

HEIDELBERG, MAY 2022

ClimaECO – Room climate control with ventilation and air quality

Online Learning Session – Building Academy Smart Buildings

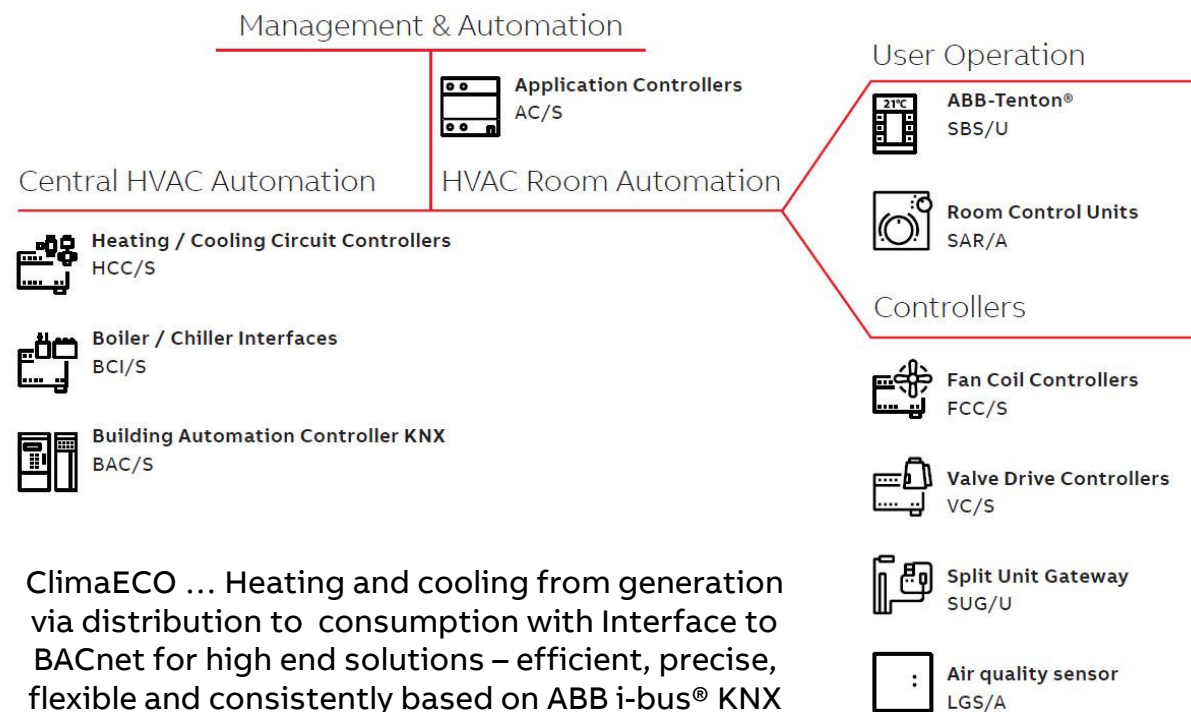
Thorsten Reibel & Juergen Schilder

ClimaECO – Room climate control with ventilation and air quality

Online Learning Session

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

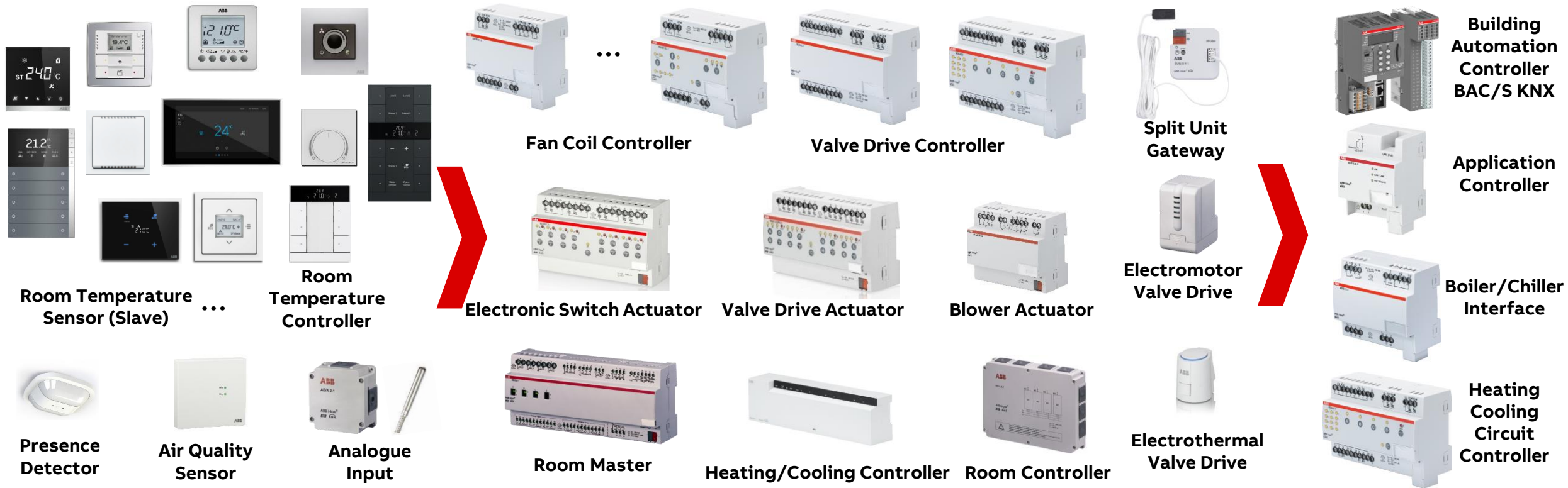
- ClimaECO is the holistic heating, ventilation and air-conditioning (HVAC) automation solution based on ABB i-bus® KNX
- A solution that seamlessly integrates room automation, distribution, central HVAC functions, management and automation into one system – a significant step towards increasing energy 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](#)



ClimaECO – Room climate control with ventilation and air quality

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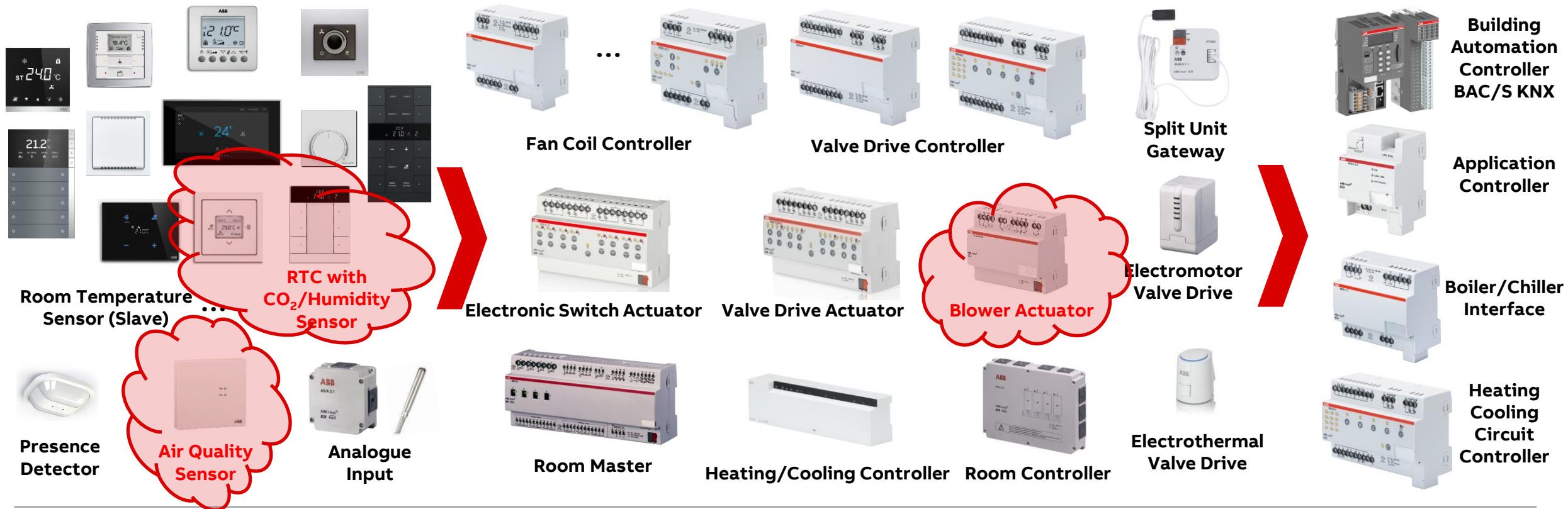
Overview ABB i-bus® KNX HVAC Range



