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ABB RoomTouch® KNX - Room Temperature Control

Online Learning Session – Competence Center Europe – Smart Buildings

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Agenda

ABB RoomTouch® – Main Features and RTC Functions

ABB RoomTouch® (Controller and Operation) – FanCoil Controller FCC/S 1.3.2.1 (Actuator)

ABB RoomTouch® (Operation) – FanCoil Controller FCC/S 1.3.2.1 (Controller and Actuator)



ABB RoomTouch® KNX - Room Temperature Control

ABB RoomTouch® – Main Features and RTC Functions

ABB RoomTouch® KNX - Room Temperature Control

ABB RoomTouch®

Features

- Touch Display (5“), ratio 16:9, 720 x 1280 pixels
- Two colors Black (RT/U30.0.1-825) and White (RT/U30.0.1-811)
- High Quality material glass and metal
- Flush-mounting box
- Mounting in portrait or landscape orientation
- Up to 30 controls and 10 pages
- Integrated proximity and brightness sensor
- Switching, dimming, blind, scene, RGB, Audio, ...
- **Integrated room temperature controller with internal temperature sensor**
- **Integrated RTC control frame with temperature- and fan speed control and more**
- **Binary input for contact or sensor**
- **Analogue input for external temperature sensor**

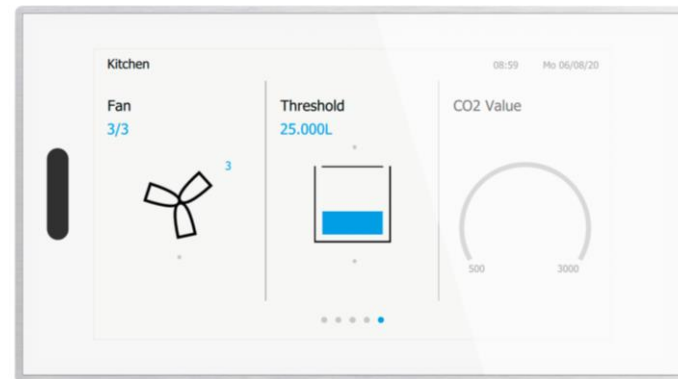


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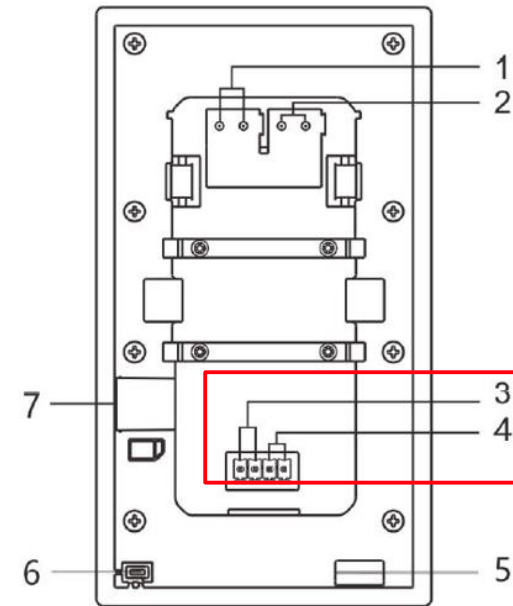
Binary and analogue input

Binary input

- e.g. for window contact, dew point sensor, fill level sensor
- One or alternating two values can be sent (1 bit, 1 byte, Scene number, RTC operating mode)

Analogue input for external temperature sensor PT1000 / DP4-T-1

- e.g. for additional or external temperature sensor or ceiling/floor temperature measurement
- PT1000 or DP4-T-1 sensor (ABB)
- Line fault compensation via cable resistance or length
- Filter function (mean value of some measurement)



- 3 Binary input connector
- 4 Temperature sensor connector



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Room Temperature Control: Operation and Indication on the Display

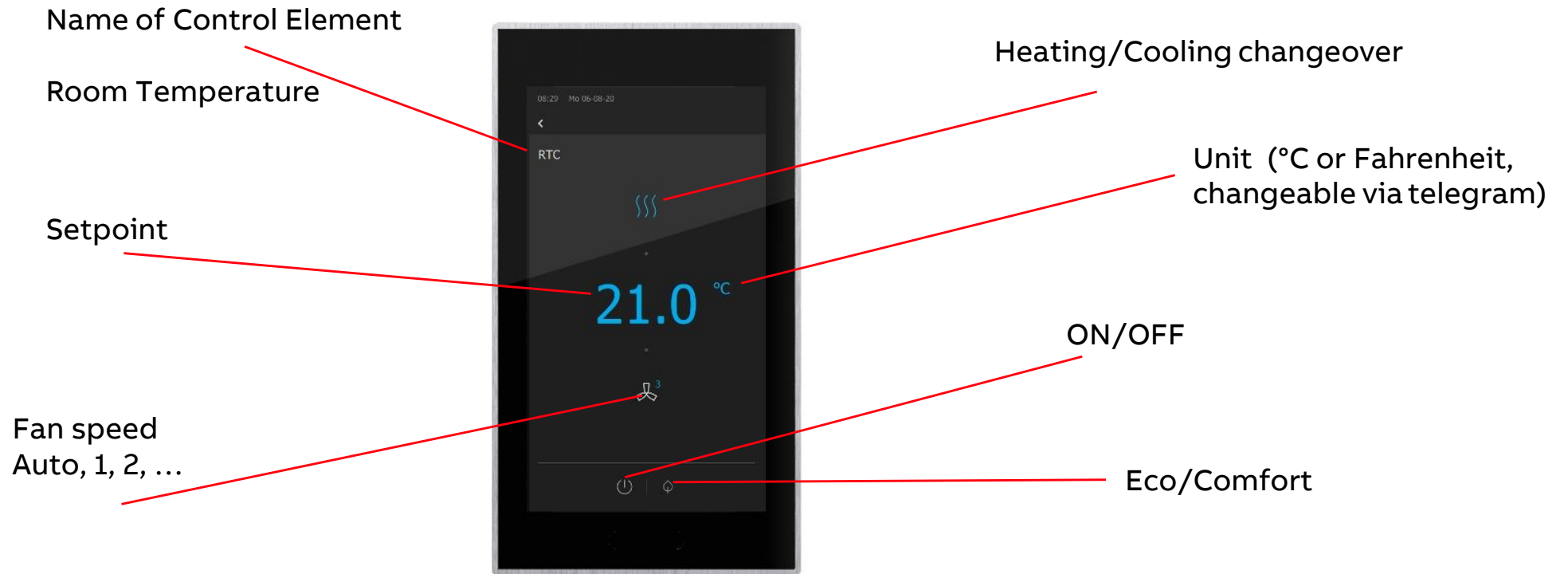


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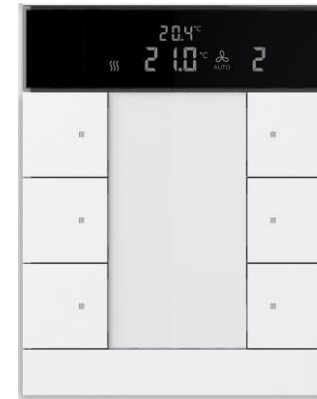
Where to locate the RTC controller?

- Some components are both controller and actuator (FCC/S)
- Some components are both controller and operating element (ABB Tenton®)
- Some components are only RTC operating element (ABB Tenton slave)
- Some components are only controller (e.g. presence detector 6131) or only actuator (e.g. VAA/S)
- With controller and actuator in one device you might have less traffic on the bus (no control value to be sent)
- In case of missing controller/operating element combined controller/actuator can work stand alone with temperature sensor directly connected
- → practically choose the combination what fits best, with RTC slave money can be saved

Controller
and /or
Actuator



Controller
and/or
only RTC
operating
element



Controller
and/or RTC
operating
element



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ABB RoomTouch® (Controller and Operation) – FanCoil Controller FCC/S 1.3.2.1 (Actuator)

ABB RoomTouch® KNX - Room Temperature Control

ABB RoomTouch® (Controller+Op.) – FanCoil Controller FCC/S 1.3.2.1 (Actuator) / Heating and Cooling

Principle

FCC/S 1.3.2.1
Working as actuator only



or any other actuator devices
like VC/S, VAA/S, ES/S, ...



