

HEIDELBERG, APRIL 2021

Valve Drive Controller VC/S and Room Control Unit SAR/A (Heating)

Practical Learning Session – Competence Center Europe – Smart Buildings

Juergen Schilder, Thorsten Reibel, Marc-Andre Hahn, Michael Rall, Stefan Grosse & Olaf Stutzenberger

Valve Drive Controller VC/S and Room Control Unit SAR/A (Heating)

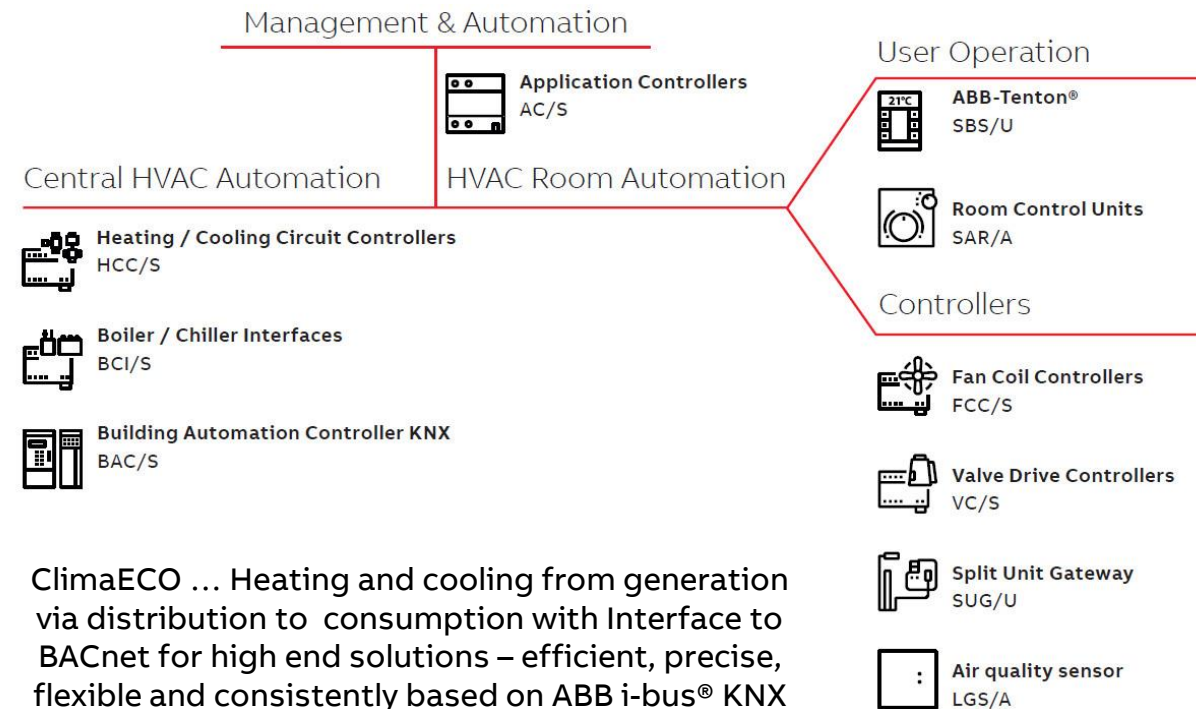
Practical Learning Session

Valve Drive Controller VC/S and Room Control Unit SAR/A (Heating)