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Overview ABB i-bus® KNX HVAC Range



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Influence of the CO₂ concentration on well-being of people

- Room air quality is an important planning parameter for energy-efficient buildings
- The European building directive (EPBD – Energy Performance of Buildings Directive) requires that when verifying energy performance, in addition to the systems for compensating outdoor ambient conditions (i.e. heating, cooling), the indoor climatic conditions must also be monitored
- The requirements for reduction of energy consumption often lead to poor ventilation in today's highly insulated buildings
- The quality of the room air often does not meet the desired and stipulated levels
- A suitable indicator for determination of the room air quality is the CO₂ concentration

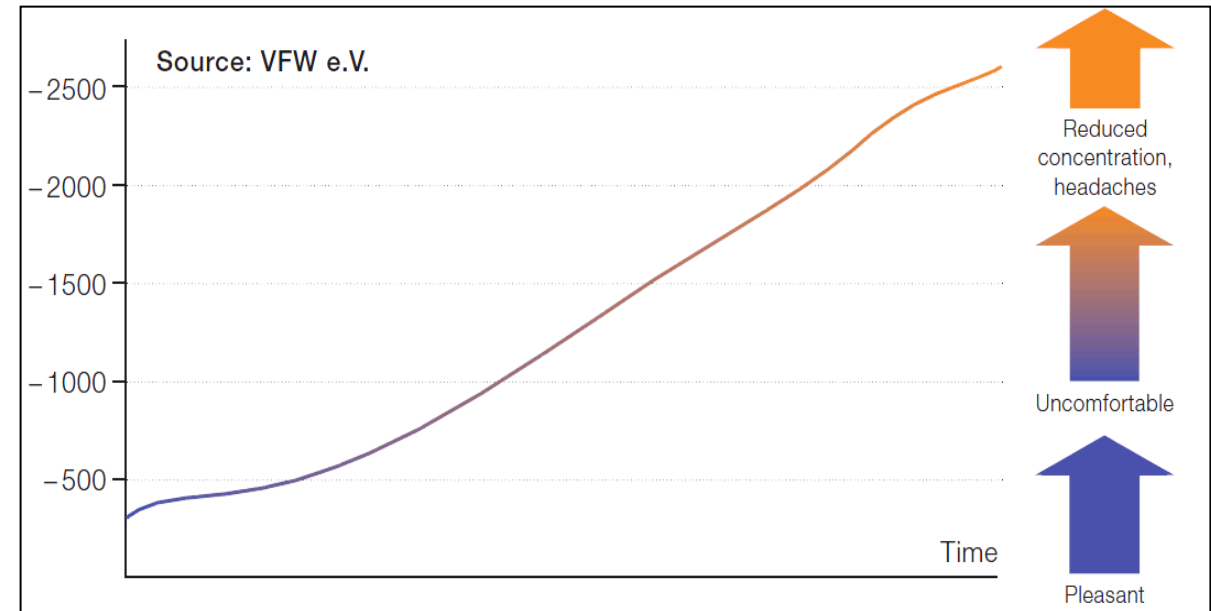


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Influence of the CO₂ concentration on well-being of people

- People increase the CO₂ concentration in the air naturally during respiration
- A high CO₂ concentration in the air influences the well-being as well as the performance and learning ability of people
- This means that rooms in which many persons are present (schools, conference rooms, open-plan offices) will require the provision of a sufficient supply of fresh air

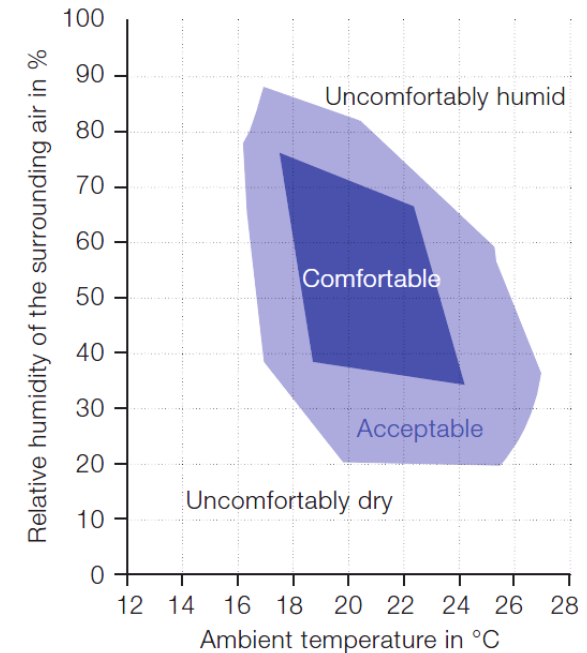


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Comfortable room climate

- People raise the CO_2 concentration in the air when they breathe:
 - Normal room air has about 21% Oxygen (O_2) and about
 - 0.035 % Carbon Dioxide (CO_2)
- However, during exhalation the air only contains about 16% O_2 (reduction of about 24%), but 4% CO_2 (more than 100-fold increase!)
- In addition to the CO_2 concentration, the relationship between room temperature and humidity is also an important consideration in achieving a comfortable room climate
- High relative humidity is uncomfortable and not accepted, even problematic for the building and the furniture
- Definition relative humidity: the ratio of the current water vapor content of the air (expressed in %rH) to the maximum possible water vapor content at the same temperature



Comfortable room climate in dependence on the room temperature and humidity

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Comfortable room climate – a sample calculation

- The respiratory volume of an adult at rest is between 450 and 500 ml and the respiratory rate is about 18 times a minute
- If a seminar room (8 m x 7 m x 2.5 m = 140 m³), without a supply of fresh air, is occupied by 30 persons for 1 hour, the oxygen concentration in the room air is reduced from 21% to about 20.5%
- However the CO₂ concentration increases sharply to about 4,500 ppm
- The concentration at which physical limitations e.g. reduced concentration, tiredness, headaches, are to be expected, starts as early as 2,000 ppm

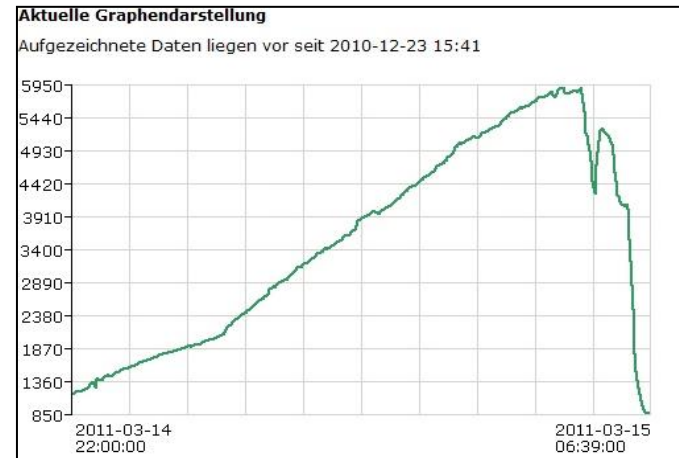


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Comfortable room climate

- Starting from a concentration of 800 ppm (0.08 Vol %) makes carbon dioxide, humans tired!
- The German Standard DIN 1946-6 prescribes due to its an outside air flow rate of 30 m³/h per person
- With the current build standard this value is not reached
- Reason for it is e.g. the high tightness of the building cover and the occasional air exchange with tilted windows
- A controlled ventilation of areas in buildings is therefore urgently necessary