ABB RoomTouch® with RTC
Controller, operating element and
temperature measurement

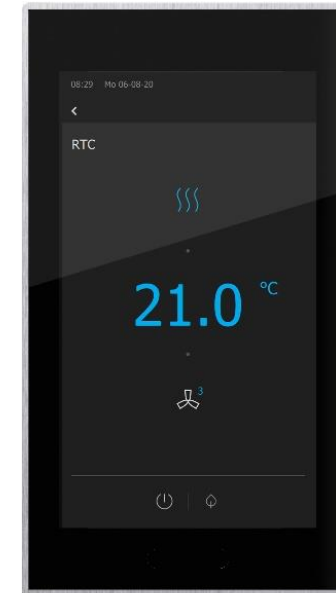


ABB RoomTouch® KNX - Room Temperature Control

ABB RoomTouch® (Controller+Op.) – FanCoil Controller FCC/S 1.3.2.1 (Actuator) / Heating and Cooling

Principle

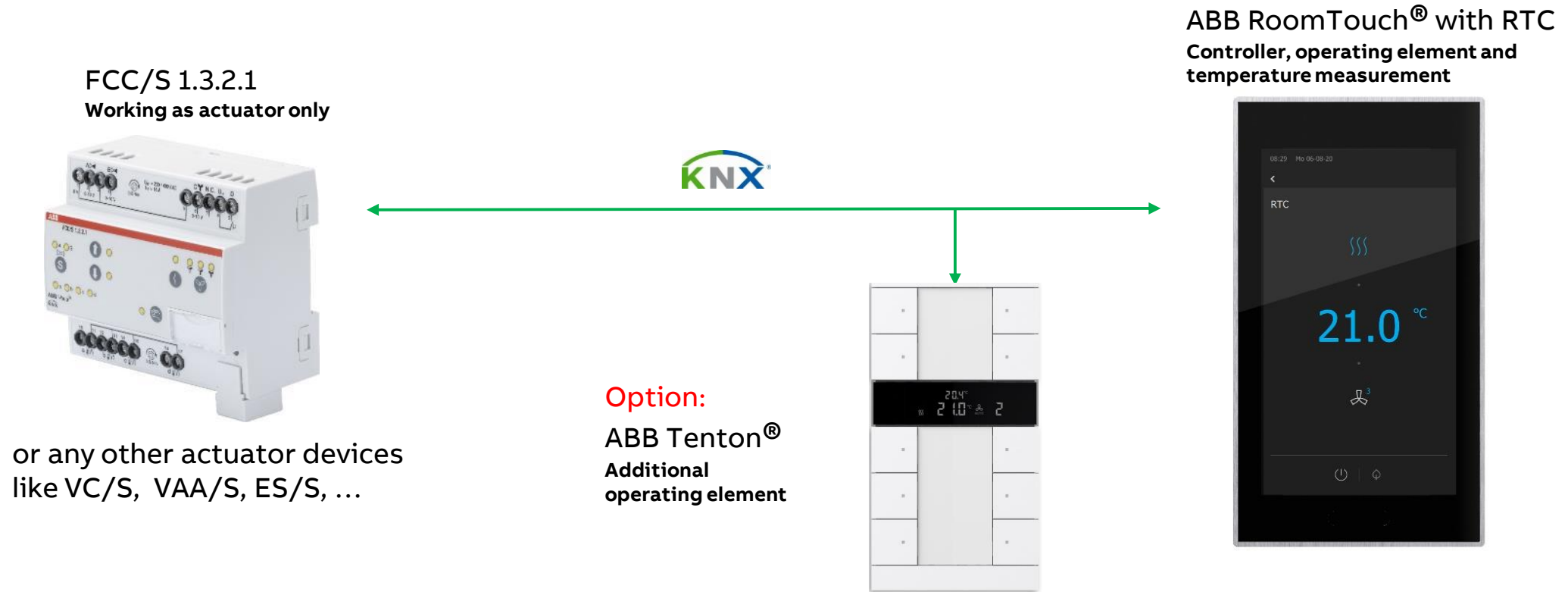


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ETS: ABB RoomTouch®

Internal Room Temperature Controller

RTC internal selectable under Applications in the DCA (Device Configuration App)

Following our unified and well known RTC concept as many other devices

Adjust the parameter, as you know it already from other ABB RTC

Group objects and group addresses also visible and assignable in the DCA

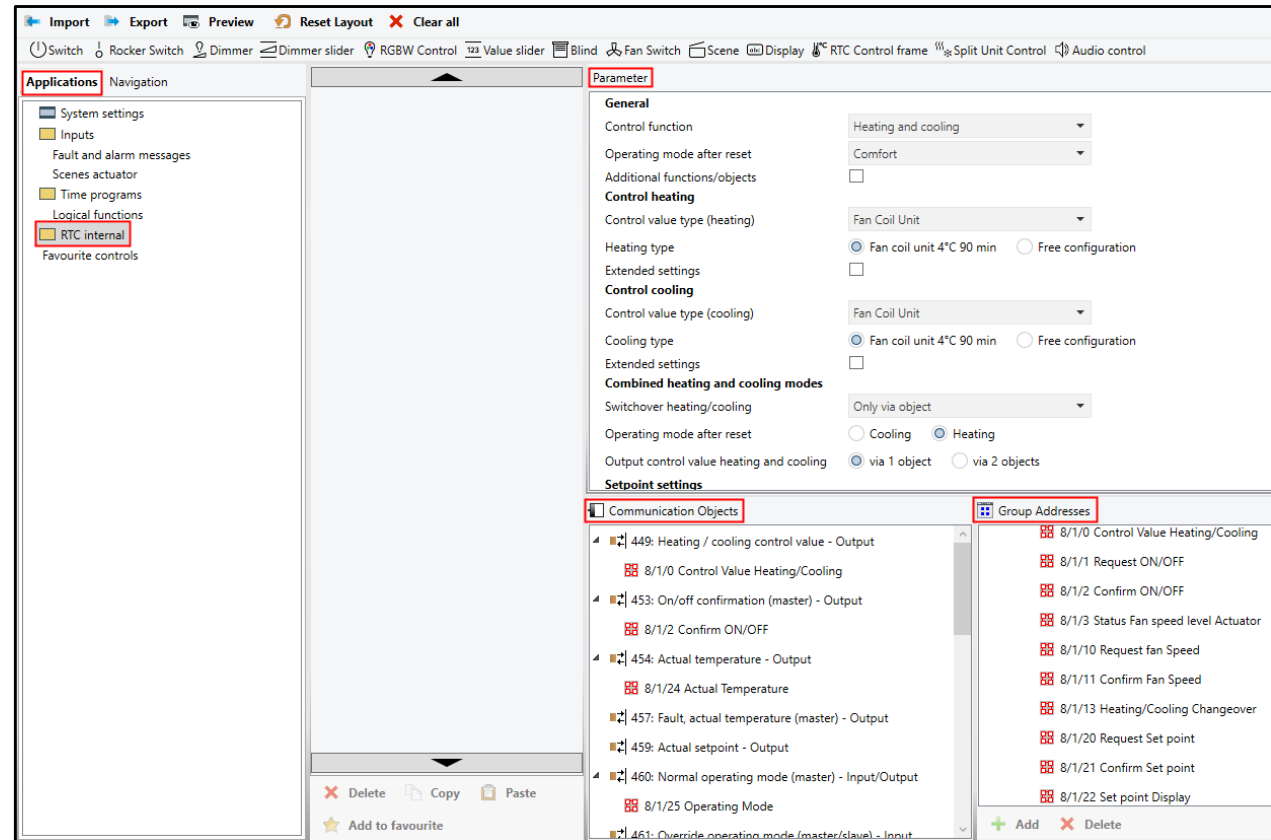


ABB RoomTouch® KNX - Room Temperature Control

ETS: ABB RoomTouch®

RTC Control Frame (Operating element RTC)

