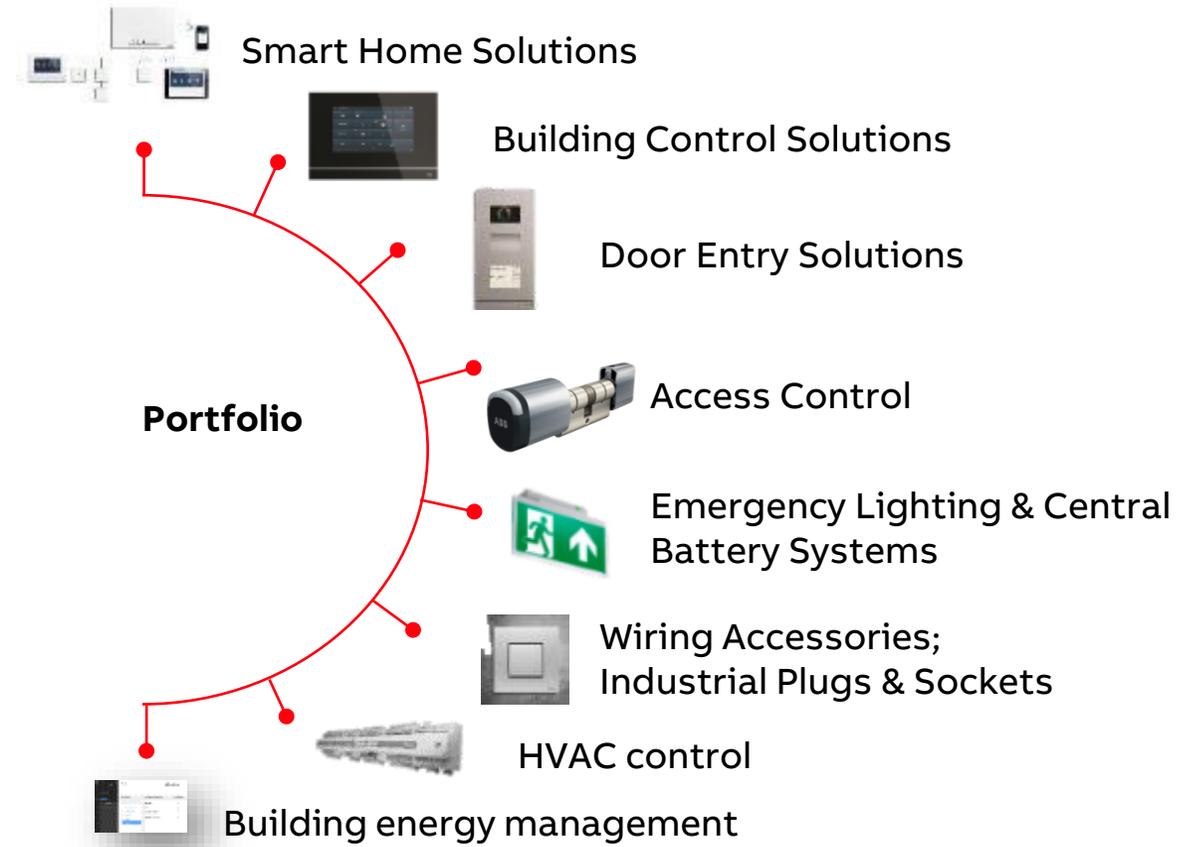
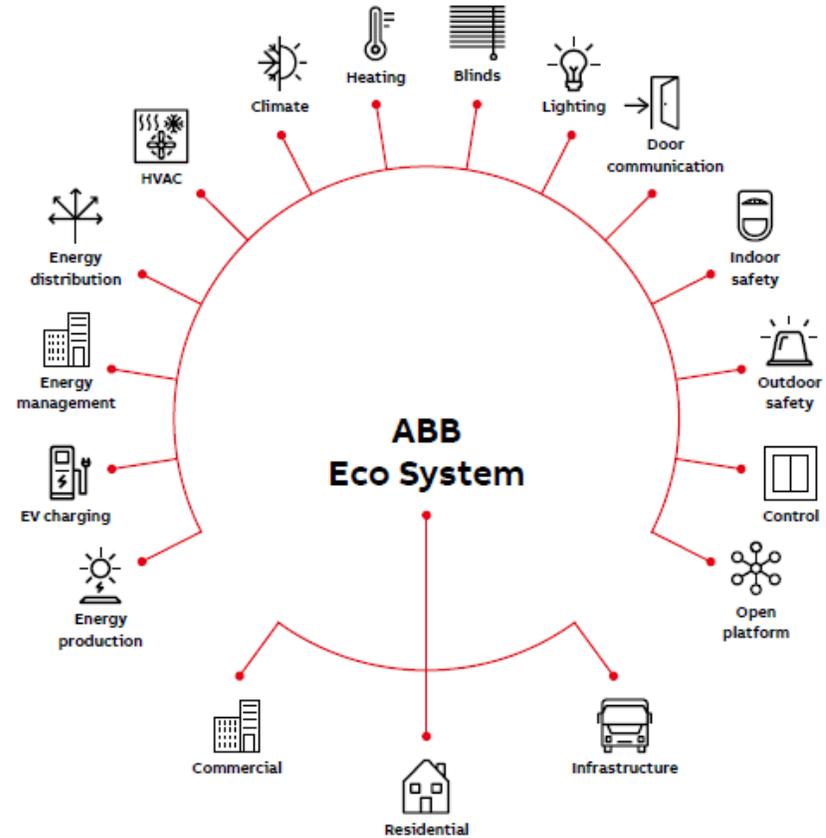


ABB Eco System

Solution for every need



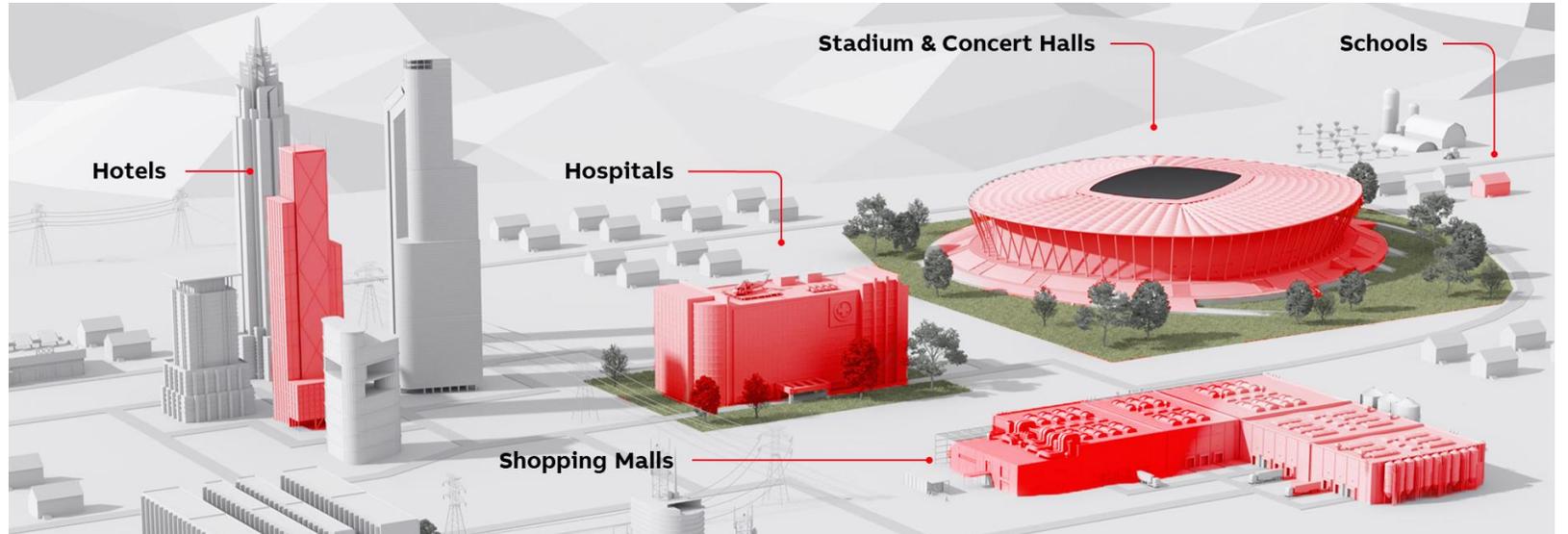
The great thing about digital solutions is that when done properly, they should all work hand in hand to simplify and improve the lives of those using them.

The demand for digital solutions in modern buildings is greater than ever. ABB brings all functions and solutions seamlessly together under one roof, whatever the size of the building.



Smart Buildings OFFERINGS

Building Types





Smart Buildings OFFERINGS

Building Types



Smarter Buildings

Shaping the future of smarter buildings

ABB i-bus® KNX



ABB -Welcome



ABB-free@home®



ABB Wiring Accessories



ABB-Cylon



ELSB: Building and Home Automation Solutions

Building Automation Products

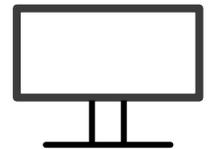
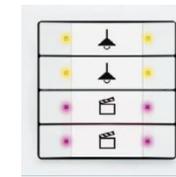
ABB i-bus Intelligent building control

- Lighting control systems.
- Hospitality (Guest room Management).
- Home Automation System.
- Central HVAC Control System.
- Power monitoring and Energy management system.

- Market Segments : Hospitality, Commercial , Residential

Features

- Based on Standard Protocol KNX , IEC 14543-3
- Supports Multi protocol Communication
- Adaptable, Flexible for any installation Size
- Variety options for user interfaces and graphical interfaces
- Connected to ABB Building Portal (Powered by ABB Ability™)
- High quality products and complied to RoHS
- Made in Germany



ELSB: Building and Home Automation Solutions

Building Automation Products

ABB Free@home

- Comprehensive Smart Home System
- To control Lights, AC, Curtains, video Intercom.
- Wired or Wireless connectivity up to 150 Devices.
- Easy user interface, and easy to operate.
- Market Segments : Residential

Features

- Easy Web based Commissioning.
- Variety of third party interfaces (Sonos audio system, Philips Hue, Geofencing functions,
- Voice commands via Siri, and Amazon Alexa.
- Connected to ABB Building Portal (Powered by ABB Ability™)
- High quality products and complied to RoHS
- Made in Germany



ABB Cylon BMS

Buildings, hotels, stores, schools, hospitals, malls, and commercial and residential buildings are responsible for up to 40 percent of the world's total energy consumption. In the U.S. alone, businesses spend about \$100 billion on energy every year.

Cylon Energy Solution

Complete solution enabling you to optimise comfort, energy, maintenance in your buildings, Converts data from Building Systems to actionable information, Enables services to be deployed

BEMS Products

Cylon's BEMS BACnet products control the heating, air conditioning, and lighting in a building

Cloud-based Energy Management

Cylon's Active Energy SaaS products analyse building data and convert to actionable information

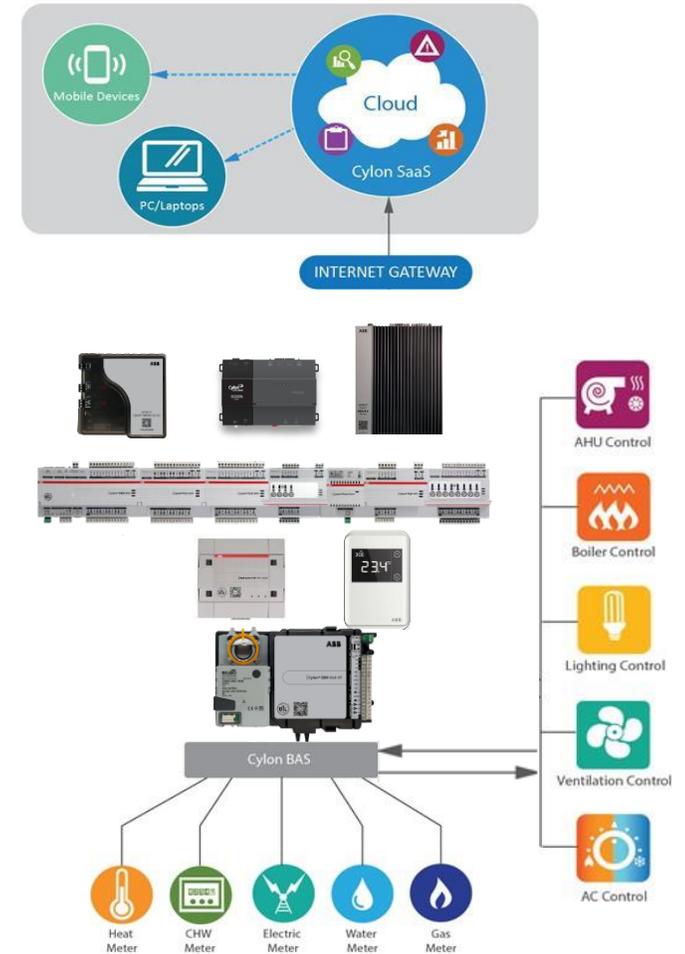


ABB DES Product Portfolio

Products Portfolio

Welcome m



Middle-end project(2-wire)

- 2 wire system
- Global product
- Audio + Video (4,3" and 7" IS)
- Keypad OS

Welcome IP



High-end project(IP)

- IP System
- Global product
- 7 and 10.1 inch Indoor Station
- Keypad and 5 inch Outdoor Station

Welcome HB



Middle-end project(IP)

- IP system
- Dedicated for China and APAC market
- New ID and UI
- 7 and 10.1 inch Indoor and Outdoor Station

Wiring Accessories

Products Portfolio UAE/Gulf Sub-region Cluster

BS Standard



VDE Standard



Weather Proof IP66



Electronics



Thermostats



Smart Building Products & Solutions

The Factories

ABB Stotz Kontakt



ABB Busch-Jaeger



ABB Niessen



ABB Leeds UK



ABB i-bus[®] KNX Technology

ABB i-bus® KNX – Smarter Solutions

ABB's Pedigree in Intelligent Building Control



1983



First bus installation system SIGMA® i-BUS



EUROPEAN INSTALLATION BUS

1990



Founder Member of the EIBA Association in Brussels



1992



ABB i-bus® EIB launched in Germany



KNX Association

1999



Founder Member of KNX World's first open Standard



Today



One of the leading members and innovation driver



ABB i-bus® KNX – Smarter Solutions

Overview

Introduction

- KNX is the first open standard for building & home control
- Fully compatible and interoperable
- Truly open bus technology
- Over 500 manufacturers in 45 countries
- Thousands of products
- 509 KNX training centers worldwide
- 99,500 KNX partners in 140 countries
- Several applications
- Over 10,000 KNX certified devices
- www.knx.org

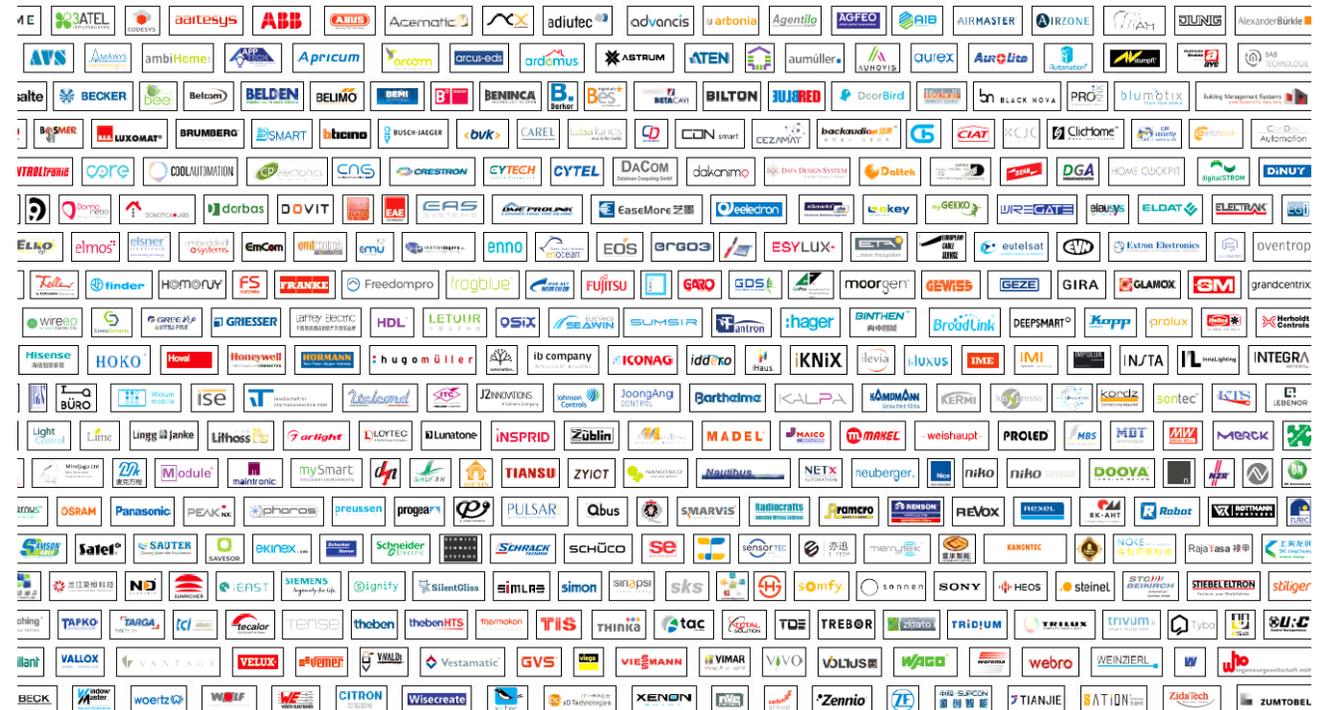


ABB i-bus® KNX – Smarter Solutions

Overview

KNX Main Advantages

- International Standard, therefore future proof
- By product certification, KNX guarantees Interoperability & Interworking of products
- KNX stands for high product quality (ISO 9001)
- A unique manufacturer independent Engineering Tool Software ETS®
- KNX can be used for all applications in building and home control
- KNX is fit for use in different kind of buildings
- KNX supports different configuration modes
- KNX supports several communication media (TP, PL, RF and IP)
- KNX can be coupled to other systems (DALI, BACnet, M-Bus,...)
- KNX is independent from any hard- or software technology

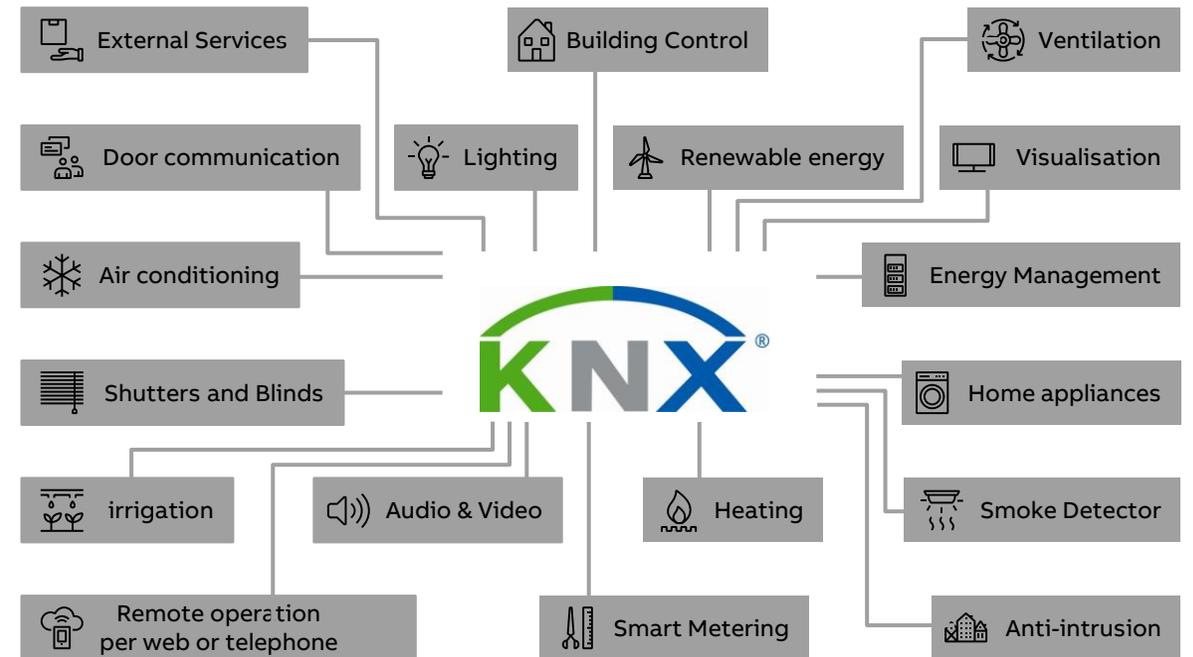


ABB i-bus® KNX – Smarter Solutions

Overview

KNX Applications

- Lighting control and constant light control
- Heating and cooling
- Air-conditioning and ventilation
- Roller shutter, window, curtain and blind control
- Energy and load management
- Audio and video
- Building surveillance and intrusion alarm
- Visualization, display and signaling
- Central automation
- Remote control and remote access per web, smartphone, ...
- Interfacing to other systems
- ...



Fit for use in ALL applications in home and building control!

ABB i-bus® KNX – Smarter Solutions

ABB i-bus® KNX Projects

Typical Buildings with KNX

- Office Buildings
- Apartments and Villas
- Hotels
- Exhibition Centers
- Sport Stadiums
- Museums and Churches
- Schools and Universities
- Banks
- Airports and Train Stations
- Industrial Facilities
- Shopping Centers
- Hospitals

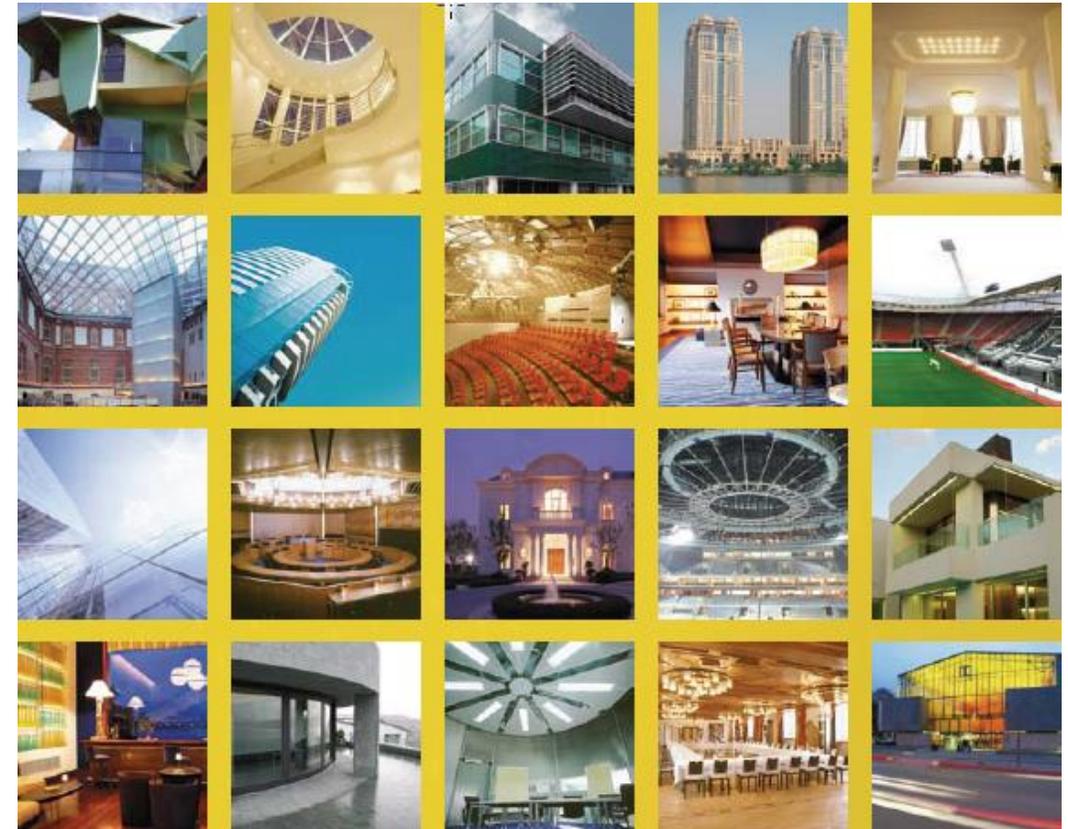
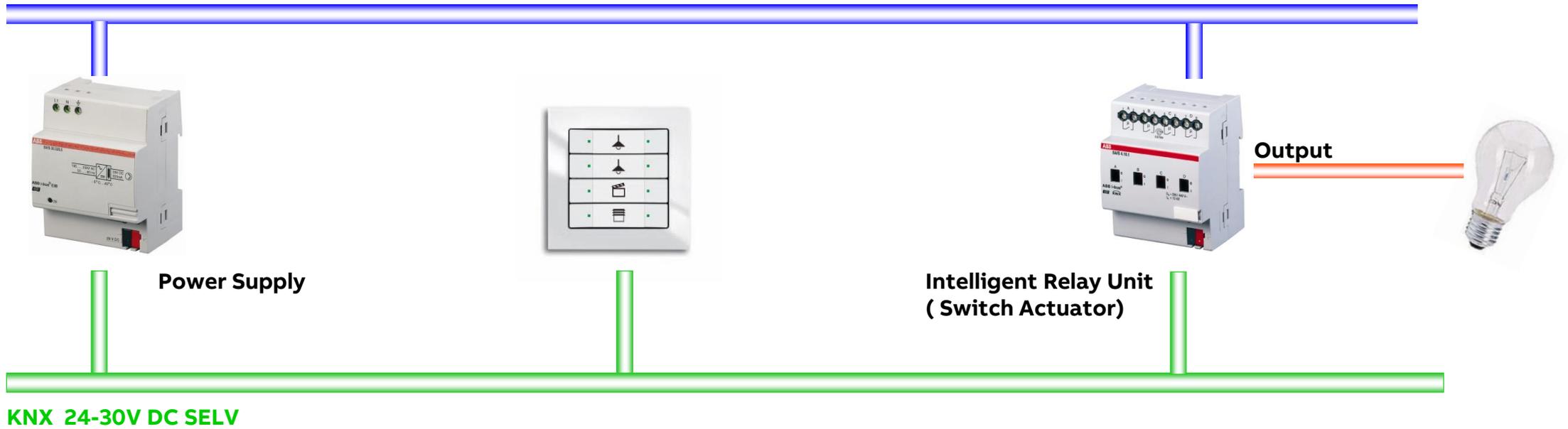


ABB i-bus[®] KNX

Basic TP* Structure

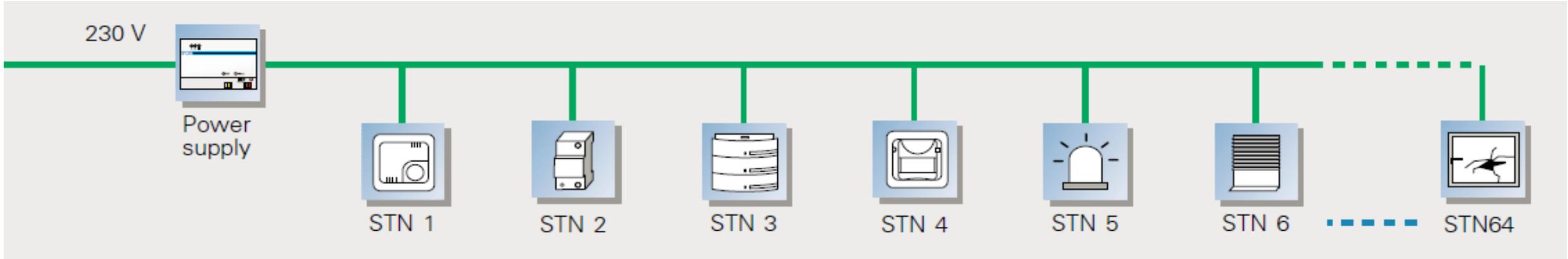
240 V AC



2 devices can communicate with a power supply via the bus line in the smallest Structure

ABB i-bus[®] KNX

TP* Topology



- Each Unit Consists of a micro-processor with physical address
- Communication is based on Telegrams between sensors and actuators.
- Bus topology using Shielded twisted pair cable.
- The topological configuration includes lines and areas.
- A line is the smallest unit in the system. The system can be extended Up to **Total 57,375 Devices**

ABB i-bus[®] KNX

Installation

Reaching all targets

The system comprises sensors and actuators.

Sensors gather information such as movement or temperature and send telegrams through the bus line.

Actuators analyze the information and trigger the programmed actions.