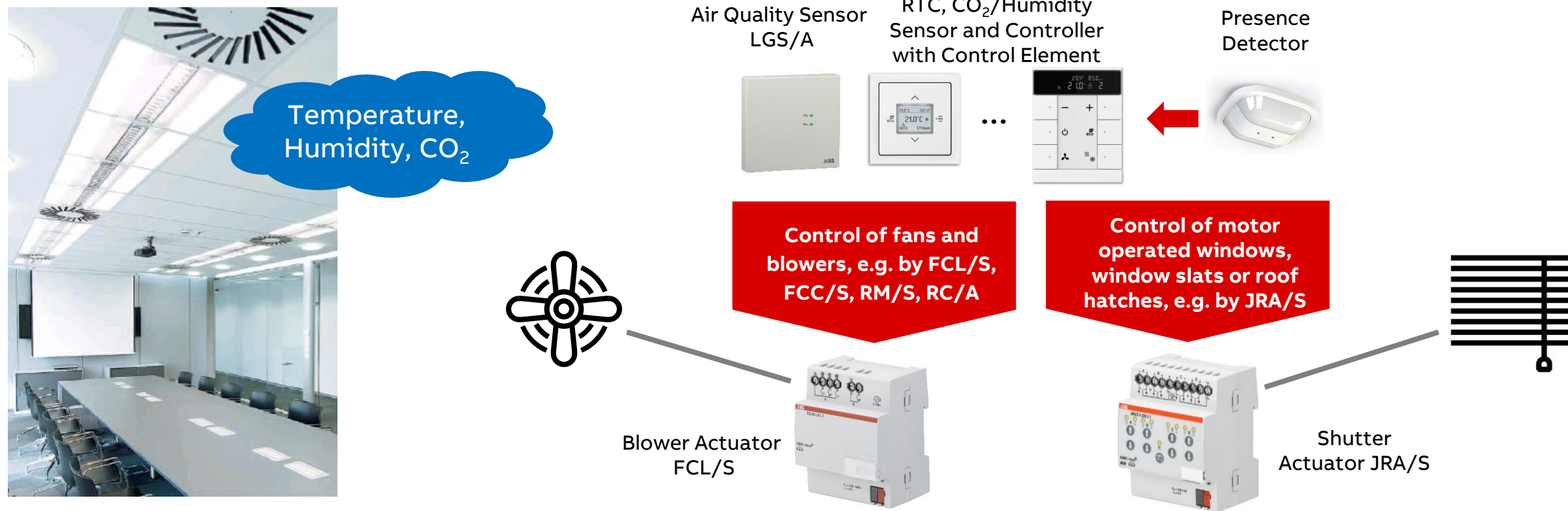


Recording the CO₂-concentration in a bedroom
2 adults, window and door were closed

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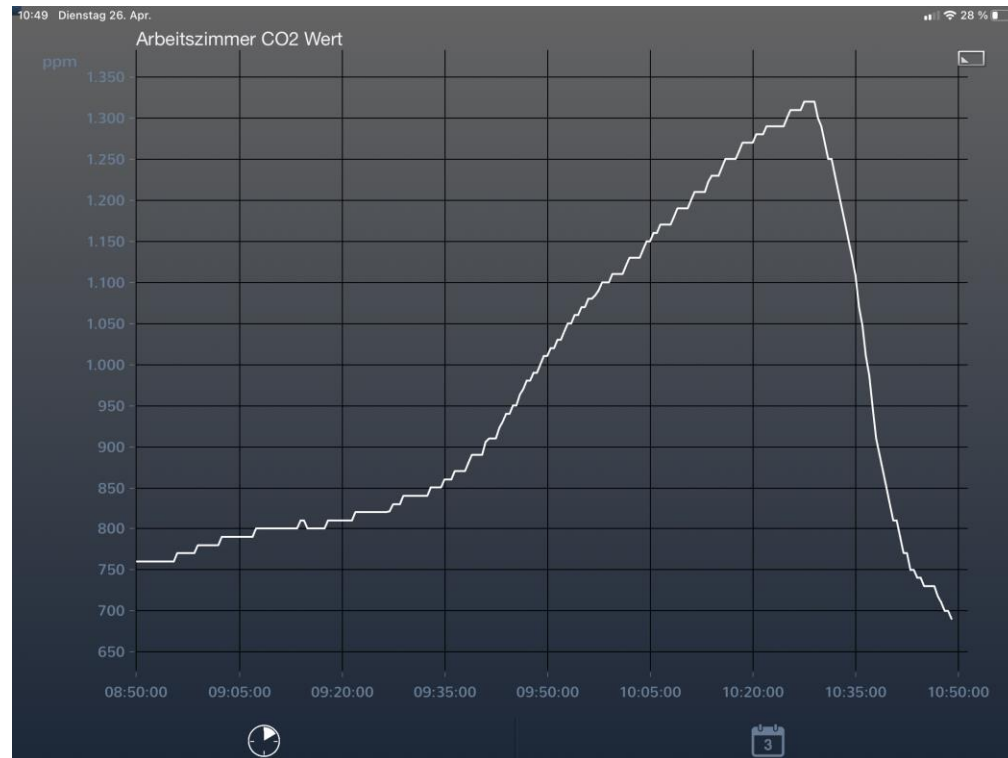
Overview room air quality: CO₂ and humidity sensor with Blower Actuator FCL/S and Shutter Actuator JRA/S



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Example: Measuring of CO₂ and relative humidity at home in my office



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Introduction air quality sensors

- An air quality sensor is used to measure the room temperature as well as the CO₂ concentration and the humidity in the room
- Based on these information it's possible to implement a room temperature control and also air quality control via ventilation
- CO₂ and relative humidity controller type:
 - Single-, two- and three stage (e.g. Switch Actuator SA/S)
 - PI (e.g. Blower Actuator FCL/S)
- Additionally, the measured values can be used to display them in the visualization as information for the room user
- The display/LEDs on front of the device can be used to show the room user an indication of the air quality



Air Quality Sensor with
Room Temperature
Controller
LGS/A 1.2



Room temperature
controller with
CO₂/Humidity sensor
6109/28



Control element ABB
Tenton® with room
temperature controller
function and
CO₂/Humidity sensor
SBC/U x.0.1

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Air Quality Sensor with Room Temperature Controller

- For the control and measuring of the room air quality and temperature
- Accurately measures the CO₂ concentration (390...10,000 ppm), relative humidity (0...100 %) and temperature (0...50 °C)
- Dew point calculation (out of rel. humidity and temperature)
- LEDs for simple information about CO₂ and humidity level
- By using the integrated thresholds the measured values can be monitored
- With the integrated controller it is possible to control the room temperature and the HVAC actuators
- Surface mounted air quality sensor with integrated bus coupler
- ETS application with extensive functions (e.g. integrated PI control for CO₂ / humidity, unified RTC concept, ...)



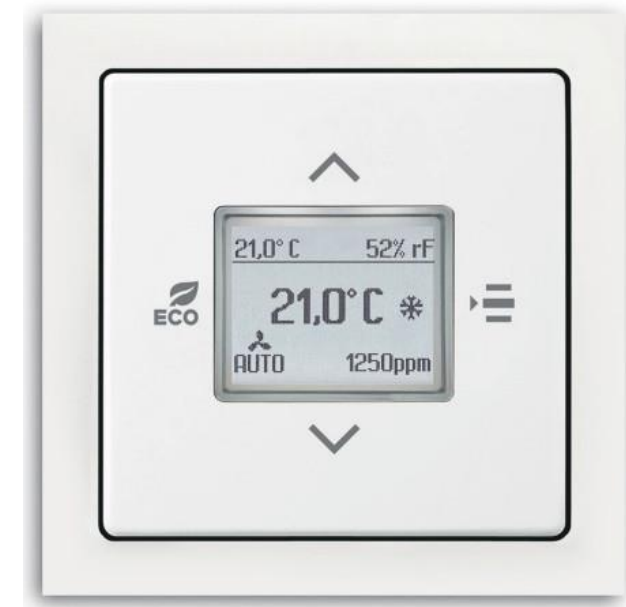
LGS/A 1.2

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Room temperature controller with CO₂/humidity sensor

- Control element with room temperature controller function and CO₂/humidity/air pressure sensor
- Measuring ranges:
CO₂ 390 ppm ... 10,000 ppm, relative humidity 0 % ... 100 %, temperature 0°C ... 35°C and air pressure 300 hPa ... 1,100 hPa
- With universal inputs (binary/analogue/external temperature sensor PT1000)
- Integrated room temperature controller (Master/slave configuration, base-load operation, ...)
- For activating heating, ventilation and fan coil actuators
- Control element: Switch contacts
- LCD display showing operation mode, temperature, CO₂, humidity, ...
- Cover plate for different designs and colors



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Control element Tenton with RTC function plus CO₂/humid.