Practical Learning Session

ClimaECO – Intelligent HVAC solutions with ABB i-bus® KNX

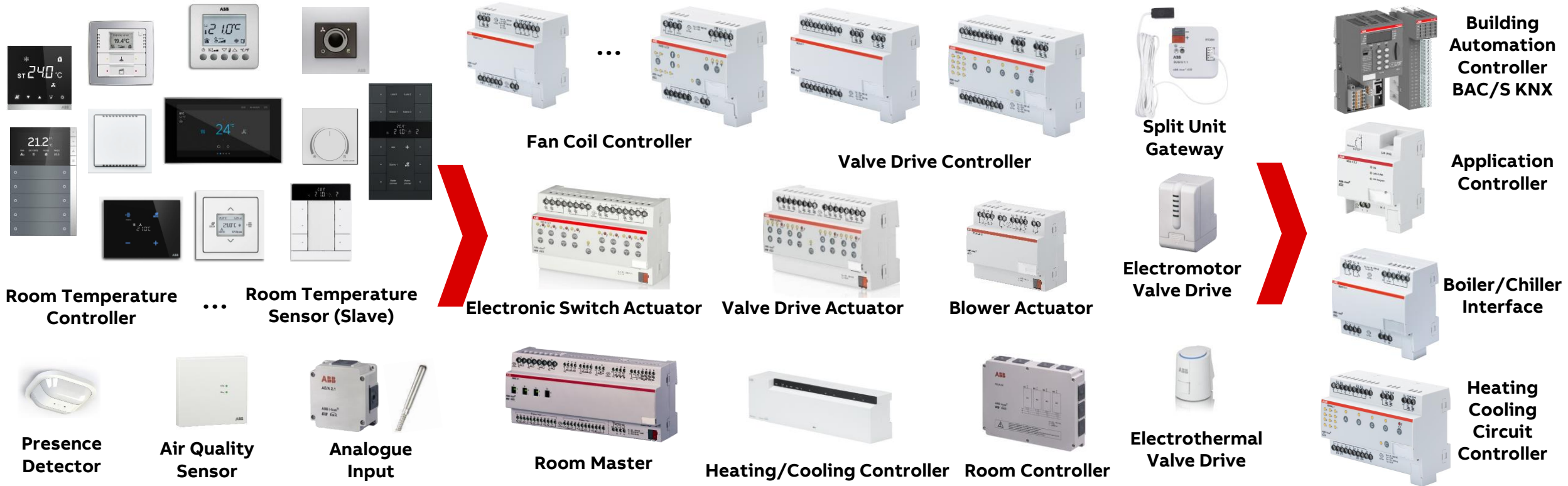
- ClimaECO is the holistic heating, ventilation and air-conditioning (HVAC) automation solution based on ABB i-bus® KNX
- A solution that seamlessly integrates room automation, distribution, central HVAC functions, management and automation into one system – a significant step towards increasing energy efficiency and reducing operational costs
- ABB's ClimaECO portfolio includes
 - ClimaECO® Sensors SBx/U and **Room Control Units SAx/A**
 - **Valve Drive Controllers VC/S**
 - Fan Coil Controller FCC/S
 - Heating/ Cooling Circuit Controllers HCC/S
 - Boiler/ Chiller Interface BCI/S
 - Application Controllers AC/S with Interface to BACnet
 - Building Automation Controller KNX BAC/S
- Slides & videos of Webinars, Learning Sessions → [T&Q Database](#)