Create a page with one control element only, as an RTC in ABB RoomTouch® covers a complete page

Select the RTC Control frame from the tool bar and drop it on the page

Adjust the parameter, mainly what and how you want to see it on the display

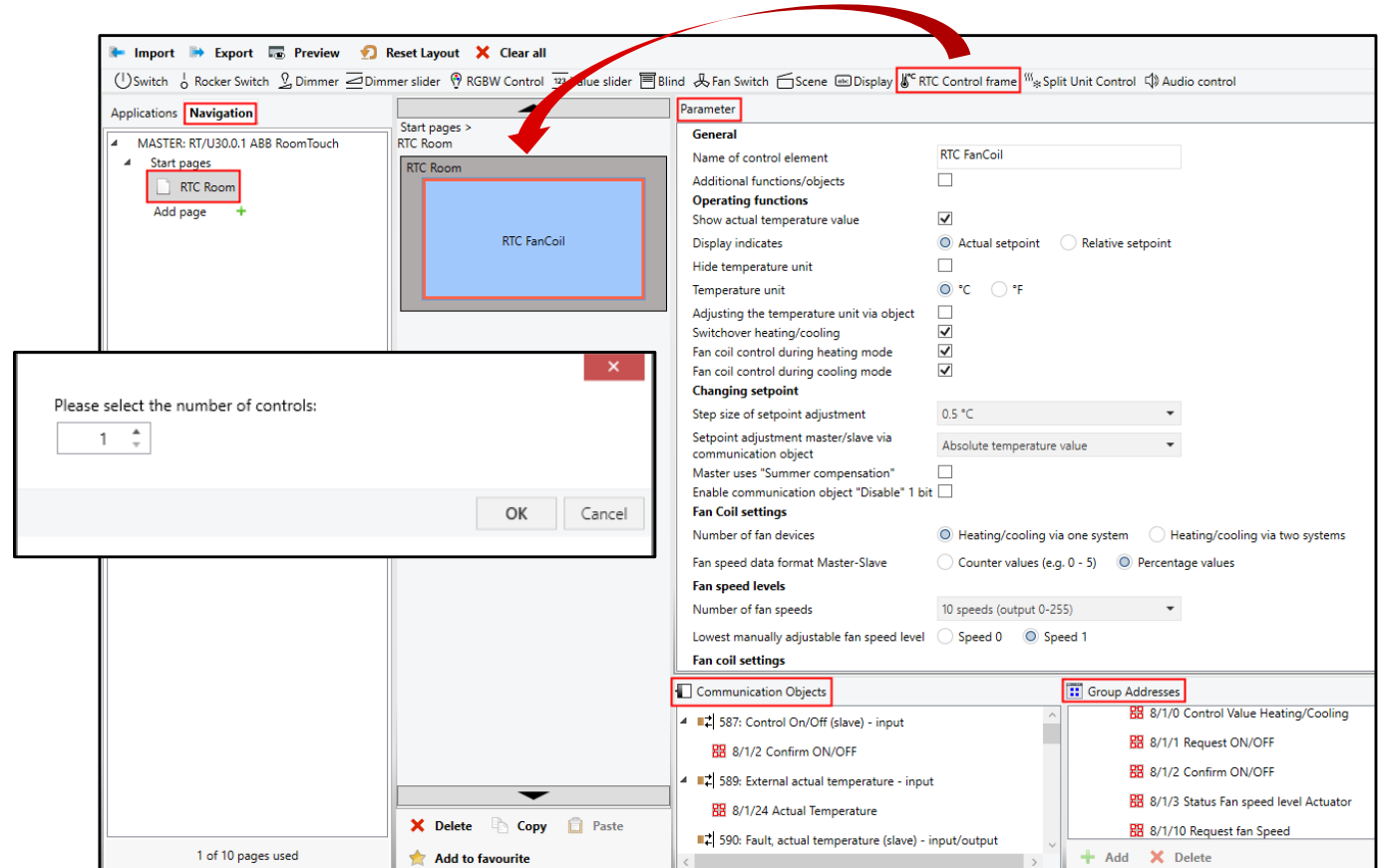
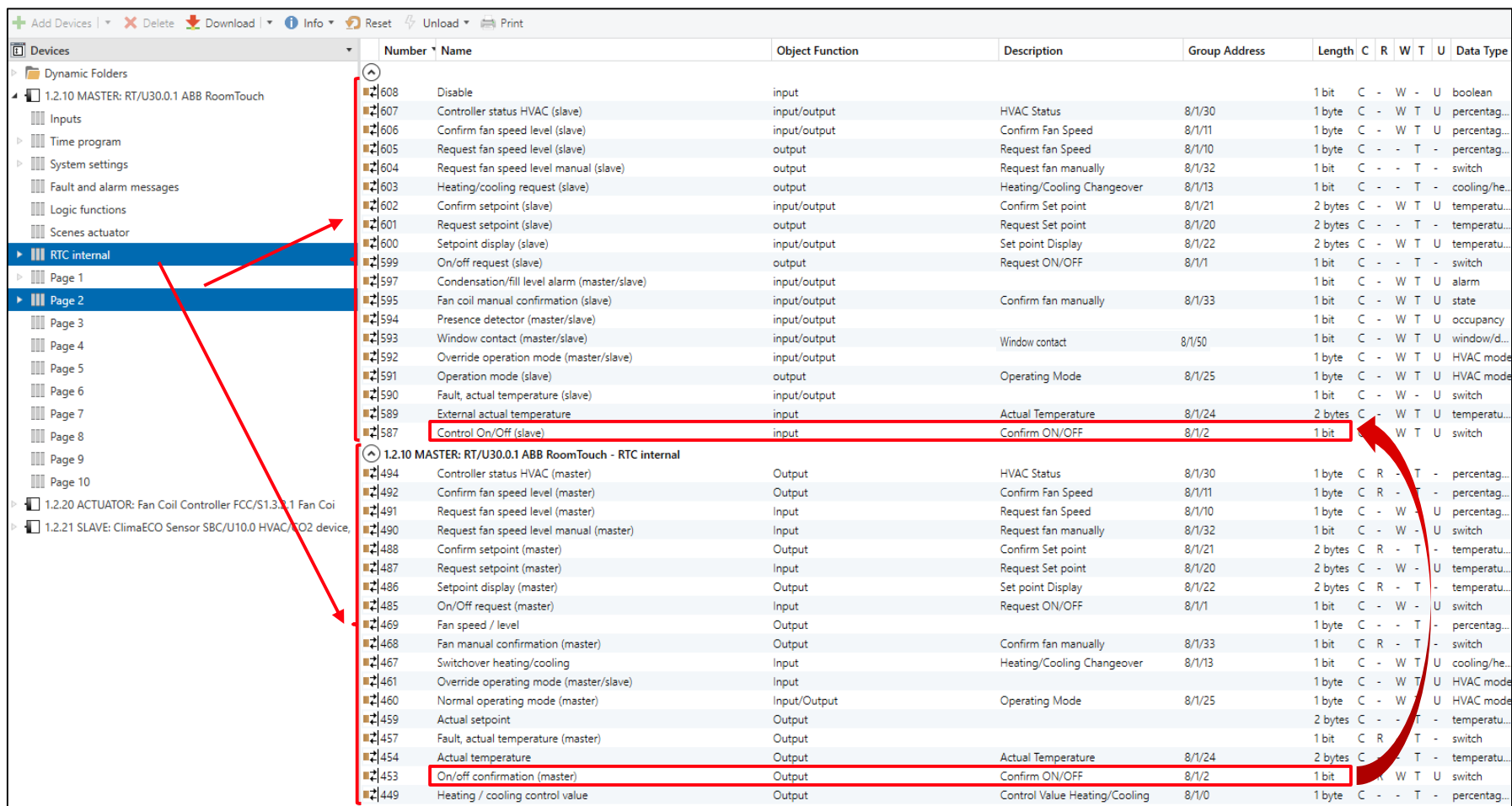