- Control element with room temperature controller function 6- or 10-fold plus CO₂/humidity sensor
- Measuring ranges:
CO₂ 390 ppm ... 10,000 ppm, relative humidity 0 % ... 100 % and temperature 0°C ... 35°C
- Push switch function: Switching / dimming / blind / sending values / scenes / internal RTC control, etc.
- LCD display showing operation mode, temperature, CO₂, ...
- For activating heating, ventilation and fan coil actuators
- Support of KNX functions through innovative colour concept or standard illumination red/green
- Integrated KNX bus coupler
- With labelling fields
- Available in studio white, black matt and aluminum silver



Control element ABB Tenton®
with room temperature controller
function and CO₂/Humidity sensor
SBC/U x.0.1



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ETS Parameter: ABB Tenton® with room temperature controller function and CO₂/Humidity sensor SBC/U x.0.1

3.7.- SBC/U10.0 HVAC/CO2 device, 10gang BE > CO2 sensor > CO2 sensor

+ RTC	CO2 sensor	<input type="radio"/> inactive <input checked="" type="radio"/> active
- CO2 sensor	Height of mounting location above normal height zero	0 m a.s.l.
CO2 sensor	Measured value correction	0 ppm
CO2 controller	Error CO2	<input type="radio"/> Do not send message <input checked="" type="radio"/> Message
PI controller	Send CO2 values at changes	In case of a change of 20 ppm
+ Relative humidity/dewpoint se...	Send CO2 value cyclic	Every 10 minutes
+ Function block 1	External measured value	<input checked="" type="radio"/> inactive <input type="radio"/> active

3.7.- SBC/U10.0 HVAC/CO2 device, 10gang BE > CO2 sensor > CO2 controller

+ RTC	CO2 controller type	PI
- CO2 sensor	Permit change of the basic set value via the bus	<input checked="" type="radio"/> no <input type="radio"/> yes
CO2 sensor	Control value output format	<input checked="" type="radio"/> Percent <input type="radio"/> Byte
CO2 controller	Send control value at changes	In case of a change of 2%
PI controller	Send control value cyclic	Every 10 minutes
+ Relative humidity/dewpoint se...		
+ Function block 1		

Inactive
Single-stage
Two-stage
Three-stage
PI

	Nur	Gr	Name	Object Function	Length	Data Type
	86		CO2: CO2 value	Output	2 bytes	parts/million (ppm)
	88		CO2: Request CO2 value	Input	1 bit	trigger
	89		CO2: Sensor error	Output	1 bit	switch
	90		CO2: Control value	Output	1 byte	percentage (0..100%)

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ETS Parameter: ABB Tenton® with room temperature controller function and CO₂/Humidity sensor SBC/U x.0.1

3.7.- SBC/U10.0 HVAC/CO2 device, 10gang BE > Relative humidity/dewpoint sensor > Relative humidity sensor

+ RTC

- Relative humidity/dewpoint se...

Relative humidity sensor

Measured value correction

Humidity sensor error

Send relative humidity at change

Send relative cyclic

External measured value

Communication object data type

Relative humidity

inactive active

0 % rH

Do not send message Message

In case of a change of 2% rF

Every 10 minutes

inactive active

2 byte value (DPT 9.007)

1 byte value 0..100% (DPT 5.001)

Relative humidity sensor

Relative humidity controller

PI controller

Dew point temperature

3.7.- SBC/U10.0 HVAC/CO2 device, 10gang BE > Relative humidity/dewpoint sensor > Relative humidity controller

+ RTC

- Relative humidity/dewpoint se...

Relative humidity sensor

Relative humidity controller

PI controller

Dew point temperature

Controller type

Permit change of the basic set value via the bus

Control value output format

Send control value at changes

Send control value cyclic

PI

no yes

Percent Byte

In case of a change of 2%

Every 10 minutes

Inactive

Single-stage

Two-stage

Three-stage

PI

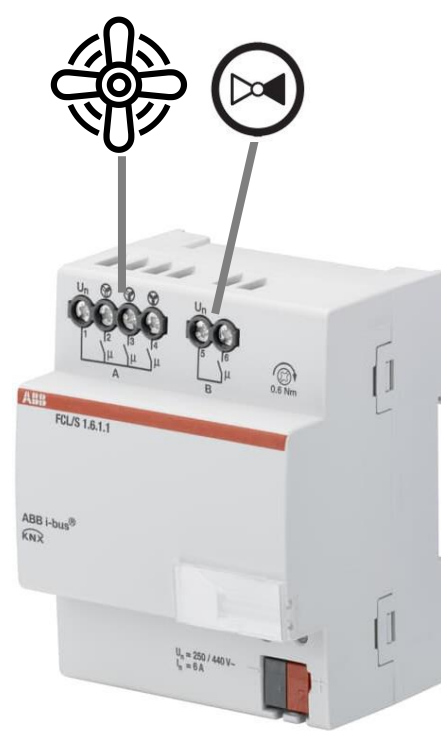
Nur	Gr	Name	Object Function	Length	Data Type
95		RH: Relative humidity value	Output	2 bytes	humidity (%)
97		RH: Request humidity value	Input	1 bit	trigger
98		RH: Sensor error	Output	1 bit	switch
99		RH: Control value	Output	1 byte	percentage (0..100%)

ClimaECO – Room climate control with ventilation and air quality

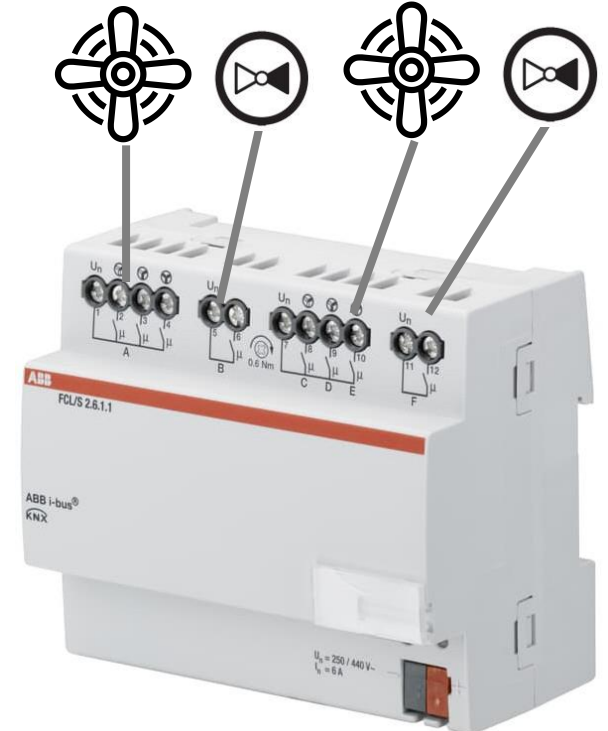
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Blower Actuator FCL/S x.6.1.1

- A Blower Actuator is used in ventilation applications
- It is a compact device that serves the following functions:
 - Controlling fans and blowers
 - Switching loads (e.g. blower main switch, damper or valve)
- Outputs that are not being used for fan functions can be used as switch actuators for switching electrical loads
- The Blower Actuator
 - Controls a single-phase fan with up to three fan speeds via a changeover or step switch
 - Ensures that no two fan speeds can be switched on simultaneously (changeover control)
 - Receives its control value via the ABB i-bus® KNX, e.g. from an air quality sensor



FCL/S 1.6.1.1



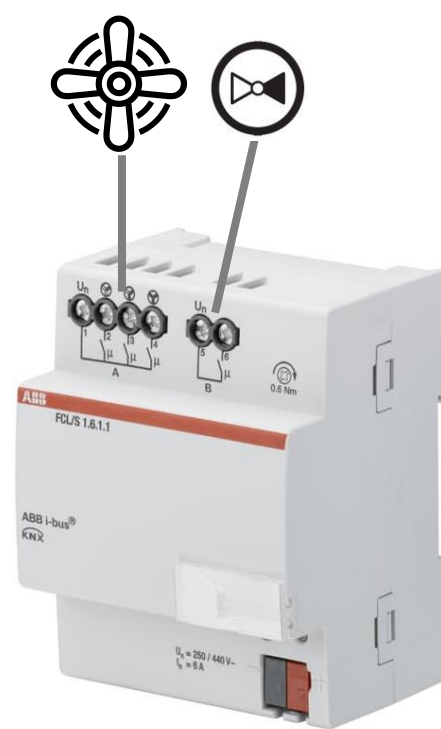
FCL/S 2.6.1.1

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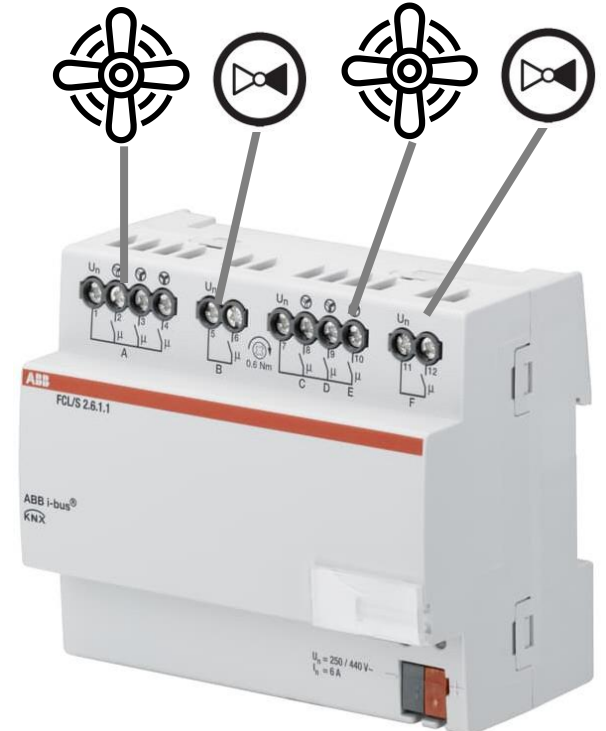
Online Learning Session