Tailor made automation

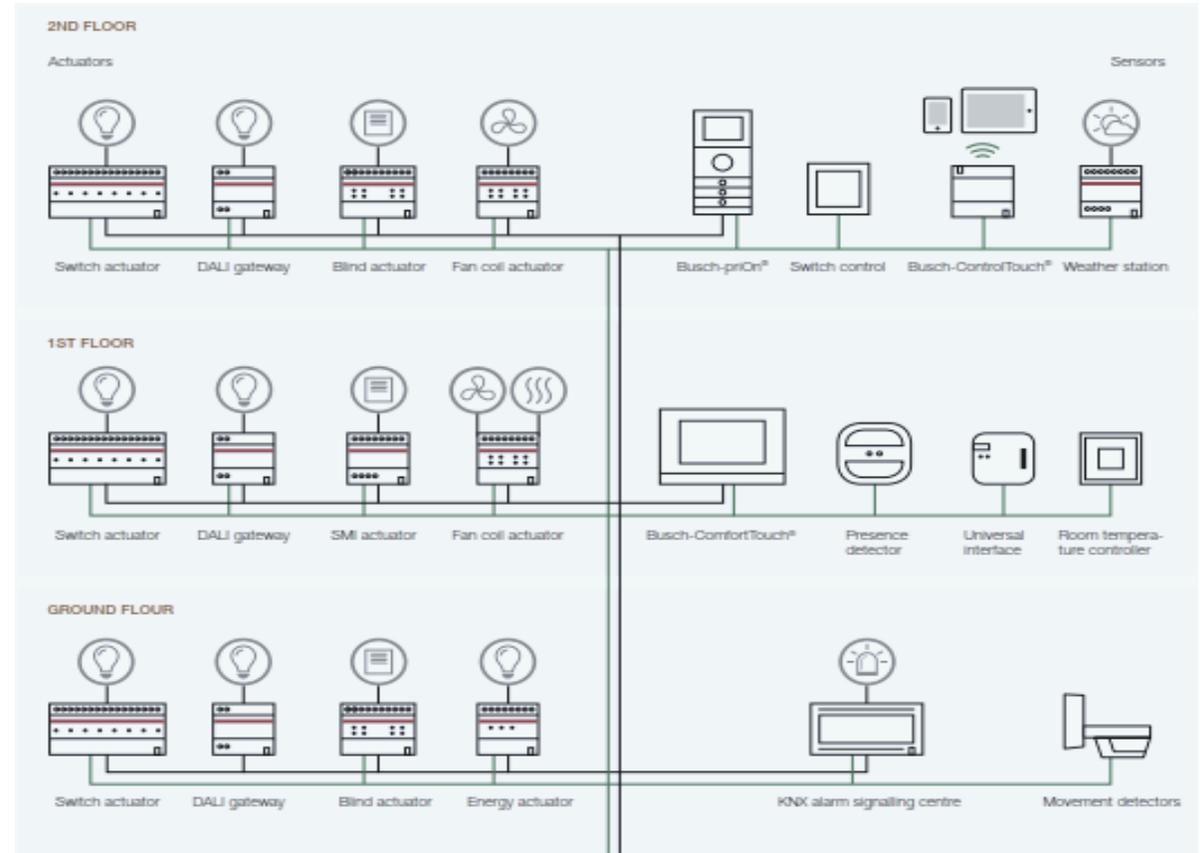


ABB i-bus® KNX

Installation

- Easy and Quick Installation

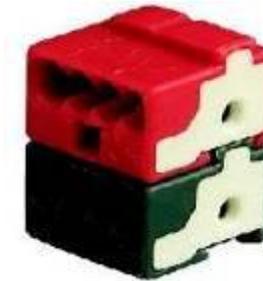
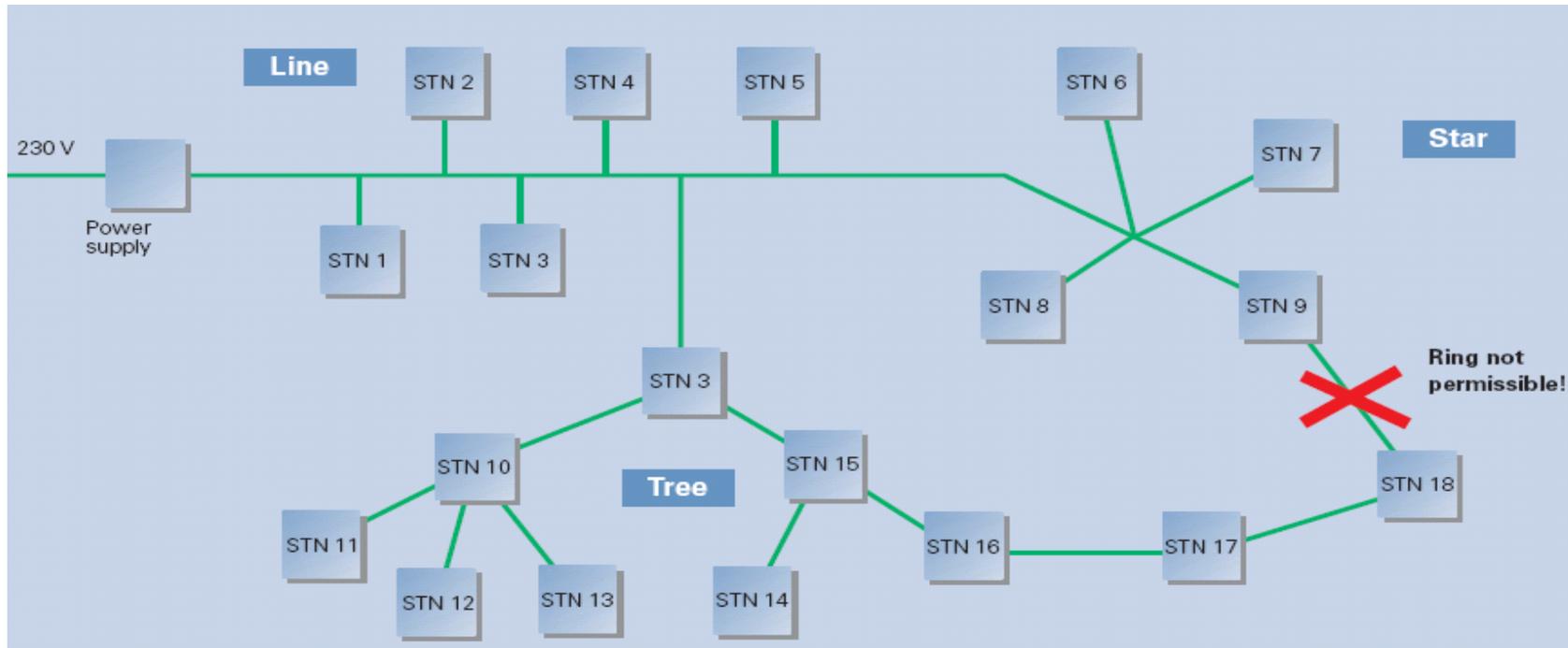


ABB i-bus[®] KNX

TP* Topology

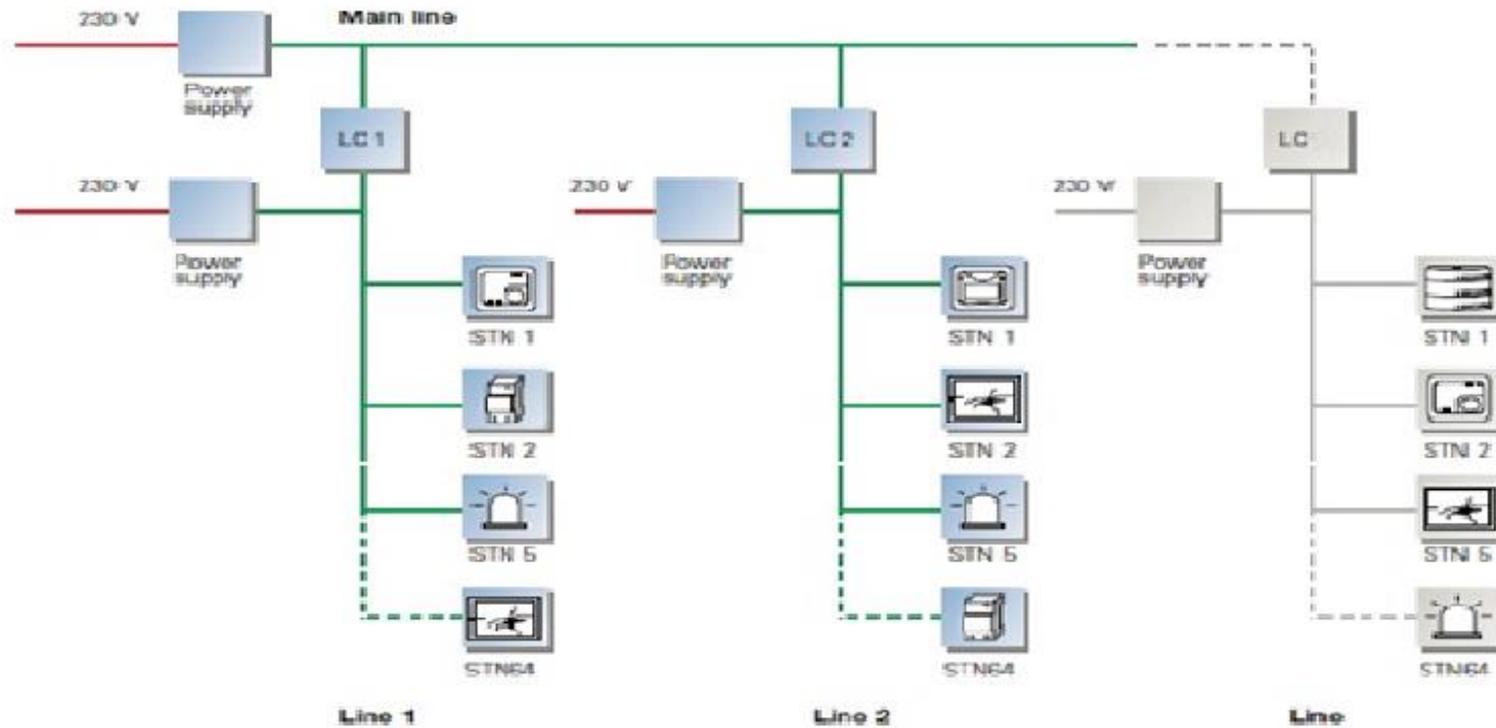


ABB i-bus[®] KNX

TP* Topology

- 15 Areas
- 15 Lines
- 64 Bus devices / line
- 255 Bus devices/ line with repeaters
- 14,400 Bus devices
- 57,375 Bus devices with repeaters

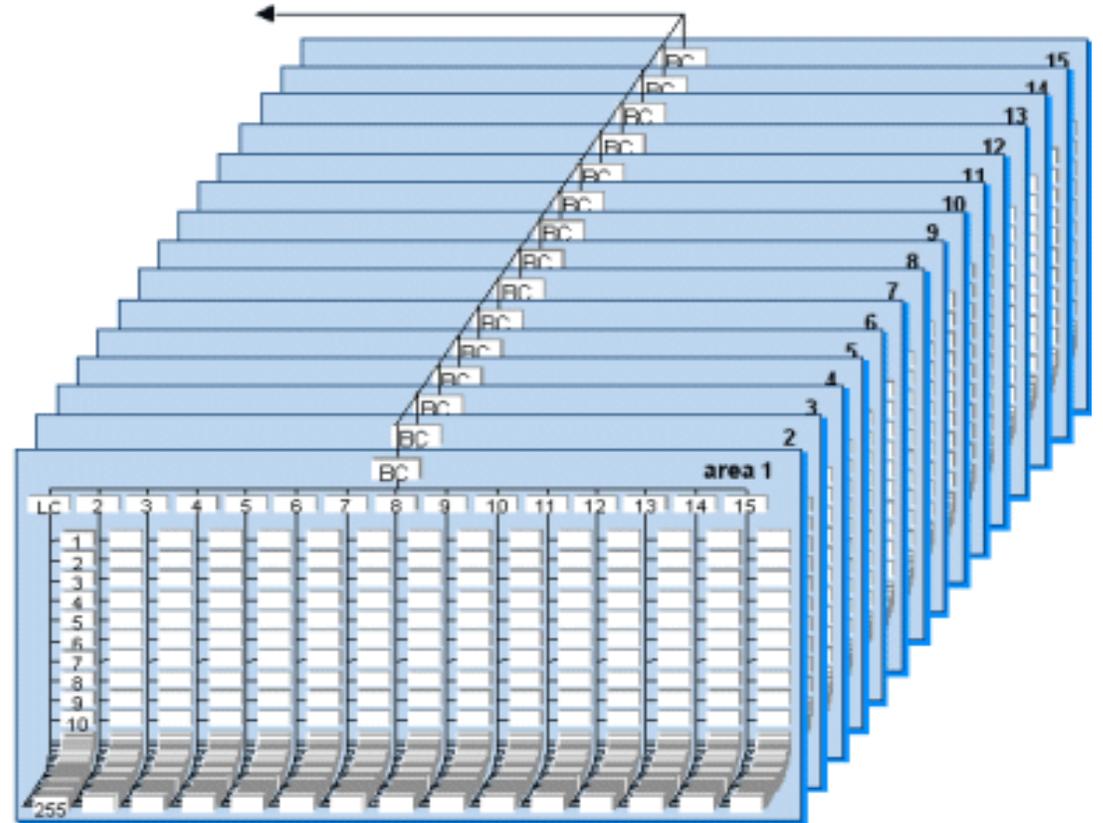
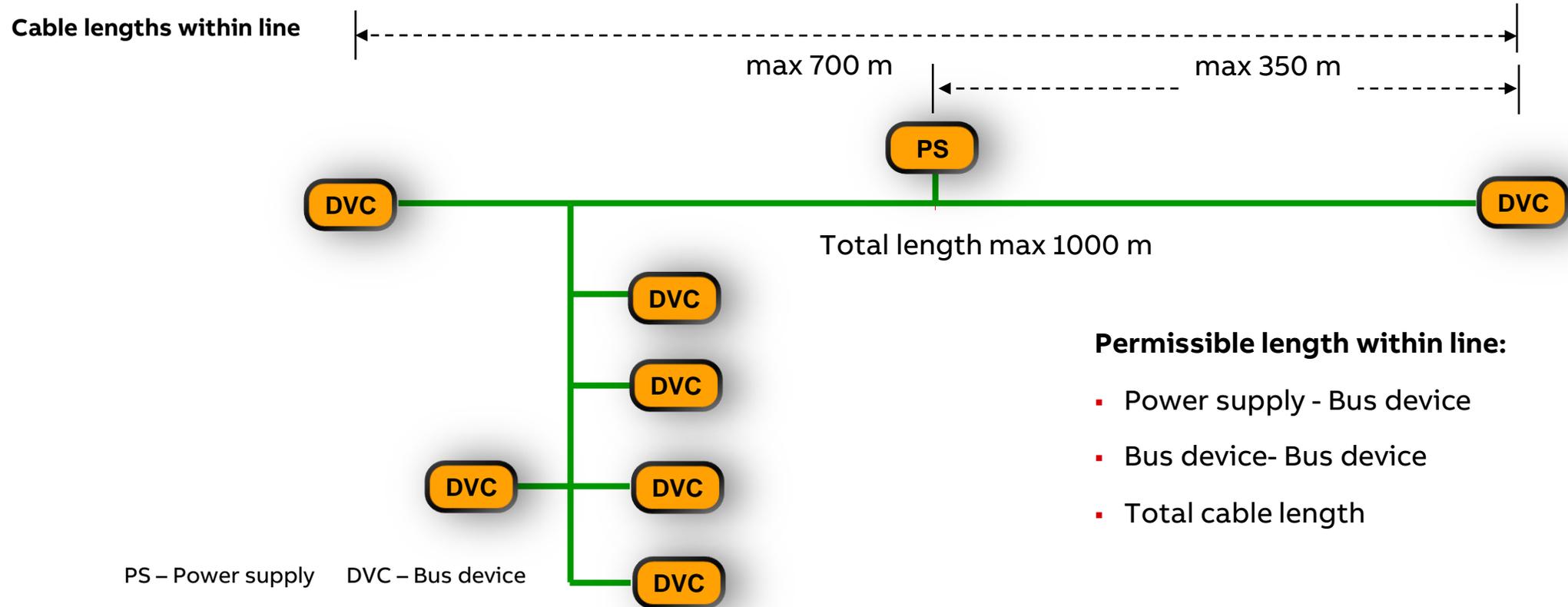


ABB i-bus[®] KNX

TP* Maximum distances



Permissible length within line:

- Power supply - Bus device 350 m
- Bus device- Bus device 700 m
- Total cable length 1000 m

ABB i-bus[®] KNX

Commissioning

The ETS

ETS stands for **Engineering Tool Software**; a manufacturer independent configuration software tool to design and configure intelligent home and building control installations with the KNX system.

All product databases with certified products from all KNX manufacturers can be imported in ETS.

One software, all functions





Smart Homes

KNX Solution

Smart Homes

Smart Home concept and main features

The smart homes market is divided into 5 key elements: home energy management, home automation and control, home safety and security, home entertainment, and health and wellness.

- Conventional accessories are simple wiring accessories, socket outlets, USB chargers, electric chargers such installed by general electrical contractor or by homeowners
- DIY-Do it yourself are mainly focused on home entertainment, doorbell, lighting & shading control, leaders in this segment are google, apple home kits, fibaro, amazon, sonos etc. As the name suggest most installation and programming are carried by Homeowners/occupiers.
- Advanced technical work provides complete home automation from HVAC, Dimming by DALI, Security, home entertainment, etc.. mainly carried out by professional system integrators, or technical staffs

Smart home can be categorized in three parts based on the degree of complexity of technical works as shown below:

Advanced Technical work

Advance
Technical
segment
20%

DIY + Cloud Services
Alexa, Google Home, Sonos,
Lighting, AC, Shades

Volume segment
30%

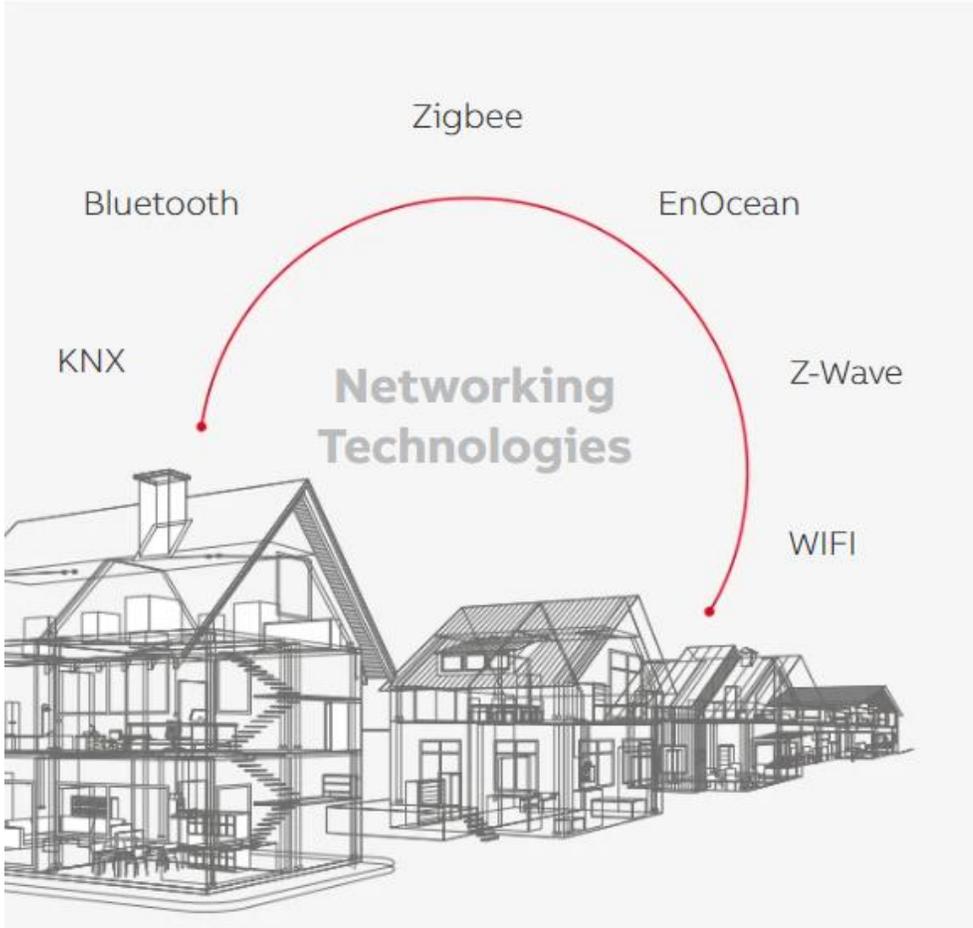
Conventional
Accessories
Electronics

Simple, Conventional Accessories
50%

Degree of orchestration of each device

Smart Homes

Smart Home Networking Technologies



KNX is a standard for home and building control that is owned by the KNX Association. Members of the KNX association include original equipment manufacturers from a wide variety of home and building control verticals such as lighting, shutter control, security, heating, ventilation, air conditioning, monitoring, alarming, water control, energy management and metering.



The IEEE MAN/LAN Standards Committee (IEEE 802) has developed a set of standards for wireless local area networks (WLAN). Include several modulation techniques using the same core protocol. The Wi-Fi Alliance, a non-profit industry association that has established testing and certification programmes to ensure interoperability of WLAN devices, has developed a set of additional and slightly overlapping specifications.



WIFI

ABB i-bus® KNX – Smarter Solutions

Building Types



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Smarter Home Architecture

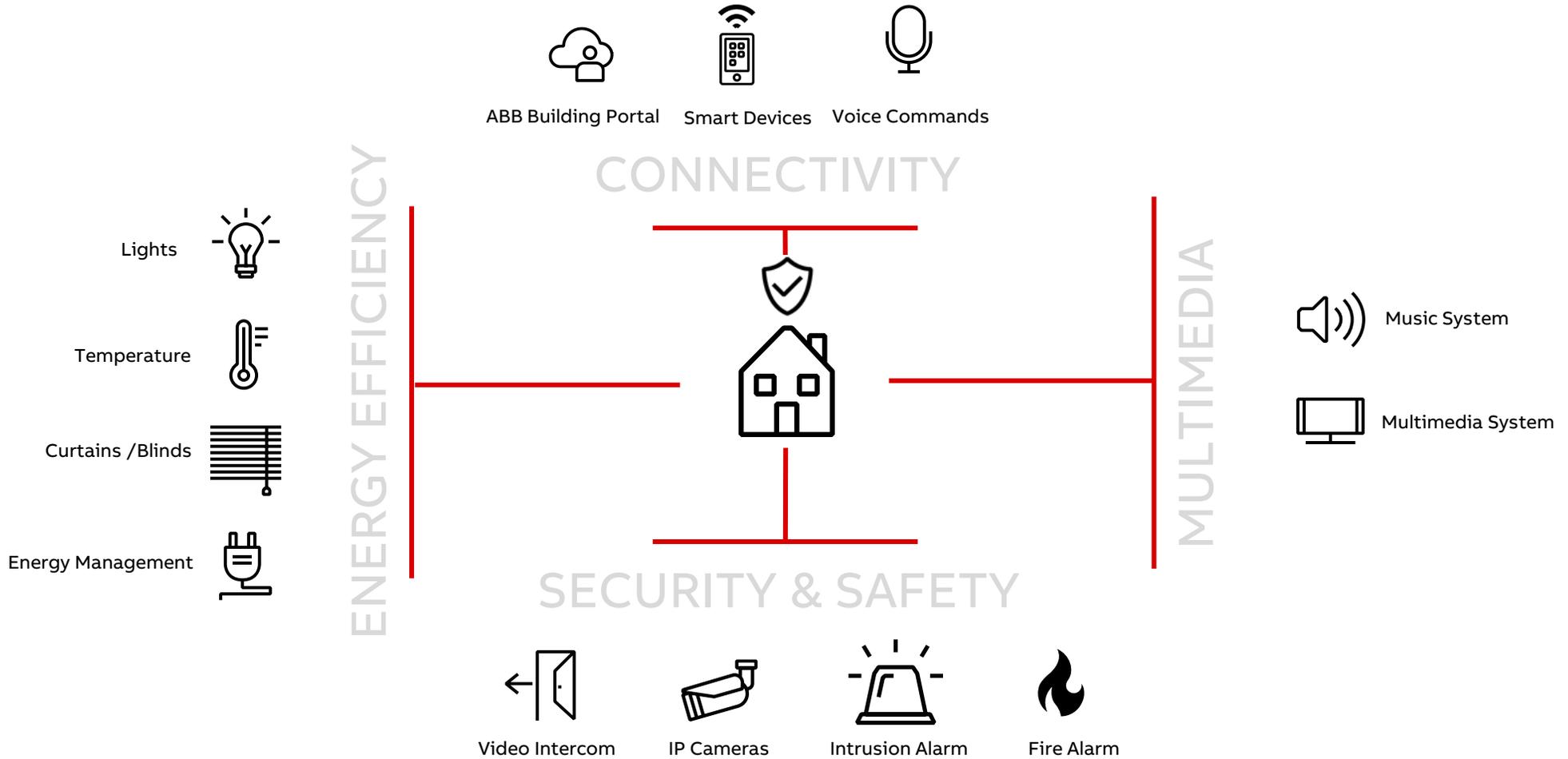


ABB i-bus® KNX – Smarter Solutions

Typical Schematics

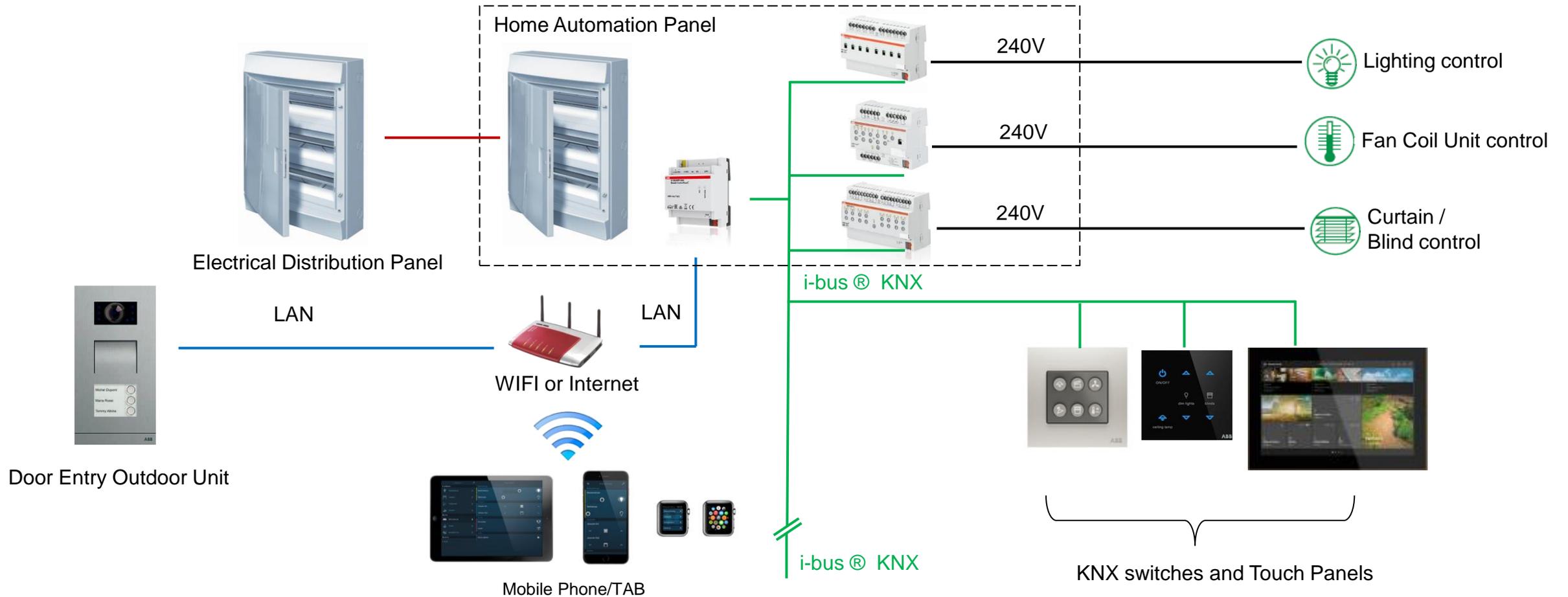
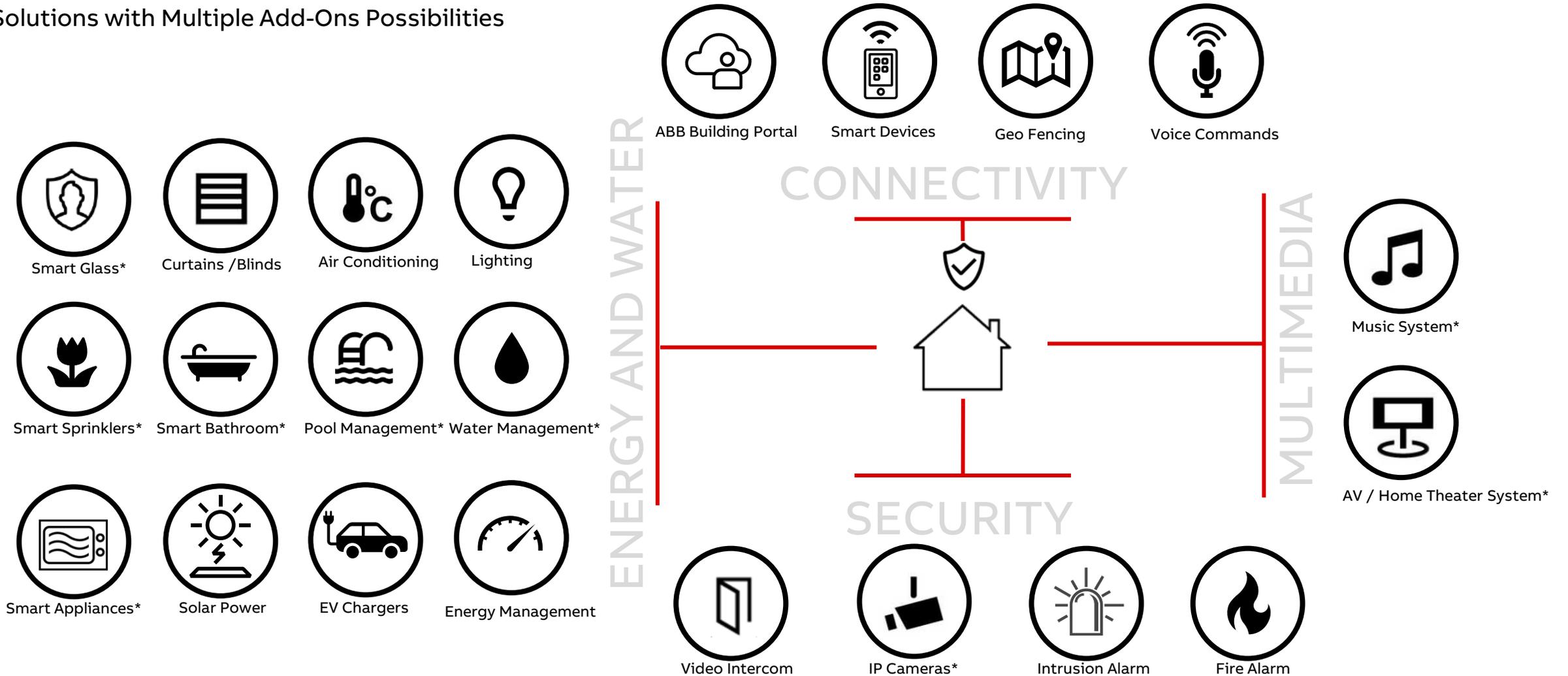


ABB i-bus® KNX – Smarter Solutions

Solutions with Multiple Add-Ons Possibilities



Smart Homes

Applications

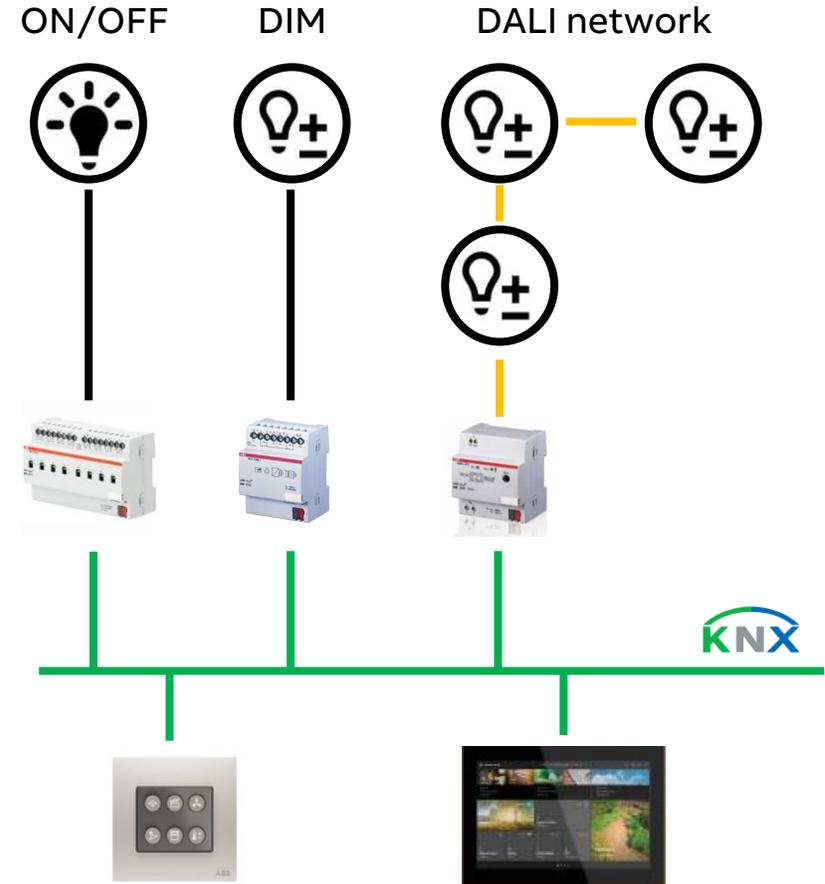
Lighting On/Off and Dimming

Create atmosphere on demand

- Switching of lighting
- Dimming of lighting
- Scene based control to suit several moods
- Occupancy and timed control
- Presence simulation.

