DECEMBER 2020

# ABB-free@home® – Overview and Installation

## Online Learning Session – Competence Center Europe – Smart Buildings

Thorsten Reibel, Jürgen Schilder, Stefan Grosse, Martin Wichary & Olaf Stutzenberger

 Document ID.: Rev.:

# Agenda

ABB-free@home® – Overview and Installation

- Introduction
- Portfolio
- Installation

# ABB-free@home® – Overview and Installation

Introduction

# ABB-free@home® – Overview and Installation

## Introduction

### Simply smart

ABB-free@home® is an easy-to-use home automation system, which controls:

- Lighting
- Blinds
- Heating, Ventilation and Air-conditioning and
- Door communication

**Home Automation easier than ever**

# ABB-free@home® – Overview and Installation

## Introduction

| | |
|---|---|
| **Connected** | Smart blinds, lights, HVAC and door communication<br>Lead to comfort, safety and efficiency and can be controlled via<br>switch, voice-control, smartphone, tablet or PC |
| **Easy** | Easy and flexible installation and operation<br>Wired or wireless with<br>sensors, actuators and sensor-actuator units |
| **Intuitive** | Initial configuration of the system by the electrician is carried out via an app<br>Commissioning is particularly fast and saves valuable working hours<br>Intuitive and easy to use app - and settings can be adjusted by end user |

**Innovative home automation with endless possibilities**

# ABB-free@home® – Overview and Installation

## Introduction

### User-friendly

- The entire home can be controlled via usual switches, smartphones, tablets, or even via voice control
- Settings can be adjusted by the end user
- No training is necessary

### Endless possibilities

- The ABB-free@home® app allows the user to control blinds, lights, heating and cooling individually or in groups
- Unique scenes can be programmed for every occasion such as dining, reading or watching TV

### Free and flexible

- ABB-free@home® is adaptable to changing living conditions, e.g. if a room changes its purpose
- Sensors come in different colors, shapes and materials and match the design of sockets and other wiring accessories

**Innovative home automation with endless possibilities**

# ABB-free@home® – Overview and Installation

Introduction

## Lighting

## Blinds

## HVAC

## Door Communication

## Safety

# ABB-free@home® – Overview and Installation

Introduction

## Introduction

- As an innovative home automation system, ABB-free@home® offers an endless number of possibilities
- Since the first launch of ABB-free@home® many new devices, functions and integrations were added continuously

# ABB-free@home® – Overview and Installation

Portfolio

# ABB-free@home® – Overview and Installation

## Portfolio

### Overview

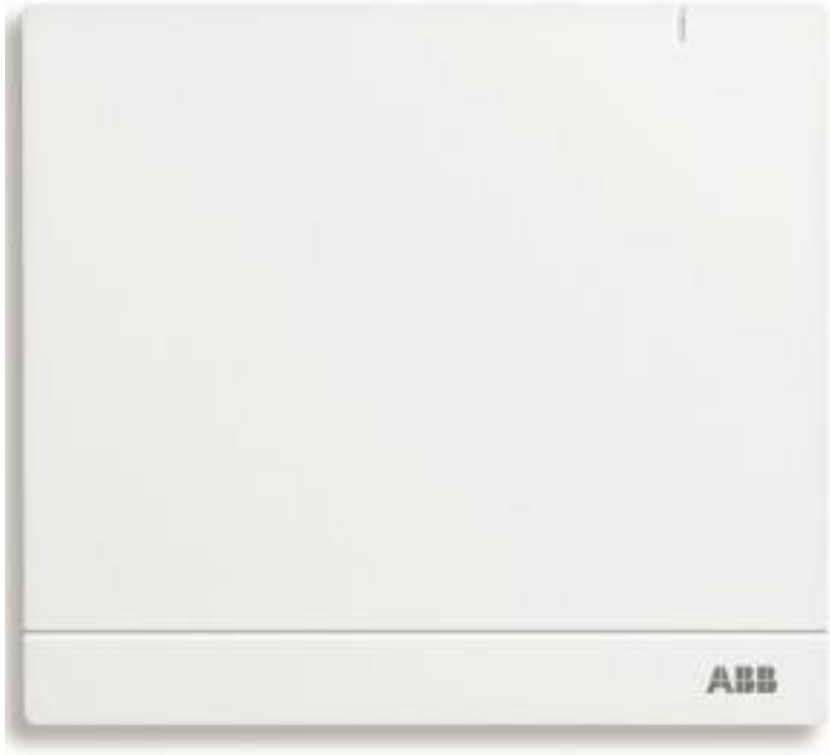
– The portfolio can be separated into 4 parts
  - System devices
  - Wired sensors
  - Wireless sensors
  - DIN-Rail components and inputs

# ABB-free@home® – Overview and Installation

Portfolio

## System Devices – System Access Point 2.0

- For commissioning and remote control of the ABB-free@home® system
- With integrated free@home wireless antenna
- With integrated free@home bus connection
- Allows the execution of astro- and time programs
- Commissioning and remote control is executed via web interface or app
- No additional commissioning software is required
- Easy commissioning with WLAN ad-hoc mode
- Connection to the home network via WLAN client mode or via CAT cable
- Dimensions (H×W×D): 107mm×109mm×30mm
- Nominal voltage: 24 VDC or via external power supply



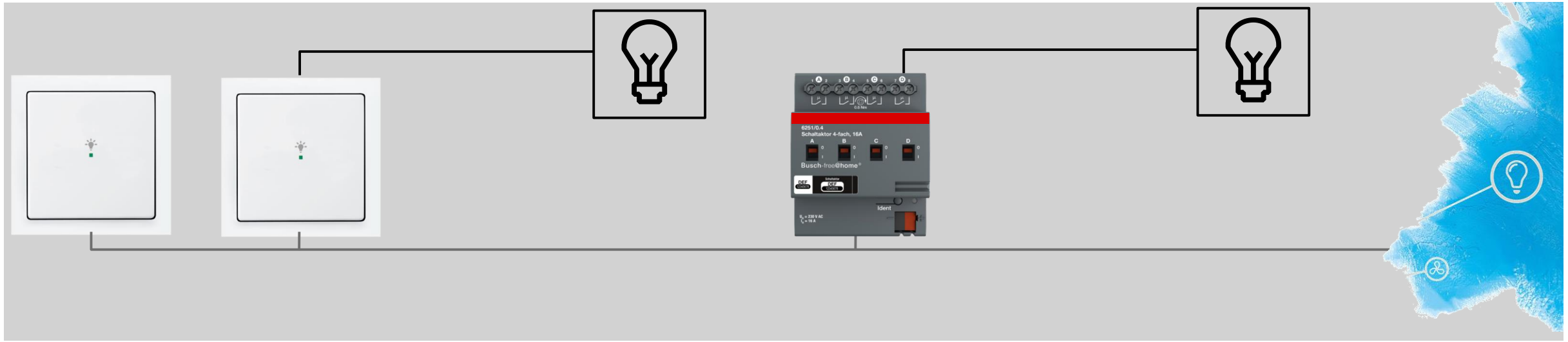
# ABB-free@home® – Overview and Installation