Blower Actuator FCL/S x.6.1.1

- The following controls are feasible:
 - FCL/S 1.6.1.1
 - One 3-speed fan plus one switching output
 - FCL/S 2.6.1.1
 - Two 3-speed fans plus two switching outputs
 - One 3-speed fan plus five switching outputs
- The fan speed can be
 - Directly chosen, increased and decreased → direct operation
 - Controlled by the control value of an external closed-loop controller → automatic control



FCL/S 1.6.1.1



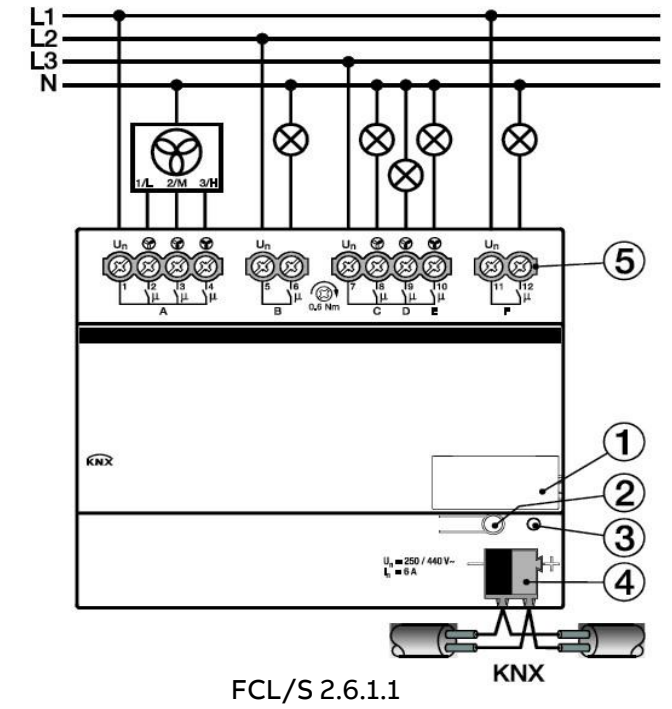
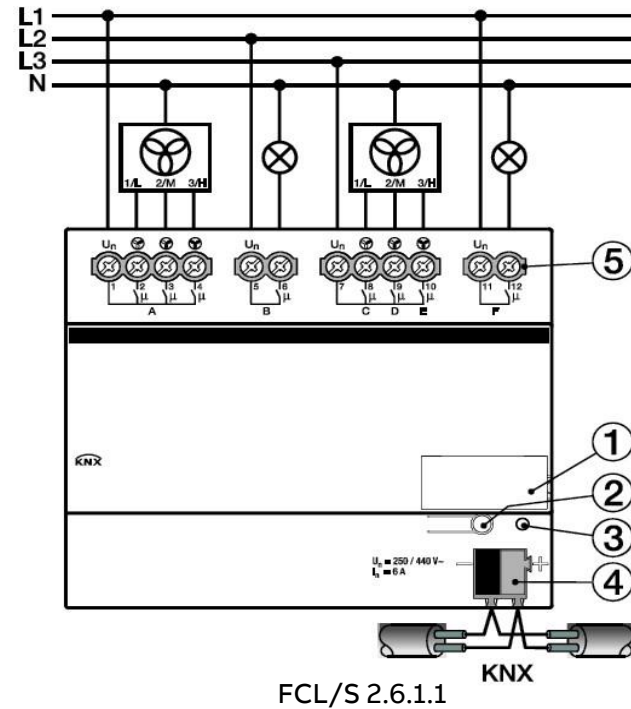
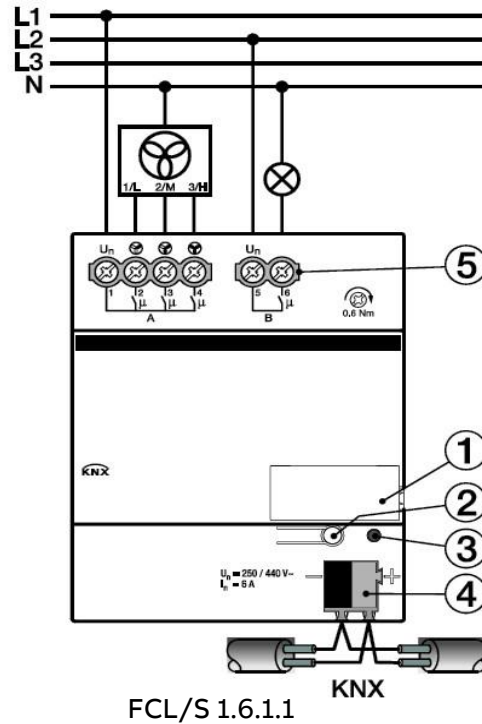
FCL/S 2.6.1.1

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Blower Actuator FCL/S x.6.1.1 – Connection diagrams

1. Label carrier
2. Programming button
3. Programming LED (red)
4. Bus connection terminal
5. Power outputs



The second blower output can alternatively be used as 3 Switch Actuator outputs




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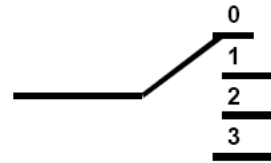
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Blower Actuator FCL/S x.6.1.1 – Types of Fan control (note technical data of fan!)

Fan with changeover switch

- Fans are usually controlled with a changeover switch
- A three-speed fan has the following control table:




Output			
Off	0	0	0
Fan speed 1	1	0	0
Fan speed 2	0	1	0
Fan speed 3	0	0	1

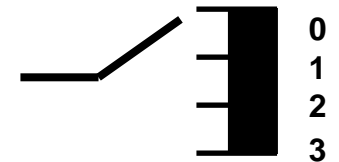


To avoid an electrical short circuit in the fan motor a delay between fan speed switch over can be parametrized in the ETS application. Default value is 500 ms, check motor data

Fan with step switch

- In some cases, the fan is controlled via a step switch
- A three-speed fan has the following control table:

Output			
Off	0	0	0
Fan speed 1	1	0	0
Fan speed 2	1	1	0
Fan speed 3	1	1	1



The step switch cannot be switched on rapidly. If, for example, fan speed 3 is to be switched on from the OFF state, fan speeds 1 and 2 must be controlled with the associated dwell times first.

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Blower Actuator FCL/S x.6.1.1

The Blower Actuator receives input signals for

- Direct Operation via control element, presence detector,...
 - 1-bit object for each fan speed
 - 1-bit object for going up/down
 - 1-byte object for any fan speed
- Automatic Control
 - Regulation via RTC and/or air quality sensor
 - 2 control values possible (switching per object or largest value)
 - Monitoring of control values
 - 4 limitations (e.g. sleeping or standby mode)
Limitation to a speed level or to a speed range
 - Switching between direct and automatic mode is carried out via switching object

	Num	Name	Object Function	Length	Data Type
↕	10	Fan A	Fan speed switch	1 byte	counter pulses (0..255)
↕	11	Fan A	Switch speed 1	1 bit	switch
↕	12	Fan A	Switch speed 2	1 bit	switch
↕	13	Fan A	Switch speed 3	1 bit	switch
↕	14	Fan A	Fan speed up/down	1 bit	step

	Num	Name	Object Function	Length	Data Type
↕	26	Fan A	Automatic ON/OFF	1 bit	enable
↕	29	Fan A	Control value A	1 byte	percentage (0..100%)
↕	30	Fan A	Control value B	1 byte	percentage (0..100%)
↕	31	Fan A	Toggle control value A/B	1 bit	switch

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Blower Actuator FCL/S x.6.1.1

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➡	31	Fan A	Toggle control value A/B	1 bit	switch

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Blower Actuator FCL/S x.6.1.1

ETS Parameter of the fan → note the technical data sheet!