Compatible with all Dimming technologies:

- Phase LED dimming
- 1-10V Dimming
- Digital Dimming



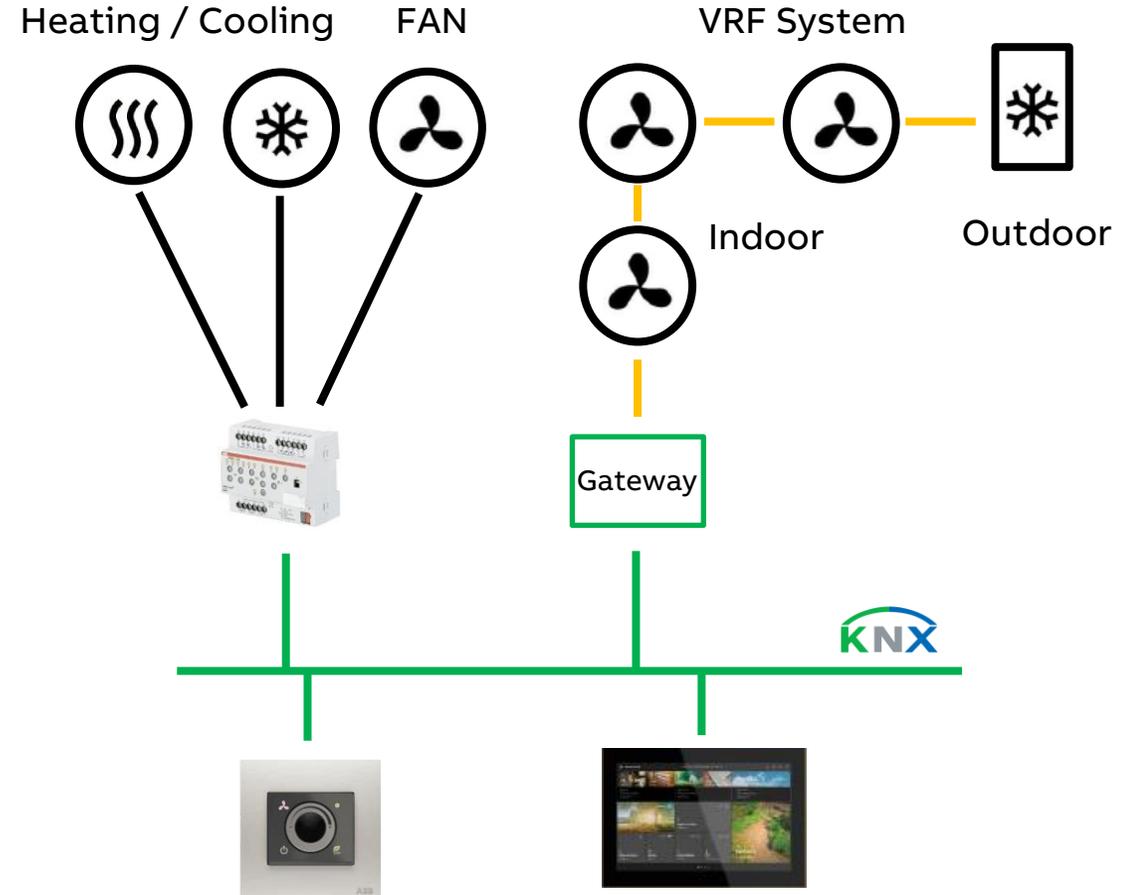
Smart Homes

Applications

Climate Control

The perfect room climate at all times

- Room thermostats for easy adjusting of set points for split units
- Full integration into scenes for increase of comfort
- Echo Mode for more energy efficiency
- Energy Bill Savings.
- Compatible with different HVAC and cooling systems



Smart Homes

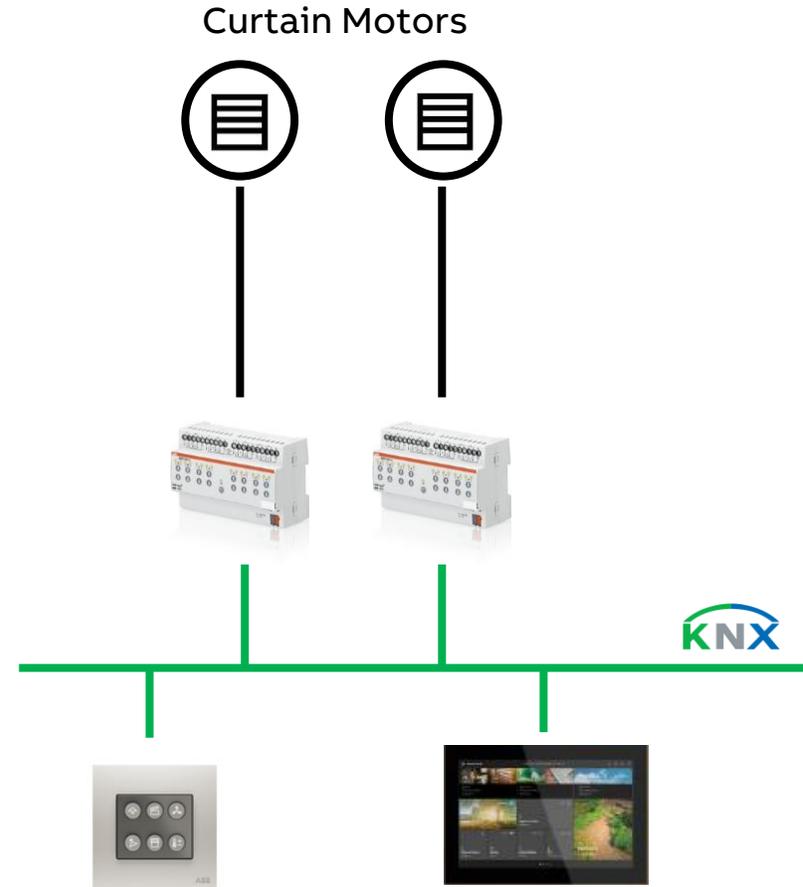
Applications

Blinds, Curtain control

Manage Blinds , curtains with ease:

- Control of shutters, blinds, curtains and windows
- Integration into various scenes possible
- Optionally: Full automation with sun tracking system by using Lux sensors
- Controlling of parking rolling gates

- Compatible with Any type of Motors
 - Phase direction control motors 240V or 24V



Smart Homes

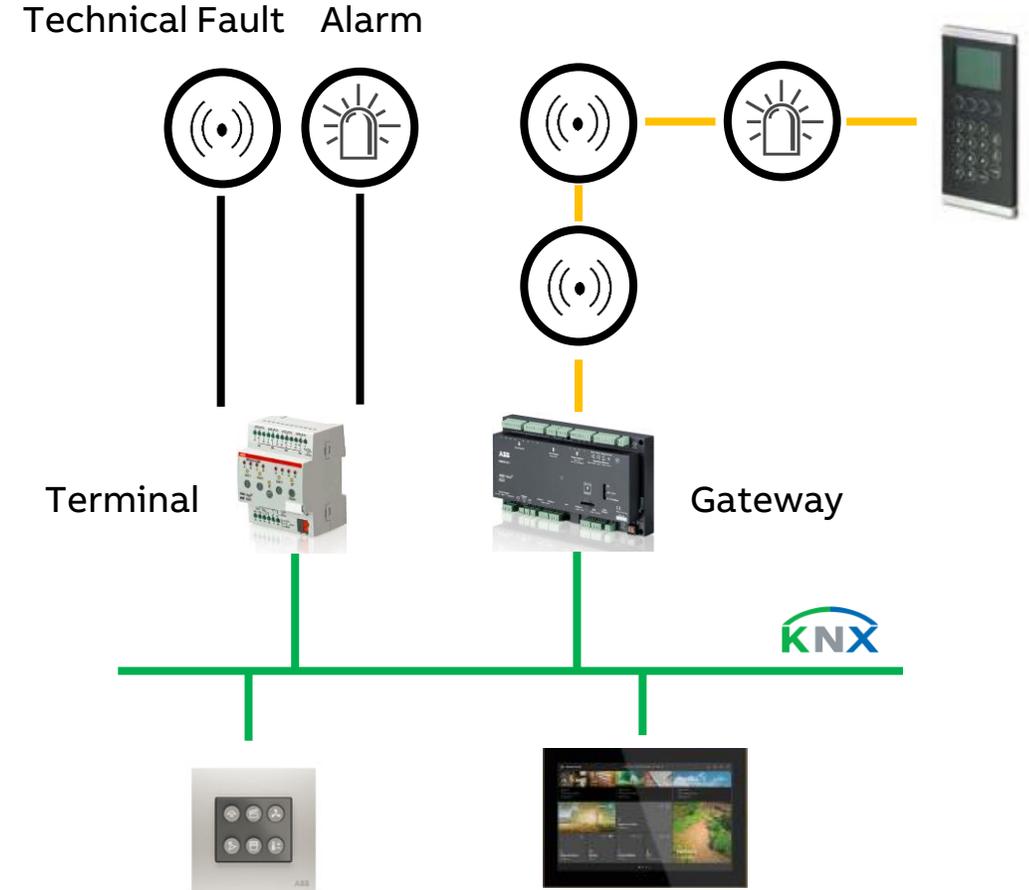
Applications

Safety and Security

- Integrated fire and smoke detection
- Water leakage Alarm
- Integrated alarm system
- Movement detection
- Panic switch
- Door and window status monitoring

Technology:

- Using ABB KNX security terminals



Smart Homes

Door Entry systems (ABB-Welcome)

Door entry system (Intercom)

ABB-Welcome Can Be standalone system or integrated in the Home automation system.

Components:

- 1- Indoor Units
- 2- Outdoor units
- 3- System controllers
- 4- IP Gateways for Mobile App or Comfort touch interface

A scene can be activated when door opener is pressed to welcome your visitor.



4.3" Screen



10" Touch Screen (Flat)



IP Gateway



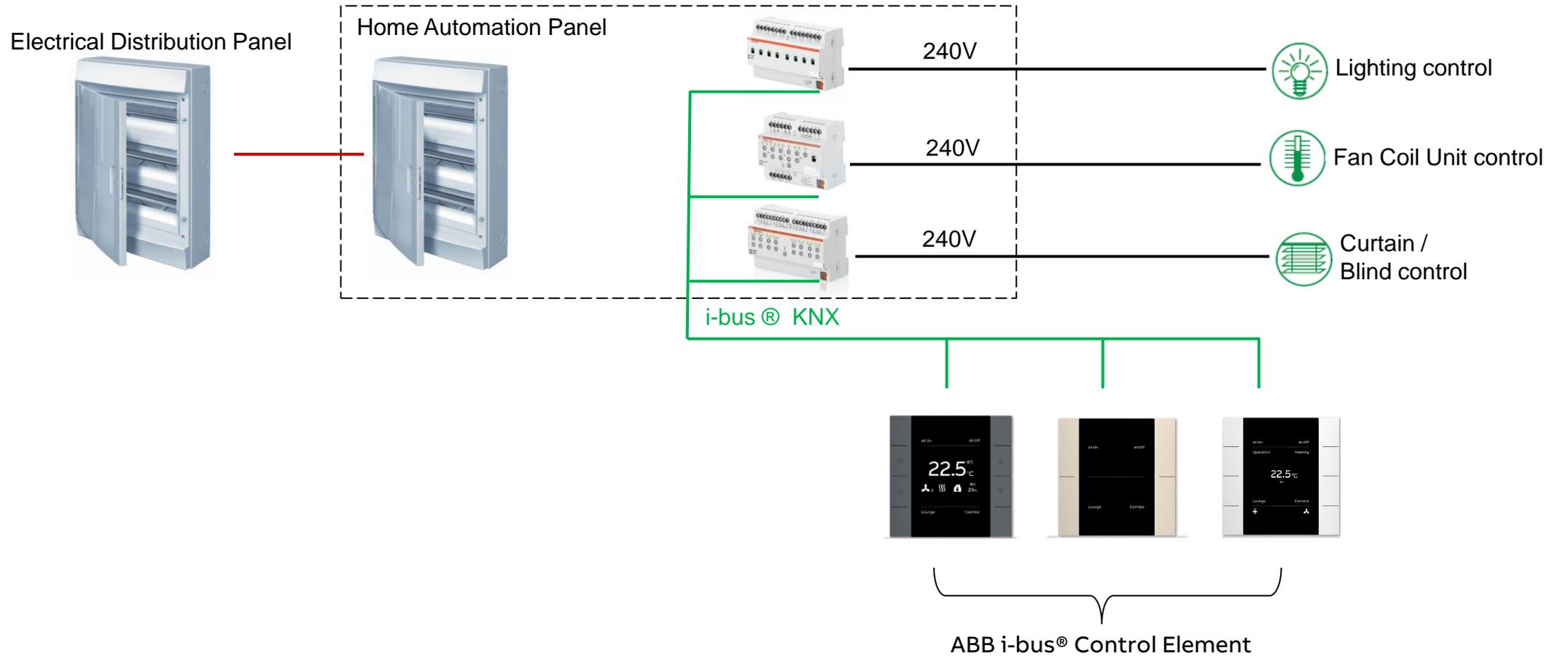
Smart Homes

Proposals

	Basic	Advanced	Premium
 Wall mounted Intelligent keypads			
 Lighting Control	✓	✓	✓
 Curtain Control		✓	✓
 HVAC Control	✓	✓	✓
 Mobile App Integration	✓	✓	✓
 Cloud Connection (ABB <u>MyBuilding Portal</u>)	✓	✓	✓
 Door Video Intercom	✓	✓	✓
 7" Touch Screens	✓	✓	✓
 IP Cameras		✓	✓
 9 " Touch Screens with IP connectivity			✓
 Integrated to Music System			✓
 Integrated Multimedia System			✓

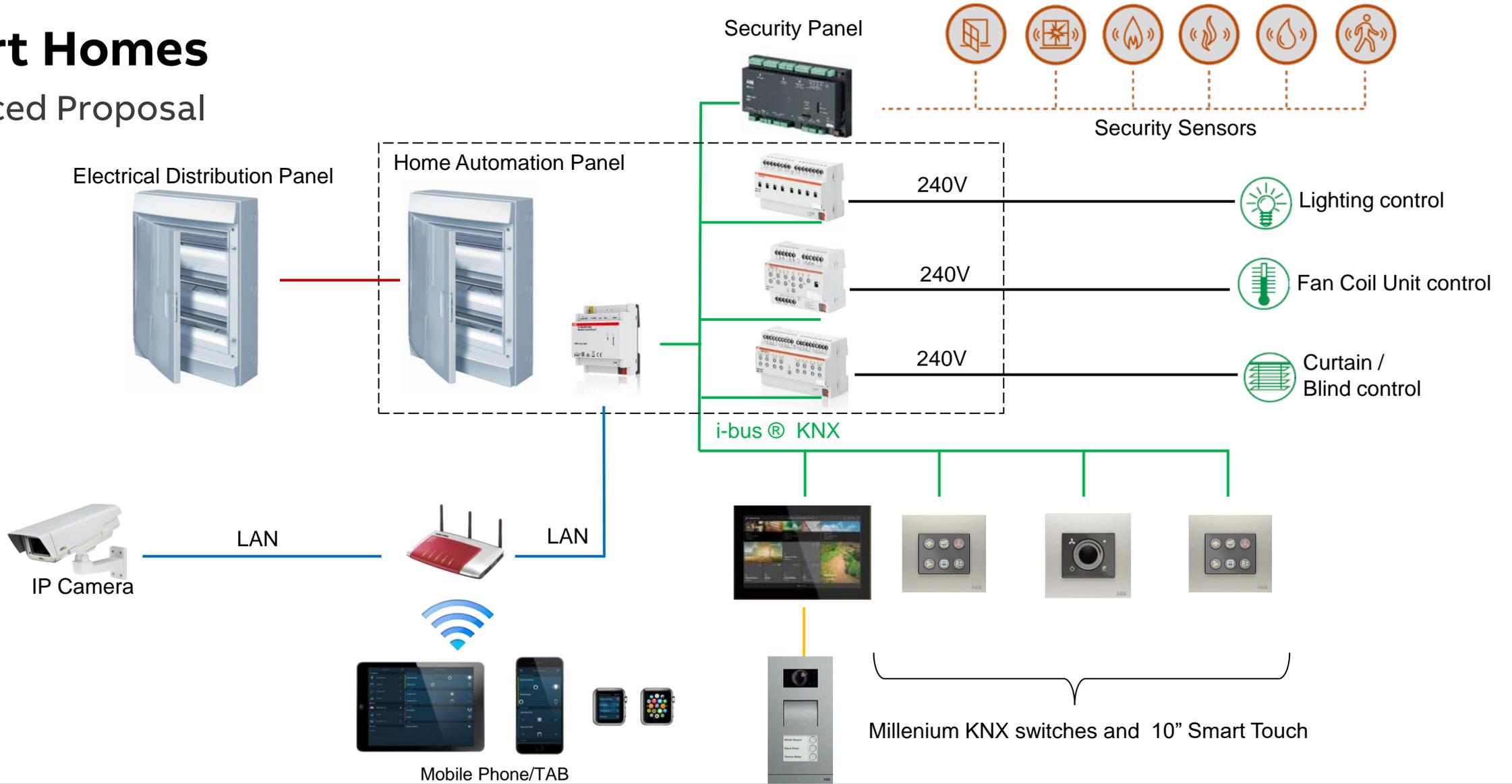
Smart Homes

Basic Proposal



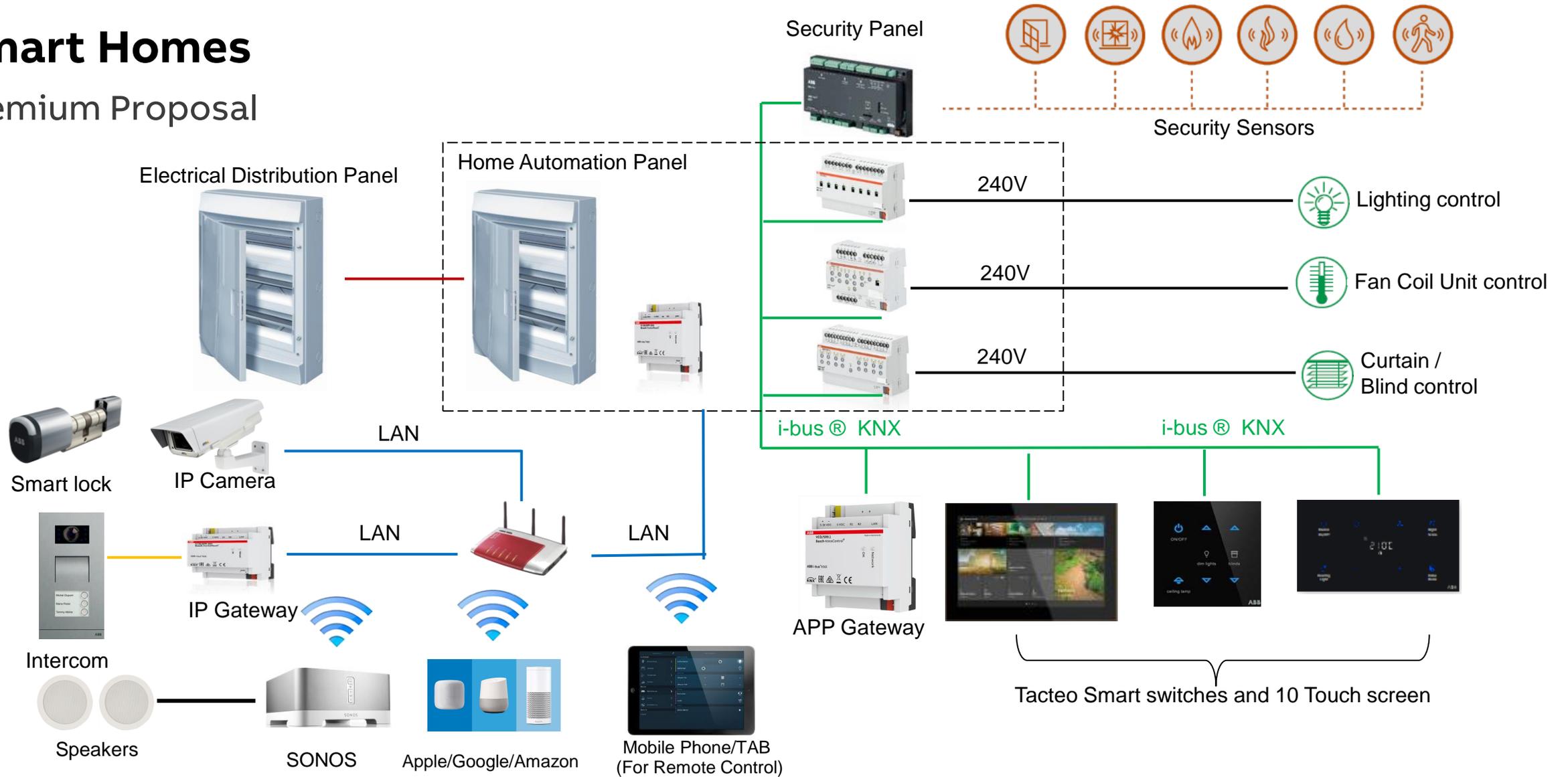
Smart Homes

Advanced Proposal



Smart Homes

Premium Proposal



Smart Homes

Perfectly integrated in the ABB Smarter Home

A fully-integrated system

KNX Home Automaton System, Door Entry System Welcome and KNX Security system can be provided as an integrated system for the smart homes



Control via touch panel



Control via cloud



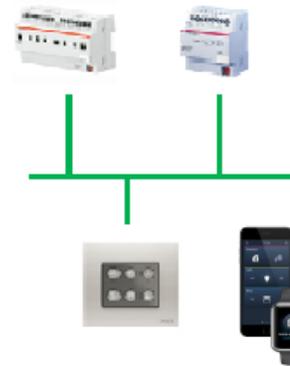
Control via Smart home switch



Control via Voice control



KNX Security Solutions



KNX HAS



ABB-Welcome

ABB i-bus KNX Products

Product Range Overview

ABB i-bus® KNX System

ABB i-bus KNX products

Din Rail Components



User operation



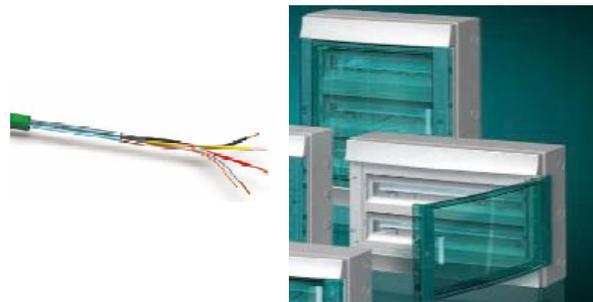
Presence detection



Visualization, Display & Signalling



KNX Cable & Enclosure



Software

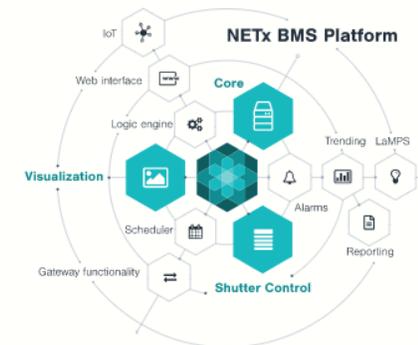


ABB i-bus KNX system

Panel Devices

Actuators

Modular Devices:

- Switch Actuators (6AX, 10AX & 16AX)
- Dimming Actuator up to 700W
- Curtain Actuators
- Fan Coil Controllers (3 speed & 0-10V fan, On/Off & 0-10V Valve control)
- DALI gateways
- Power supply, IP switches and Routers secure.
- Third-party gateways (BACnet/KNX & Modbus/KNX).