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… 230 VAC  50/60Hz

# ABB-free@home® – Overview and Installation




**Wired Sensors**

# ABB-free@home® – Overview and Installation

Portfolio

## Panels for ABB-free@home®

ABB-free@home Touch 7“

- Up to 16 ABB-free@home® functions
- Suitable as room temperature controller extension unit (up to 8)
- Display size: 17.8 cm (7“)
- Display resolution: 800 x 480

ABB IP touch 7“

- Up to 64 ABB-free@home® functions
- Suitable as room temperature controller extension unit (up to 8)
- Display size: 17.8 cm (7“)
- Display resolution: 1024 x 600


ABB-free@home Touch 4.3“

- Up to 16 ABB-free@home® functions
- With integrated room temperature controller and temperature sensor
- Requires additional power supply 24 VDC
- Display size: 10.9 cm (4.3“)
- Display resolution: 480 x 854

ABB IP touch 10“

- Up to 100 ABB-free@home® functions
- Suitable as room temperature controller extension unit (up to 8)
- Display size: 17.8 cm (7“)
- Display resolution: 1280 x 800

# ABB-free@home® – Overview and Installation

## Portfolio

### Additional equipment

– Installation box, FM DP4-F
  - For flush-mounted und hollowwall installation of the ABB-free@home Touch 4.3" DP4-1-6XX
  - Windproof
  - Dimensions: 82mm×123mm×50mm
  - Mounting depth: 50 mm

– Temperature sensor DP4-T-1
  - For use as remote sensor
  - Cable length: 4 m
  - Line type: H03 VV-F
  - Type: NTC 10 kOhm

# ABB-free@home® – Overview and Installation

## 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® – Overview and Installation

## Portfolio

### Sensor/Switch actuator 1/1gang

SSA-F-1.1.1

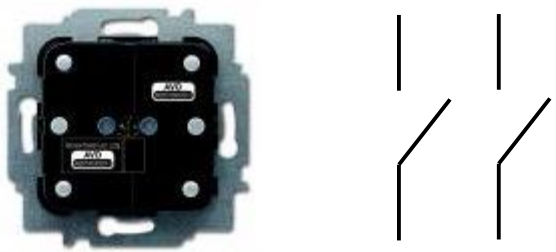
For switching 127 V~/230 V~ devices. With 1 integrated switch actuator. Switching function is available preconfigured. To be used with ABB-free@home® 1gang rockers

### Sensor/Switch actuator 2/1gang

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 2/2gang



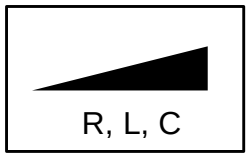
SSA-F-2.2.1 (6211/2.2)

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® – Overview and Installation

Portfolio

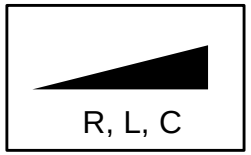
## Sensor/Dim actuator 1/1gang




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 2/1gang



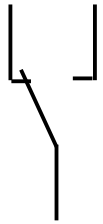

SDA-F-2.1.1

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® – Overview and Installation

Portfolio

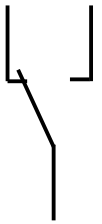
## Sensor/Blind actuator 1/1gang



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 2/1gang



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® – Overview and Installation

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® – Overview and Installation

Portfolio

## Room Thermostat


RTC-F-1

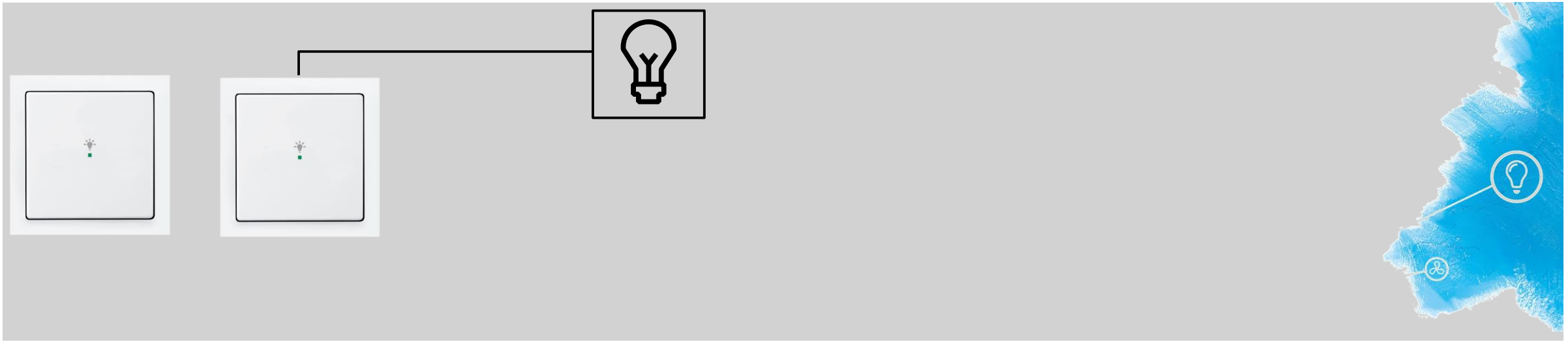
Control element with room temperature control function for controlling commercially available actuating drives or analogue actuating drives (continuous controllers). With display of set-value temperature. Only to be used with ABB-free@home® cover plates for room thermostat

## 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® – Overview and Installation

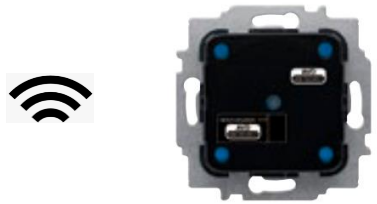


**Wireless Sensors**

# ABB-free@home® – Overview and Installation

## 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® – Overview and Installation

## 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

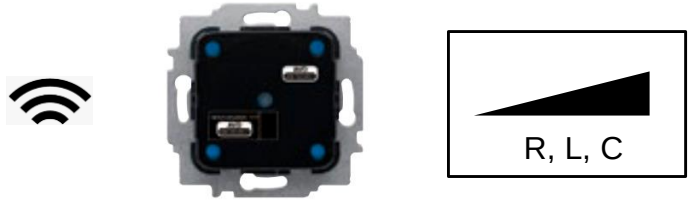
SSA-F-2.2.1-WL

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® – Overview and Installation

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® – Overview and Installation

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® – Overview and Installation

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® – Overview and Installation

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® – Overview and Installation

Portfolio

## Basic free@home radiator thermostat, wireless

HA-S-1-WL

For temperature regulation of water-bearing heaters. With integrated temperature sensor, controller and actuating drive. Local operation for the switchover between comfort mode and Off. No wire laying required. Communication with the free@home system is carried out wireless. Setpoint adjustment via the free@home app or a free@home extension unit. Integrated “Window open” detection or can be linked with WBI-S-X-W