- Fan with one, two or three speeds
- Fan operating mode: Changeover or step switching
- Start up behavior (direct or any fan speed)
- Waiting time between switching fan speed
- Minimum time in a level
- Forced operation
- Threshold for switching to another speed
- Hysteresis
- ...

3.7.139 FCL/S2.6.1.1 Blower Actuator, 2f, 6 A, MDRC > A: Fan		
General	Fan type	<input checked="" type="radio"/> Multi-level <input type="radio"/> One-level
Enable outputs A...F	Limit fan speeds to 2	<input checked="" type="radio"/> No <input type="radio"/> Yes
A: Fan	Fan operating mode (note technical data of fan!)	<input checked="" type="radio"/> Changeover switch <input type="radio"/> Step switch
- Status messages	Delay between speed switchover in ms [50...5,000]	500
- Automatic control	Fan speed on bus voltage failure	<input checked="" type="radio"/> Unchanged <input type="radio"/> OFF
C,D,E: Fan	Fan speed on bus voltage recovery	Unchanged
- Status messages	Enable communication object "Forced operation" 1 bit	<input checked="" type="radio"/> No <input type="radio"/> Yes
- Automatic control	Enable automatic operation	<input type="radio"/> No <input checked="" type="radio"/> Yes
	Enable direct operation	<input checked="" type="radio"/> No <input type="radio"/> Yes
	Set startup/run-on	<input checked="" type="radio"/> No <input type="radio"/> Yes

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Blower Actuator FCL/S x.6.1.1

Additional functions

- Monitoring of control value with adjustable fault operation
- Function of fan and valve adjustable in case of bus voltage failure (unchanged or OFF) and recovery (variable)
- Run-on behavior
If the fan changes to a lower speed, it remains in the previous speed for as long as the parameterized run-on time and only then reduces the speed
- Status byte for indication of operating mode
- Separate feedback of required and real fan speed
- ...

	Num	Name	Object Function	Length	Data Type
↕	20	Fan A	Run-on	1 bit	enable
↕	25	Fan A	Forced operation	1 bit	enable

	Num	Name	Object Function	Length	Data Type
↕	15	Fan A	Status Fan ON/OFF	1 bit	switch
↕	16	Fan A	Status Fan speed	1 byte	counter pulses (0..255)
↕	17	Fan A	Status Fan speed 1	1 bit	switch
↕	18	Fan A	Status Fan speed 2	1 bit	switch
↕	19	Fan A	Status Fan speed 3	1 bit	switch
↕	28	Fan A	Status Byte Mode	1 byte	

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Blower Actuator FCL/S x.6.1.1

Functionality of a Switch Actuator

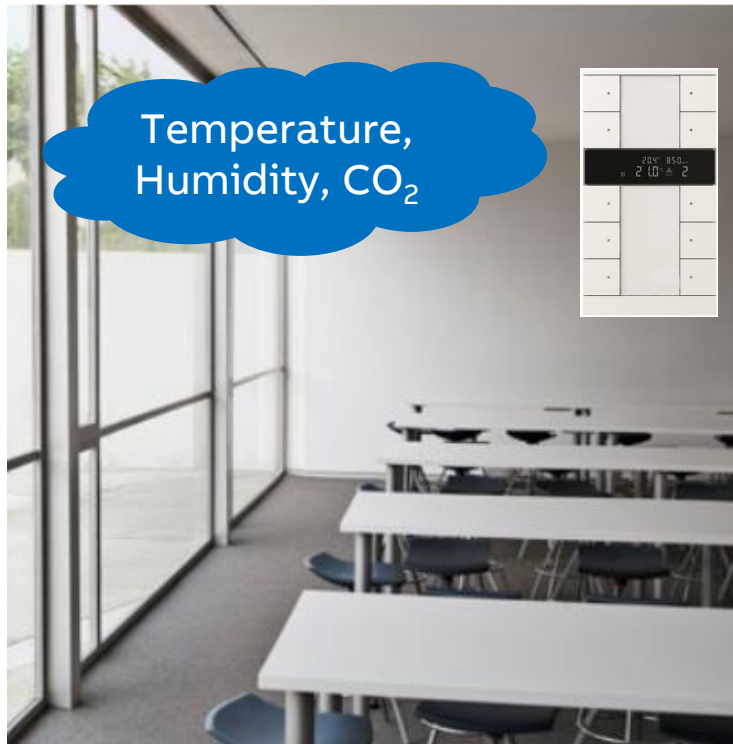
- For switching loads (e.g. blower main switch, damper or valve)
- Reaction of output: NO/NC
- Contact position on bus voltage failure and recovery
- Time function (Staircase light)
- Time for staircase light via KNX changeable
- Time function can be enabled /disabled via KNX
- Extending staircase lighting by multiple operation

3.7.139 FCL/S2.6.1.1 Blower Actuator, 2f, 6 A, MDRC > B: Output		
General	Reaction of output	<input type="radio"/> Normally closed contact <input checked="" type="radio"/> Normally opened contact
Enable outputs A...F	Contact position on bus voltage failure	Unchanged
A: Fan	Object value "Switch" on bus voltage recovery	Don't write
B: Output	Enable function Time	<input type="radio"/> No <input checked="" type="radio"/> Yes
- Time	Enable communication object "Status Switch" 1 bit	<input type="radio"/> No <input checked="" type="radio"/> Yes
C,D,E: Fan	Send object value	Only after changing
- Status messages	Object value of contact position	<input checked="" type="radio"/> 1 = closed, 0 = open <input type="radio"/> 0 = closed, 1 = open

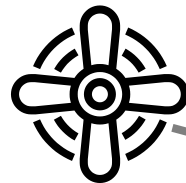
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Example “Room air quality”: CO₂ and humidity sensor with controller and Blower Actuator FCL/S to control a fan



RTC, CO₂/Humidity
Sensor and Controller
with Control Element



Direct Operation

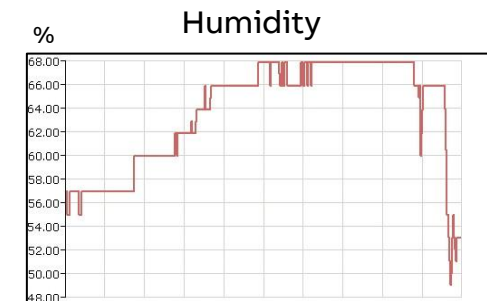
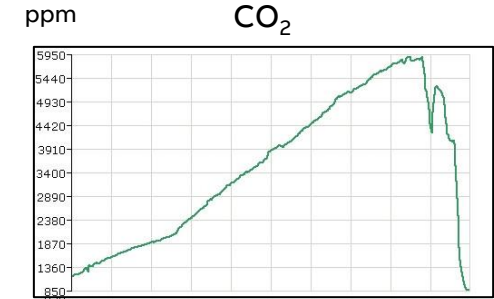
Fan speed Byte
Fan speed Bit
Fan speed up/down