ABB i-bus® KNX System

MDRC – Power Supply & System Devices

Power Supply 640mA



SV/S 30.640.3.1

Power Supply 320mA



SV/S 30.320.1.1

Power Supply 160mA



SV/S 30.160.1.1

Power supply with diagnostic 640mA



SV/S 30.640.5.1

IP Routers / Interfaces



IPR/S 3.1.1

Line Couplers



LK/S 4.2

ABB i-bus KNX Products

Switch Actuators

ABB i-bus® KNX – Lighting control system solutions

Product Range Overview

Combi Switch Actuators



- Compact + switch/shutter modes
- 8 (4 MW), 16 (8 MW) & 24 (12 MW) channels
- 6 A, 10 A & 16 A – AC1 ratings
- 3 × 3 devices

Standard Switch Actuators



- 2, 4, 8 & 12 channels
- 6 A, 10 A & 16 A – AC1 ratings
- 3 × 4 devices

Professional Switch Actuators



- 2, 4, 8 & 12 channels
- 16/20 A C-load
- 4 devices
- 4 devices with Energy functions

Residential



Applications



Commercial

Standard Switch Actuators

Switch to a smarter tomorrow

Key Characteristics

- 'High-runner' types for all standard switching applications
- Data
 - 2 / 4 / 8 / 12 outputs
 - 6A, 10A and 16A-AC1
 - Manual operation (voltage independent)
 - Combi screw-head terminals
 - Single application, smart features
 - New housing
 - Cost optimized

6A (4 devices)



10A (4 devices)



16A-AC1 (4 devices)



Professional Switch Actuators

Switch to a smarter tomorrow

Key Characteristics

- High-switching-capacity devices with extended functionality for industry standard applications
- Data
 - 2 / 4 / 8 / 12 outputs
 - 16A C-Load (high capacity)
 - Current / Power data
 - Manual operation (voltage independent)
 - Combi screw-head terminals
 - Single application, smart features
 - New housing

16A C-load (4 devices)



16A C-load, Current & Power (4 devices)



Combi Switch Actuators

Switch to a smarter tomorrow

Key Characteristics

- Compact, high-channel-density devices with selectable switching & shading functionality
- Data
 - 8 / 16 / 24 outputs
 - 6A / 10A / 16A – AC1
 - Compact form: 2 channels per MW
 - Manual operation (KNX voltage dependent)
 - Combi screw-head terminals
 - Single application, smart features
 - New housing
 - Combi switching & shading

6A (3 devices)



10A (3 devices)



16A-AC1 (3 devices)



ABB i-bus KNX Products

Dimming Actuators

ABB i-bus® KNX – Lighting control system solutions

Dimmer

Overview

- Dimmer with Phase control and leading/trailing edge, mainly for residential buildings
 - Bulb, halogen lamps, LED retrofit
- 1...10V Dimmer
 - Fluorescent lighting (commercial projects)
- DALI
 - Worldwide use and standard
 - standard protocol
 - Subsystem for KNX

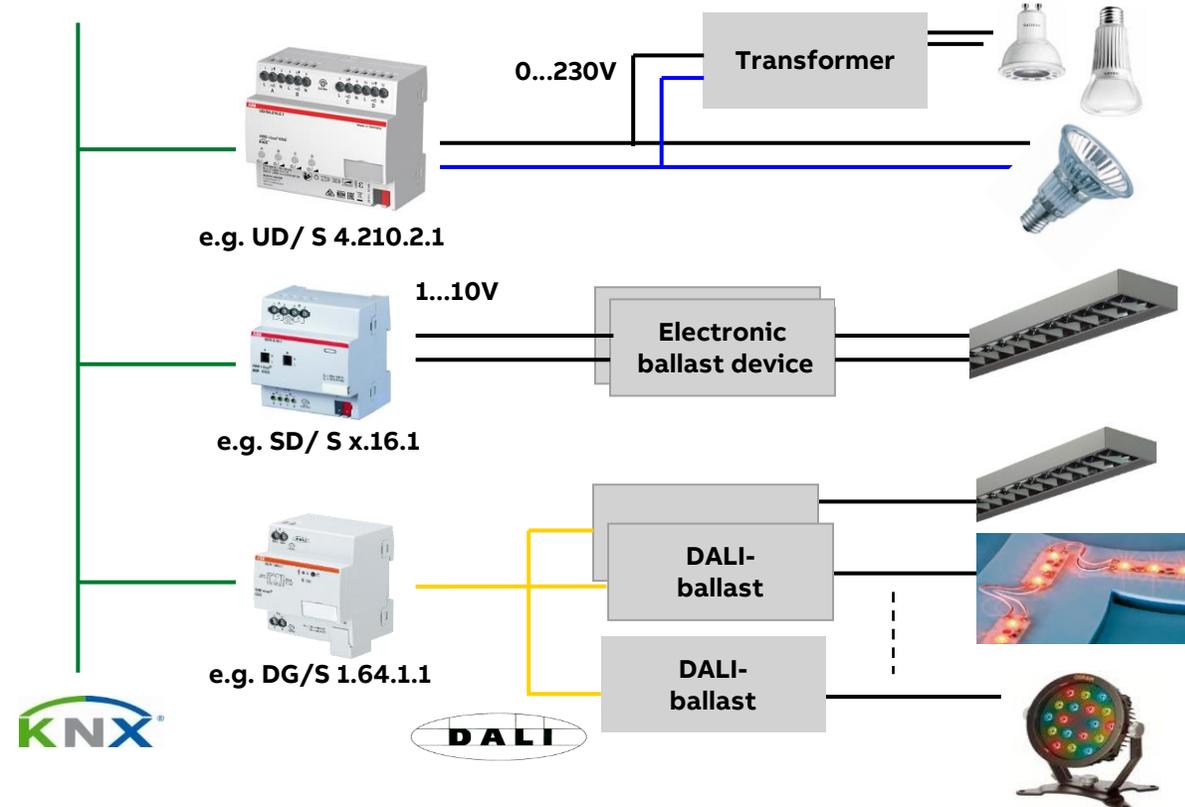


ABB i-bus® KNX – Lighting control system solutions

MDRC – Dimmer Actuators

LED Dimmers (UD/S x.210.2.1)



UD/S x.210.2.1 (4,6)

LED Dimmers (UD/S x.315.2.1)



UD/S x.315.2.1 (2,4,6)

Analog Dimmers (1-10)



SD/S x.16.1 (2,4,8)

DALI Gateway 1x64 or 2x64 Channels



DG/S x.64.1.1 (1,2)

DALI Gateway Premium 1 or 2 Channels



DG/S x.64.5.1 (1,2)

DALI Gateway 8 CH with Light Sensor



DLR/S 8.16.1M



ABB i-bus® KNX System

LED Dimmers – Optimized for LED Lamps



**210 & 315W Ranges
Made for LED lamps.**

No Flickering, No glowing, constant dimming behavior

4x210W / 6x210W

2x315W/4x315W/6x315W

Minimum load of only 2W

Up to 700W using channel bridging.

ABB i-bus KNX Products

DALI Definition and Gateways

ABB i-bus® KNX – Lighting control system solutions

DALI Introduction

What is DALI?

DALI stands for **Digital Addressable Lighting Interface** and is based on an international recognized IEC 62386 standard for intelligent and easy management of lighting equipment.

DALI is a protocol for digital communication between different illumination control components

Benefits



Energy savings

Controllable lighting systems are the key for energy saving in building lighting installations



IEC 62386

Standardized and compatible data protocol (DALI Standard IEC / EN 62386)



Wide range

There is a wide range of DALI ballasts suitable for various types of lamp (e.g LED, halogen or fluorescent).



Flexibility

All changes to groups and scenes are fully digital, so that the installation hardware remains unchanged.

ABB i-bus® KNX – Lighting control system solutions

DALI Introduction

DALI Standard

The Interface standard (DALI) is worldwide supported by the producers of ballasts since 1999

Out of the German Electrical and Electronic Manufacturers' Association, the Activity Group DALI (AG DALI – www.dali-ag.org) has been founded to establish the DALI standard.

Since 2003 ABB STOTZ-KONTAKT is member of the working group DALI and is therefore entitled to print DALI devices with the DALI logo

Members of the AG DALI are e.g.:

ABB, BAG, CEAG, DIAL, ERC, ERCO, ETAP, HADLER, HELVAR, INSTA, JOHANSON CONTROLS, LIGHTOLIER, LUTRON, LUXMATE, MAY&CHRISTE, OSRAM, PHILIPS LIGHTING, TRIDONIC and more

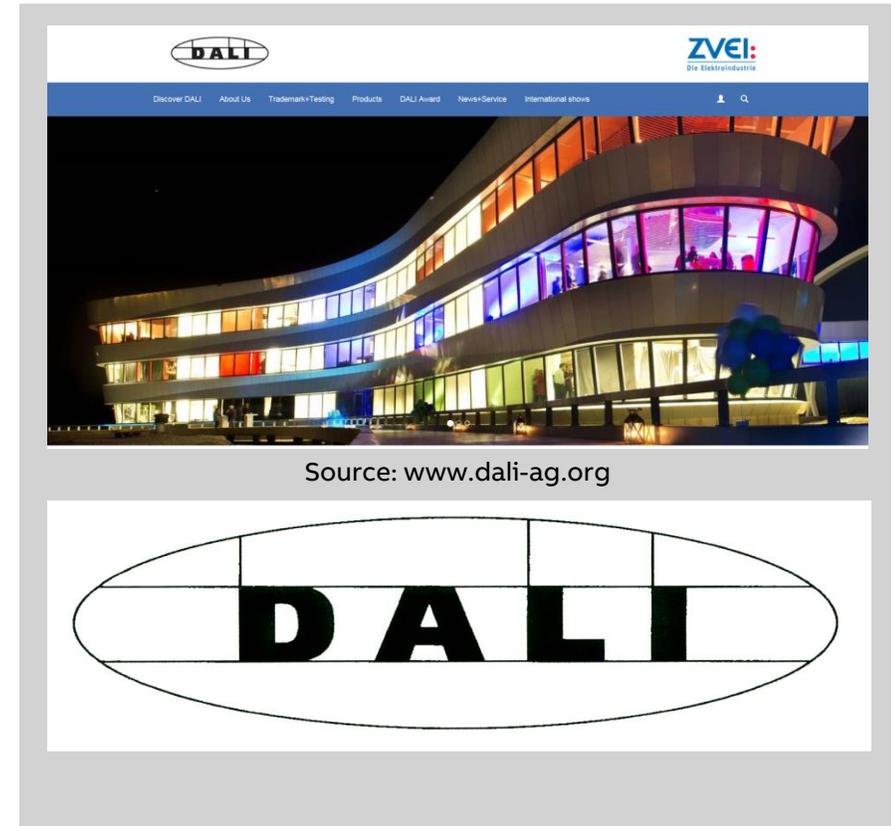


ABB i-bus® KNX – Lighting control system solutions

DALI Introduction

Applications

- Switching Operation (On/Off)
- Setting of brightness Value
- Dimming via logarithmic characteristic (human perception)
- Fading time for scenes
- Control of individual devices or groups
- Status feedback (on/off, brightness value, lamp-ballast failure)

**A Dali system can be used to control standard lighting types.
Many manufacturers supply DALI ballasts for a variety of lights**

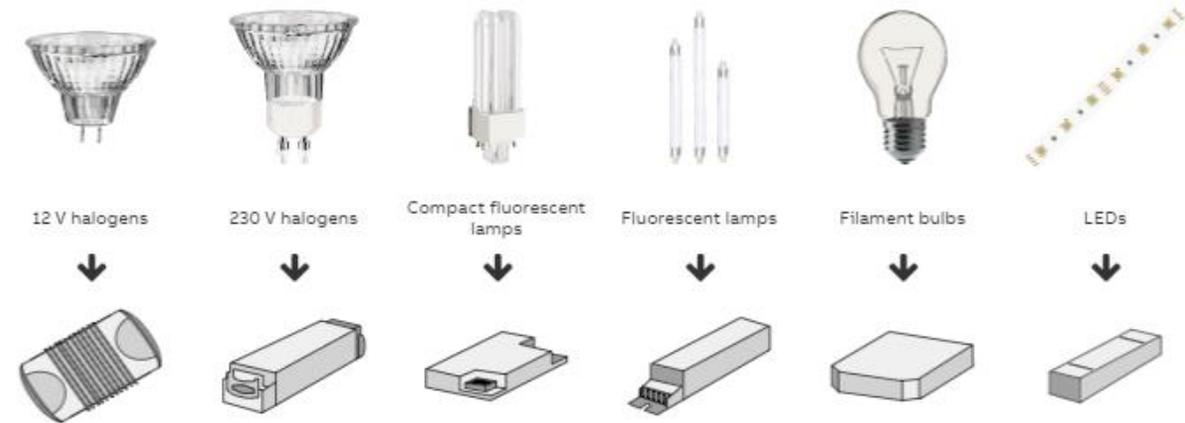


ABB i-bus® KNX – Lighting control system solutions

DALI Gateway Product Overview



	Gateway DG/S 8.1	Gateway DG/S x.64.1.1	Gateway DG/S x.64.5.1	Light Controller DLR/S 8.16.1M	Light Controller DLR/A 4.8.1.1
Controlled	Broadcast			Group	Group
DALI outputs	8 (A...H)			1	1
DALI ballast	128 (max. 16 per output)	<ul style="list-style-type: none"> - Group or individual control - DALI Outputs 230V secure - ABB i-bus tool support - DALI Emergency Lighting - ... 		64	64
DALI addressing	not necessary	<p style="text-align: center;">+</p> <p style="text-align: center;">Tunable White, Human Centric Lighting, Dim2Warm and more</p>		64	64
Lighting groups established via	cable installation			DALI	DALI
Lighting groups per Gateway	8 (installation)			16 (DALI)	8 (DALI)
Constant light control				8 groups	4 groups

ABB i-bus® KNX – Lighting control system solutions

DALI Gateways Basic DG/S x.64.1.1 and Premium DG/S x.64.5.1

System overview

The DALI Gateways DG/S x.64.x.1 are used to control DALI equipment (only slaves) to IEC 62386 with

- Device type 0: DALI interfaces (Part 201)
 - Ballasts, transformers, LED drivers, ...
- Device type 1: DALI self-contained emergency lighting converters with individual batteries (Part 202), e.g.
 - ABB Kaufel route escape signs “Ovano”
 - ABB Kaufel LED downlights “Serenga”
- Device type 8 (only DG/S x.64.5.1): DALI Colour-controlled luminaires (Part 209)
 - LED drivers for tunable white (Colour temperature T_c)

Note: The DALI Gateway is a DALI single master and up to 64 DALI devices (slaves) can be connected per output. Other DALI masters, DALI power supplies or functional devices must not be connected to the DALI output.

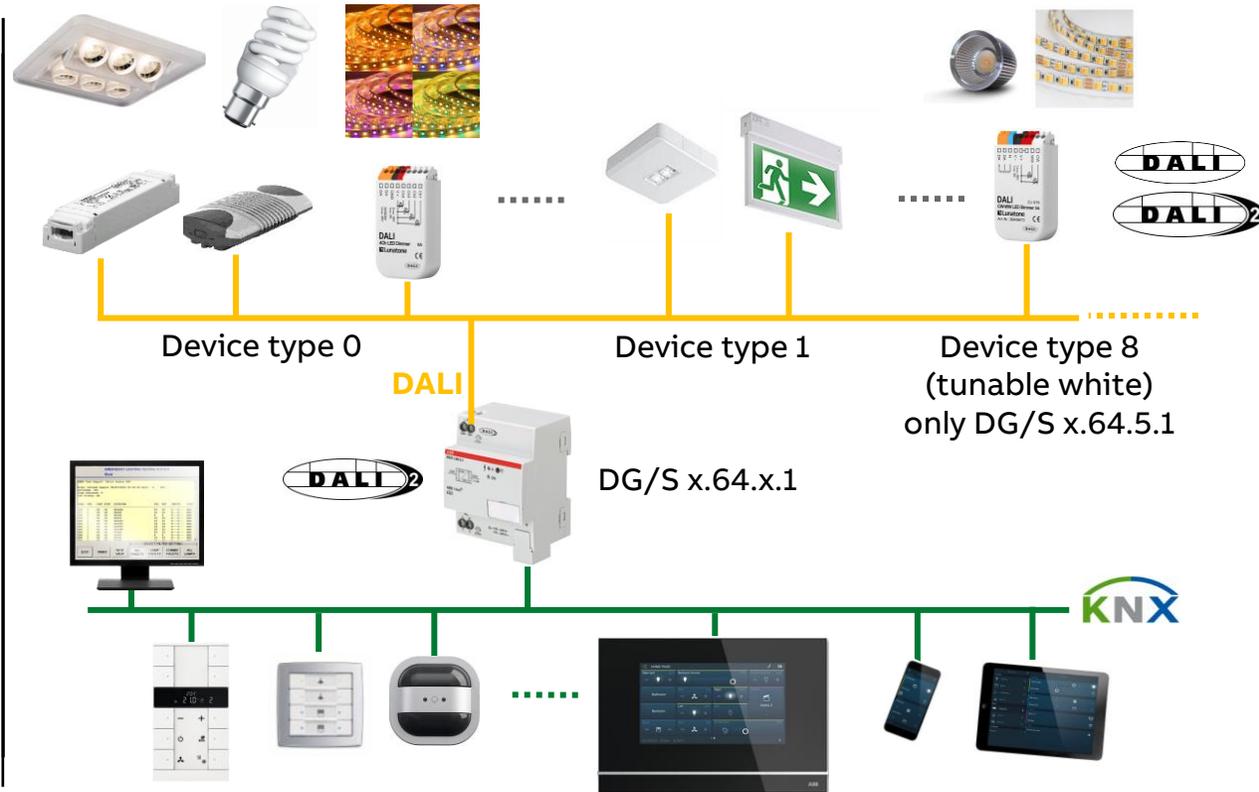


ABB i-bus® KNX Products

MDRC – Shutter / Blind Actuators

Shutter actuator with travel detection 230V



JRA/S x.230.5.1 (2,4,8)

Shutter actuator with travel detection 24V



JRA/S x.24.5.1 (2,4,8)

Shutter actuator with Manual Operation 230V



JRA/S x.230.2.1 (2,4,8)

Shutter actuator 230V- Without Manual Operation



JRA/S x 230.1.1

ABB i-bus® KNX Products

MDRC – Fan Coil Actuators

Fan coil controller 2 x PWM, 3 stage



FCC/S 1.1.x.1

Fan coil controller 2 x 0-10V, 3 stage



FCC/S 1.2.x.1

Fan coil controller 3 x 0-10V, 3 stage



FCC/S 1.3.x.1

Fan coil controller PWM, 3 stage



FCC/S 1.4.1.1

Fan coil controller 2 x PWM, 0-10V



FCC/S 1.5.x.1

Blower Actuator



FCL/S x.6.1.1

ABB i-bus KNX Products

Presence sensors

ABB i-bus® KNX – Lighting control system solutions

KNX Presence Detectors

Movement and Presence Detection

Presence detectors units perfectly control not only lighting systems but also heating, ventilation and air-conditioning systems

For each demand, the

- Busch-Presence detector KNX
- Busch-Presence detector mini KNX
- Busch-Presence detector Corridor KNX
- Watchdog Sensor

are available in two versions:

- Basic
- Premium with extended functionality, e.g., constant light control

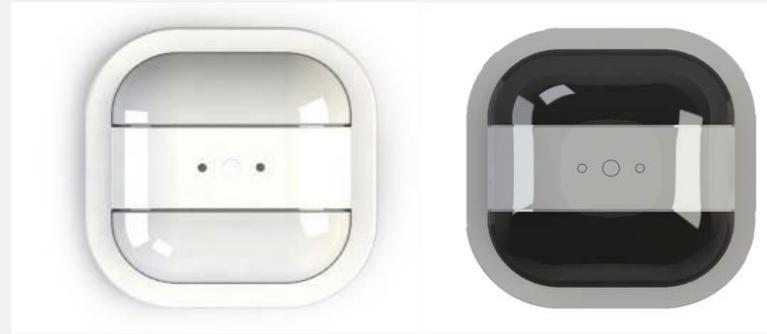
The variety in technical functions, sizes, colors and detection ranges offers a wide field of applications

Now there is an option for every need



ABB i-bus KNX system

KNX Motion and presence Sensors



- **mini and mini premium version**
- 8m detection range.
- Constant light switch
- Constant light controller
- HVAC function
- Integrated RTC



- **Basic and premium version**
- 12m detection range.
- Constant light switch
- Constant light controller
- HVAC function
- Integrated RTC



- **Watchdog Sky version**
- 24m detection at 12m height



- **Corridor and Corridor premium version**
- 30m detection range.
- Constant light switch
- Constant light controller
- HVAC function
- Integrated RTC

ABB i-bus® KNX – Lighting control system solutions

KNX Presence Detectors



simple ceiling mounting by spring clips

Basic

- 2x channels
- 2x constant light switches

Premium

- 4x channels
- HVAC function
- 2x 2-channel constant light controller
- 4x constant light switches
- integrated RTC
- 12/24 IR channels
- 5 logic channels
- 2x brightness sensor inputs

*) visible height

ABB i-bus® KNX – Lighting control system solutions

Busch-Presence detector KNX Detection overview

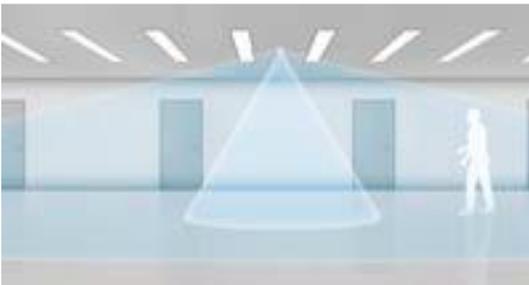


Busch-Presence detector KNX

installation height	2,5 m	3 m	4 m
sitting*	8 m	10 m	14 m
walking	10 m	12 m	16 m

Busch-Presence detector mini KNX

installation height	2,5 m	3 m	4 m
sitting*	5 m	6,5 m	9 m
walking	6,5 m	8 m	10,5 m



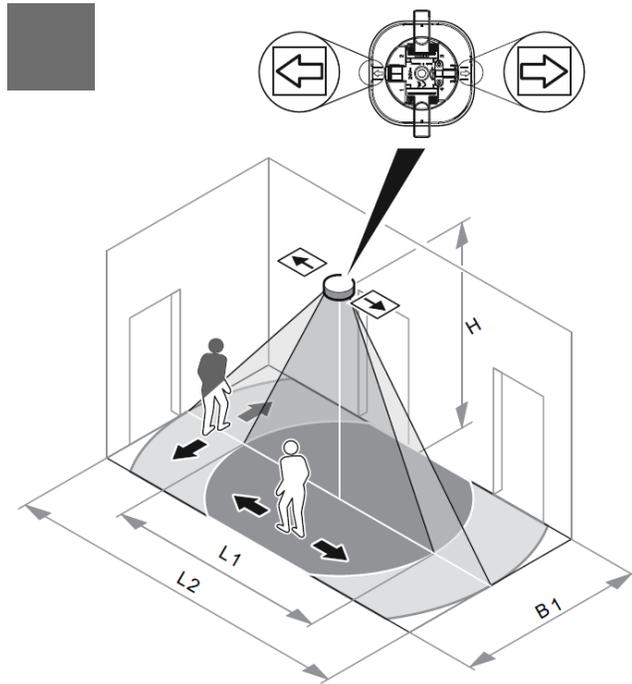
Busch-Watchdog Sky KNX

installation height	4 m	6 m	12 m
walking	16 m	18 m	24 m

* 0,8 m table height

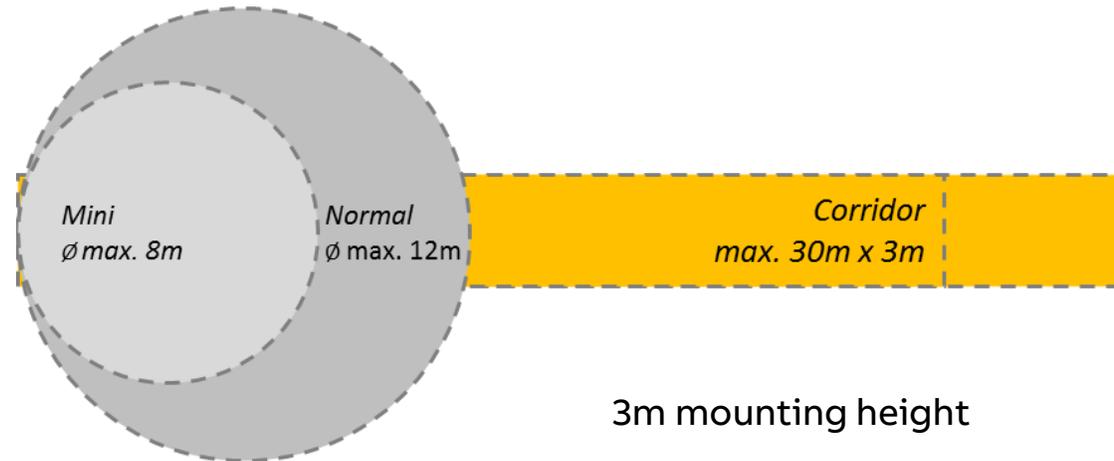
ABB i-bus® KNX – Lighting control system solutions

Busch-Presence detector KNX Detection overview / Comparision



Busch-Presence detector Corridor KNX

installation height	Length [L2] x Width [B1] crosswise to the detector	Length [L1] x Width [B1] frontal to the detector
2,5 m	max. 24 m x 2.5 m	max. 18 m x 2.5 m
3 m	max. 30 m x 3 m	max. 20 m x 3 m
4 m	max. 30 m x 3 m	max. 20 m x 3 m

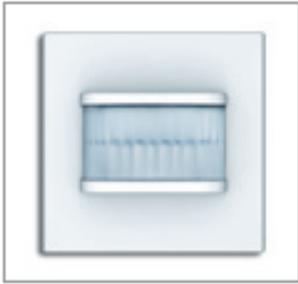


especially for corridors as well as long and narrow passageways

ABB i-bus® KNX – Lighting control system solutions

KNX Wall Mounted Motion detectors

Busch Watchdog Motion sensor Standard (6122/10-xx-500)



- With up to 4 channels incl. Comfort switch functionality
- Detection range: front 6m, lateral: 6m
- Detection angle: 180°
- Recommended Installation height: 1,1m
- Brightness limit value: 5 Lux – 1000 Lux
- Logic functions

Busch Watchdog Motion sensor Comfort (6122/02-xx-500)



- With up to 4 channels
- Detection range: frontal 15m, lateral: 5m
- 2nd detection range: front: 10m, lateral: 2,5m
- Detection angle: 180°
- Brightness limit value: 5 Lux – 1000 Lux
- Logic functions

Bus coupler



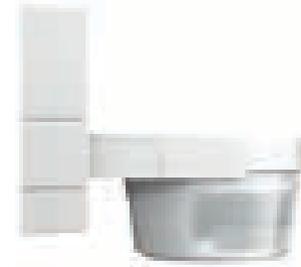
- For 6122/xx-xx-500
- Rated voltage: 24V, Rated current: 5mA (Fan In 1)
- Logic functions

ABB i-bus® KNX – Lighting control system solutions

220 degree sensor

Watchdog Sensor Basic & Premium (6179/02-xx-500)

- With up to 2/4 channels
- Detection range: 16m
- Detection angle: 220°
- Brightness limit value: 1 Lux – 1000 Lux
- Protection type IP 55



6179/01-204-500



6179/02-204-500

ABB i-bus KNX Products

User operations

ABB i-bus KNX system

Room Control panels

ABB KNX Control elements form the interface between this state-of-the-art technology and the user. They provide comfort and security. They control lighting, cooling, fresh air supply and blinds. They integrate media technology and the internet. The control elements are visible and clearly arranged, guaranteeing intuitive operation for the end user.