## Comfort free@home radiator thermostat, wireless

HA-S-2-WL

For temperature regulation of water-bearing heaters. With integrated temperature sensor, controller and actuating drive. Local operation for the switchover between comfort mode and Off. No wire laying required. Communication with the free@home system is carried out wireless. Setpoint adjustment via the free@home app or a free@home extension unit. Integrated “Window open” detection or can be linked with WBI-S-X-WL

# ABB-free@home® – Overview and Installation

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® – Overview and Installation

Portfolio

## External Antenna

SAP-1-WL

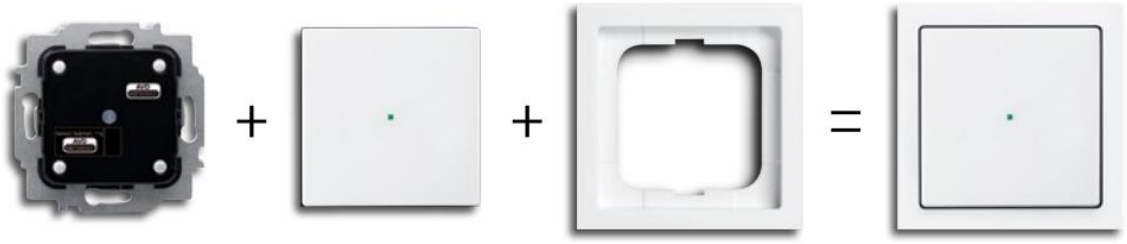
To be used in combination with System Access Point SAP-S-2 and SAP/S.3. Transmits the wireless signal outside, in case the internal antenna of the System Access Point is shielded. With magnetic foot

# ABB-free@home® – Overview and Installation

## Portfolio

### Mounting – VDE

- Each sensor consists of:
  - Sensor insert
  - Rocker
  - Cover frame
- All standard design ranges are available:
  - carat®
  - Busch-dynasty®
  - Busch-axcent®
  - solo®
  - pure stainless steel
  - future® linear

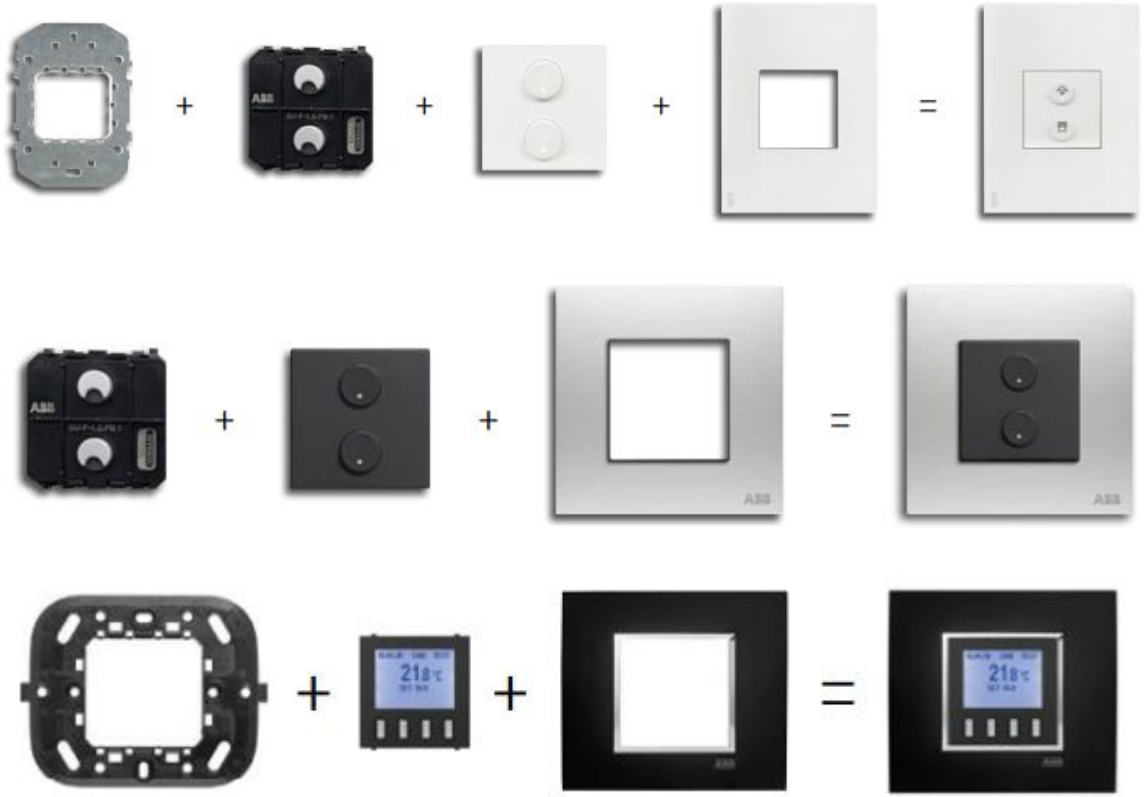


# ABB-free@home® – Overview and Installation

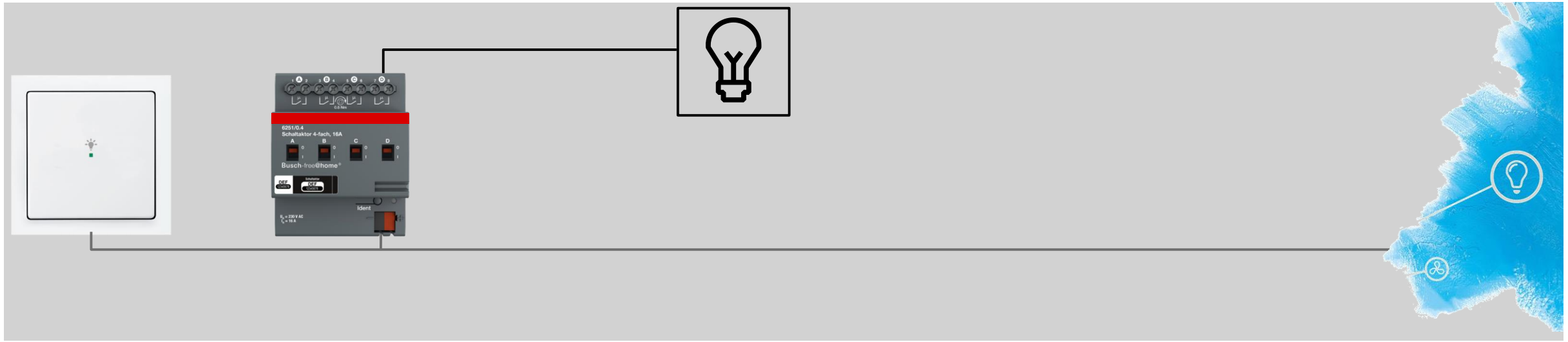
## Portfolio

### Mounting

– Further ranges:
  - Zenit NEMA
  - Zenit VDE
  - Millenium
  - Mylos



# ABB-free@home® – Overview and Installation




## DIN-Rail Components and Inputs

# ABB-free@home® – Overview and Installation

Portfolio

## Switch actuator 4gang

SA-M-0.4.1

For switching 4 independent 127 V~/230 V~ loads. Each contact has a manual operation function independent of auxiliary voltage for additionally displaying the contact setting