Automatic Control

Control value
0 .. 100%



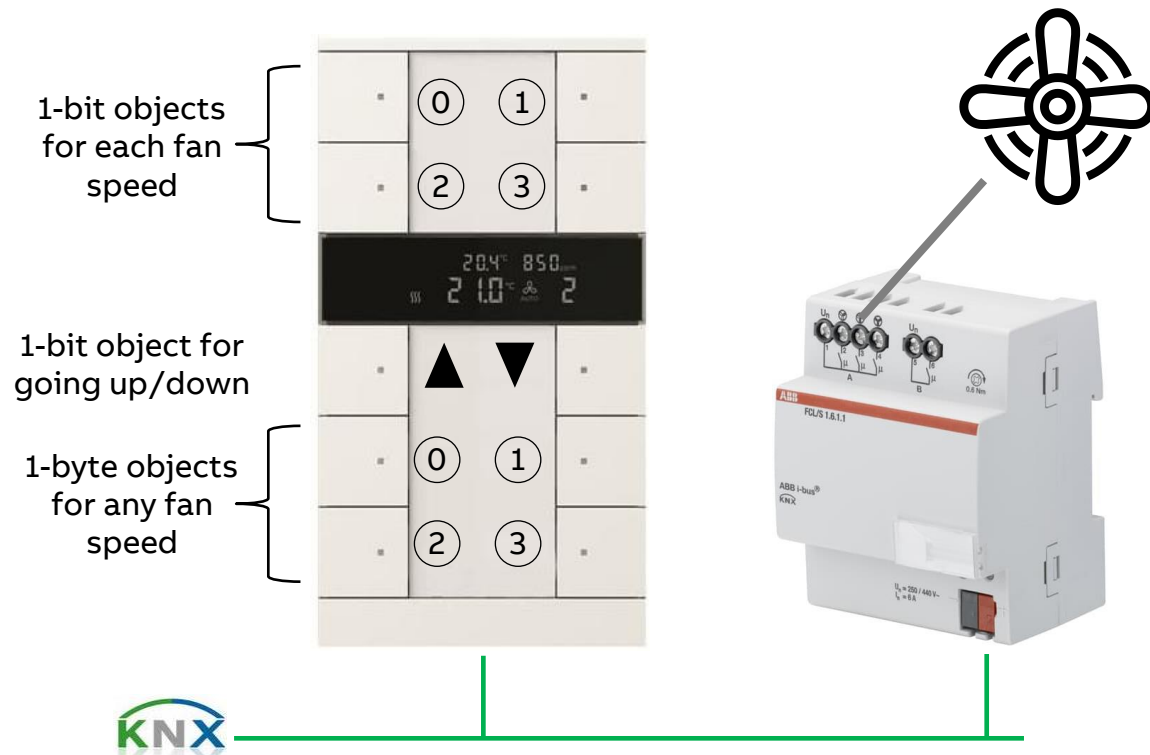
Blower Actuator
FCL/S



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(1) Direct Operation of a Blower Actuator FCL/S via control element ABB Tenton®



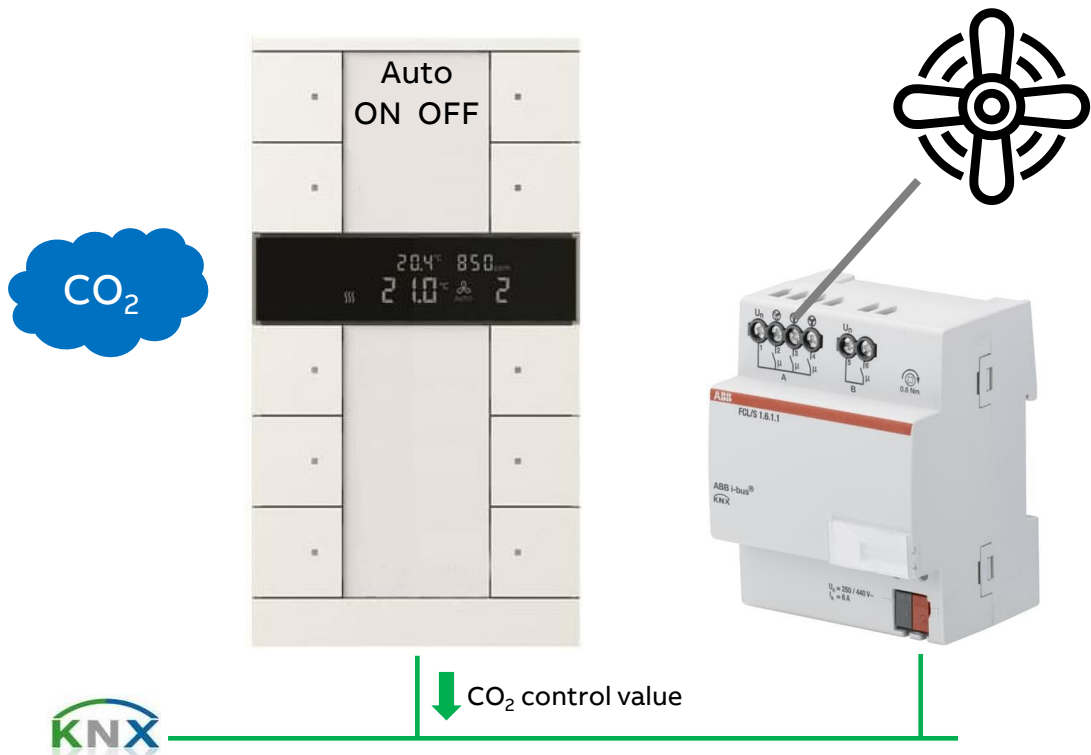
1.1.4 FCL/S1.6.1.1 Blower Actuator, 1f, 6 A, MDRC > - Direct operation		
General	Enable communication objects "Switch speed x" 1 bit	<input type="radio"/> No <input checked="" type="radio"/> Yes
Enable outputs A...B	Enable communication object "Fan speed up/down" 1 bit	<input type="radio"/> No <input checked="" type="radio"/> Yes
A: Fan	Enable communication object "Fan speed switch" 1 byte	<input type="radio"/> No <input checked="" type="radio"/> Yes
- Status messages		
- Direct operation		

	Num	Name	Object Function	Length	Data Type
↕	10	Fan A	Fan speed switch	1 byte	counter pulses (0..255)
↕	11	Fan A	Switch speed 1	1 bit	switch
↕	12	Fan A	Switch speed 2	1 bit	switch
↕	13	Fan A	Switch speed 3	1 bit	switch
↕	14	Fan A	Fan speed up/down	1 bit	step

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(2) Automatic Control of a Blower Actuator FCL/S via control element ABB Tenton® with one control value (CO₂)



1.1.4 FCL/S1.6.1.1 Blower Actuator, 1f, 6 A, MDRC > - Automatic control

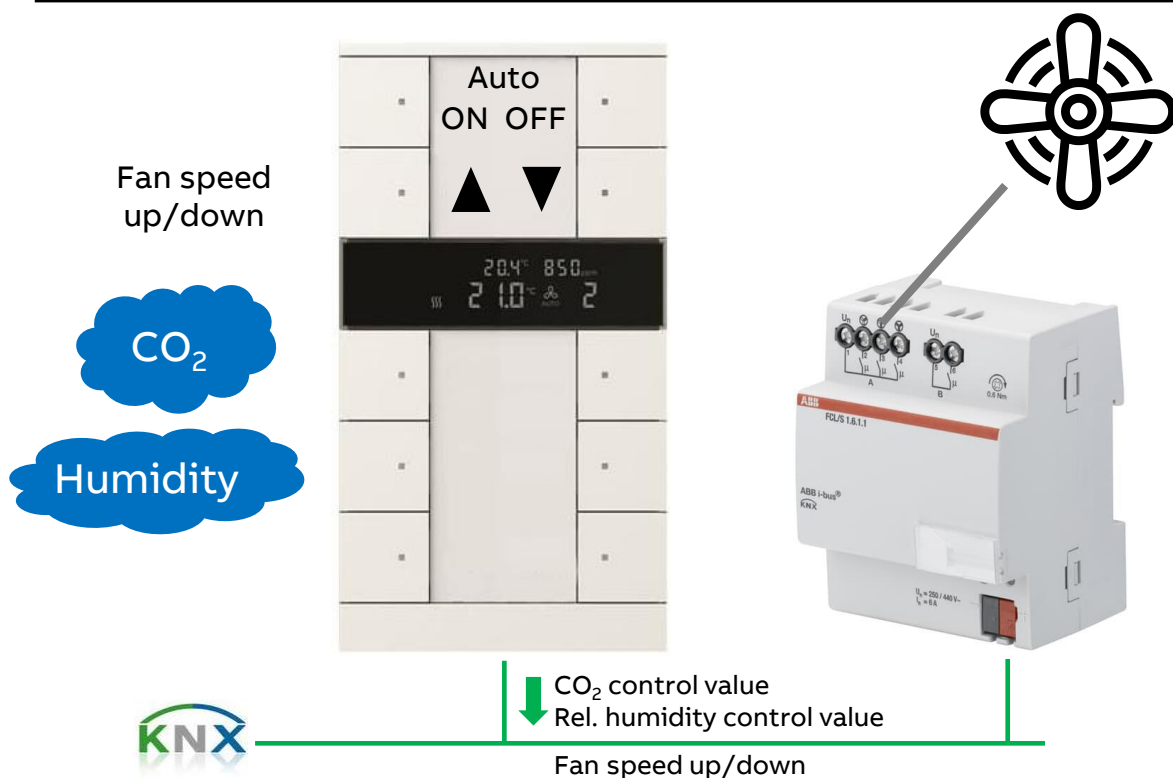
General	Object value "Automatic On/Off" switch on to the automatic	<input checked="" type="radio"/> 1 <input type="radio"/> 0
Enable outputs A...B	Threshold value OFF <-> speed 1 in % [1...100]	10
A: Fan	Threshold value speed 1 <-> speed 2 in % [1...100]	30
- Status messages	Threshold value speed 2 <-> speed 3 in % [1...100]	70
- Automatic control	Hysteresis threshold value in % +/- [0...20 %]	5
	Minimum dwell period in fan speed in s [0...65,535]	0
	Number of control value inputs	<input checked="" type="radio"/> 1 <input type="radio"/> 2
	Activate monitoring control values	<input checked="" type="radio"/> No <input type="radio"/> Yes
	Enable limitations	<input checked="" type="radio"/> No <input type="radio"/> Yes