01



02



03

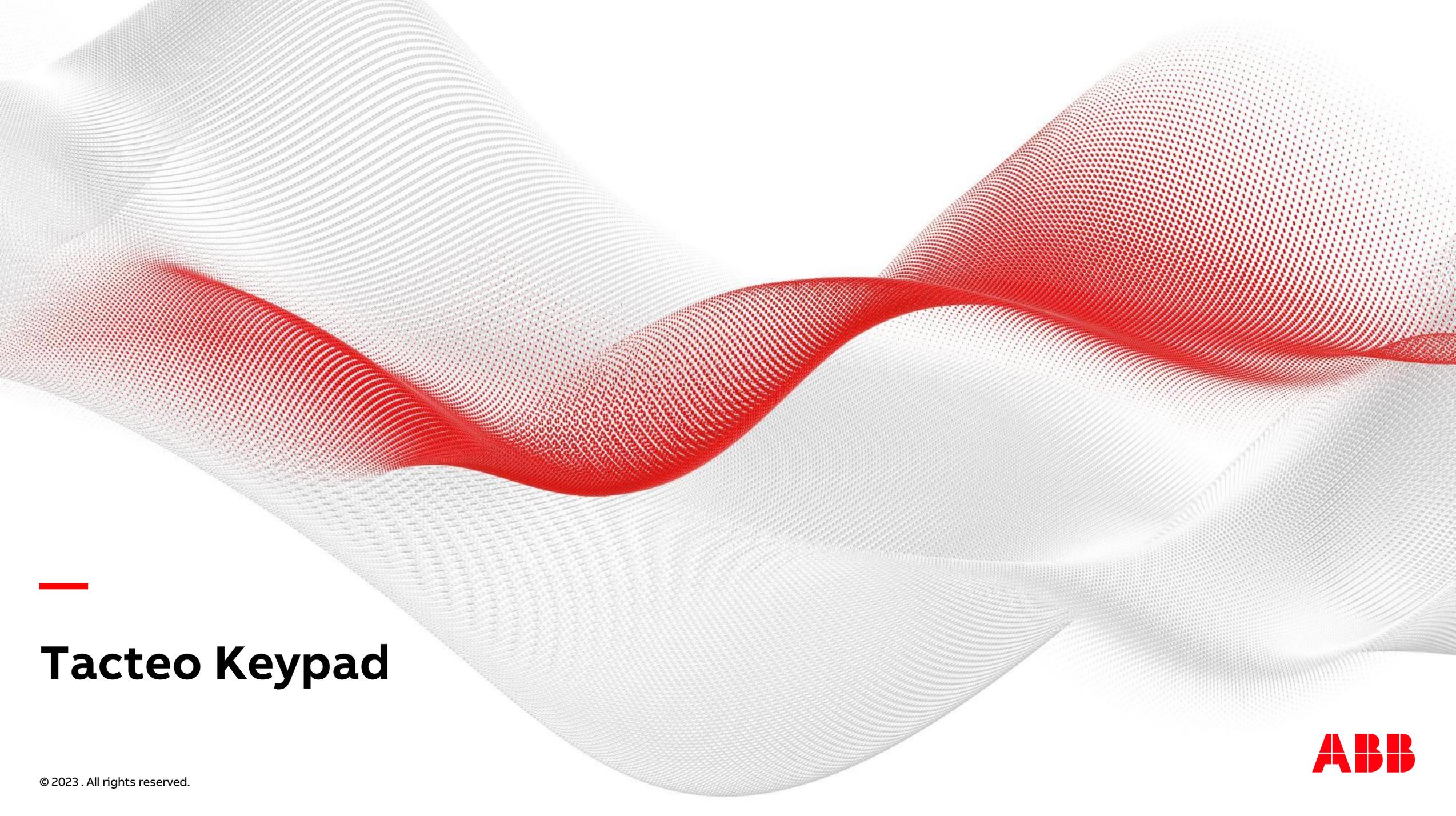


04



05





Tacteo Keypad

ABB Tacteo®

Range overview



Control element, 1gang



Control element, 2gang



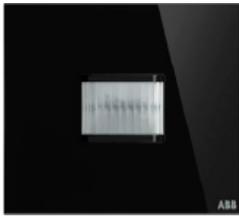
Control element, 4gang



Control element, 6gang



Control element, 12gang



Movement detector



Room temperature controller



Room temperature controller with 4gang



white glass



black glass



glass coral



glass ocean



glass cloud



glass sun



glass purple



glass mocha



glass avocado



glass oyster

ABB tacteo®

Customization of devices

Standard customization

- 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

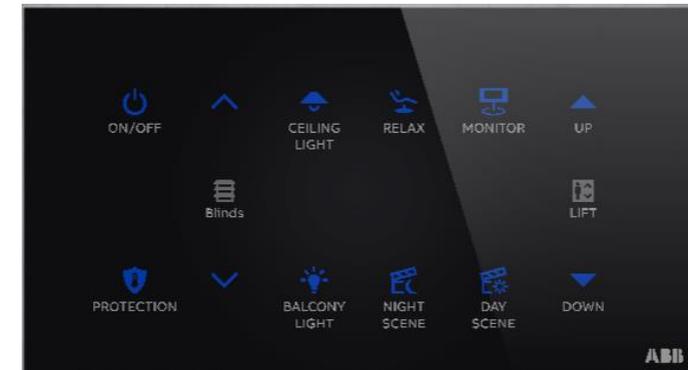
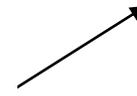


ABB tacteo®

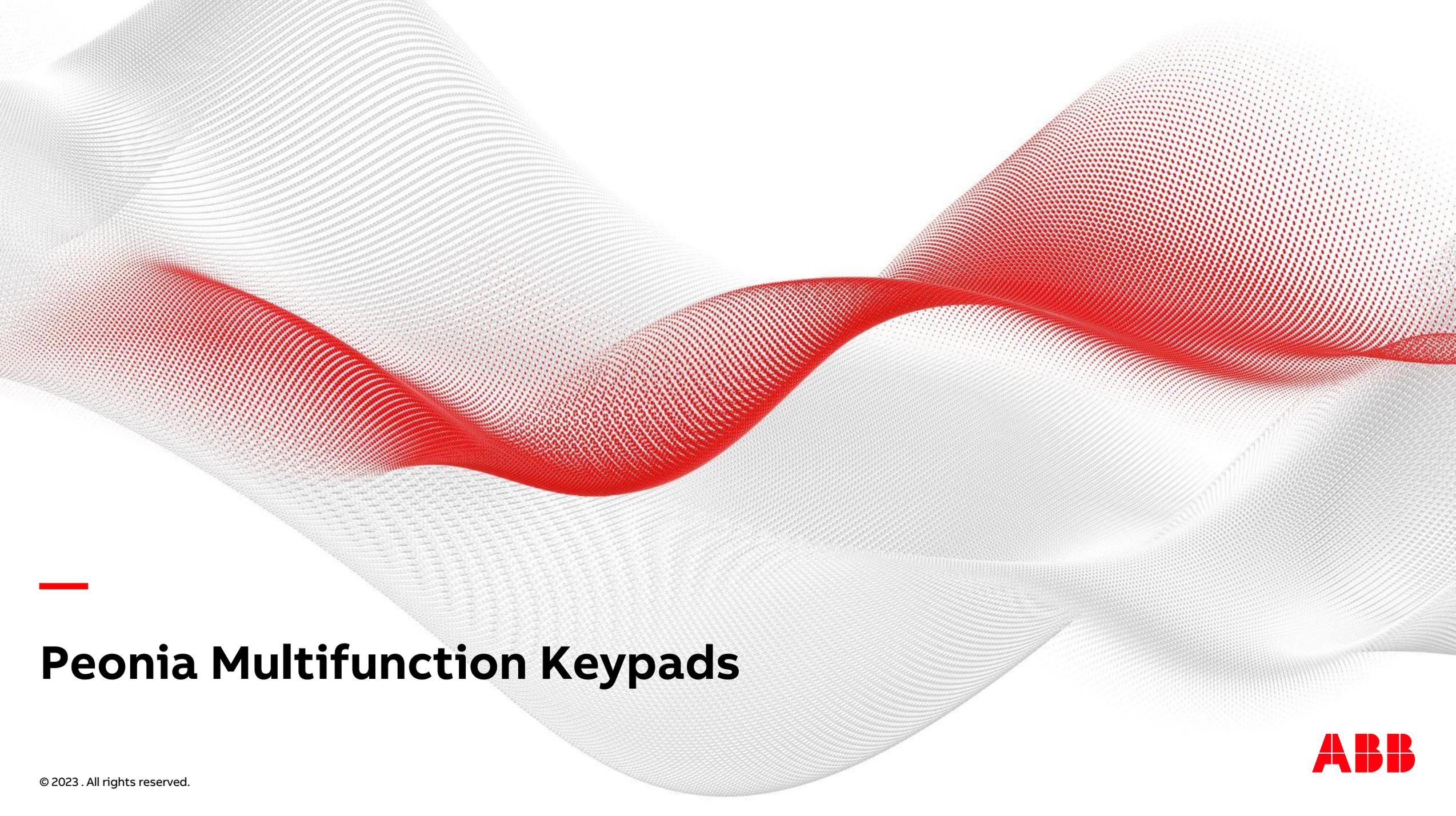
Customization of devices

Premium customization

The same functionalities of standard customization, with in addition:

- **Customized color** can be used for configure glass surface (in addition to standard ones)
- **Customized icons** can be provided by the customers in addition to ABB standard library
- **Customized/specific font** provided by the customer can be used for texts
- **Customized logos** can be provided by the customer and used
- **Icons, logos, texts can be placed freely** on the glass surface (with some limitation in specific areas, and considering a maximum of 3 elements)





Peonia Multifunction Keypads

Peonia Multifunction Keypads

Range Overview

Features

- Slim Design 9mm thickness
- Available in 2/4 gang, 3/6 gang and 5/10 gang.
- Proximity detection.
- Ambient LED Strip, Top and Bottom with RGB Colors.
- Customizable Symbol with LED with RGB Colors.
- Status LED Illumination

Color ranges



Matt Black

Matt Platinum

Matt Silver

Glossy White

Matt White

Champagne Gold

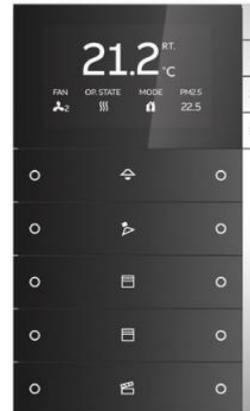
2/4 Gang



3/6 Gang



5/10 Gang



5/10 Gang
with RTC



3/6 Gang
with RTC

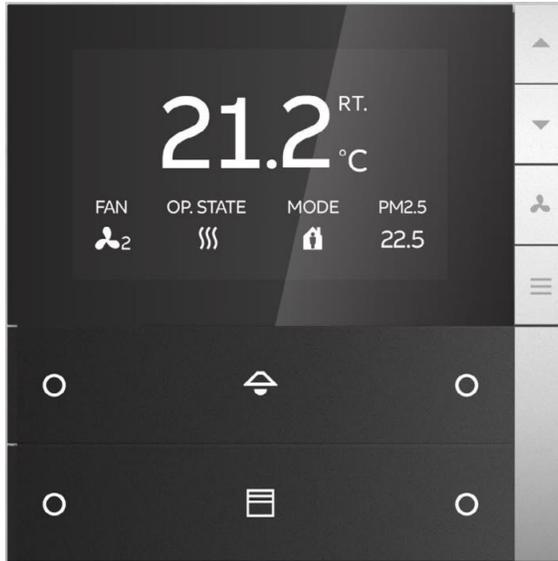


2/4 Gang
with RTC

Peonia Multifunction Keypads

Display Unit

Display Features



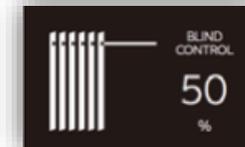
- Room Temperature Display with additional Multi function buttons
- Metal Strip with Touch Buttons and vibration feedback
- Actual temperature or setpoint temperature display



Dimming Control



Dewpoint Warning



Blind Control



EcoMode



Shutter Control



Customized Scenes

Peonia Multifunction Keypads

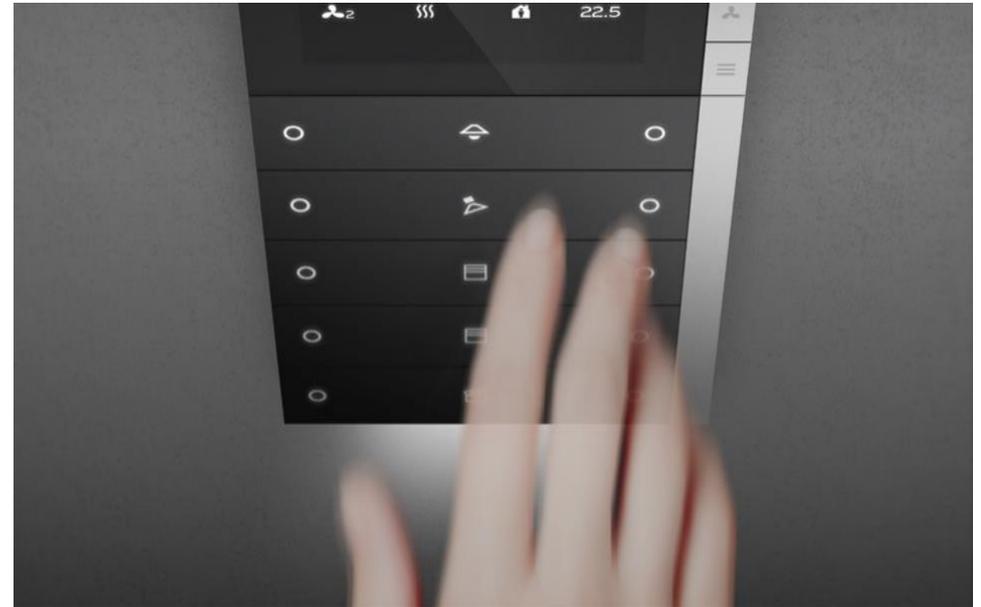
Special Features

Replaceable Rocker

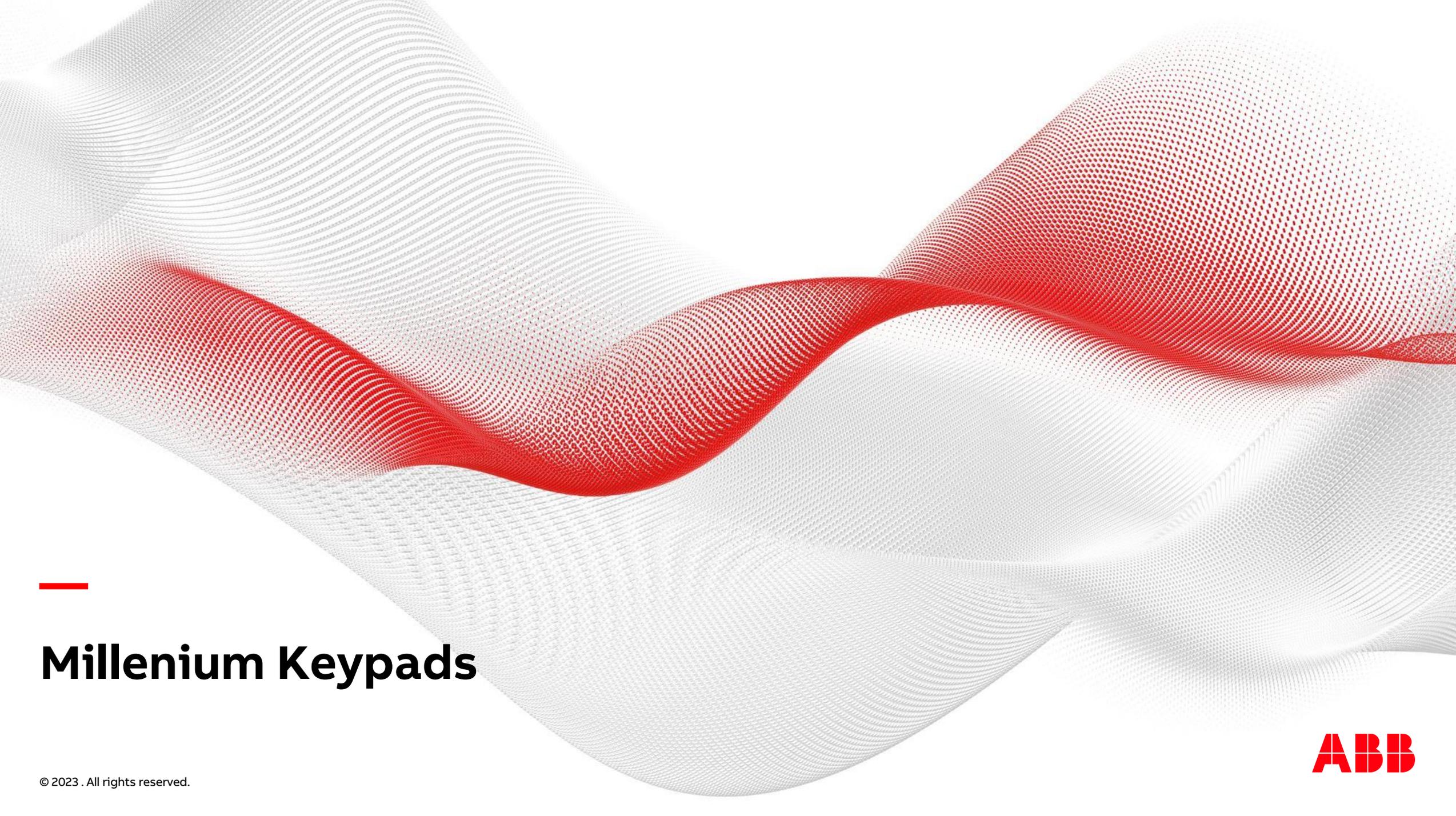


Replaceable rocker for Symbol Button.

Proximity Detection



Proximity sensor activation for energy saving and comfort during night time.



Millenium Keypads

Millenium Keypads

Range Overview

Features

- The Millenium collection is the first metal range to incorporate the KNX system.
- Available in 2 button, 4 button, 6 button and thermostat
- Standard Icons can be replaced by the symbols for lighting, blinds, room thermostat, scene and FanCoil..
- KNX functions through innovative colour concept (yellow=lighting, blue=blind, orange=RTC, magenta=scene and white=neutral/no function assigned)

Color ranges



2 Button



4 Button



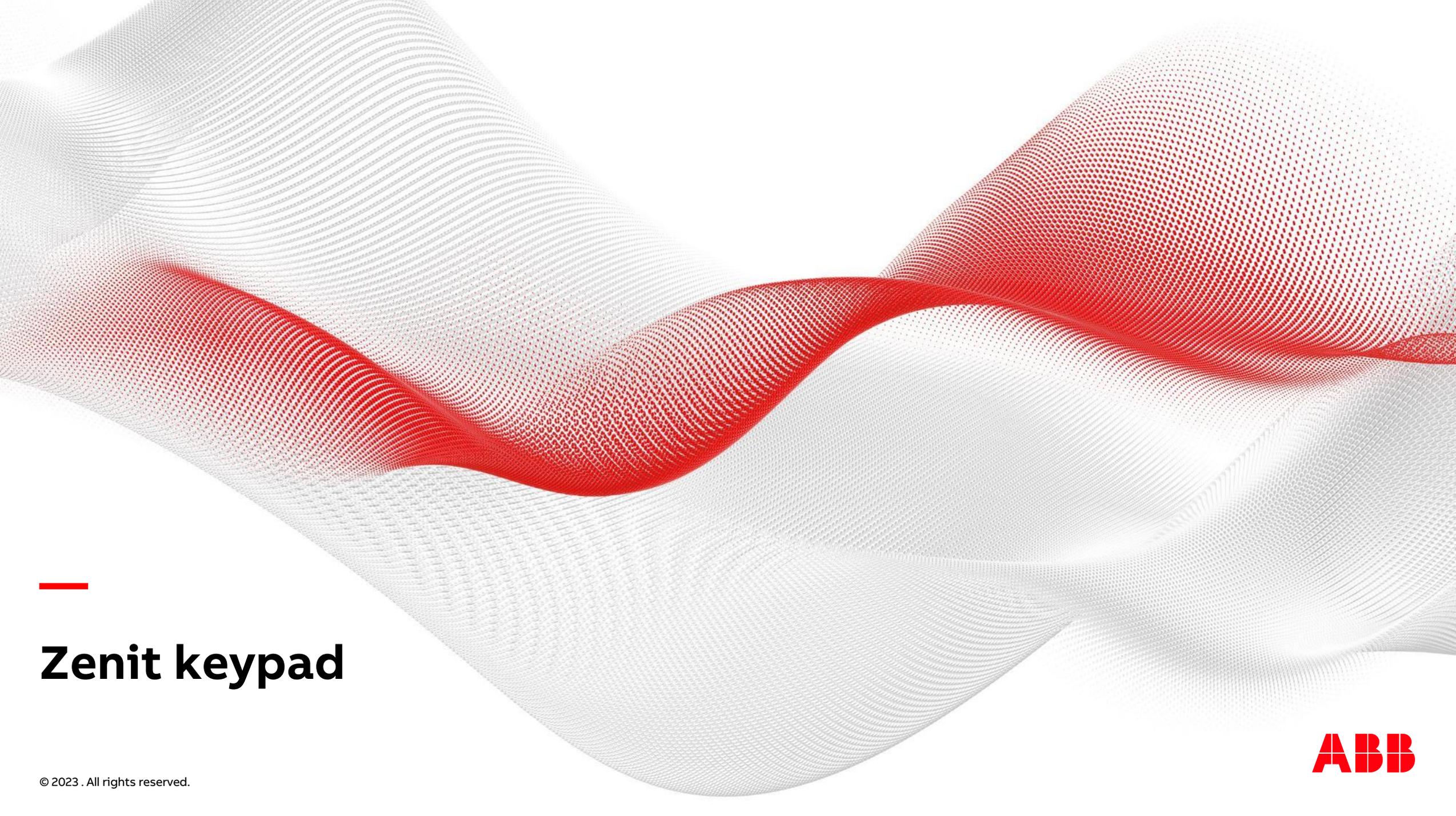
6 Button



6 Button with IR



Thermostat



Zenit keypad

Zenit keypad

- Zenit range is compatible with the full portfolio of ABB i-bus® KNX solutions.
- Available in 2 , 4 , 6 gang and thermostat.
- Available in 4 colors.
- Rocker without symbol can be replaced by the symbols for switching, dimming, blinds etc.

Color ranges



BL White



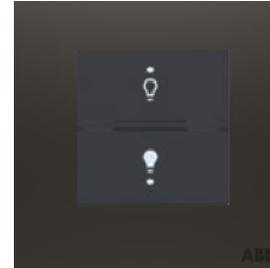
PL Silver



AN Anthracite



CV Champagne



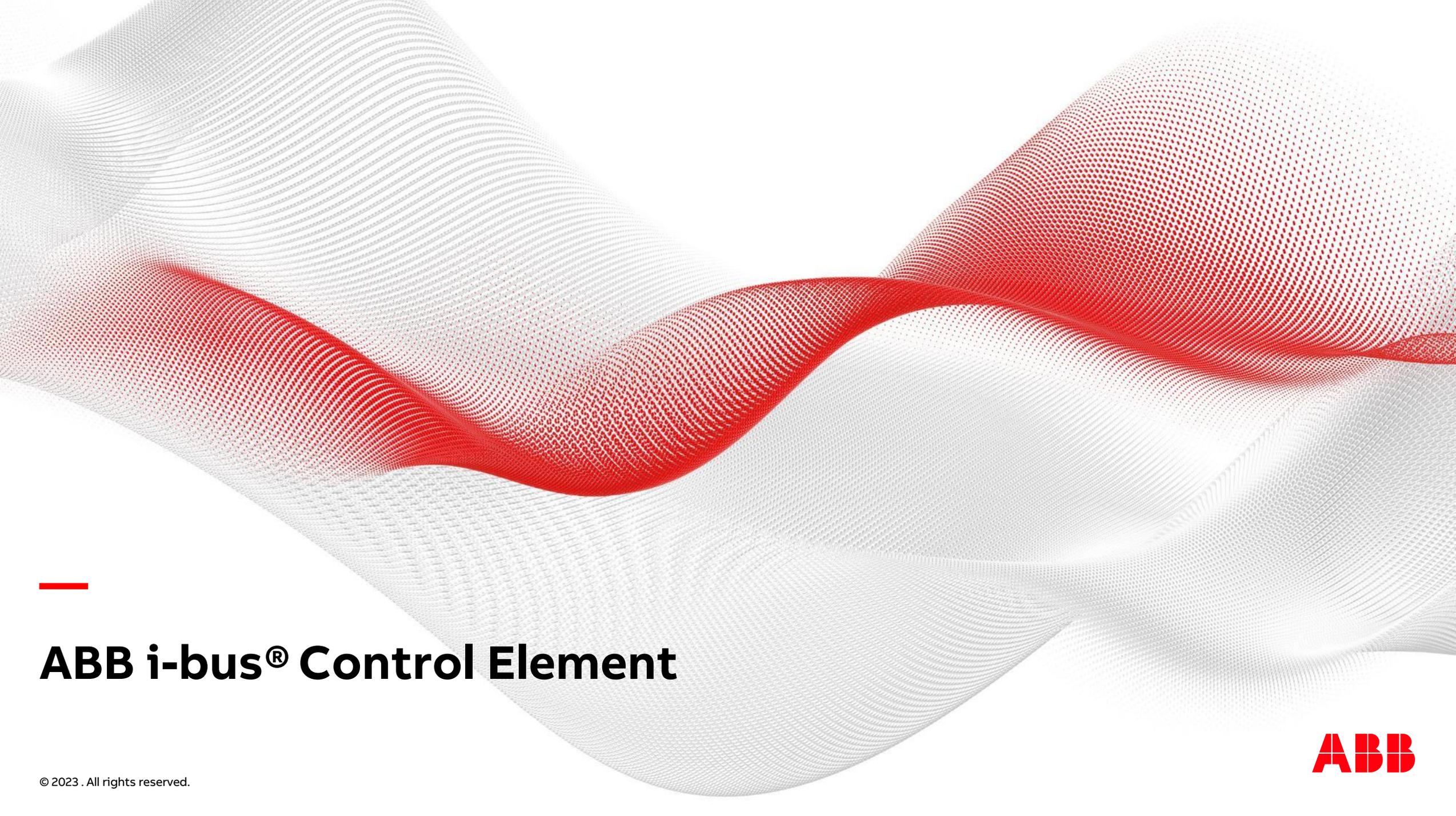


ABB i-bus[®] Control Element

ABB i-bus® Control Element

Introduction

ABB i-bus® Control Element

ABB i-bus® KNX control element is an innovative product of ABB's smart building that is suitable for commercial buildings, offices, public spaces and residential segments.

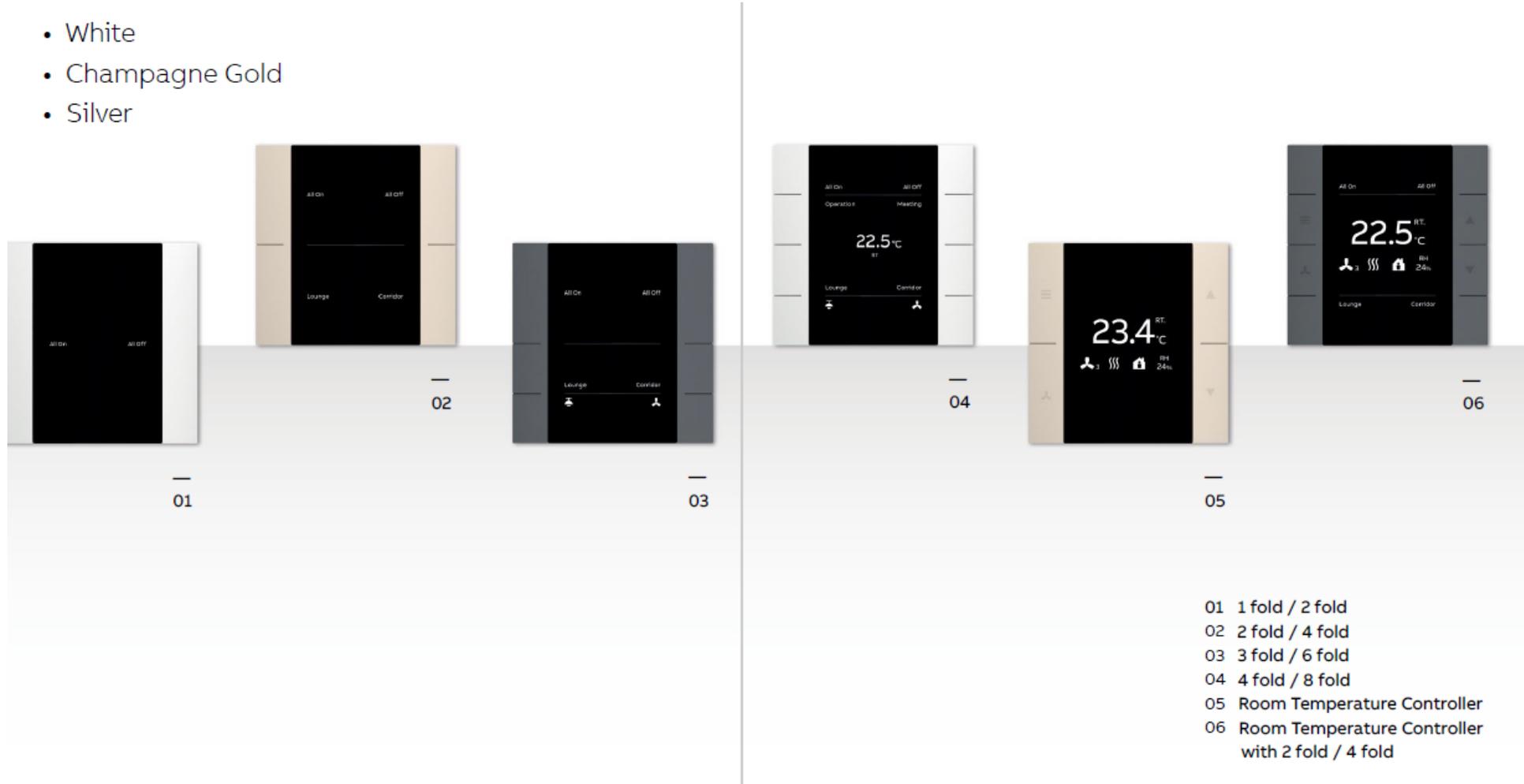
Fast simple and flexible label configuration options through ETS configuration software, reducing installation and customization costs.

Control Element switches assortments come with an LCD screen display which enables the device to be equipped with a flexible and easy understanding.