## Switch actuator 8gang

SA-M-8.8.1

The binary inputs can be used as an interface for convenient operation of free@home systems via potential free push buttons or for reading technical binary signals. The switching outputs can be switched independently as a function of other sensors connected to the bus

# ABB-free@home® – Overview and Installation

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® – Overview and Installation

Portfolio

## DALI Gateway, MDRC

DG-M-1.16.11

The device is used to interface between DALI and free@home installations and incorporates the DALI power supply. One DALI output for up to 16 DALI Slaves

## Blind actuator 4gang

BA-M-0.4.1

For controlling 4 independent blind or roller shutter drives.
The outputs are inversely blocked

# ABB-free@home® – Overview and Installation

Portfolio

## Heating actuator 12gang

HA-M-0.12.1

For controlling thermoelectric actuating drives in heating/cooling systems. The outputs are protected against short-circuit and overload

Outputs: 12

## Heating actuator 6gang

HA-M-0.6.1

For controlling thermoelectric actuating drives in heating/cooling systems. The outputs are protected against short-circuit and overload

Outputs: 6

# ABB-free@home® – Overview and Installation

Portfolio

## Fan coil actuator, MDRC

FCA-M-2.3.1

For controlling blower convectors. Supports 2-pipe and 4-pipe system for heating and cooling. The fan speed levels can be switched using a changeover or step switch function. Three contacts for switching a three-stage fan. Two electronic contacts for activating the heating and cooling valves. With two binary inputs for connecting dewpoint and condensation contacts. The scanning voltage is provided by the device

## Split Unit Gateway, FM

SUG-F-1.1

The device is used to interface between the free@home system and many manufacturers' air conditioners, so-called split units. The device converts the free@home telegrams into infrared commands and transmits them to the split unit. The transmitter of the supplied cable is bonded directly onto the split unit's receiver. The split unit then no longer receives the commands from a remote control. Instead, it can be operated via any free@home sensors

# ABB-free@home® – Overview and Installation

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® – Overview and Installation

## Portfolio

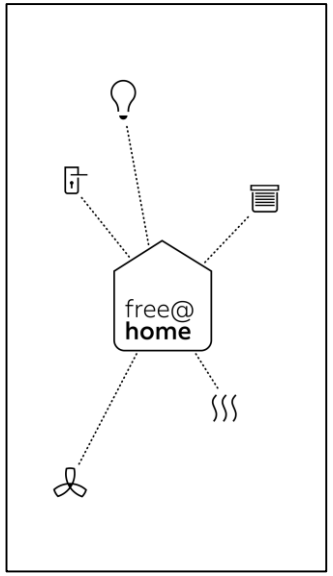
### Alarm Stick

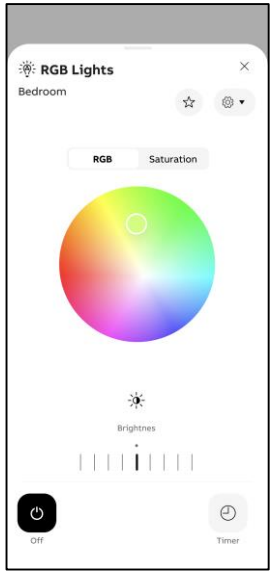
The ABB-free@home® Alarm-Stick integrates ABB's smoke, heat and Carbon Monoxide detectors into ABB-free@home®. It connects to the ABB-free@home® System Access Point via USB and communicates wirelessly to the detectors

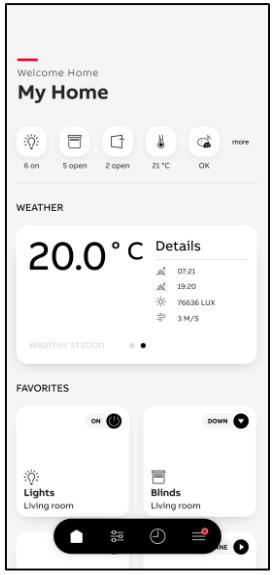

ABB-free@home® Alarm-Stick

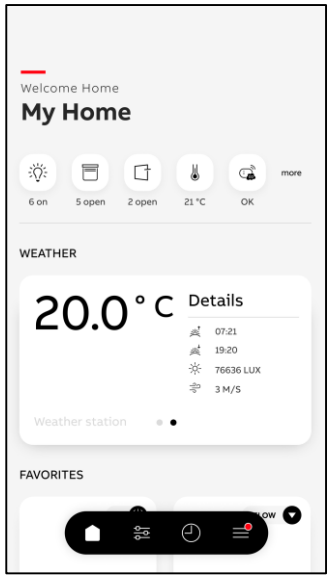
# ABB-free@home® – Overview and Installation

## Portfolio


**Web interface and control via app**

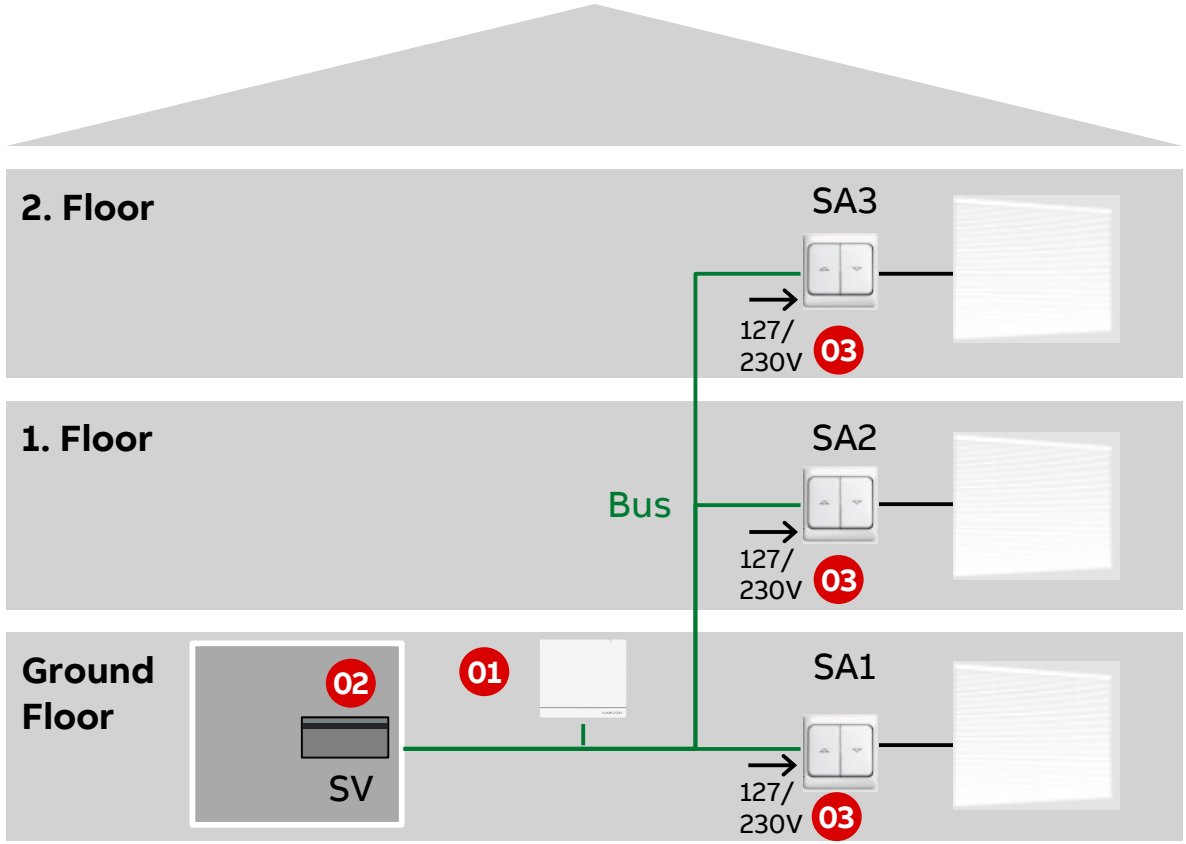
- Home automation has never been easier—With the ABB-free@home® app. It can be used to control the entire home with a smartphone or tablet. To make adjustments as uncomplicated as surfing the Internet. The system can be continuously adapted to changing requirements. To start with, all available devices in the rooms are activated via tablet or laptop. Then the settings can be made. Brighter or darker. Warmer or cooler. Save. Open and close. Earlier or later. Finished
- The functions are very easy to operate via the ABB-free@home® app for smartphone or tablet and via web interface with laptop or PC