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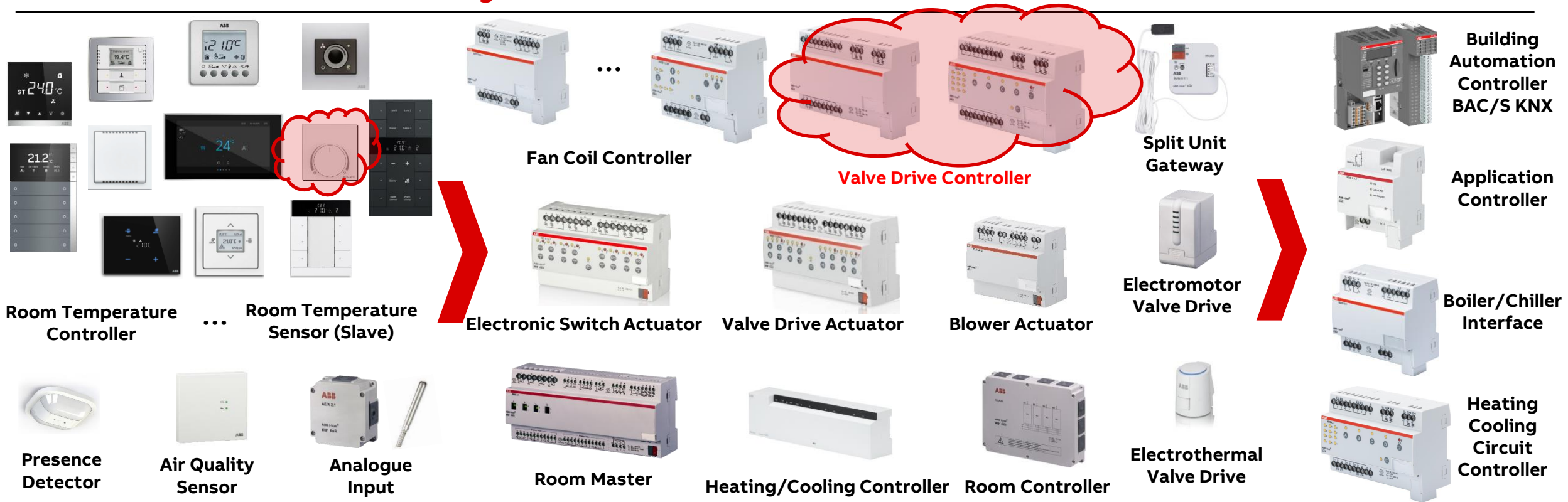
Overview ABB i-bus® KNX HVAC Range



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Overview ABB i-bus® KNX HVAC Range



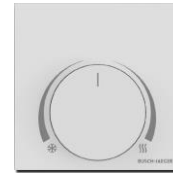
Valve Drive Controller VC/S and Room Control Unit SAR/A (Heating)

Practical Learning Session

Exercise: Individual Room Temperature Control – Heating

In a classroom, the room temperature is controlled with KNX

- A Valve Drive Controller VC/S controls the valve drives of radiators (internal controller function)
- The Room Control Unit SAR/A is used to measure the room temperature and to set the target temperature (setpoint)
 - No gimmicks by the students
 - Simple and cost-efficient user interface but powerful system behind
- Operating mode switching with
 - Push button: Switch On/Off control
 - Presence detector: Switching to comfort mode
 - Window contact: Frost protection
 - Time switch: Switching between ECO (night)/standby mode
 - Visu/BMS: Switching between auto/frost protection mode