ABB i-bus® Control Element

- White
- Champagne Gold
- Silver

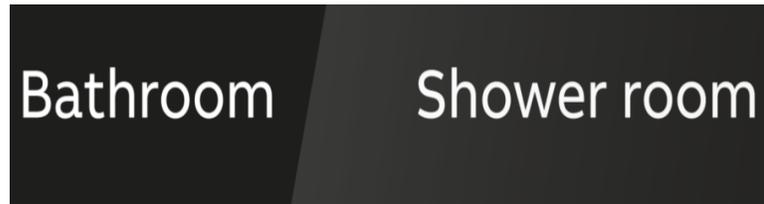


- 01 1 fold / 2 fold
- 02 2 fold / 4 fold
- 03 3 fold / 6 fold
- 04 4 fold / 8 fold
- 05 Room Temperature Controller
- 06 Room Temperature Controller with 2 fold / 4 fold

ABB i-bus® KNX Control Element

UI display

Single button – English – Left / Right



Individual button - Illumination



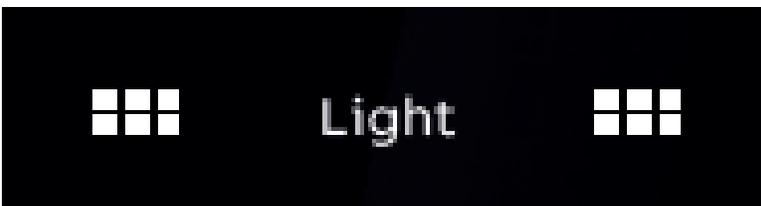
Individual button - Icon



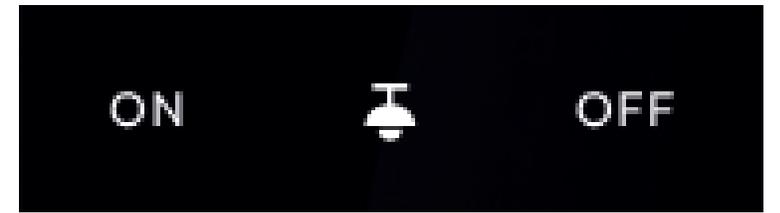
Pair button – English – Center



Pair button – English- Illumination



Pair button – Icon/Word - Center



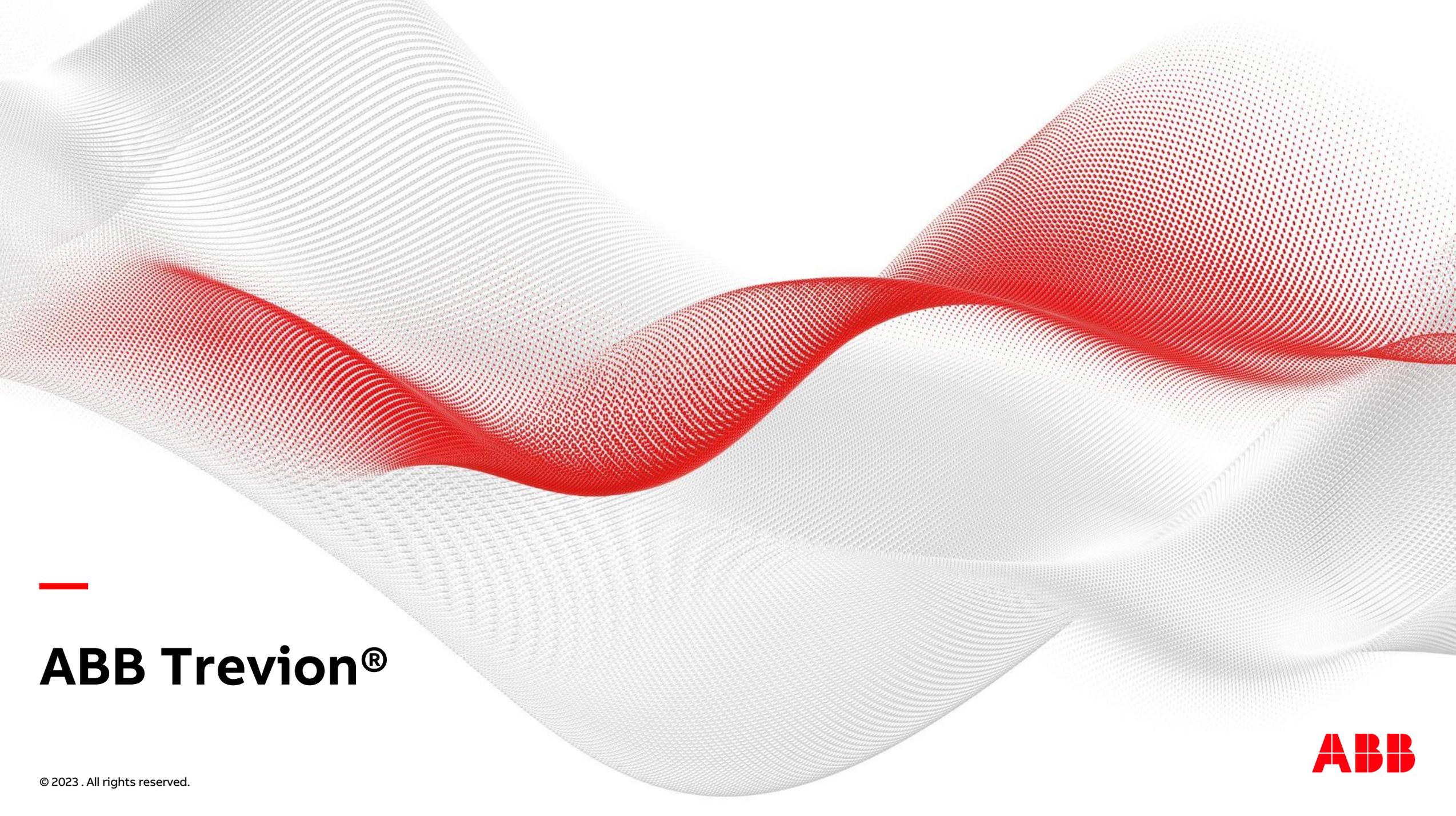


ABB Trevion®

ABB RoomTouch® 4” and ABB Trevion®

ABB Trevion® Keypad KNX

Product Overview

The ABB Trevion® Keypads can be configured flexibly as a 1-fold up to 4-fold touch sensor with

- Animated light guide with RGB color concept
- Orientation light
- Day/night mode
- Optical and acoustic alarm function
- Primary function
- Blocking of individual operating areas
- Acoustic feedback
- Internal temperature sensor
- Additional functions (logic gates, sequencer, min/max, ...)
- ... and more



ABB Trevion® Keypads

Introduction

ABB Trevion®

Experience modern sensor technology combined with sleek design and a unique usability concept through capacitive surfaces.

The keypads can be configured flexibly as a 1-fold up to 4-fold touch sensor (one order code) so it is adaptable to individual needs and can be reconfigured subsequently. Multi-color LEDs visualize changes in movement or brightness through the animated light guide.

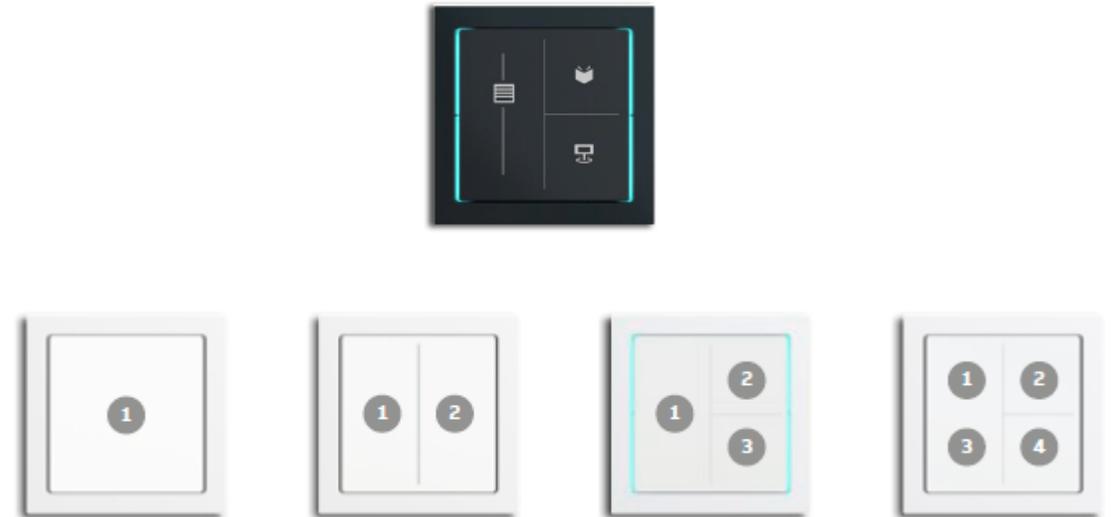
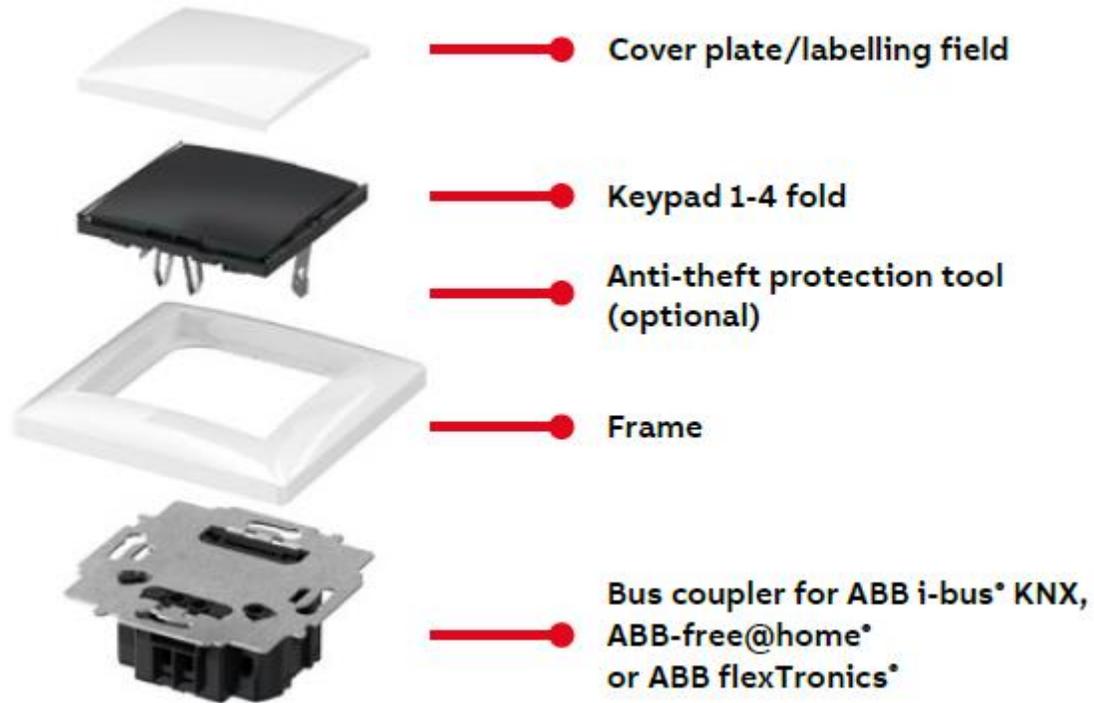


ABB Trevion® Keypads

Features



- Slim Design with removable cover/labeling field
- One keypad for KNX, f@h
- Different bus couple units for KNX and f@h
- New usability concept
 - Swipe/slide control function
- Functions:
 - 1 up to 4 control function
 - Animated light guide with RGB color concept
 - With internal temperature sensor
 - Acoustics feedback (buzzer)

ABB Trevion® Keypads

Labeling concept – 3 step approach

Labeling options:

In general, we offer the customer 3 options always compared with the innovate light guide. The cover will be available in all color of the participating design ranges :

1) Without any Icons/Text

In residential applications the customer can choose the standard labelling field without any Icons/Text

2) With Standard Icons

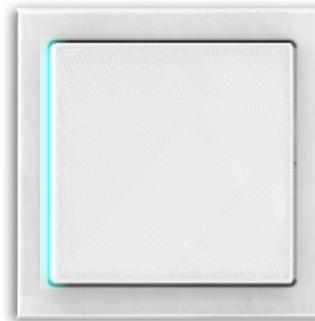
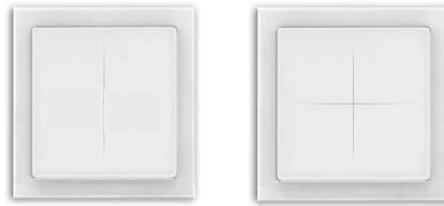
In our catalog customer can choose labeling fields with standard Icons (Light, Shading, Scene, ..) for 1fold / 2fold functionalities.

3) With individual Icons / Text

Via an online labeling tool customer can configure individual labeling by using Icons from an Icon library combine it with individual text if needed. This can be done for all variants 1-4fold.

This labeling fields can be ordered directly by the Installer / System Integrator / End customer & LSO via Online Web Shop.

ABB will deliver the labeling fields as directly to end customer if requested. (only German market)



Plastic cover without Icons/Text buyable from catalog



Plastic cover with predefined Standard Icons buyable from catalog (1f,2f,3f)



Individual labeled plastic cover (done via separate labeling Tool – directly purchasable by (end) customer via WebShop)

ABB Trevion® 2.4" Display

Features

Key Features

ABB-Trevion includes a 2.4" display with black glass surface for higher contrast, which keeps the display readable even at a tilted viewing angle. Users can choose between light and dark mode and haptic feedback through vibration contribute to an intuitive operation.



Details:

- Black glass surface on the top
- One device for KNX and f@h
- With integrated Bus coupler unit (Monoblock, additional Power supply needed)
- IPS display with 240x240 pixel
- New functions
 - 12 control function include RTC
 - With an Information page for 1 up 12 status information
 - With integrated proximity sensor
 - With integrated brightness sensor
 - With internal temperature sensor
 - With binary / external temperature input
 - Haptic feedback (vibration)

ABB Trevion®

Design and functionality in sync

Key Features

ABB Trevion®'s display and keypads match many of our switch design ranges. With its innovate swipe function, animated lightguide, and customizable display and control elements, it adds a touch of perfection to any home!



High-quality sensor assortment with an extensive scope of functionality



Compatibility with ABB i-bus®KNX & ABB free@home®



Customizable design of display and control elements, integrable into many of our design ranges



Smooth usability thanks to swipe function, supported by an animated multi-color light guide



Busch-art linear®



future linear



Busch-balance® SI

ABB i-bus® KNX System

More options for Intelligent Keypads

Tenton



Triton



Prion

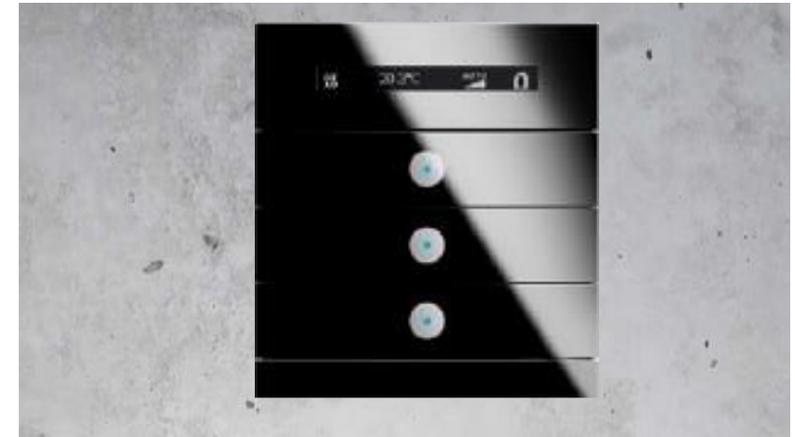


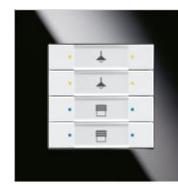
ABB i-bus® KNX System

More options for Intelligent Keypads

Standard Control Element



Multifunction Control Element



Push button coupling unit

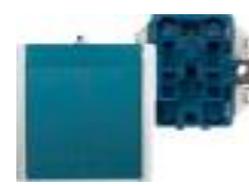


ABB i-bus KNX system

High-end Touch panels

Trevion® 2.4" Display



Welcome IP 7" & 10"



RoomTouch® 4"



SmartTouch® 10"



RoomTouch® 5"

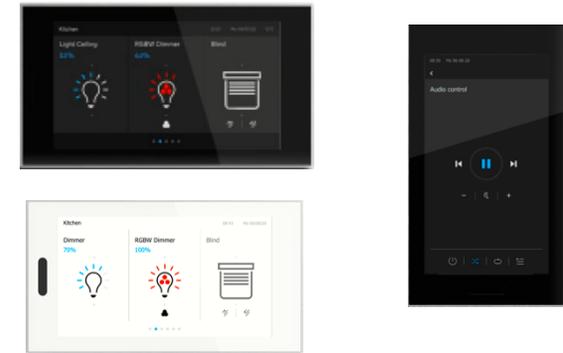


ABB RoomTouch® 4” and ABB Trevion®

Trevion Display 2.4” & ABB RoomTouch® 4” / 5” & ABB SmartTouch®

Perfect alignment of ABB’s touch panels with the same design language for hardware and software



ABB Trevion® Display 2.4”



ABB RoomTouch® 4”



ABB RoomTouch® 5”



ABB SmartTouch® 10”

ABB RoomTouch® 4" and ABB Trevion® Overview

Main technical data (Hardware)

- Touch screen with IPS display, 2.4" / 4" (6.1 / 10.16 cm), square format
- Display: 240 x 240 / 480 x 480 pixel
- Max. brightness: +/- 240cd/m²
- External Power supply 20-32 V $\overline{\text{=}}$
- Rating current 24 V $\overline{\text{=}}$, 75/100 mA
- SD card slot for firmware update, optional import configuration from ETS, photos for screensaver
- Integrated temperature sensor
- Bus connection: KNX or ABB free@home®
- Terminals for a binary input or external temperature sensor input (PT1000 / 6226/T)
- Life cycle: 20,000h with max brightness > 125cd/m²



ABB RoomTouch® 4” and ABB Trevion®

Overview

Further features

- Monoblock device (integrated Bus coupling unit)
- Glass surface and frame in black available, RoomTouch 4” also in white
- 12 control function include RTC
- With an Information page for 1 up 12 status information
- With integrated proximity sensor
- With integrated brightness sensor
- With internal temperature sensor
- With binary / external temperature input
- Haptic feedback (vibration)



ABB i-bus KNX system

All-in-One Caldion Thermostat controller

ABB Caldion® Truly The One

ABB Caldion® is a new range of fan coil room temperature controller.

It is a KNX RTC sensor for hotels, with a dual option on the type of installation (stand alone or KNX)

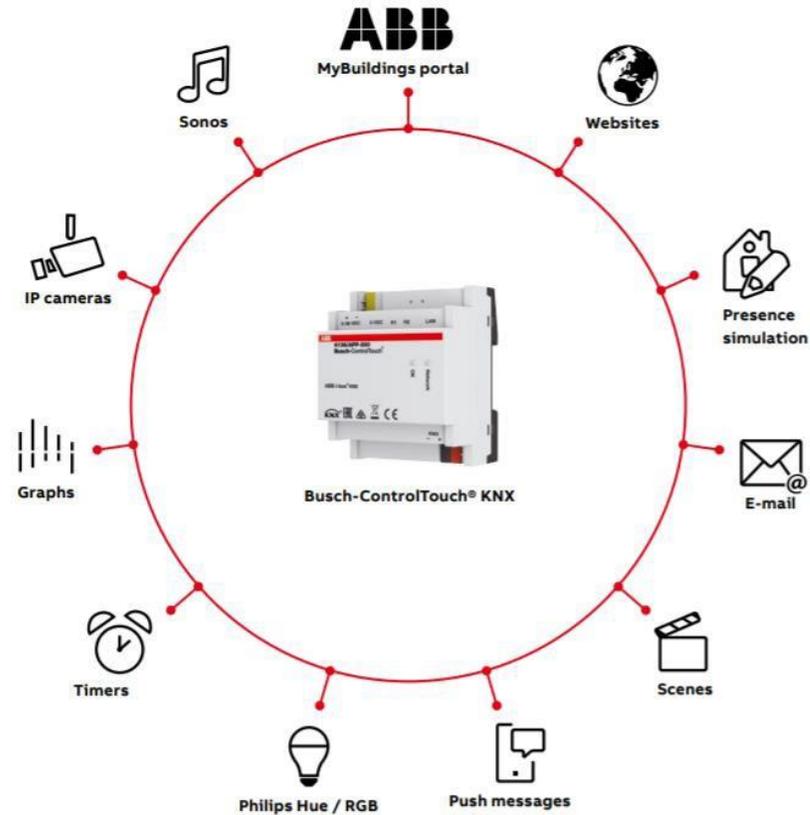
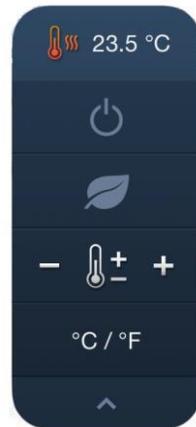
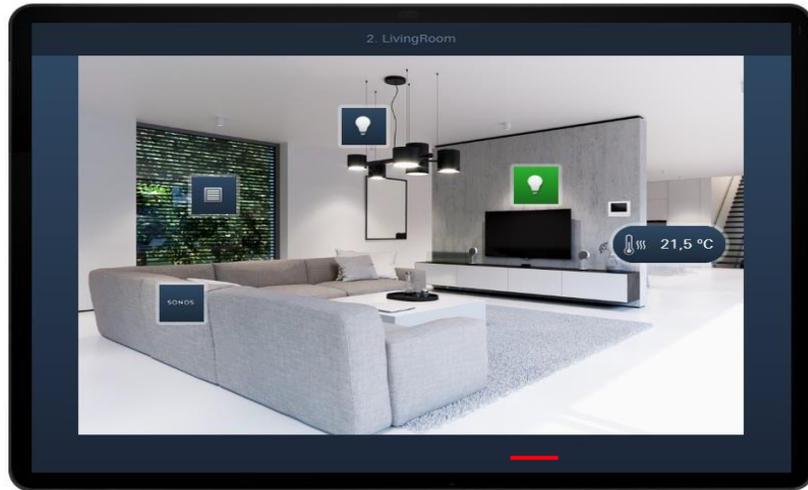
It has a built-in temperature sensor, LED display, buttons and Fan Coil actuator to provide an efficient and cost-effective solution

The perfect frameless casing and intuitive icons using capacitive touch make customer life smarter and easier than ever



Busch Control Touch

Easy KNX remote control with mobile device

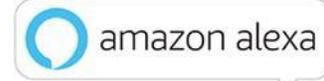


Smart Home System can now be operated remotely via smart device

Everything under your control.
Decide for yourself how you would like to control your Smart Home



Voice Control



Extend functionality with Voice Control

Your smart home can be controlled via voice command using Amazon Alexa, Apple Home kit or Google chrome





BUILDING AUTOMATION SOLUTIONS

Free@home

Smarter Home Solution

ABB

ABB-free@home®

Making Home automation Easier than ever

What is Free@home?

- ABB-free@home® transforms the house or the apartment into an intelligent home. Controlling blinds, lights, air conditioning, door communication and creating customized scenes.
- Easy to operate, via a switch on the wall, with the laptop ,with the smartphone from inside home or remotely.
- Comfortable, secure and energy efficient. The system can be built with **wired network or wireless communication**.
- Only minimal costs are involved when compared with conventional electrical installations.
- Extendable system with various integrations with many applications like RGB Lighting, background music, security, geofencing and voice commands.

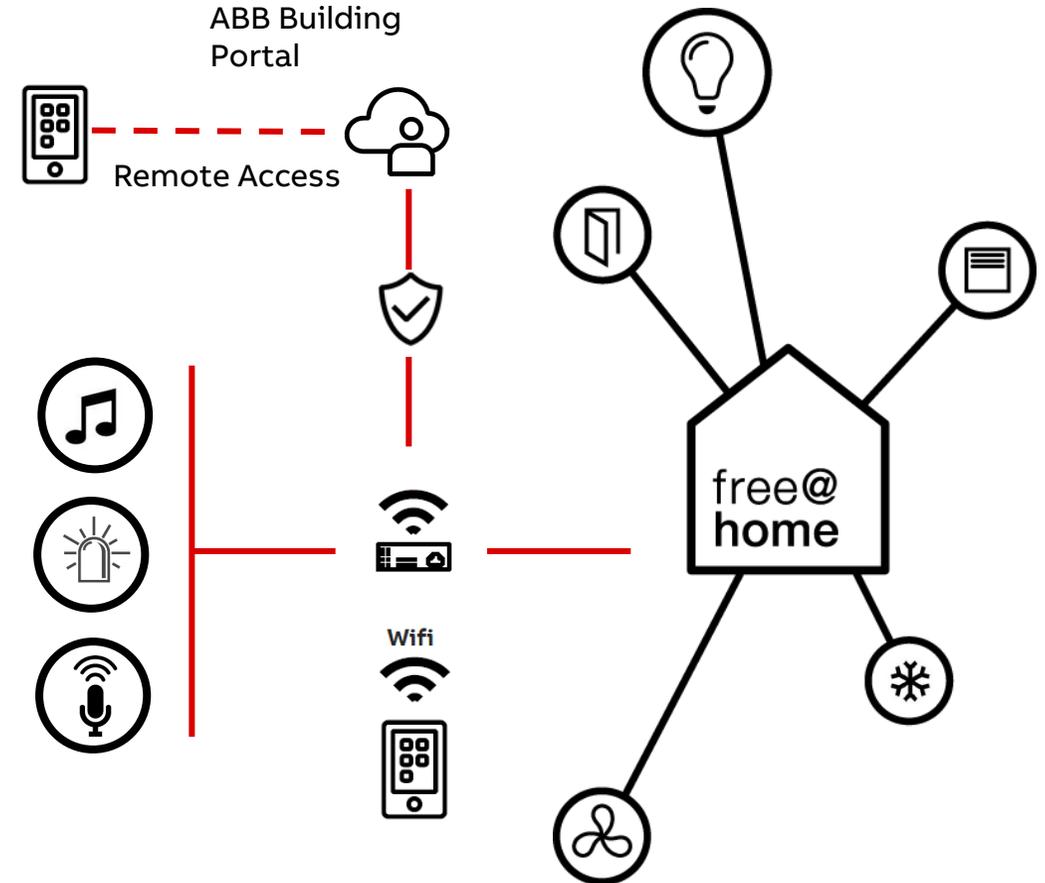


ABB-free@home® – Overview and Installation

Introduction

Smart blinds, lights, HVAC and door communication

Connected

Lead to comfort, safety and efficiency and can be controlled via switch, voice-control, smartphone, tablet or PC

Easy and flexible installation and operation

Easy

Wired or wireless with sensors, actuators and sensor-actuator units

Initial configuration of the system by the electrician is carried out via an app

Intuitive

Commissioning is particularly fast and saves valuable working hours
Intuitive and easy to use app - and settings can be adjusted by end user

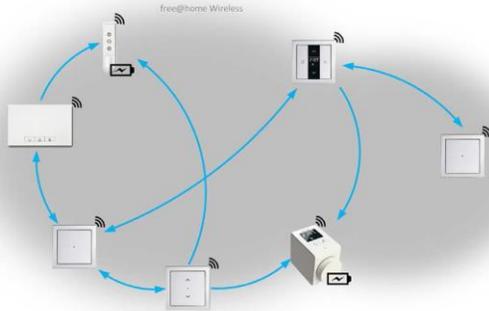
Innovative home automation with endless possibilities

ABB-free@home® Features

Extendable up to 150 devices



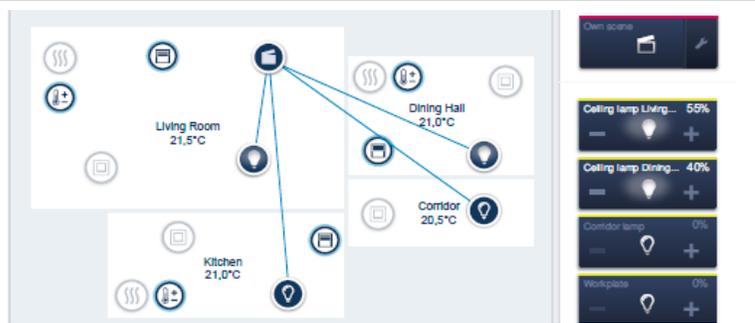
AES128 Encrypted Wireless Comm.



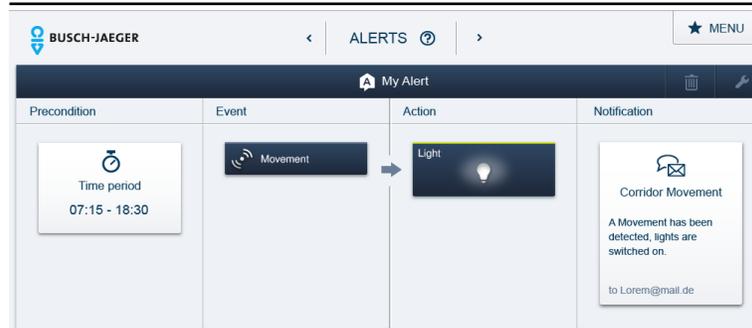
Easy Web-based Commissioning



Easy Scenes Configuration



Events, Actions and Notifications



Scheduling

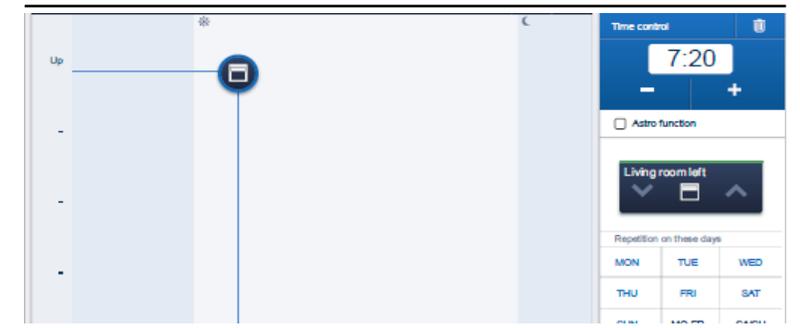


ABB-free@home® Addons

Goals

Customers can integrate major brand solutions into ABB-free@home® and use them like any native device: complete interaction is possible, e.g. control, status, scenes creation (switch turn off), usage within conditions or actions.

Connected devices can appear with dedicated icons in ABB-free@home® Next app library.

Addons are just one technical way for integration of 3rd party, together with the existing cloud and local APIs.

Regardless of the source, object and brand, our customers can expand their smart home functionalities from one ecosystem and with peace of mind.