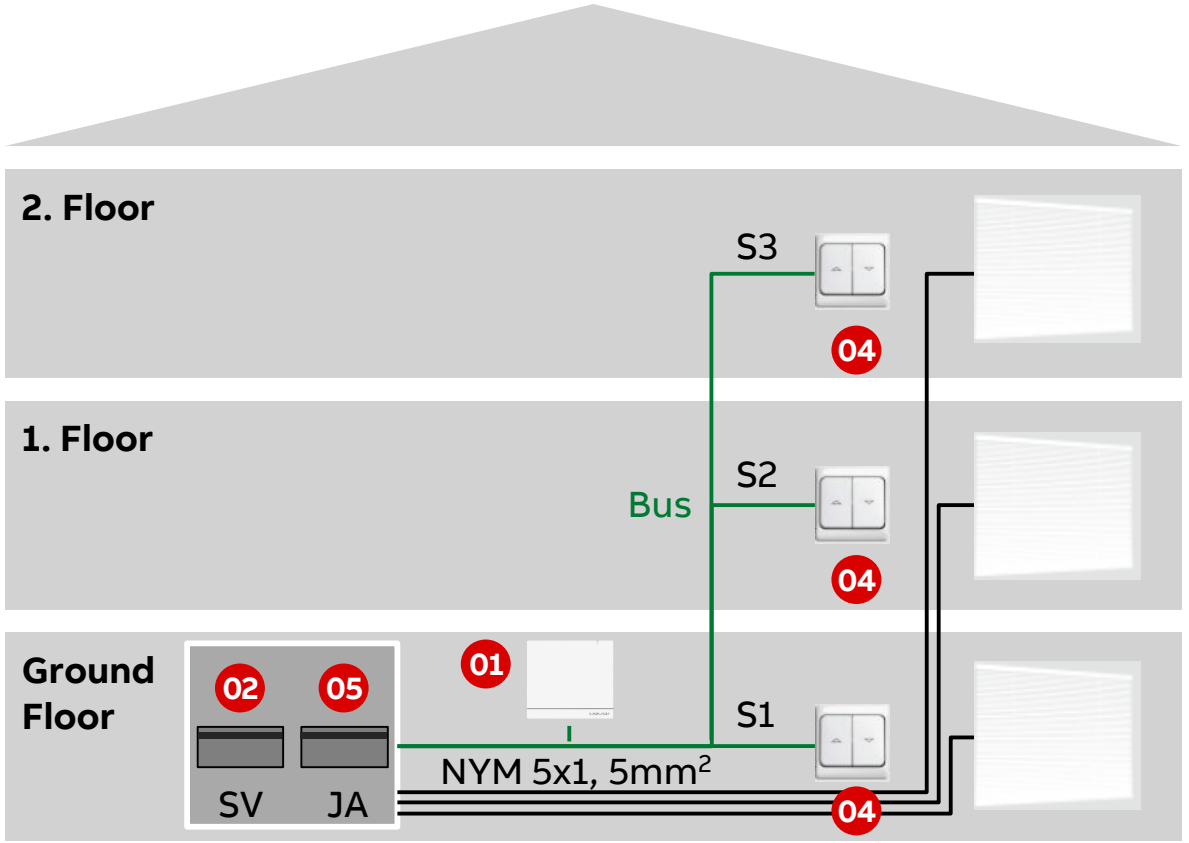
# ABB-free@home® – Overview and Installation