ABB RoomTouch® KNX - Room Temperature Control

Group Address Allocation Controller and Control Frame (ABB RoomTouch®)



	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type
Dynamic Folders												
1.2.10 MASTER: RT/U30.0.1 ABB RoomTouch												
Inputs												
Time program												
System settings												
Fault and alarm messages												
Logic functions												
Scenes actuator												
RTC internal												
Page 1												
Page 2												
Page 3												
Page 4												
Page 5												
Page 6												
Page 7												
Page 8												
Page 9												
Page 10												
1.2.20 ACTUATOR: Fan Coil Controller FCC/S1.3.1 Fan Coil												
1.2.21 SLAVE: ClimaECO Sensor SBC/U10.0 HVAC/CO2 device												
	608	Disable	input			1 bit	C	-	W	-	U	boolean
	607	Controller status HVAC (slave)	input/output	HVAC Status	8/1/30	1 byte	C	-	W	T	U	percentag...
	606	Confirm fan speed level (slave)	input/output	Confirm Fan Speed	8/1/11	1 byte	C	-	W	T	U	percentag...
	605	Request fan speed level (slave)	output	Request fan Speed	8/1/10	1 byte	C	-	-	T	-	percentag...
	604	Request fan speed level manual (slave)	output	Request fan manually	8/1/32	1 bit	C	-	-	T	-	switch
	603	Heating/cooling request (slave)	output	Heating/Cooling Changeover	8/1/13	1 bit	C	-	-	T	-	cooling/he...
	602	Confirm setpoint (slave)	input/output	Confirm Set point	8/1/21	2 bytes	C	-	W	T	U	temperatu...
	601	Request setpoint (slave)	output	Request Set point	8/1/20	2 bytes	C	-	-	T	-	temperatu...
	600	Setpoint display (slave)	input/output	Set point Display	8/1/22	2 bytes	C	-	W	T	U	temperatu...
	599	On/off request (slave)	output	Request ON/OFF	8/1/1	1 bit	C	-	-	T	-	switch
	597	Condensation/fill level alarm (master/slave)	input/output			1 bit	C	-	W	T	U	alarm
	595	Fan coil manual confirmation (slave)	input/output	Confirm fan manually	8/1/33	1 bit	C	-	W	T	U	state
	594	Presence detector (master/slave)	input/output			1 bit	C	-	W	T	U	occupancy
	593	Window contact (master/slave)	input/output	Window contact	8/1/50	1 bit	C	-	W	T	U	window/d...
	592	Override operation mode (master/slave)	input/output			1 byte	C	-	W	T	U	HVAC mode
	591	Operation mode (slave)	output	Operating Mode	8/1/25	1 byte	C	-	W	T	U	HVAC mode
	590	Fault, actual temperature (slave)	input/output			1 bit	C	-	W	-	U	switch
	589	External actual temperature	input	Actual Temperature	8/1/24	2 bytes	C	-	W	T	U	temperatu...
	587	Control On/Off (slave)	input	Confirm ON/OFF	8/1/2	1 bit	C	-	W	T	U	switch
1.2.10 MASTER: RT/U30.0.1 ABB RoomTouch - RTC internal												
	494	Controller status HVAC (master)	Output	HVAC Status	8/1/30	1 byte	C	R	-	T	-	percentag...
	492	Confirm fan speed level (master)	Output	Confirm Fan Speed	8/1/11	1 byte	C	R	-	T	-	percentag...
	491	Request fan speed level (master)	Input	Request fan Speed	8/1/10	1 byte	C	-	W	-	U	percentag...
	490	Request fan speed level manual (master)	Input	Request fan manually	8/1/32	1 bit	C	-	W	-	U	switch
	488	Confirm setpoint (master)	Output	Confirm Set point	8/1/21	2 bytes	C	R	-	T	-	temperatu...
	487	Request setpoint (master)	Input	Request Set point	8/1/20	2 bytes	C	-	W	-	U	temperatu...
	486	Setpoint display (master)	Output	Set point Display	8/1/22	2 bytes	C	R	-	T	-	temperatu...
	485	On/Off request (master)	Input	Request ON/OFF	8/1/1	1 bit	C	-	W	-	U	switch
	469	Fan speed / level	Output			1 byte	C	-	-	T	-	percentag...
	468	Fan manual confirmation (master)	Output	Confirm fan manually	8/1/33	1 bit	C	R	-	T	-	switch
	467	Switchover heating/cooling	Input	Heating/Cooling Changeover	8/1/13	1 bit	C	-	W	T	U	cooling/he...
	461	Override operating mode (master/slave)	Input			1 byte	C	-	W	T	U	HVAC mode
	460	Normal operating mode (master)	Input/Output	Operating Mode	8/1/25	1 byte	C	-	W	-	U	HVAC mode
	459	Actual setpoint	Output			2 bytes	C	-	-	T	-	temperatu...
	457	Fault, actual temperature (master)	Output			1 bit	C	R	-	T	-	switch
	454	Actual temperature	Output	Actual Temperature	8/1/24	2 bytes	C	-	W	T	U	temperatu...
	453	On/off confirmation (master)	Output	Confirm ON/OFF	8/1/2	1 bit	C	-	W	T	U	switch
	449	Heating / cooling control value	Output	Control Value Heating/Cooling	8/1/0	1 byte	C	-	-	T	-	percentag...

ABB RoomTouch® KNX - Room Temperature Control

Group Address Allocation Controller (ABB RoomTouch®) and Actuator (FCC/S 1.3.2.1)