Room Control Unit SAR/A



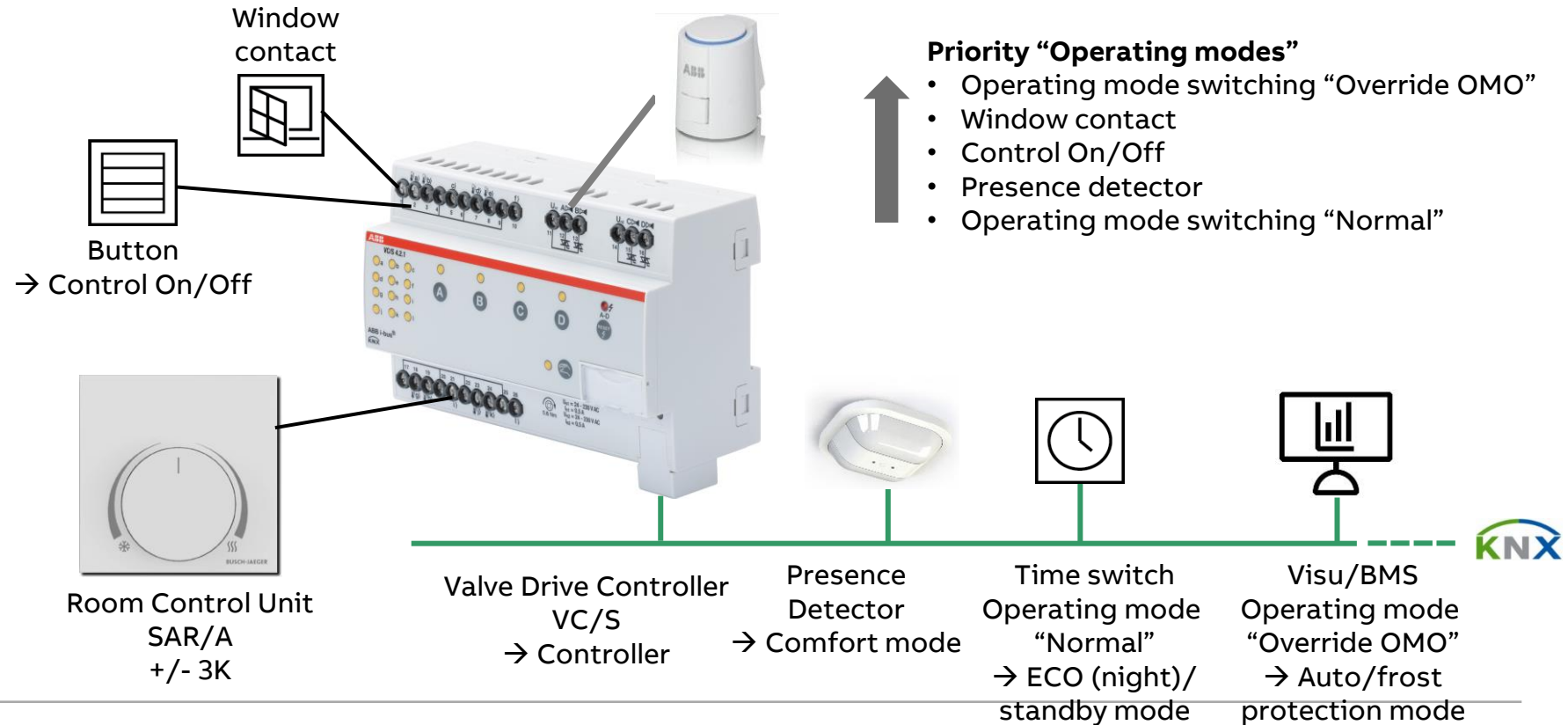
Valve Drive Controller VC/S
→ Controller



Valve Drive Controller VC/S and Room Control Unit SAR/A (Heating)

Practical Learning Session

Exercise: Individual Room Temperature Control in a classroom



Valve Drive Controller VC/S and Room Control Unit SAR/A (Heating)

Practical Learning Session

Exercise: Individual Room Temperature Control in a classroom (minimum connections of group objects)



Presence Detector*

Movement

...



Time switch**

Time program 1 (ECO/standby)

...



Visu/BMS***

Priority routine 1 (auto/frost protection)

...

Simulated by SOLO control element

*Rocker 1

**Rocker 2

***Rocker 3

Valve Drive Controller VC/S

Ch. A - Binary input c - Window contact

Ch. A - Controller - Presence detector

Ch. A - Controller - Operating mode normal

Ch. A - Controller - Operating mode override

Ch. A - Controller - Request On/Off

Ch. A - Controller - Confirm On/Off

Ch. B - Input d - Switch

Ch. A - Controller - Actual temperature

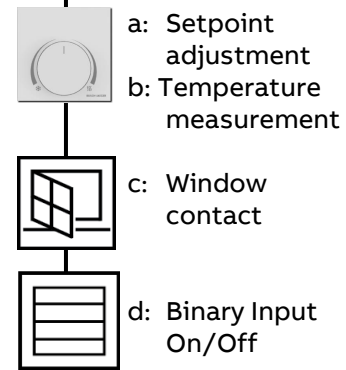
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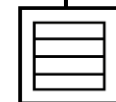
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a: Setpoint adjustment
b: Temperature measurement