Installation

# ABB-free@home® – Overview and Installation

## Installation

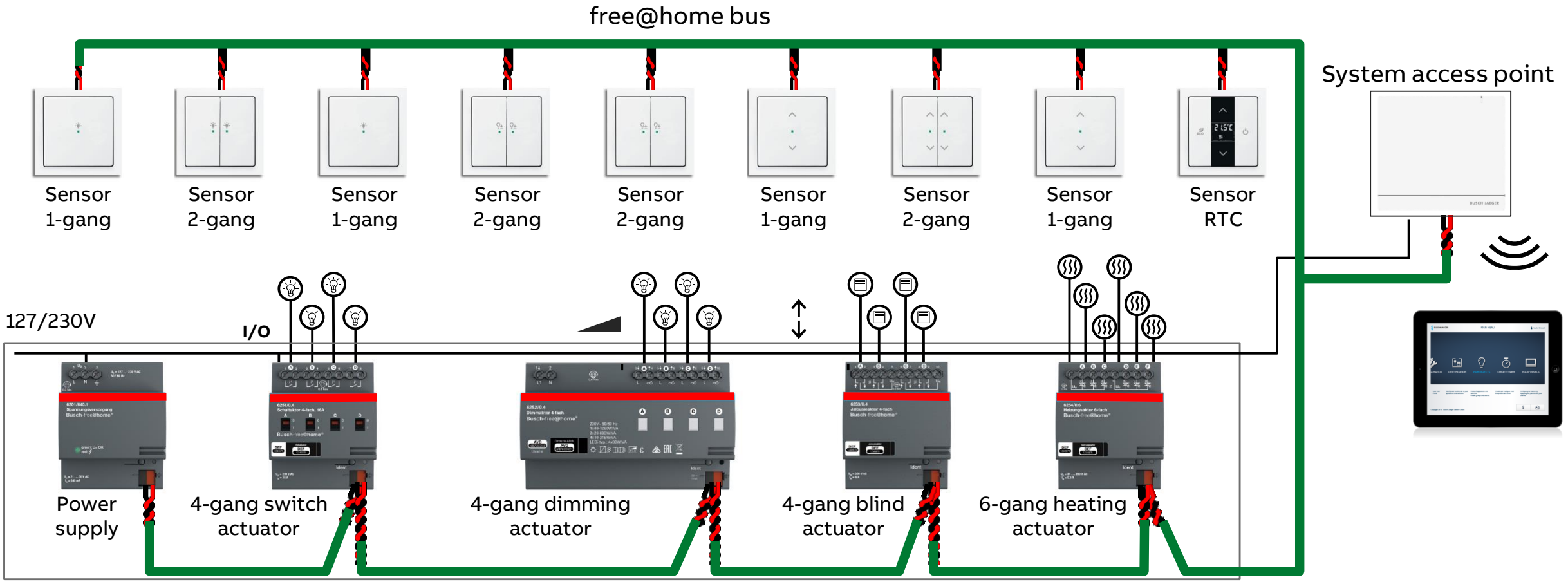



01 System Access Point
02 Power supply
03 Sensor/ blind actuator unit
04 Sensor unit
05 Blind actuator

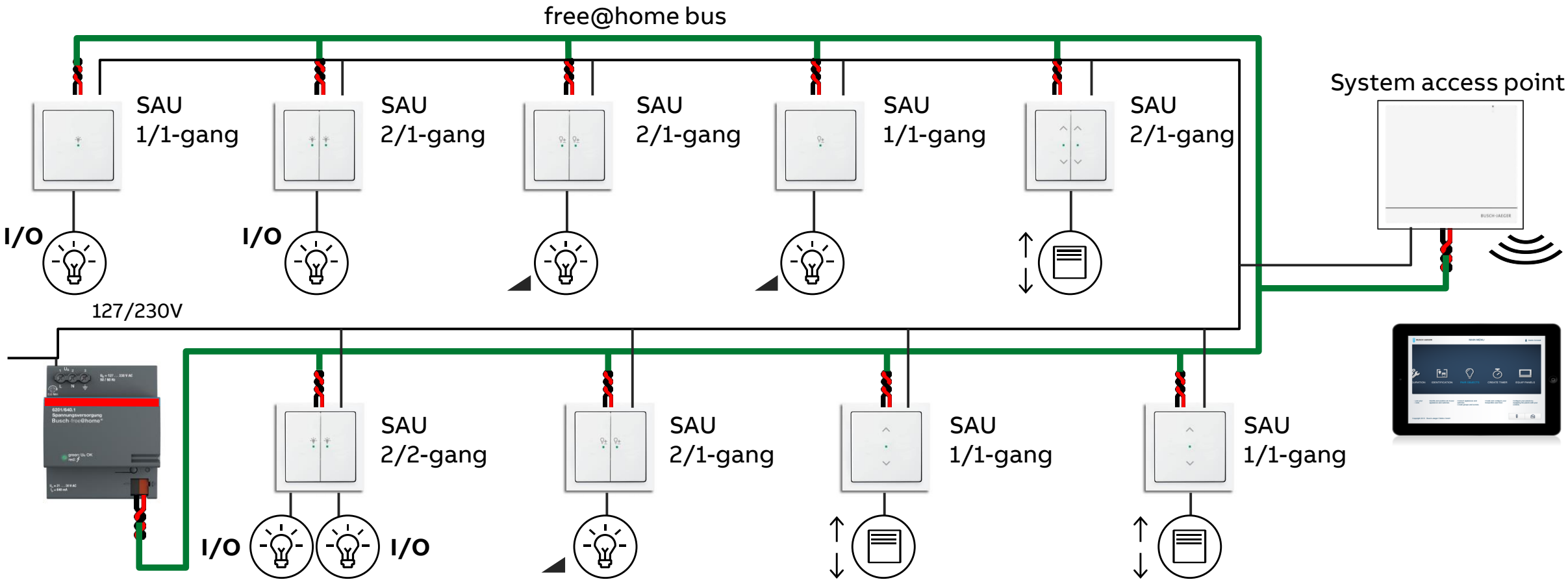
# ABB-free@home® – Overview and Installation

## Centralized topology



# ABB-free@home® – Overview and Installation

## Decentralized topology






 Note: SAU: Sensor/ Actuator Unit

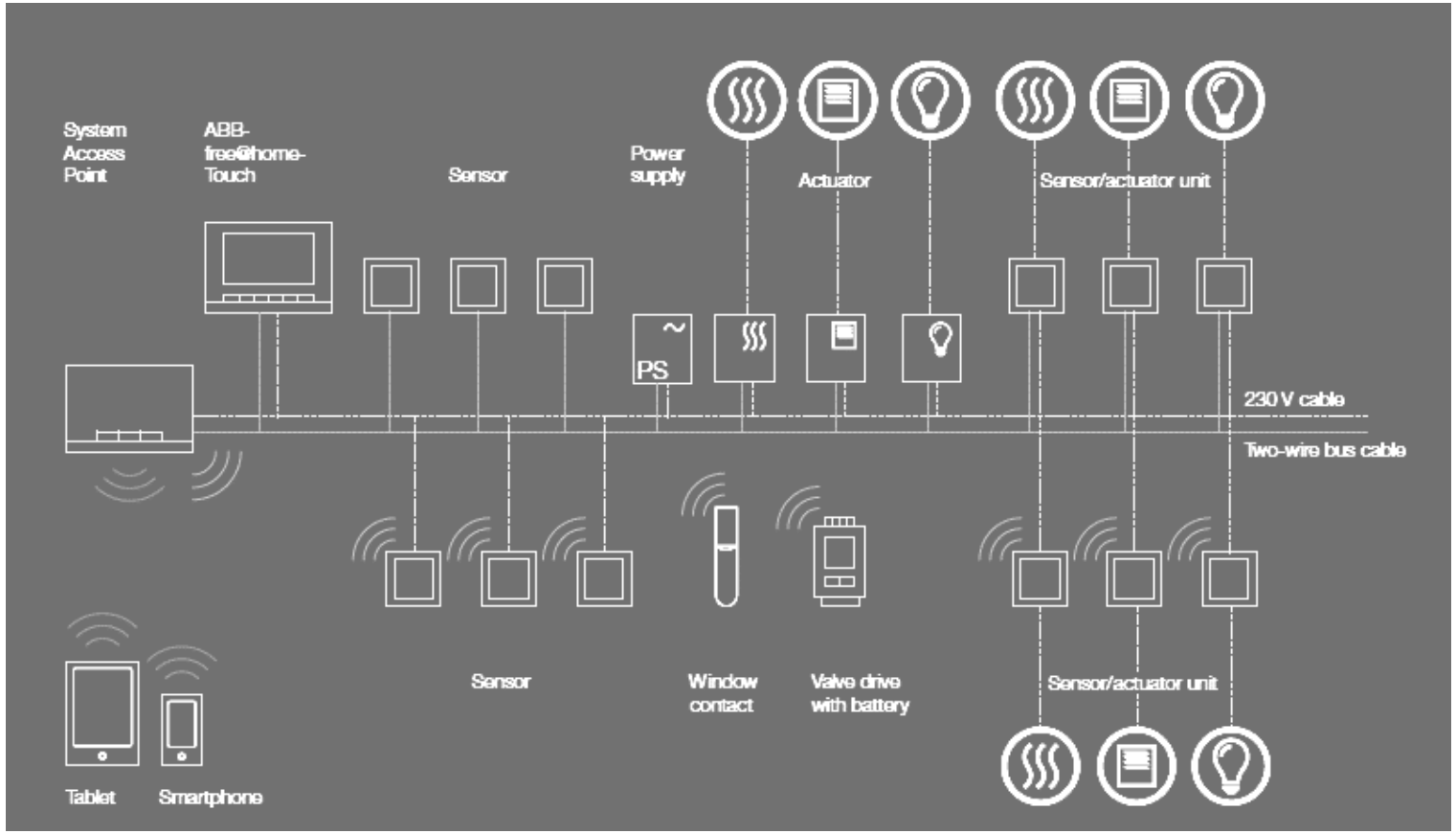
# ABB-free@home® – Overview and Installation