	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type
Dynamic Folders												
1.2.10 MASTER: RT/U30.0.1 ABB RoomTouch												
Inputs												
Time program												
System settings												
Fault and alarm messages												
Logic functions												
Scenes actuator												
RTC internal												
Page 1												
Page 2												
Page 3												
Page 4												
Page 5												
Page 6												
Page 7												
Page 8												
Page 9												
Page 10												
1.2.20 ACTUATOR: Fan Coil Controller FCC/S1.3.2.1 Fan Coi												
Manual operation												
Application												
Monitoring and safety												
Valve A												
Valve B												
Fan output												
Relay output												
Setpoint adjustment												
Input a												
Input b												
Input c												
Input d												
2: General - Status byte device												
4: General - Request status values												
1.2.21 SLAVE: ClimaECO Sensor SBC/U10.0 HVAC/CO2 device												
	494	Controller status HVAC (master)	Output	HVAC Status	8/1/30	1 byte	C	R	-	T	-	percentage (0..100%)
	493	Controller status RHCC	Output			2 bytes	C	-	-	T	-	RHCC status
	492	Confirm fan speed level (master)	Output	Confirm Fan Speed	8/1/11	1 byte	C	R	-	T	-	percentage (0..100%)
	491	Request fan speed level (master)	Input	Request fan Speed	8/1/10	1 byte	C	-	W	-	U	percentage (0..100%)
	490	Request fan speed level manual (master)	Input	Request fan manually	8/1/32	1 bit	C	-	W	-	U	switch
	488	Confirm setpoint (master)	Output	Confirm Set point	8/1/21	2 bytes	C	R	-	T	-	temperature (°C)
	487	Request setpoint (master)	Input	Request Set point	8/1/20	2 bytes	C	-	W	-	U	temperature (°C)
	486	Setpoint display (master)	Output	Set point Display	8/1/22	2 bytes	C	R	-	T	-	temperature (°C)
	485	On/Off request (master)	Input	Request ON/OFF	8/1/1	1 bit	C	-	W	-	U	switch
	481	Summer compensation active	Output			1 bit	C	-	-	T	-	switch
	480	Outside temperature for summer compensation	Input			2 bytes	C	-	W	T	U	temperature (°C)
	476	Basic setpoint	Input			2 bytes	C	-	W	T	U	temperature (°C)
	469	Fan speed / level	Output			1 byte	C	-	-	T	-	percentage (0..100%)
	468	Fan manual confirmation (master)	Output	Confirm fan manually	8/1/33	1 bit	C	R	-	T	-	switch
	467	Switchover heating/cooling	Input	Heating/Cooling Changeover	8/1/13	1 bit	C	-	W	T	U	cooling/heating
	463	Presence detector (master/slave)	Input			1 bit	C	-	W	T	U	switch
	462	Window contact (master/slave)	Input	Window contact	8/1/50	1 bit	C	-	W	T	U	switch
	461	Override operating mode (master/slave)	Input			1 byte	C	-	W	T	U	HVAC mode
	460	Normal operating mode (master)	Input/Output	Operating Mode	8/1/25	1 byte	C	-	W	T	U	HVAC mode
	459	Actual setpoint	Output			2 bytes	C	-	-	T	-	temperature (°C)
	457	Fault, actual temperature (master)	Output			1 bit	C	R	-	T	-	switch
	454	Actual temperature	Output	Actual Temperature	8/1/24	2 bytes	C	-	-	T	-	temperature (°C)
	453	On/off confirmation (master)	Output	Confirm ON/OFF	8/1/2	1 bit	C	R	W	T	U	switch
	449	Heating / cooling control value	Output	Control Value Heating/Cooling	8/1/0	1 byte	C	-	-	T	-	percentage (0..100%)
		1.2.20 ACTUATOR: Fan Coil Controller FCC/S1.3.2.1 Fan Coi										
	117	Channel - Actuator	Cooling control value	Control Value Heating/Cooling	8/1/0	1 byte	C	-	W	T	U	percentage (0..100%)
	116	Channel - Actuator	Heating control value	Control Value Heating/Cooling	8/1/0	1 byte	C	-	W	T	U	percentage (0..100%)
	87	Channel - Actuator	Heating/Cooling changeover	Heating/Cooling Changeover	8/1/13	1 bit	C	-	W	T	U	cooling/heating
	67	Channel - Input d	Window contact	Window contact	8/1/50	1 bit	C	R	-	T	-	window/door
	30	Channel - Valve A	Reset fault on valve output A			1 bit	C	-	W	-	-	reset
	28	Channel - Valve A	Fault: valve output A			1 bit	C	R	-	T	-	boolean
	27	Channel - Valve A	Status Control value A			1 byte	C	R	-	T	-	percentage (0..100%)
	26	Channel - Valve A	Status byte valve A			1 byte	C	R	-	T	-	percentage (0..100%)
	22	Channel - Fan	Increase/decrease fan speed			1 bit	C	-	W	-	-	switch
	21	Channel - Fan	Switch fan speed	Confirm Fan Speed	8/1/11	1 byte	C	-	W	-	-	percentage (0..100%)
	17	Channel - Fan	Activate/deactivate fan auto...Confirm fan manually		8/1/33	1 bit	C	-	W	-	-	enable
	13	Channel - Fan	Status Fan speed			1 byte	C	R	-	T	-	percentage (0..100%)
	12	Channel - Fan	Status Fan automatic			1 bit	C	R	-	T	-	state
	11	Channel - Fan	Status byte fan			1 byte	C	R	-	T	-	percentage (0..100%)
	10	Channel - Fan	Fan ON/OFF status			1 bit	C	R	-	T	-	switch
	6	General	Enable/disable manual ope...			1 bit	C	-	W	-	-	enable

ABB RoomTouch® KNX - Room Temperature Control

Group Address Allocation Control Frame (ABB RoomTouch®) and optional Operating Element (ABB Tenton®)

Devices	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priori
Dynamic Folders	607	Controller status HVAC (slave)	input/output	HVAC Status	8/1/30	1 byte	C	-	W	T	U	percentage (0..100%)	Low
1.2.10 MASTER: RT/U30.0.1 ABB RoomTouch	606	Confirm fan speed level (slave)	input/output	Confirm Fan Speed	8/1/11	1 byte	C	-	W	T	U	percentage (-128..127%)	Low
Inputs	605	Request fan speed level (slave)	output	Request fan Speed	8/1/10	1 byte	C	-	-	T	-	percentage (-128..127%)	Low
Time program	604	Request fan speed level manual (slave)	output	Request fan manually	8/1/32	1 bit	C	-	-	T	-	switch	Low
System settings	603	Heating/cooling request (slave)	output	Heating/Cooling Changeover	8/1/13	1 bit	C	-	-	T	-	cooling/heating	Low
Fault and alarm messages	602	Confirm setpoint (slave)	input/output	Confirm Set point	8/1/21	2 bytes	C	-	W	T	U	temperature (°C)	Low
Logic functions	601	Request setpoint (slave)	output	Request Set point	8/1/20	2 bytes	C	-	-	T	-	temperature (°C)	Low
Scenes actuator	600	Setpoint display (slave)	input/output	Set point Display	8/1/22	2 bytes	C	-	W	T	U	temperature (°C)	Low
RTC internal	599	On/off request (slave)	output	Request ON/OFF	8/1/1	1 bit	C	-	-	T	-	switch	Low
Page 1	597	Condensation/fill level alarm (master/slave)	input/output			1 bit	C	-	W	T	U	alarm	Low
Page 2	595	Fan coil manual confirmation (slave)	input/output	Confirm fan manually	8/1/33	1 bit	C	-	W	T	U	state	Low
Page 3	594	Presence detector (master/slave)	input/output			1 bit	C	-	W	T	U	occupancy	Low
Page 4	593	Window contact (master/slave)	input/output	Window contact	8/1/50	1 bit	C	-	W	T	U	window/door	Low
Page 5	592	Override operation mode (master/slave)	input/output			1 byte	C	-	W	T	U	HVAC mode	Low
Page 6	591	Operation mode (slave)	output	Operating Mode	8/1/25	1 byte	C	-	W	T	U	HVAC mode	Low
Page 7	590	Fault, actual temperature (slave)	input/output			1 bit	C	-	W	-	U	switch	Low
Page 8	589	External actual temperature	input/output	Actual Temperature	8/1/24	2 bytes	C	-	W	T	U	temperature (°C)	Low
Page 9	587	Control On/Off (slave)	input	Confirm ON/OFF	8/1/2	1 bit	C	-	W	T	U	switch	Low
Page 10	1.2.21 SLAVE: ClimateCO Sensor SBC/U10.0 HVAC/CO2 device,												
1.2.20 ACTUATOR: Fan Coil Controller FCC/S1.3.2.1 Fan Coi	21	RTC: On/off confirmation (Slave)	Input	Confirm ON/OFF	8/1/2	1 bit	C	-	W	T	U	switch	
1.2.21 SLAVE: ClimateCO Sensor SBC/U10.0 HVAC/CO2 device,	23	RTC: External actual temperature	Input	Actual Temperature	8/1/24	2 bytes	C	-	W	T	U	temperature (°C)	
Device settings	25	RTC: Fault, actual temperature (slave)	Input			1 bit	C	-	W	T	U	switch	
Primary function	28	RTC: Normal operating mode (Slave)	Output	Operating Mode	8/1/25	1 byte	C	-	-	T	-	HVAC mode	
RTC	29	RTC: Override operating mode (Master/Slave)	Input			1 byte	C	-	W	T	U	HVAC mode	
CO2 sensor	30	RTC: Window contact (master/slave)	Input	Window contact	8/1/50	1 bit	C	-	W	T	U	switch	
Relative humidity/dewpoint sensor	31	RTC: Presence detector (master/slave)	Input			1 bit	C	-	W	T	U	switch	
Function block 1	36	RTC: Fan coil manual confirmation (Slave)	Input	Confirm fan manually	8/1/33	1 bit	C	-	W	T	U	switch	
Function block 2	47	RTC: Condensation/fill level alarm (Master/Slave)	Input			1 bit	C	-	W	T	U	switch	
Function block 3	53	RTC: On/off request (slave)	Output	Request ON/OFF	8/1/1	1 bit	C	-	-	T	-	switch	
Function block 4	54	RTC: Setpoint display (slave)	Input	Set point Display	8/1/22	2 bytes	C	-	W	T	U	temperature (°C)	
Function block 5	55	RTC: Request setpoint (slave)	Output	Request Set point	8/1/20	2 bytes	C	-	-	T	-	temperature (°C)	
Common functions	56	RTC: Confirm setpoint (slave)	Input	Confirm Set point	8/1/21	2 bytes	C	-	W	T	U	temperature (°C)	
	57	RTC: Heating/cooling request (slave)	Output	Heating/Cooling Changeover	8/1/13	1 bit	C	-	-	T	-	cooling/heating	
	58	RTC: Request fan speed level manual (slave)	Output	Request fan manually	8/1/32	1 bit	C	-	-	T	-	switch	
	59	RTC: Request fan speed level (slave)	Output	Request fan Speed	8/1/10	1 byte	C	-	-	T	-	percentage (0..100%)	
	60	RTC: Confirm fan speed level slave)	Input	Confirm Fan Speed	8/1/11	1 byte	C	-	W	T	U	percentage (0..100%)	
	62	RTC: Controller status HVAC (slave)	Input	HVAC Status	8/1/30	1 byte	C	-	W	T	U	percentage (0..100%)	