c: Window contact



d: Binary Input On/Off

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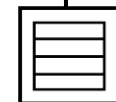
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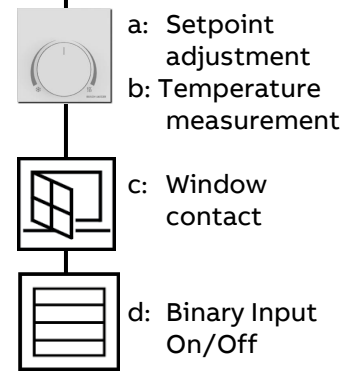
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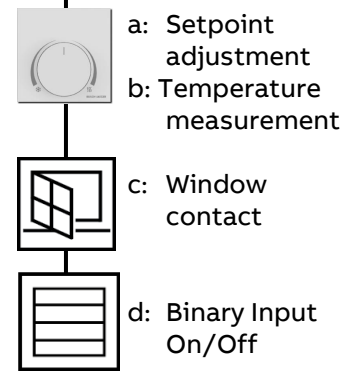
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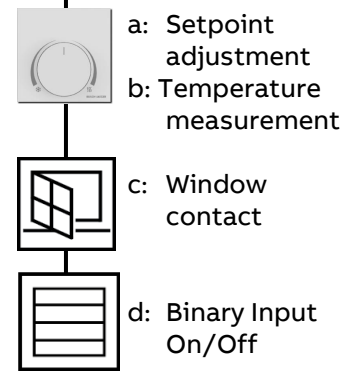
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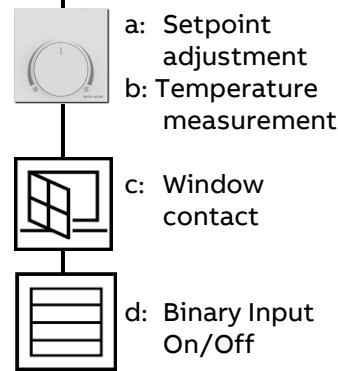
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Practical Learning Session

Homepage

www.abb.com/KNX

→ Products and Downloads
→ Heating, Ventilation and Air Conditioning

- ETS Application
- ABB i-bus® Tool
- Product Manual
- Engineering Guides
- Installation and Operating Instructions
- Specification Text
- ...