## 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**



# ABB-free@home® – Overview and Installation

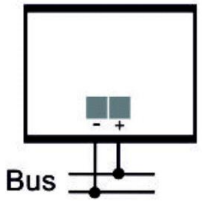
## Connection

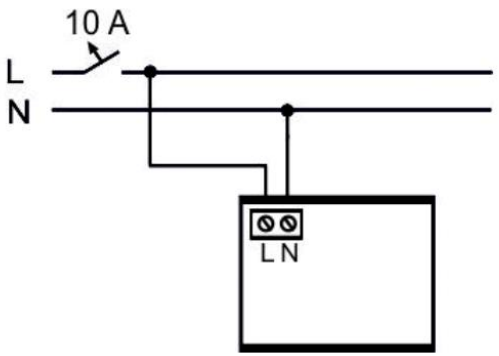
**Sensor unit, 1gang**

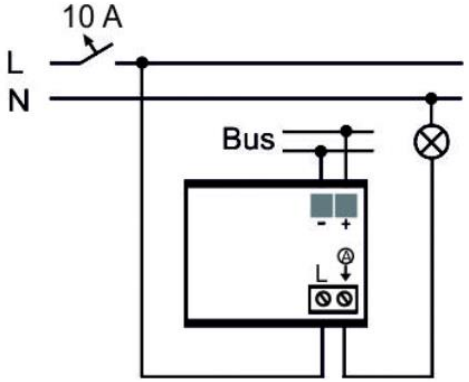
**Sensor unit, 1gang, wireless**

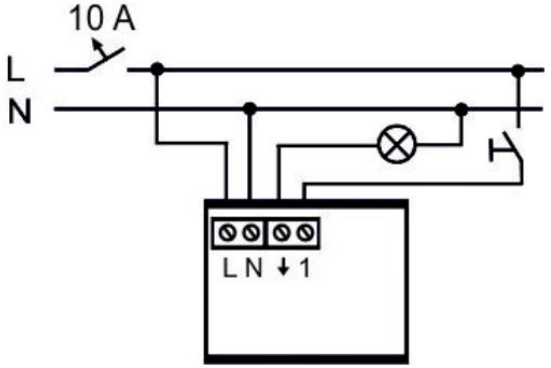
**Sensor/Switch actuator 1/1gang**

**Sensor/Switch actuator 1/1gang, wireless**



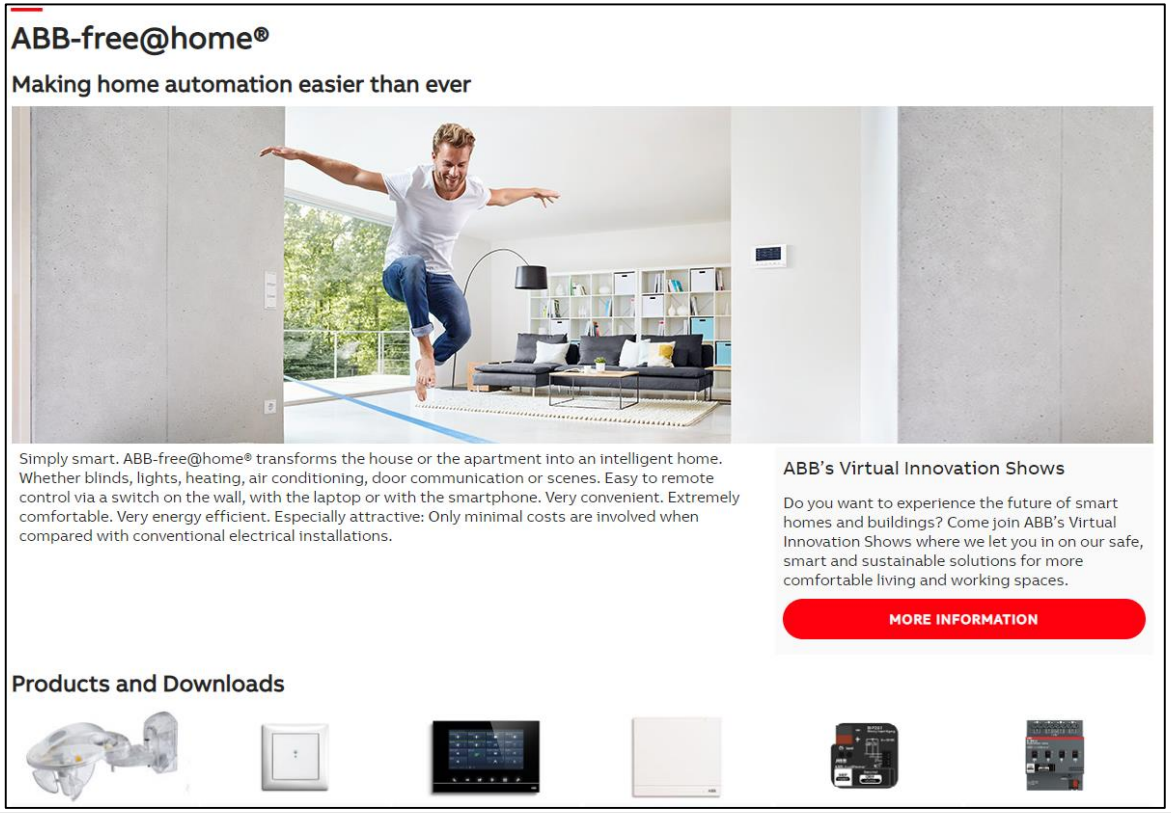
# ABB-free@home® – Overview and Installation

Online Learning Session

## Homepage

ABB-free@home - Home and Building Automation | ABB

- Products and Downloads
- System Information
- Highlights
- Services and Tools
- Support