ABB RoomTouch® KNX - Room Temperature Control

Further Functions

Window Contact

- In case of open window heating/cooling is shut down to save energy
- Assign to both group objects window contact (RTC controller and RTC control frame) the same group address which comes from the sensor
- RoomTouch: Mode heating or cooling and window opened ...
 - ... Operating mode building protection is active
 - ... Setpoint for heating e.g. 5° C, for cooling e.g. 40° C, practically room temperature control is off
 - ... Operation on RoomTouch is blocked, display shows icon open window

Group object RTC internal (Controller):

462	Window contact (master/slave)	Input	Window contact	8/1/50	1 bit
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Group object RTC control frame:

593	Window contact (master/slave)	input/output	Window contact	8/1/50	1 bit
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Group object binary input (e.g. binary input FCC/S):

67	Channel - Input d	Window contact	Window contact	8/1/50	1 bit
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ABB RoomTouch® KNX - Room Temperature Control

Further Functions

Dew point sensor

- Detection of condensation in a cooling system, practically temperature too low with too high humidity in the room
- Can be measured with sensor or calculated out of relative humidity and room temperature (ABB Tenton®)
- Assign to the group object dew point alarm (RTC controller) the same group address which comes from the sensor
- RoomTouch: Mode cooling and dew point sensor triggered ...
 - ... Operating mode building protection active
 - ... Setpoint for cooling e.g. 40° C, practically room temperature control is off
 - ... Operation on RoomTouch is blocked, display shows icon water drop
- Parameters in RTC internal are to be adjusted

Hint: No group object dew point for RTC control frame exists, status comes via object controller status HVAC

Group object RTC internal (Controller):

478	Dew point alarm	Input	dewpoint	8/1/71	1 bit
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Group object binary input (e.g. binary input FCC/S):

55	Channel - Input a	Dew point alarm	dew point	8/1/71	1 bit
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Parameter RTC internal (Controller):

Alarm functions	
Condensate water alarm	<input checked="" type="checkbox"/>
Dew point alarm	<input checked="" type="checkbox"/>
Frost alarm temperature for HVAC and RHCC status	5
Heat alarm temperature for RHCC status	40

ABB RoomTouch® KNX - Room Temperature Control

Further Functions

Condensation / fill level alarm

- Detection of condensed water in a FanCoil Unit, collected in a container, a fill level sensor can detect high level to avoid overflow
- Assign to both group objects Condensation/fill level alarm (RTC controller and RTC control frame) the same group address which comes from the sensor
- RoomTouch: Mode cooling and fill level sensor active ...
 - ... Operating mode building protection active
 - ... Setpoint for cooling e.g. 40° C, practically room temperature control is off
 - ... Operation on RoomTouch is blocked, display shows icon container with water
- Parameters in RTC internal are to be adjusted

RTC internal (Controller):

479	Condensation/fill level alarm (master/slave)	Input	condensation/fill level	8/1/70	1 bit
-----	--	-------	-------------------------	--------	-------

Group object: RTC control frame:

597	Condensation/fill level alarm (master/slave)	input/output	condensation/fill level	8/1/70	1 bit
-----	--	--------------	-------------------------	--------	-------

Group object binary input (e.g. binary input FCC/S):

59	Channel - Input b	Fill level alarm	Fill level	8/1/70	1 bit
----	-------------------	------------------	------------	--------	-------

Parameter RTC internal (Controller):

Alarm functions	
Condensate water alarm	<input checked="" type="checkbox"/>
Dew point alarm	<input checked="" type="checkbox"/>
Frost alarm temperature for HVAC and RHCC status	5
Heat alarm temperature for RHCC status	40

ABB RoomTouch® KNX - Room Temperature Control

ABB RoomTouch® (Operation) – FanCoil Controller FCC/S 1.3.2.1 (Controller and Actuator)

ABB RoomTouch® KNX - Room Temperature Control

ABB RoomTouch® (Slave) – FanCoil Controller FCC/S 1.3.2.1 (Controller and Actuator) / Heating + Cooling

Principle



ABB RoomTouch® KNX - Room Temperature Control

ABB RoomTouch® (Slave) – FanCoil Controller FCC/S 1.3.2.1 (Controller and Actuator) / Heating + Cooling