	Num	Name	Object Function	Length	Data Type
↕	26	Fan A	Automatic ON/OFF	1 bit	enable
↕	29	Fan A	Control value	1 byte	percentage (0..100%)

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(3) Direct Operation and Automatic Control of a Blower Actuator via control element ABB Tenton® with 2 control values (CO₂/Humidity)



1.1.4 FCL/S1.6.1.1 Blower Actuator, 1f, 6 A, MDRC > - Automatic control

General

Object value "Automatic On/Off" switch on to the automatic ☒ 1 ☐ 0

Enable outputs A...B

A: Fan

Threshold value OFF <-> speed 1 in % [1...100] 10

Threshold value speed 1 <-> speed 2 in % [1...100] 30

Threshold value speed 2 <-> speed 3 in % [1...100] 70

Hysteresis threshold value in % +/- [0...20 %] 5

Minimum dwell period in fan speed in s [0...65,535] 0

- Automatic control

- Direct operation

Number of control value inputs ☐ 1 ☒ 2

select by... ☒ Largest value ☐ Communication object "Control value A/B"

	Num	Name	Object Function	Length	Data Type
14	Fan A	Fan speed up/down	1 bit	step	
26	Fan A	Automatic ON/OFF	1 bit	enable	
29	Fan A	Control value A	1 byte	percentage (0..100%)	
30	Fan A	Control value B	1 byte	percentage (0..100%)	

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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
- ...

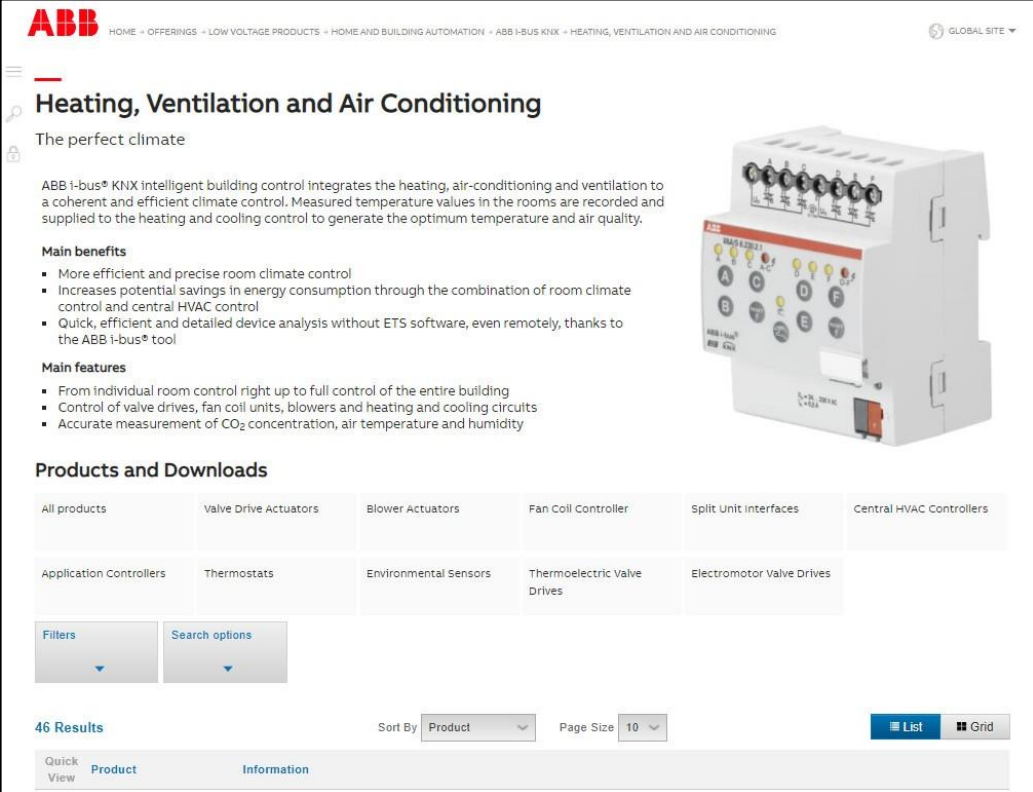


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Heating, Ventilation and Air Conditioning

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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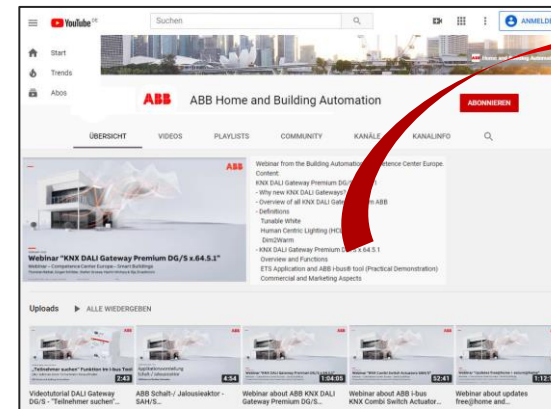
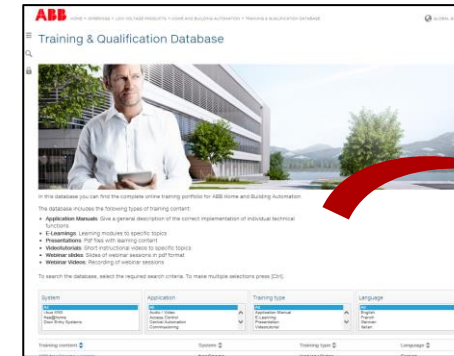
Training Material

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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Software Repository

- Excel list in German and English
- Link to general product information
- Search for a KNX product and the corresponding software (firmware, ETS application) will be displayed
- Current firmware of Welcome IP and free@home devices
- A direct download of this software is possible via a link
- Historical ETS applications can also be downloaded (database for ETS App “Reconstruction Tool”)
- www.abb.com/KNX
 - Additional materials
 - Downloads for KNX
 - Software Repository



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Software Repository

Are you looking for a particular piece of software for your product? This repository provides a structured list of all current and older software versions.

We recommend ensuring that devices are always installed and operating using the latest firmware and software versions. Claims for defects or damages due to the use of software or firmware versions that have not been kept up to date will not be accepted. All information in this repository is supplied without guarantee.

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Product Search
Enter either product type, product ID or device type of the product you are searching for.
Search Criterion: DG/SL1
Search Cancel

Select your language: English

are searching for. You will immediately receive a download the individual software files.

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General Product Information					
Product ID	Product Type	Product Name	Device Type	History	Website
2CDG110026R0011	DG/SL1	DG/SL1 DALI Gateway, 1-fold, MDRC	A019	Release Note	Link

Current Software Versions				
Software	Version	Application Name	Release Date	Download
ETS3	1.1c	Dim Slave Light Scenes Dynamic 1f/1.1c	01.01.2014	Link
ETS4 / ETS5	1.1c	Dim Slave Light Scenes Dynamic 1f/1.1c	01.01.2014	Link
Firmware	1.3	Software Tool	29.06.2009	Link
I-bus® Tool	1.9.45.0	ABB I-bus® Tool	01.06.2021	Link

Obsolete Software Versions				
Software	Version	Application Name	Release Date	Download
ETS3	1.0	Dim Slave Light Scenes Dynamic 1f	04.07.2006	Link
ETS3	1.0a	Dim Slave Light Scenes Dynamic 1f	01.05.2007	Link
ETS4 / ETS5	1.0a	Dim Slave Light Scenes Dynamic 1f	01.05.2007	Link
ETS3	1.1	Dim Slave Light Scenes Dynamic 1f	16.03.2011	Link
ETS4 / ETS5	1.1	Dim Slave Light Scenes Dynamic 1f	16.03.2011	Link
ETS3	1.1a	Dim Slave Light Scenes Dynamic 1f	08.06.2011	Link
ETS4 / ETS5	1.1a	Dim Slave Light Scenes Dynamic 1f	08.06.2011	Link
ETS3	1.1b	Dim Slave Light Scenes Dynamic 1f	01.03.2013	Link
ETS4 / ETS5	1.1b	Dim Slave Light Scenes Dynamic 1f	01.03.2013	Link

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