# ABB-free@home® – Overview and Installation

Online Learning Session

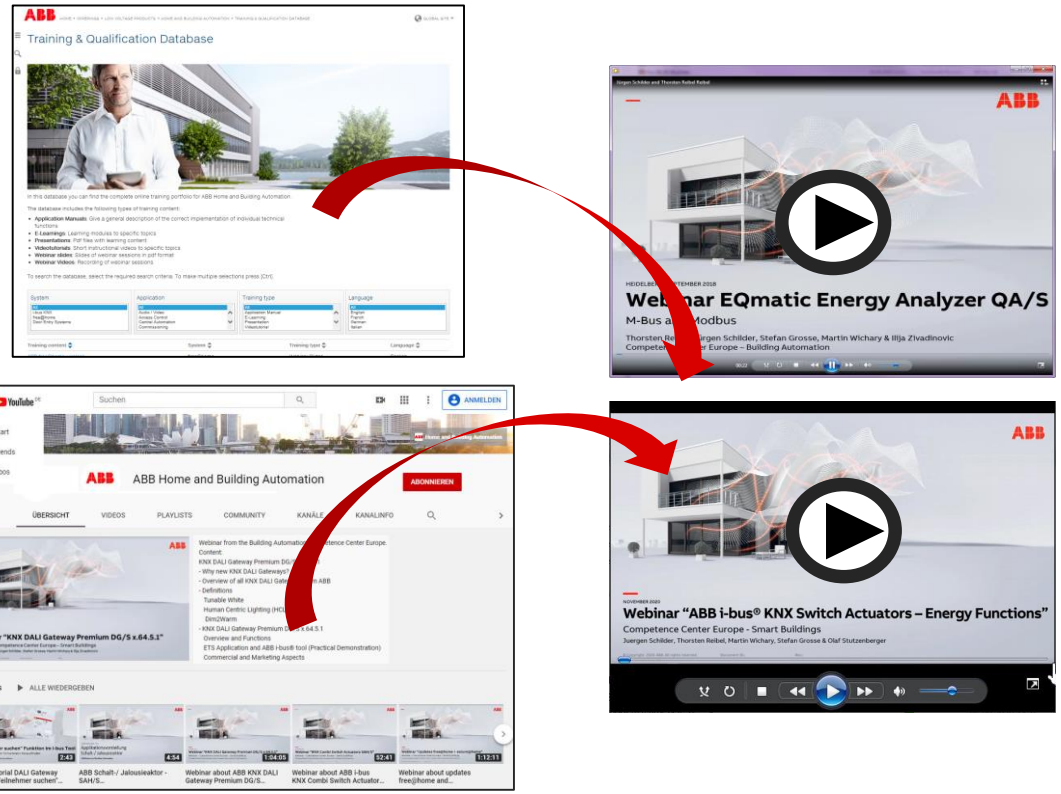
## Training Material

Training & Qualification Database

– The database contains extensive training content
  - Presentations
  - Video tutorials
  - Webinar slides and videos
  - and more …
  - https://go.abb/ba-training
  - ww.abb.com/knx (→ Services & Tools → Training and Qualification → Training Database)

YouTube

– Channel “ABB Home and Building Automation”
  - https://www.youtube.com/user/ABBibusKNX

# ABB-free@home® – Overview and Installation

Online Learning Session

## Training & Qualification Calendar

In addition to the online modules and the traditional training programs offered by your local ABB sales team, we offer a variety of on-site trainings conducted by our specialists at different ABB training facilities

In this Training & Qualification Calendar you can find the educational events that are taking place during 2020

If you are interested in a training please click the training und you will be forwarded to register in “ABB MyLearning”

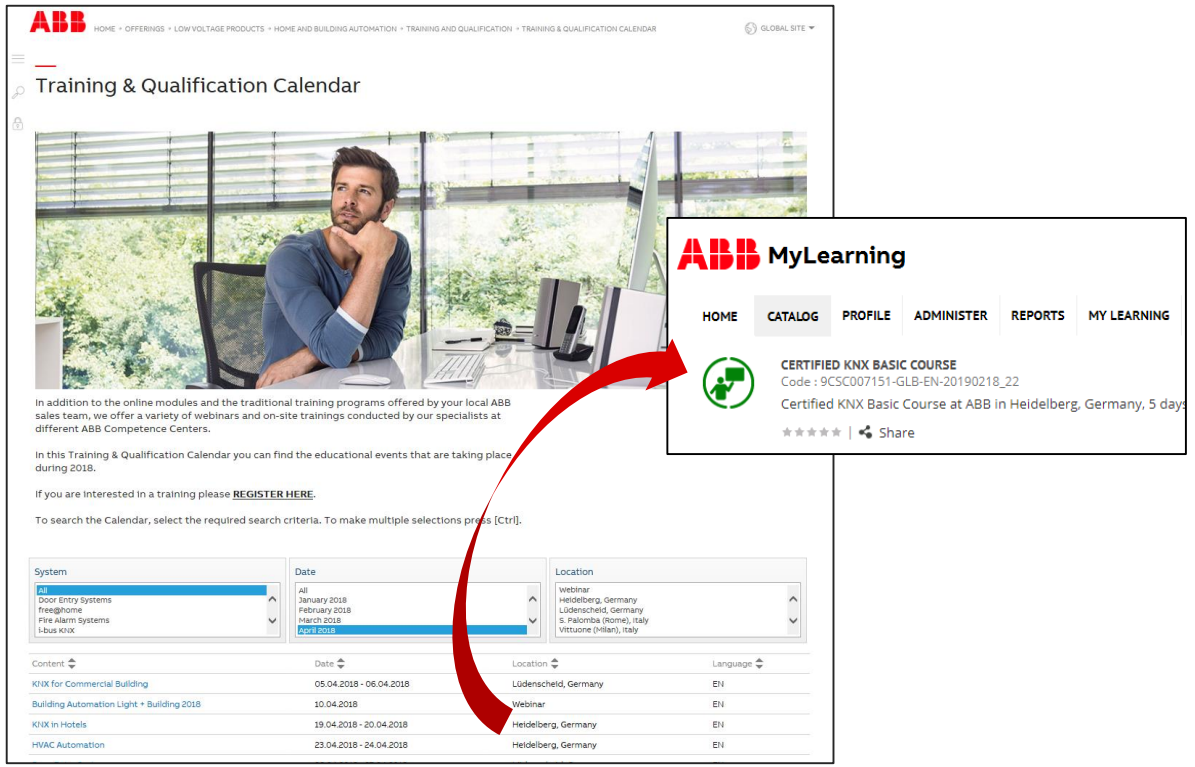
www.abb.com/knx or https://go.abb/ba-training

→ Services & Tools

→ Training and Qualification

→ Training Calendar

**Training and Qualification**



# Disclaimer

Technical data in this presentation are only approximate figures. The information in this presentation is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this presentation.

ABB shall in no case be liable under, or in connection with the presentation towards any person or entity, to which the presentation has been made available, in view of any damages or losses – irrespective of the legal grounds. In particular ABB shall in no event be liable for any indirect, consequential or special damages, such as - but not limited to – loss of profit, loss of revenue, loss of earnings, cost of capital or cost connected with an interruption of business.


ABB