Principle

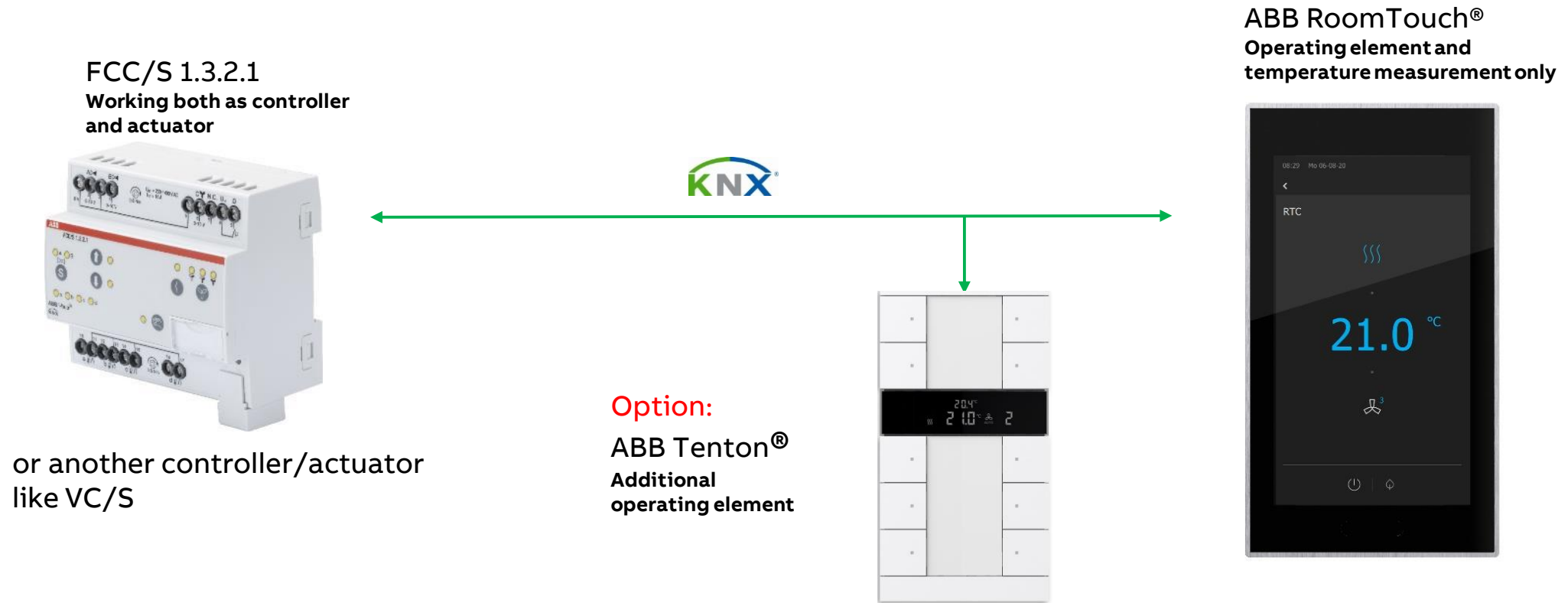


ABB RoomTouch® KNX - Room Temperature Control

ETS

RTC Control Frame (Operating element RTC)

Create a page with one control element only, as an RTC in ABB RoomTouch® covers a complete page