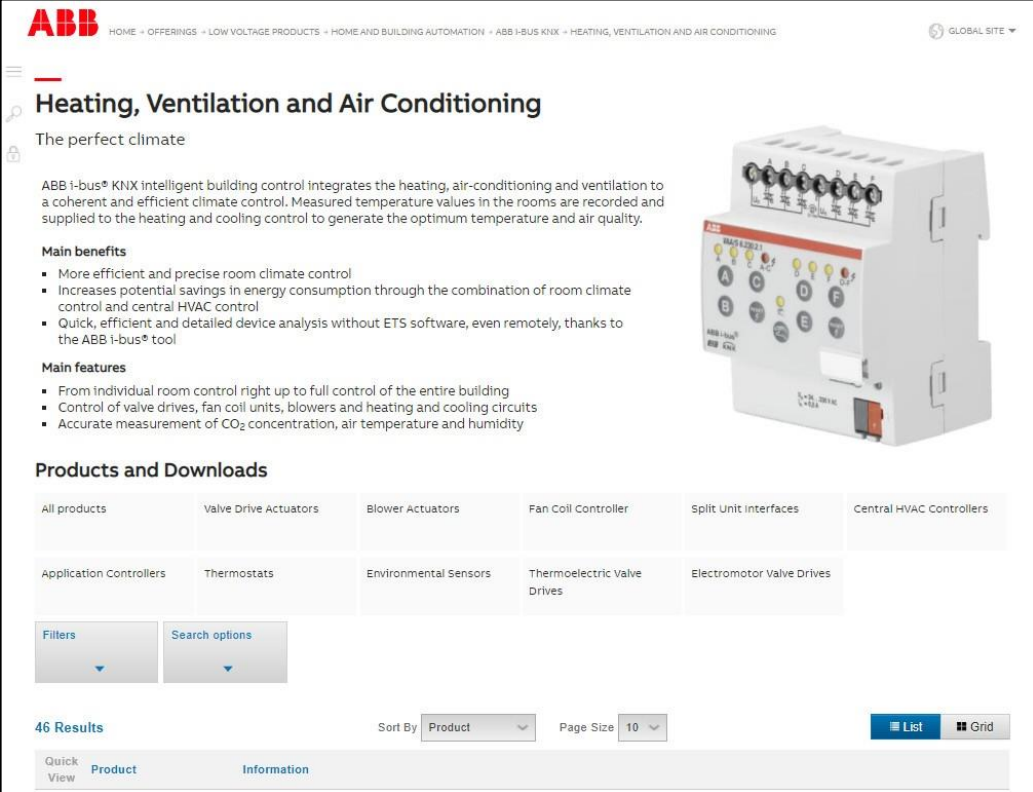


ABB HOME + OFFERINGS + LOW VOLTAGE PRODUCTS + HOME AND BUILDING AUTOMATION + ABB I-BUS KNX + HEATING, VENTILATION AND AIR CONDITIONING GLOBAL SITE

Heating, Ventilation and Air Conditioning

The perfect climate

ABB i-bus® KNX intelligent building control integrates the heating, air-conditioning and ventilation to a coherent and efficient climate control. Measured temperature values in the rooms are recorded and supplied to the heating and cooling control to generate the optimum temperature and air quality.

Main benefits

- More efficient and precise room climate control
- Increases potential savings in energy consumption through the combination of room climate control and central HVAC control
- Quick, efficient and detailed device analysis without ETS software, even remotely, thanks to the ABB i-bus® tool

Main features

- From individual room control right up to full control of the entire building
- Control of valve drives, fan coil units, blowers and heating and cooling circuits
- Accurate measurement of CO₂ concentration, air temperature and humidity

Products and Downloads

All products	Valve Drive Actuators	Blower Actuators	Fan Coil Controller	Split Unit Interfaces	Central HVAC Controllers
Application Controllers	Thermostats	Environmental Sensors	Thermoelectric Valve Drives	Electromotor Valve Drives	

Filters Search options

46 Results Sort By Product Page Size 10 List Grid

Quick View Product Information

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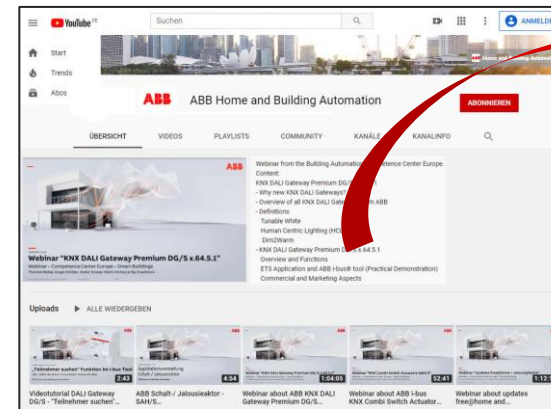
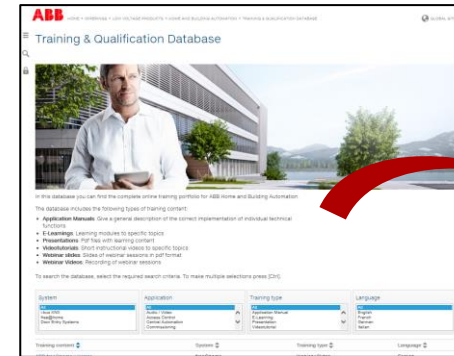
Training Material

Training & Qualification Database

- The database contains extensive training content
 - Webinar, Learning Sessions, ... slides and videos
 - Presentations
 - Video tutorials
 - and more ...
 - <https://go.abb/ba-training>
 - www.abb.com/knx (→ Services & Tools → Training and Qualification → Training Database)

YouTube

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



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