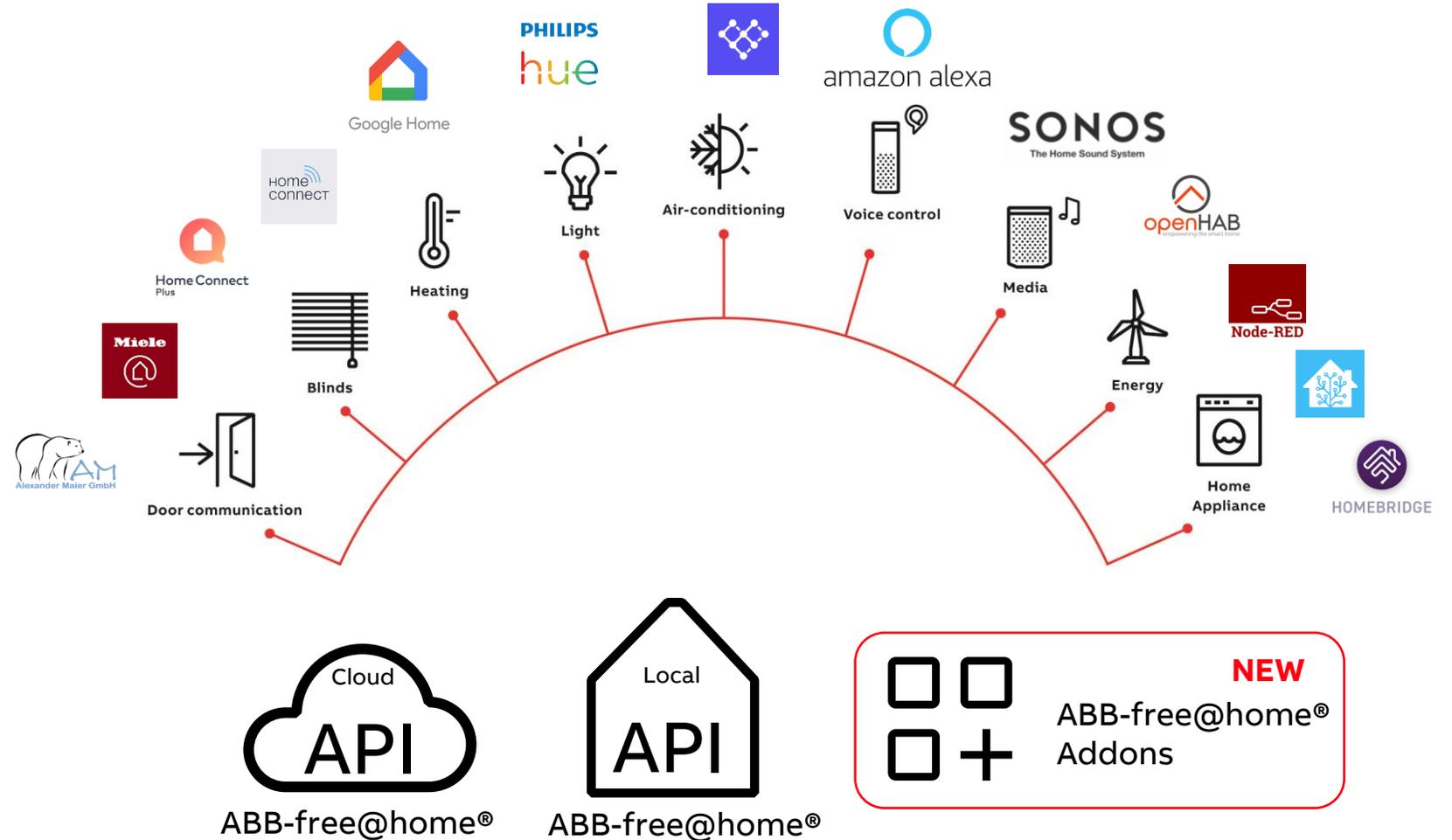


ABB-free@home®

Integrations

ABB Building portal



Sonos® Ready Integration**



Voice Control (using iOS App)*



Philips® HUE® Ready Integration**



Geofencing



Amazon® Alexa® Ready Integration**

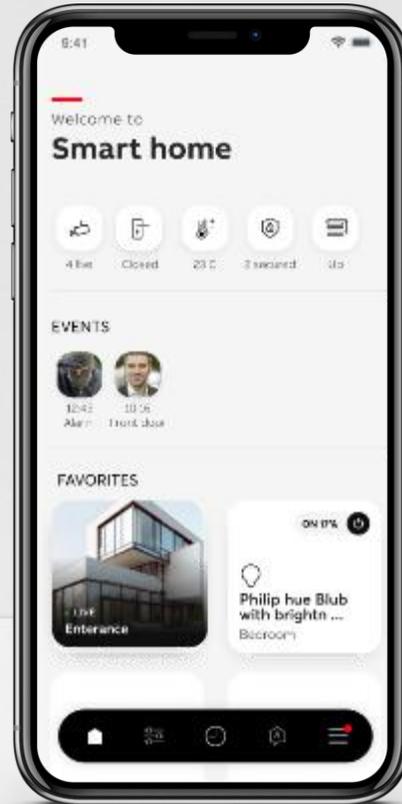


One APP

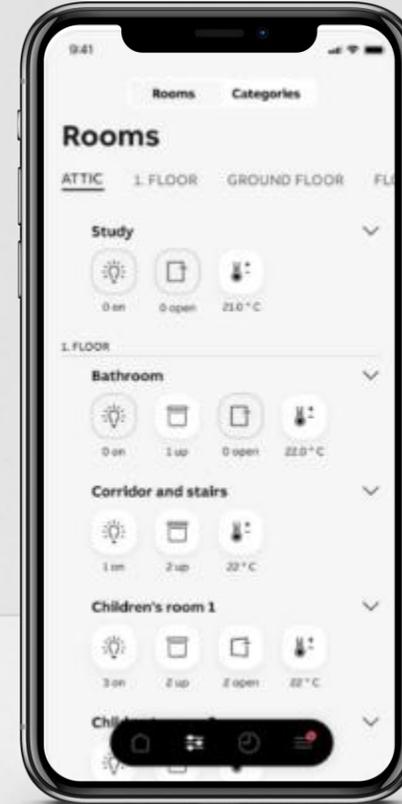
Simplify your life with one swipe

Discover the power of **One App** the ultimate home automation app.

Effortlessly manage your smart home and door access in one intuitive interface.



One Dashboard

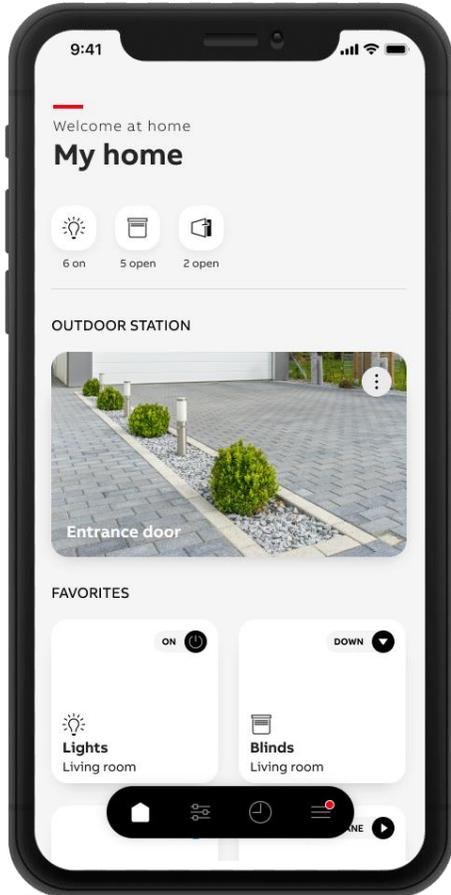


Configure & control your home

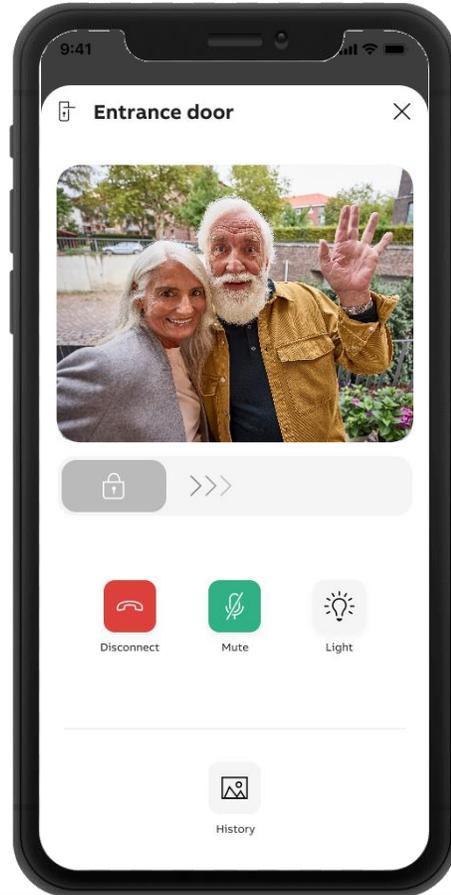


Answer your door

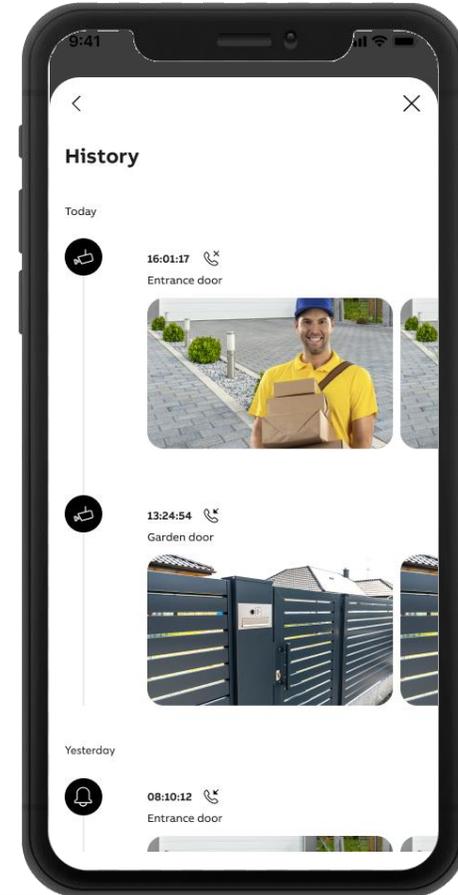
free@home Next App + Welcome Basic Feature Set



Dashboard View



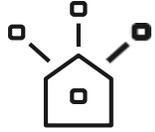
Incoming Call/ Surveillance/Smart lock



History

ABB-free@home®

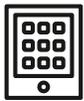
Simple and intuitive Application



Seamless design and control of your own home, room control as well as full house



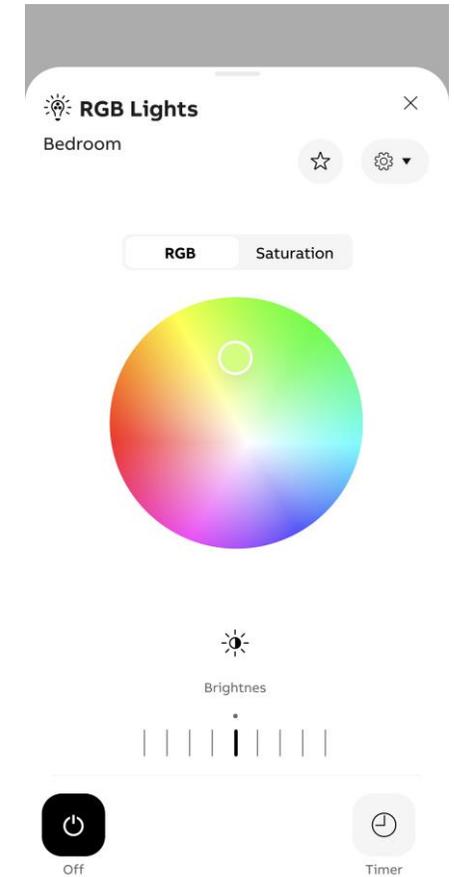
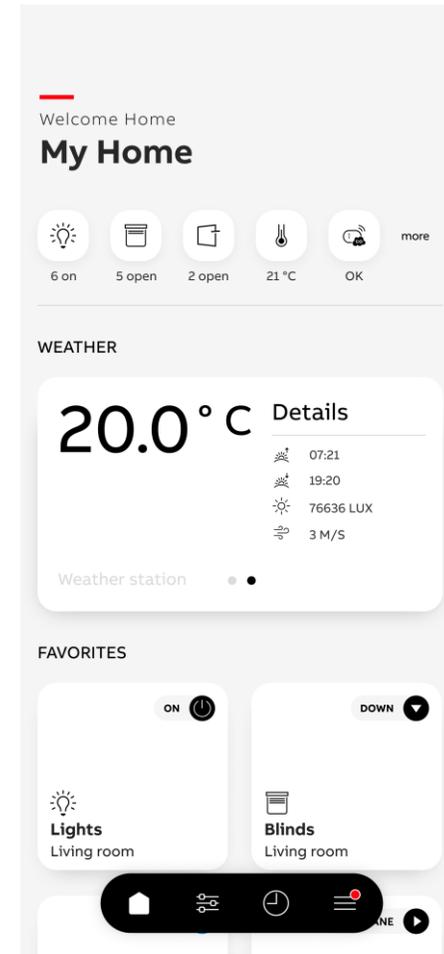
Smooth integration to all functionalities and 3rd party systems



Simply create your own visualization, scenes and time schedule and



Set thresholds, create alarms, and monitor your home behavior.

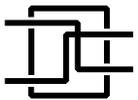


free@home Next App + Welcome



One App

Simple control of all smart home devices, Welcome Intercom system and ABB Smart lock in one app



Push Notification for Incoming Calls

Just tap to enter the App and begin the conversation



Surveillance Calls

Check the video stream of all connected 2-wire cameras



History

Check for missed Calls



ABB-free@home®

Products Overview

ABB-free@home® – Overview

Portfolio

Overview

- The portfolio can be separated into 4 parts
 - System devices
 - Wired sensors
 - Wireless sensors
 - DIN-Rail components and input

Centralized or decentralized Actuators for switching, dimming, HVAC, blinds and binary inputs.



ABB-free@home®

System Access point 3.0

SAP/S.3

- For commissioning and remote control of the ABB-free@home® system
- With integrated free@home wireless antenna
- With integrated free@home bus connection
- Supports up to 150 free@home devices (wired and wireless combined)
- New smaller aesthetical design
- External Power Supply for easy installation
- Multiple mounting options (on Wall, on table or DINRail)
- USB ports for future applications
- 2,4Ghz & 5Ghz Wifi
- New processor for better performance and new features to come
- Easy Upgrade for existing projects



ABB-free@home®

Products overview

System Access point

- Provides an own Wi-Fi network
- Can be integrated in an existing network via WLAN or LAN
- Web-based software on board
- Allows the access via PC or smart devices into the project and the remote control
- Comfortable changes afterwards



ABB-free@home®

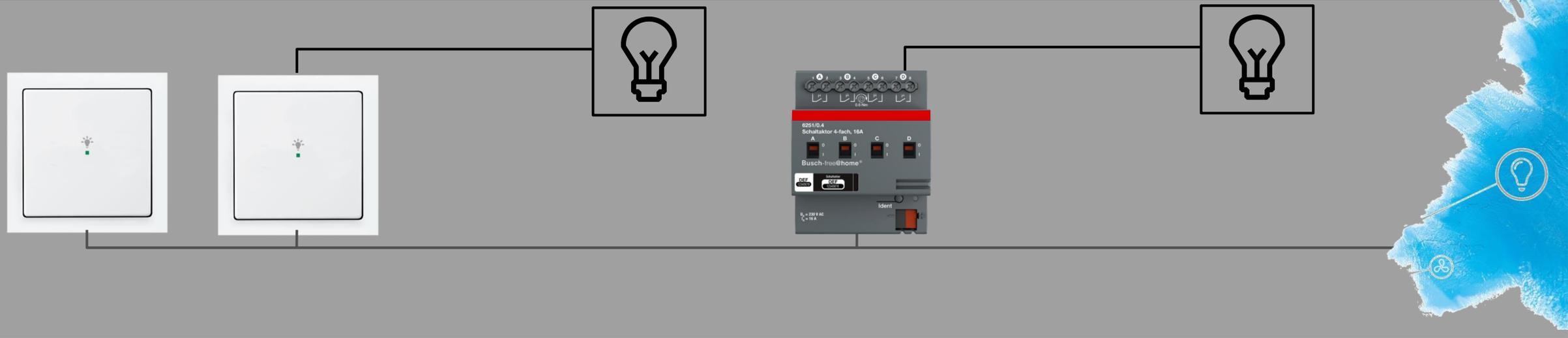
Portfolio

System Devices – Power Supply

- PS-M-64.1.1
- Power supply with integrated choke
- Fast diagnosis due to LED display for operational readiness and errors
- $U_N = 127 \dots 230 \text{ VAC } 50/60\text{Hz}$



ABB-free@home®



Wired Sensors

ABB-free@home®

Products overview

7" Touch Screens

- Indoor video station with TFT touch display
- For ABB-free@home® and **ABB-Welcome®**
- For the central control of up to **16 configurable free@home®** functions.
- RTC extension unit.
- Illuminated operation keys
- Closed acrylic surface
- Configuration via app or web
- Resolution : 800x480 pixels



ABB-free@home®

Products overview

4.3" Touch Screens

- Capacitive Touch-Display
- Up to **16** free@home functions on **4 pages** in total
- Change between pages via swipe gesture
- Internal room temperature controller
- functions Comfort/Eco/OFF suitable for heating and cooling
- Temperature measuring **via internal sensor** or optionally **external sensor** for measuring the return air cooling temperature with limiting temperature.
- „Primary function“ (touch with more than 3 fingers at once) in stand-by
- panel thickness just **8 mm**



ABB-free@home®

High-end Touch panels



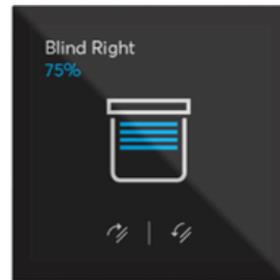
reddot winner 2020



Trevion® 2.4" Display



RoomTouch® 4"



Welcome IP 7" & 10"



SmartTouch® 10"

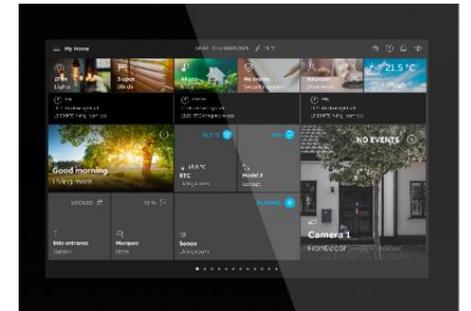


ABB-free@home®

Products overview

Smart Keypads

- Room temperature controller
- Movement detector
- 1gang sensor
- 2gang sensor



Trevion



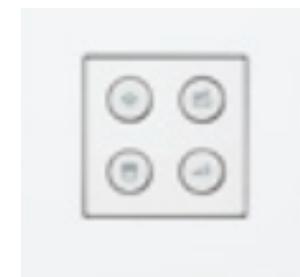
Future linear



Tenton



Millenium

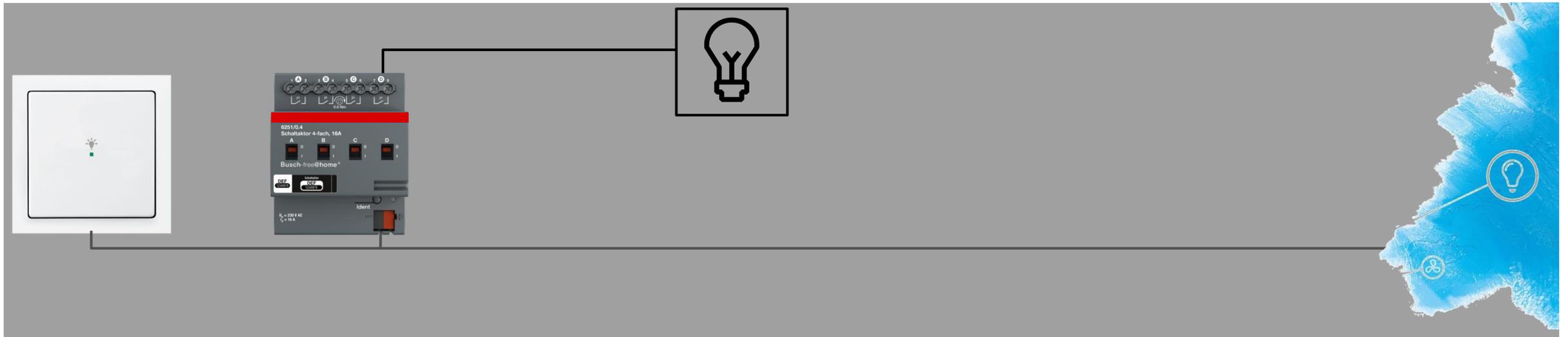


Zenit



Dynasty

ABB-free@home®



DIN-Rail Components and Inputs

ABB-free@home®

Panel Devices

Actuators

The range includes:

Switch Actuator (4,8,12)channels, 16A

Dimming Actuator

Dali Gateway, 16Channel.

Blind Actuator (4,8 channels), 6 A



ABB-free@home® | DIN-Rail Update

Features and benefits

Switch actuator

Main benefits

- Complete freedom and flexibility when it comes to assigning light switches to light circuits
- Increased comfort with light scenes
- Easy set up and control of scenes for different moods and occasions

Main features

- Easy set up and control of scenes for different moods and occasions
- Presence simulation
- Integration of Philips Hue/LEDVANCE



ABB-free@home® | DIN-Rail Update

Features and benefits

Blinds actuator

Main benefits

- Simple control and programming of shading functions
- Control of shading functions can easily be integrated into scenes for increased comfort

Main features

- Different control options, such as switches, smartphones and movement sensors
- Presence simulation



ABB-free@home® | DIN-Rail Update

Switch Actuator



Switch Actuator 4-fold

- 4TE
- 16 A / 16A AC1 (cos φ 0,8) / AC3 (cos φ 0,45)



Switch Actuator 4-fold

- 4TE
- 16 A / 16A AC1 (cos φ 0,8) / AC3 (cos φ 0,45)



Switch Actuator 8-fold

- 8TE
- 16 A / 16A AC1 (cos φ 0,8) / AC3 (cos φ 0,45)



Switch Actuator 12-fold

- 12TE
- 16 A / 16A AC1 (cos φ 0,8) / AC3 (cos φ 0,45)

Blinds Actuator



Blinds Actuator 4-fold

- 4TE
- 6A AC3 (cos φ 0,45)



Blinds Actuator 4-fold

- 4TE
- 6 AC3 (cos φ 0,45)



Blinds Actuator 8-fold

- 8TE
- 6 AC3 (cos φ 0,45)

ABB-free@home®

Portfolio

Dimming actuator, 4gang



DA/M.4.210.2.1

Multichannel universal dimming actuator optimized for dimming retrofit LED lamps (LEDi). Also suitable for dimming incandescent lamps, low-voltage halogen lights with conventional or electronic transformers, 127 V/230 V halogen lamps and dimmable energy-saving halogen lamps. Automatic load detection (can be deactivated)

Dimming actuator, 6gang



DA/M.6.210.2.1

Multichannel universal dimming actuator optimized for dimming retrofit LED lamps (LEDi). Also suitable for dimming incandescent lamps, low-voltage halogen lights with conventional or electronic transformers, 127 V/230 V halogen lamps and dimmable energy-saving halogen lamps. Automatic load detection (can be deactivated)

ABB-free@home®

ABB-free@home® DALI Gateway

DG-M-1.16.1

- Interface between DALI and free@home
- Incorporated DALI power supply
- The DALI gateway behaves similar to a conventional dimmer in the free@home system.
- Up to 16 DALI devices are assigned to a free@home channel each („normal“ DALI type 0 luminaires)
- Power-on-Level and System-failure level can be set per gateway

*Further functionality (Tunable White, Colour Control) will be added in a second step which is not scheduled yet.



ABB-free@home®

Split Unit Gateway

SUG-F-1.1

- The Split Unit Gateway forms the interface between free@home and climate control equipment from a wide range of manufacturers, also referred to as „split unit“.
- The device is installed near the split unit and the transmitter of the supplied cable is bonded to the receiver of the unit itself.
- Thereafter, the climate control equipment no longer receives commands from a remote control but instead can be operated from the free@home system.

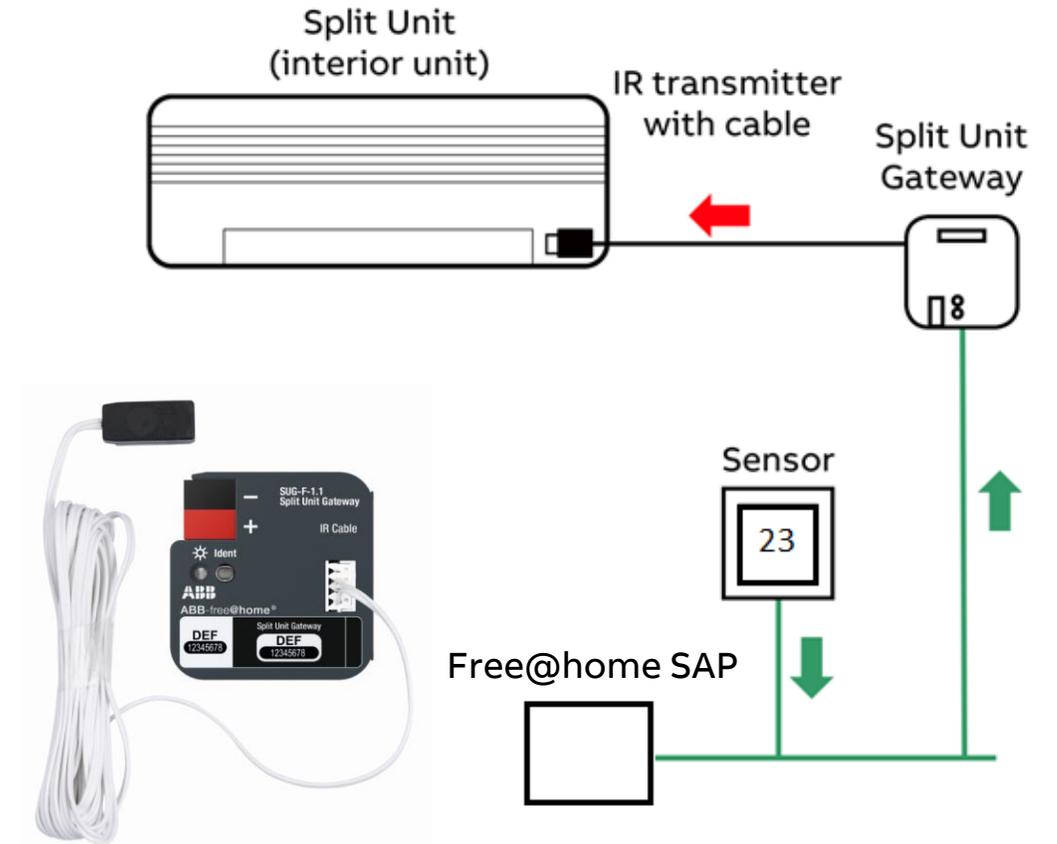


ABB-free@home®

Portfolio

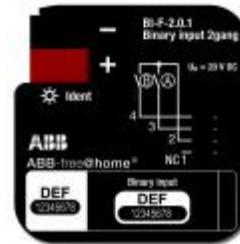
Binary input 4gang



BI-M-4.0.1

Records 10 - 230 V AC/DC signals via 4 channels. The information of the signal evaluation can be used for activating ABB-free@home® actuators or for recording status information

Binary input 2gang



BI-F-2.0.1

Conventional push-buttons or auxiliary contacts can be connected to 2 channels. The information of the contact enquiry can be used for activating ABB-free@home® actuators or for recording status information

Binary input 4gang



BI-F-4.0.1

Conventional push-buttons or auxiliary contacts can be connected to 4 channels. The information of the contact enquiry can be used for activating ABB-free@home® actuators or for recording status information

ABB free@home[®] Caldion

Portfolio

Black version

2 device versions

- On/Off—BS standard with/without electrical heater
- 0–10V—BS standard with/without electrical heater



White version

2 device versions

- On/Off—BS standard with/without electrical heater
- 0–10V—BS standard with/without electrical heater



ABB-free@home®

Portfolio

Sensor unit, 1gang



SU-F-1.0.1

For sending switching, dimming and blind commands to an ABB-free@home® actuator. To be used with ABB-free@home® 1gang rockers

Sensor unit, 2gang



SU-F-2.0.1

For sending switching, dimming and blind commands to an ABB-free@home® actuator. To be used with ABB-free@home® 2gang rockers

ABB-free@home®

Portfolio

Sensor/Switch actuator 1/1 gang



SSA-F-1.1.1

For switching 127 V~/230 V~ devices. With 1 integrated switch actuator. Switching function is available preconfigured. To be used with ABB-free@home® 1gang rockers

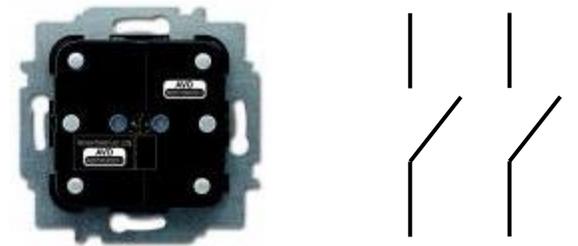
Sensor/Switch actuator 2/1 gang



SSA-F-2.1.1 (6211/2.1)

For switching 127 V~/230 V~ devices. With 1 integrated switch actuator. Switching function is available preconfigured. To be used with ABB-free@home® 2gang rockers

Sensor/Switch actuator 2/2 gang



SSA-F-2.2.1 (6211/2.2)

For switching 127 V~/230 V~ devices with integrated 2gang switch actuator. Switching function is available preconfigured. To be used with ABB-free@home® 2gang rockers

ABB-free@home®

Portfolio

Sensor/Dim actuator 1/1 gang



SDA-F-1.1.1

For dimming 127 V~/230 V~ loads. With integrated universal dimming actuator for controlling different lamps. The dimming function is available pre-configured. To be used with ABB-free@home® 1gang rockers

Sensor/Dim actuator 2/1 gang



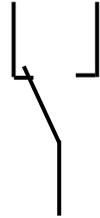
SDA-F-2.1.1

For dimming 127 V~/230 V~ loads. With integrated universal dimming actuator for controlling different lamps. The dimming function is available pre-configured. To be used with ABB-free@home® 2gang rockers

ABB-free@home®

Portfolio

Sensor/Blind actuator 1/1 gang



SBA-F-1.1.1

For controlling blind and awning motors 127 V~/230 V~ . With integrated blind actuator. Blind function is available pre-configured. To be used with ABB-free@home® 1gang rockers

Sensor/Blind actuator 2/1 gang



SBA-F-2.1.1

For controlling blind and awning motors 127 V~/230 V~ . With integrated blind actuator. Blind function is available also without prior programming (left sensor channel is pre-configured). To be used with ABB-free@home® 2gang rockers

ABB-free@home®

Portfolio

Movement detector



MD-F-1.0.1

For automatic switching of ABB-free@home® actuators dependent on movement and brightness

Movement detector/switch actuator, 1gang



MSA-F-1.1.1

For switching 127 V~/230 V~ devices. Switching function is available pre-configured

ABB-free@home®

Portfolio

Room Thermostat



RTC-F-1

Control element with room temperature control function for controlling commercially available actuating drives or analogue actuating drives (continuous controllers). With display of set-value temperature. Only to be used with ABB-free@home® cover plates for room thermostat

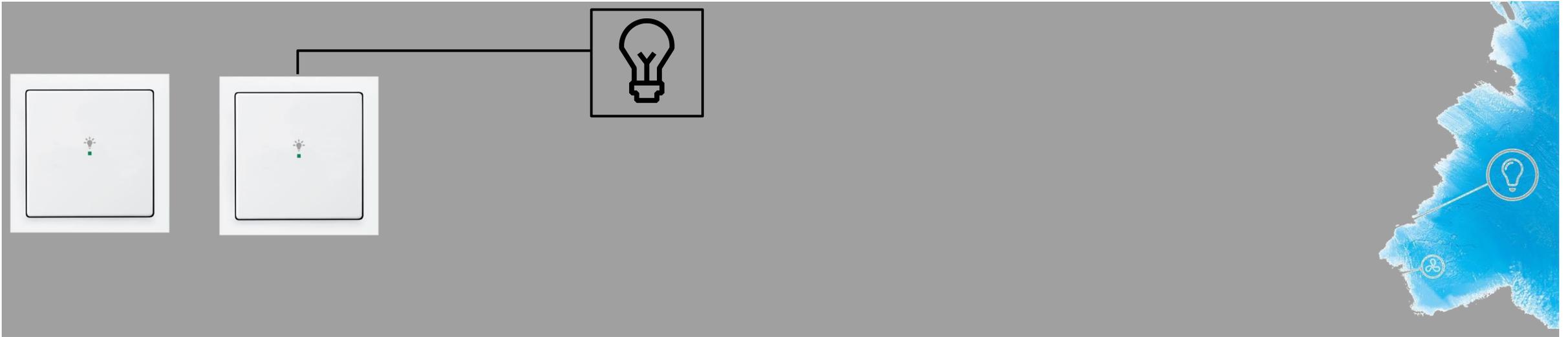
Weather station



WS-1

For recording and transmitting of brightness, temperature, wind speed and rain. Weather data can be linked with actuators to automatically control functions. Weather data can be visualized in the free@home web interface and the free@home app. Wind speed measuring range 2 - 30 m/s. The bus can be connected via enclosed terminal block

ABB-free@home®

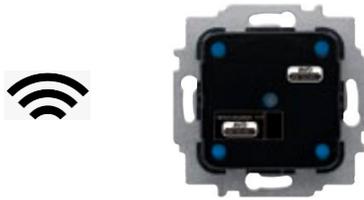


Wireless Sensors

ABB-free@home®

Portfolio

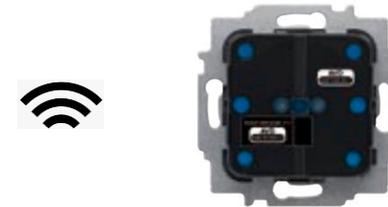
Sensor unit, 1gang, wireless



SU-F-1.0.1-WL

For transmitting switching, push-button, dimming and blind commands to an ABB-free@home® actuator. Communication with the free@home system is carried out wireless. To be used with ABB-free@home® 1gang rockers

Sensor unit, 2gang, wireless



SU-F-2.0.1-WL

For transmitting switching, push-button, dimming and blind commands to an ABB-free@home® actuator. Communication with the free@home system is carried out wireless. To be used with ABB-free@home® 2gang rockers

ABB-free@home®

Portfolio

Sensor/Switch actuator 1/1gang, WL



SSA-F-1.1.1-WL

For switching 127 V~/230 V~ devices. Communication with the free@home system is carried out wireless. With 1 integrated switch actuator. Switching function is available pre-configured. To be used with ABB-free@home® 1gang rockers

Sensor/Switch actuator 2/1gang, WL



SSA-F-2.1.1-WL

For switching 127 V~/230 V~ devices. Communication with the free@home system is carried out wireless. With 1 integrated switch actuator. Switching function is available pre-configured. To be used with ABB-free@home® 2gang rockers

Sensor/Switch actuator 2/2gang, WL



SSA-F-2.2.1-WL

For switching 127 V~/230 V~ devices. Communication with the free@home system is carried out wireless. With 2 integrated switch actuator. Switching function is available pre-configured. To be used with ABB-free@home® 2gang rockers

ABB-free@home®

Portfolio

Sensor/Dim actuator 1/1gang, wireless



SDA-F-1.1.1-WL

For dimming 127 V~/230 V~ loads. Communication with the free@home system is carried out wireless. With integrated universal dimming actuator for controlling different lamps. The dimming function is available pre-configured. To be used with ABB-free@home® 1gang rockers

Sensor/Dim actuator 2/1gang, wireless



SDA-F-2.1.1-WL

For dimming 127 V~/230 V~ loads. Communication with the free@home system is carried out wireless. With integrated universal dimming actuator for controlling different lamps. The dimming function is available pre-configured. To be used with ABB-free@home® 2gang rockers

ABB-free@home®

Portfolio

Sensor/Blind actuator 1/1gang, wireless



SBA-F-1.1.1-WL

For controlling blind and awning motors 127 V~/230 V~ .
Communication with the free@home system is carried out wireless. With integrated blind actuator. Blind function is available preconfigured. To be used with ABB-free@home® 1gang rockers

Sensor/Blind actuator 2/1gang, wireless



SBA-F-2.1.1-WL

For controlling blind and awning motors 127 V~/230 V~ .
Communication with the free@home system is carried out wireless. With integrated blind actuator. Blind function is available preconfigured. To be used with ABB-free@home® 2gang rockers

ABB-free@home®

Portfolio

Movement detector + 1 actuator, wireless

MSA-F-1.1.1-c-WL

With select lens for detection with animal access. Communication with the free@home system is carried out wireless. For automatic switching of ABB-free@home® actuators dependent on movement and brightness. Switch off delay of the actuator can be programmed via the web interface of the System Access Point. For switching 127 V~/230 V~ consumers



ABB-free@home®

Portfolio

Room thermostat, wireless



RTC-F-1-WL

Heating/cooling operation. Communication with the free@home system is carried out wireless. With room temperature controller function

Room thermostat/actuator, wireless



Room thermostat/actuator, wireless

Control element with room temperature control function for controlling thermoelectric actuating drives in heating/cooling systems or electric floor heating systems. With display of set-value temperature. Only to be used with ABB-free@home® room temperature controller cover plates

ABB-free@home®

Portfolio

free@home window sensor, wireless



WBI-S-1-XX-WL

For monitoring and transmission of the current window handle position (window open, closed, tilted). The status can be visualized on the free@home panel and in the free@home app. The window sensor is installed between the available window handle and the window frame. No wire laying required. Mounting accessories (square extension, screws, adapter for cams) for the window sensor are included in scope of delivery

free@home universal detector, wireless



BI-S-1-XX-WL

For monitoring and transmission of the state (open, closed) of dormer windows, skylights, doors and gates. Additional connection option for an external, potential-free sensor (choice of normally closed or normally open contact). The status can be visualized on the free@home panel and in the free@home app. Isolated evaluation and monitoring of channels. Accessories (adhesive foil, screws, magnet) included in delivery

ABB-free@home®

Portfolio

External Antenna

SAP-1-WL

To be used in combination with System Access Point SAP/S.3.
Transmits the wireless signal outside, in case the internal antenna
of the System Access Point is shielded. With magnetic foot



ABB-free@home[®]

Installation & Applications

ABB-free@home®

Centralized topology

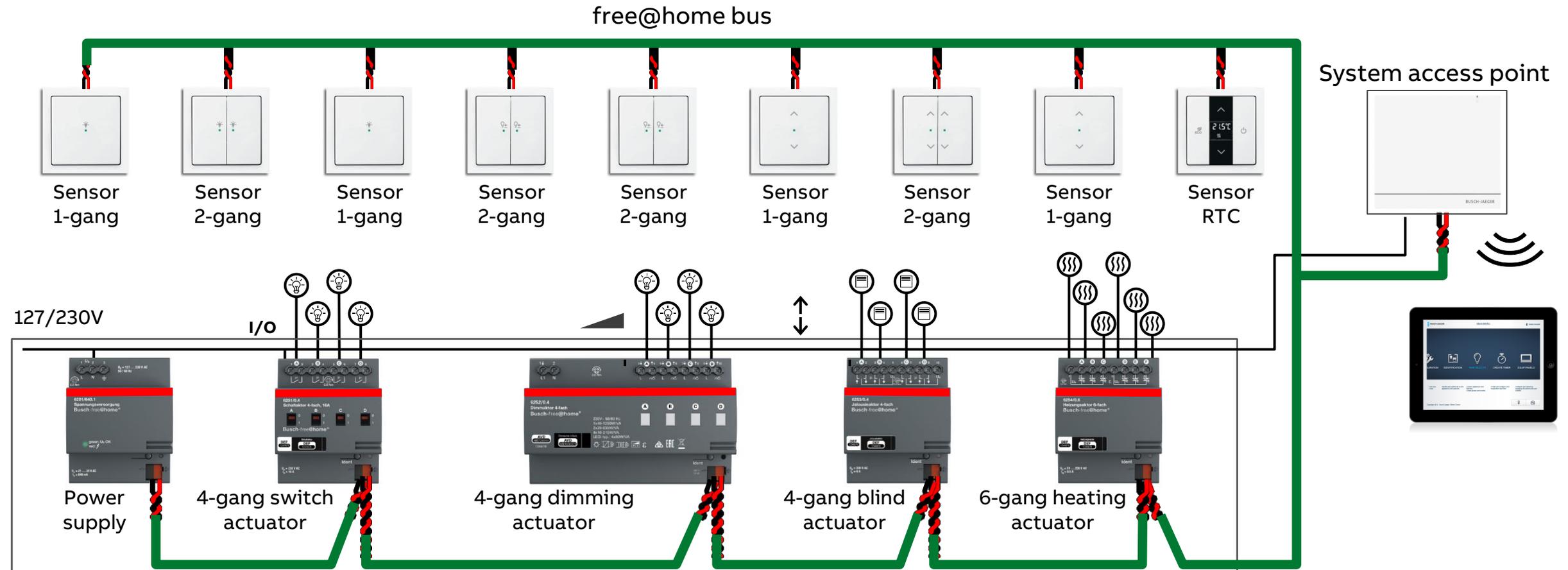


ABB-free@home®

Decentralized topology

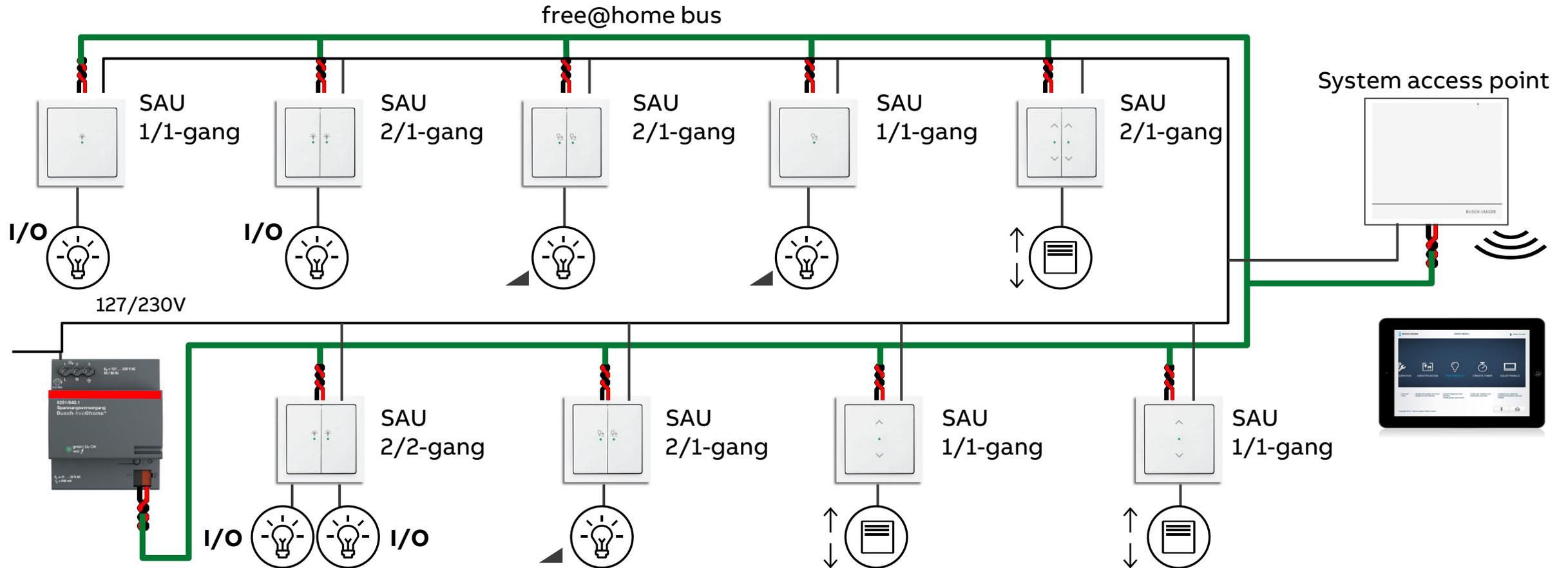
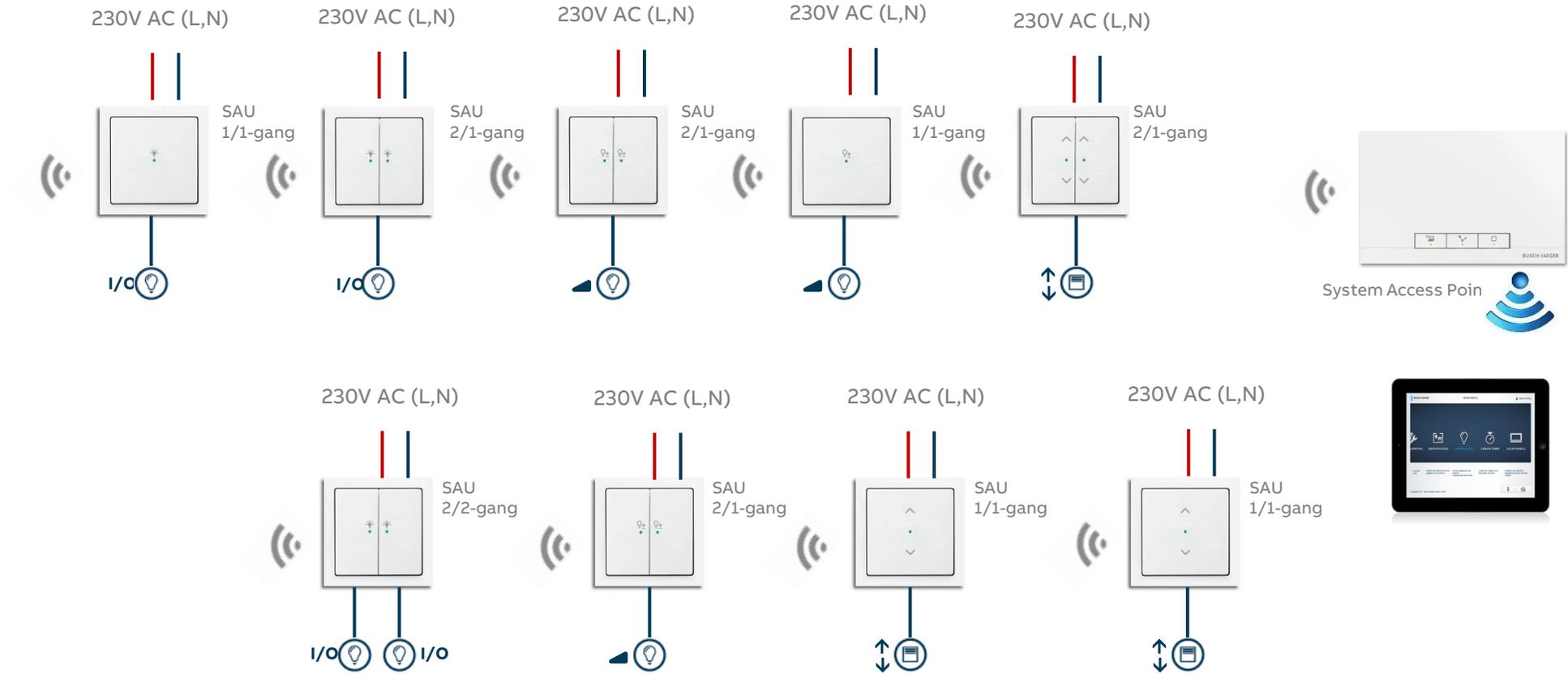


ABB-free@home®

Wireless arrangement



*SAU: sensor/actuator unit

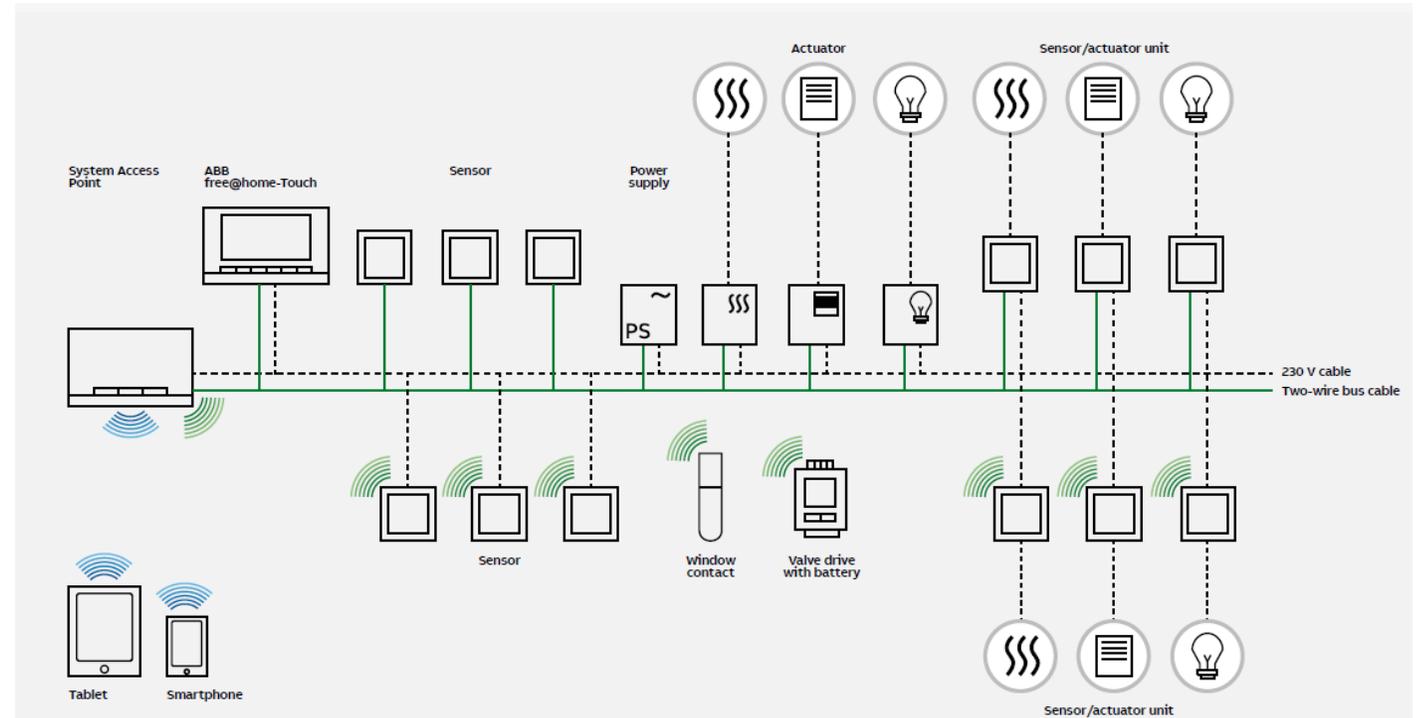
free@home wireless 

ABB-free@home®

Installation

Wired and wireless

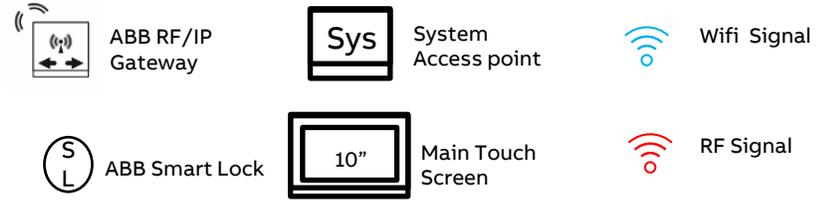
- The ABB-free@home® portfolio encompasses wired and wireless components
- The wireless technology makes renovation projects much easier
- The system is divided in sensors, actuators, and sensor-actuator units
- The center of the system is the System Access Point



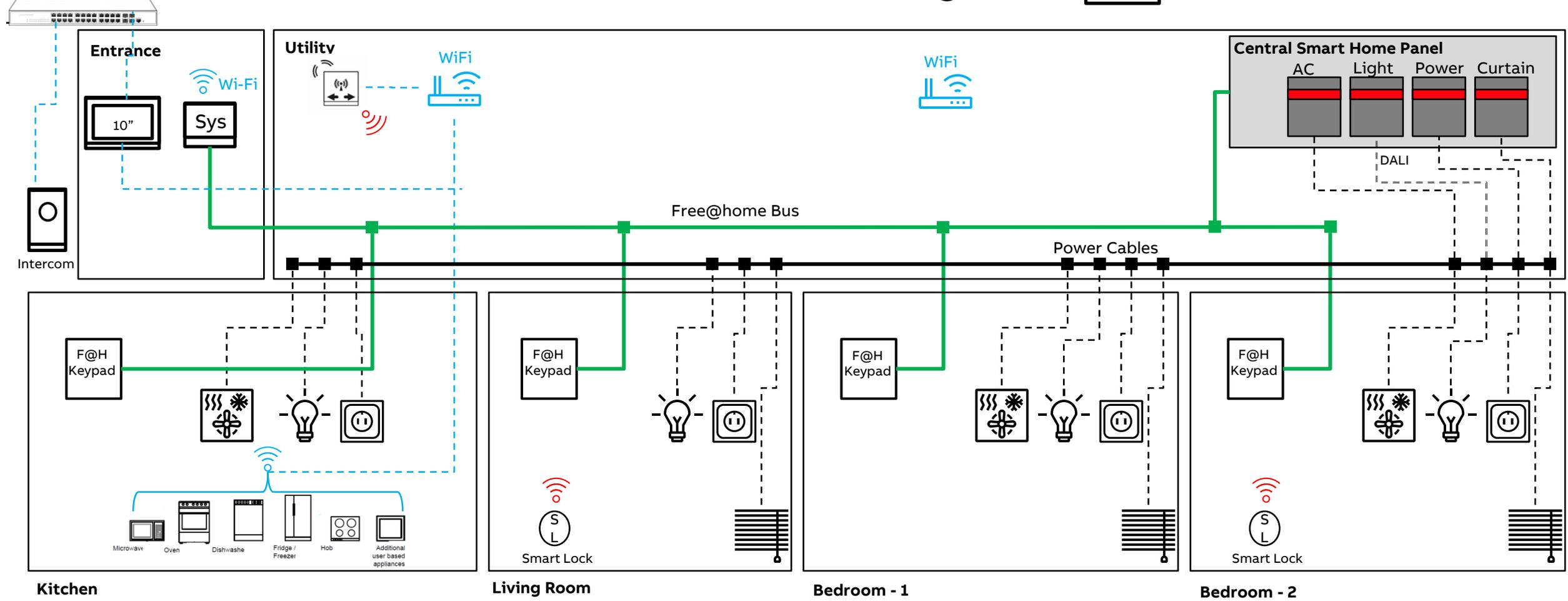
For new dwellings and renovation

Single Family

Legend



Building Network switch





WIRING ACCESSORIES

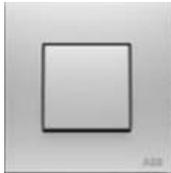
INTRODUCTION

Wiring Accessories

Products Portfolio UAE/Gulf Sub-region Cluster

BS Standard

Millenium



Zenith



Inora



Metal Clad



VDE Standard

Carat



Dynasty



Axcent



Pure Stainless Steel



Future Linear



Weather Proof IP66

W/P Switches



W/P Isolators



W/P Sockets



IP66 Covers



IP55 Covers

Electronics

Dimmers



Timers

Audio devices



Presence detectors

Thermostats

Thermostat, ON/OFF

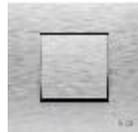


Thermostat, Valve 0-10V



Millenium Range

Key Features



ST - Stainless Steel



AG - Antique Gold



SB - Silk Black



WG - White Glass



MG - Matt Gold



BG - Black Glass



DU - Dune Sand



MO - Mocha Brown



Design

- European Design, made to last in terms of Quality and Style, made in Spain.
- Slim, only **4 mm** with straight and square lines at the forefront.
- Finest materials only: Stainless Steel and Chemically Strengthened Glass (CSG)
- Up-to-date: currently available in 6 materials/colours, planned extensions.
- Two rocker designs: including a chrome profile that gives a special touch at first sight.

Quality

- Market-proven: 7 years in the market, +2.000.000 products sold.
- **Made in Spain**
- 10 year warranty (standard parts) and 2 year warranty (electronics)
- Conform int'l standards: CE, BS, G-Mark*, SASO* and Singapore Safety Mark

*Selected functions only



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DOOR ENTRY SYSTEM

INTRODUCTION

ABB DES Product Portfolio

Welcome family

Welcome m



Middle-end project(2-wire)

- 2 wire system
- Global product
- Audio + Video (4,3" and 7" IS)
- Keypad OS

Welcome IP



High-end project(IP)

- IP System
- Global product
- Audio, 7 and 10.1 inch Indoor Station
- Keypad and 5 inch Outdoor Station

Welcome HB



Middle-end project(IP)

- IP system
- 7 and 10.1 inch Indoor and Outdoor Station
- OS with face recognition

Intercom System

ABB-Welcome- 2 wire system

Outdoor station Types



- OS with keypad – for entry with passcode, calling the apartments
- OS with push buttons – for calling individual apartments
- Mini OS – for Villa Applications
- Camera Module with super anti-fog coating and built in heater
- Automatic day to night switchover.
- Integrated speaker & microphone
- Scratch and fire resistant finish on camera module
- Water proof : IP54
- Vandal proof: IK07

Intercom System

ABB-Welcome- 2 wire system

Indoor Station Types



1



2



4



5



6



7

1. Basic 4.3" IS (entry level)
2. Standard 4.3" IS (with doctor function)
3. 4.3" IS with Wifi (upto 8 mobile phones)
4. 4.3" IS with handset
5. 7" IS (doctor function & display and record of images from OS)
6. Audio IS
7. Audio IS with handset

ABB-Smart IP

Motivation

Customer Challenge

IP platform for complete residential solutions from ABB



Flexibility



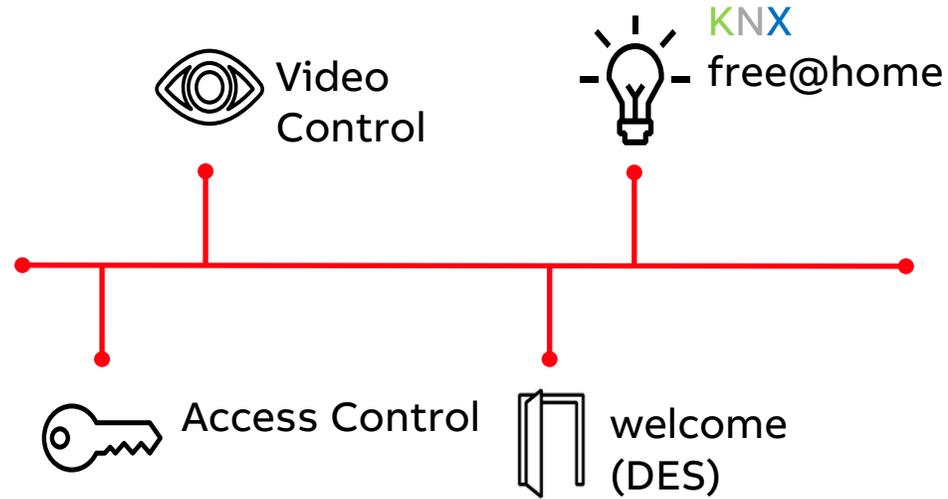
MyBuildings portal powered by ABB Ability™



Cyber Security



3rd party API and SDK



Product portfolio

Outdoor station overview

Made-up article outdoor station

- Round pushbutton outdoor station with 1/2/3 pushbutton;
- Bar pushbutton outdoor station with 3 or 4 rows for option.
- Keypad outdoor station with IC or ID card reader for option.
- Touch 5" outdoor station with Virtual keypad and card reader integrated.
- Stainless steel and White color for option.

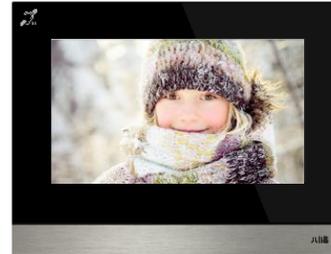


Product portfolio

IP touch Panel overview

Indoor Panels

- Audio stations – 6 Button with handset
- 7” /10 “Touch Panels
- Black and White color IP touch panel;
- Three types includes LAN + Wifi, Double LAN, single LAN;
- Three colorful metal end strip for option, include silver, gold and Anthracite.



Black and White IP touch panel



3 colorful metal end strip for option



Product portfolio

Products



7 inch

10.1 inch

Indoor Station



10.1" & 7" OS



Mini OS



2nd confirm OS



IP Card Reader

Outdoor Station



Guard Unit

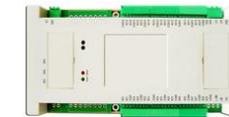


PC Management SW

Guard Unit Center



Lift Control Module



Relay Module



Power Supply

System Devices



AABB