Select the RTC Control frame from the tool bar and drop it on the page

Adjust the parameter, mainly what and how you want to see it on the display

Same constellation like the solution with RTC internal controller

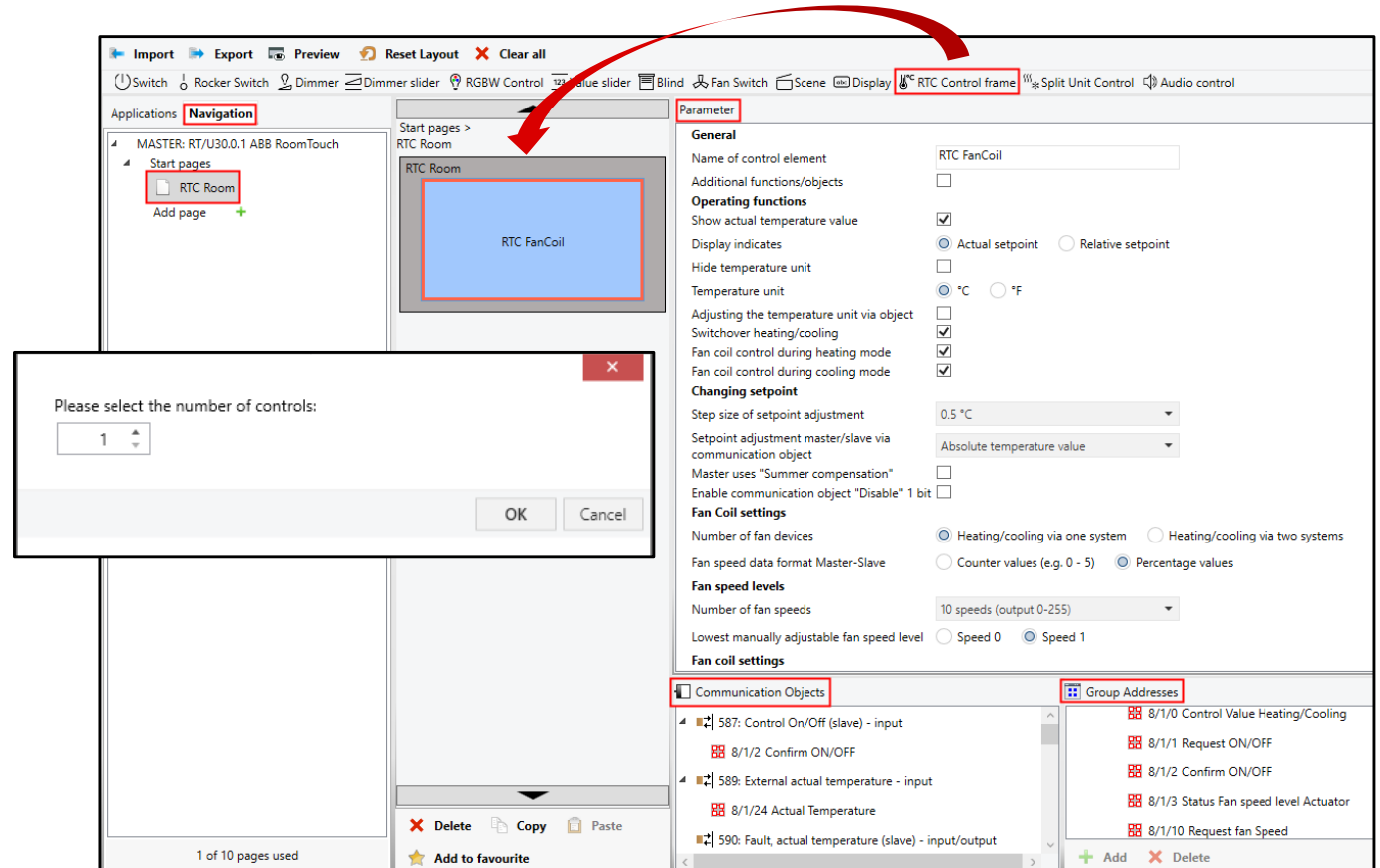


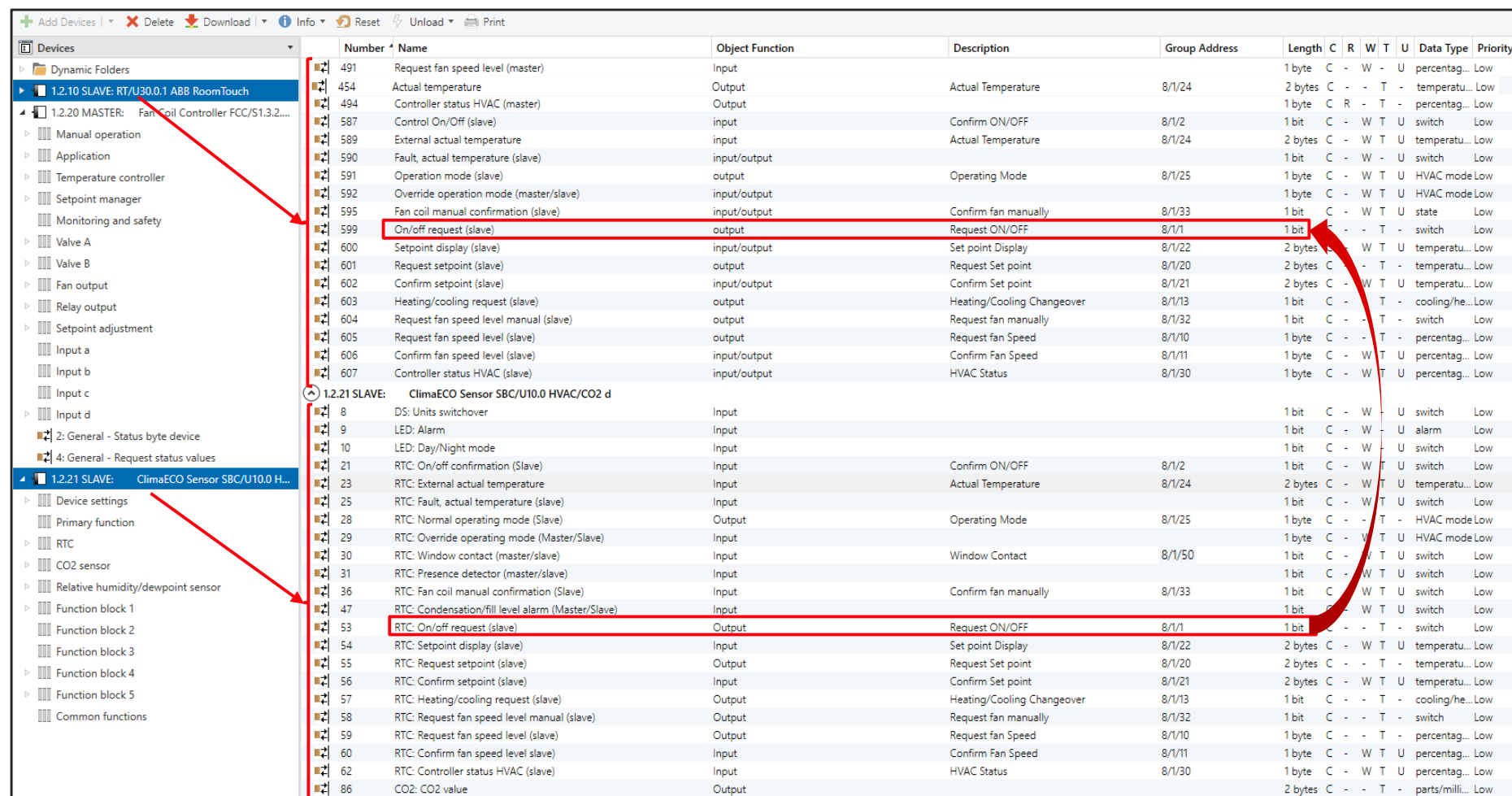
ABB RoomTouch® KNX - Room Temperature Control

Group address allocation RTC Control Frame (ABB RoomTouch®) and FanCoil Controller (FCC/S 1.3.2.1)

	Number	Name	Object Function	Description	Group Address *	Length	C	R	W	T	U	Data Type
	10	Backlight status	output			1 bit	C	-	-	T	-	switch
	599	On/off request (slave)	output	Request ON/OFF	8/1/1	1 bit	C	-	-	T	-	switch
	587	Control On/Off (slave)	input	Confirm ON/OFF	8/1/2	1 bit	C	-	W	T	U	switch
	605	Request fan speed level (slave)	output	Request fan Speed	8/1/10	1 byte	C	-	-	T	-	percentag...
	606	Confirm fan speed level (slave)	input/output	Confirm Fan Speed	8/1/11	1 byte	C	-	W	T	U	percentag...
	603	Heating/cooling request (slave)	output	Heating/Cooling Changeover	8/1/13	1 bit	C	-	-	T	-	cooling/he...
	601	Request setpoint (slave)	output	Request Set point	8/1/20	2 bytes	C	-	-	T	-	temperatu...
	602	Confirm setpoint (slave)	input/output	Confirm Set point	8/1/21	2 bytes	C	-	W	T	U	temperatu...
	600	Setpoint display (slave)	input/output	Set point Display	8/1/22	2 bytes	C	-	W	T	U	temperatu...
	589	External actual temperature	input	Actual Temperature	8/1/24	2 bytes	C	-	-	T	U	temperatu...
	454	Actual temperature	Output	Actual Temperature	8/1/24	2 bytes	C	-	-	T	-	temperatu...
	591	Operation mode (slave)	output	Operating Mode	8/1/25	1 byte	C	-	W	T	U	HVAC mode
	607	Controller status HVAC (slave)	input/output	HVAC Status	8/1/30	1 byte	C	-	W	-	U	percentag...
	604	Request fan speed level manual (slave)	output	Request fan manually	8/1/32	1 bit	C	-	-	T	-	switch
	595	Fan coil manual confirmation (slave)	input/output	Confirm fan manually	8/1/33	1 bit	C	-	W	T	U	state
1.2.20 MASTER: Fan Coil Controller FCC/S1.3.2.1 Fan C												
	6	General	Enable/disable manual operation			1 bit	C	-	W	-	-	enable
	10	Channel - Fan	Fan ON/OFF status			1 bit	C	R	-	T	-	switch
	11	Channel - Fan	Status byte fan			1 byte	C	R	-	T	-	
	83	Channel - Controller	Presence detector (master/slave)			1 bit	C	-	W	-	-	occupancy
	26	Channel - Valve A	Status byte valve A			1 byte	C	R	-	T	-	
	94	Channel - Controller	Setpoint reached			1 bit	C	R	-	T	-	boolean
	89	Channel - Controller	Reset manual setpoint adjustment			1 bit	C	-	W	-	-	trigger
	88	Channel - Controller	Base setpoint			2 bytes	C	-	W	-	-	temperatu...
	12	Channel - Fan	Status Fan automatic			1 bit	C	R	-	T	-	state
	86	Channel - Controller	Activate minimum control value (basic load)			1 bit	C	-	W	-	-	enable
	85	Channel - Controller	Status Cooling			1 bit	C	R	-	T	-	switch
	95	Channel - Controller	Request On/Off (master)	Request ON/OFF	8/1/1	1 bit	C	-	W	-	-	switch
	96	Channel - Controller	Confirm On/Off (master)	Confirm ON/OFF	8/1/2	1 bit	C	R	-	-	-	switch
	103	Channel - Controller	Request fan speed (master)	Request fan Speed	8/1/10	1 byte	C	-	W	-	-	counter pu...
	104	Channel - Controller	Confirm fan speed (master)	Confirm Fan Speed	8/1/11	1 byte	C	R	-	T	-	counter pu...
	87	Channel - Controller	Heating/Cooling changeover	Heating/Cooling Changeover	8/1/13	1 bit	C	-	-	T	U	cooling/he...
	98	Channel - Controller	Request setpoint adjustment (master)	Request Set point	8/1/20	2 bytes	C	-	W	-	-	temperatu...
	99	Channel - Controller	Confirm setpoint adjustment (master)	Confirm Set point	8/1/21	2 bytes	C	-	R	-	T	temperatu...
	97	Channel - Controller	Setpoint display (master)	Set point Display	8/1/22	2 bytes	C	R	-	T	-	temperatu...
	79	Channel - Controller	Current setpoint	Current Set point	8/1/23	2 bytes	C	R	-	T	-	temperatu...
	76	Channel - Controller	External temperature 1	Actual Temperature	8/1/24	2 bytes	C	-	W	T	U	temperatu...
	80	Channel - Controller	Operating mode normal (master)	Operating Mode	8/1/25	1 byte	C	-	W	T	U	HVAC mode
	106	Channel - Controller	Controller HVAC status (master)	HVAC Status	8/1/30	1 byte	C	R	-	T	-	percentag...
	101	Channel - Controller	Request fan manually (master)	Request fan manually	8/1/32	1 bit	C	-	W	-	-	switch
	102	Channel - Controller	Confirm fan manually (master)	Confirm fan manually	8/1/33	1 bit	C	R	-	T	-	switch

ABB RoomTouch® KNX - Room Temperature Control

Group address allocation RTC Control Frame (ABB RoomTouch®) and Operating Element ABB Tenton®



Devices	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
Dynamic Folders	491	Request fan speed level (master)	Input			1 byte	C	-	W	-	U	percentag...	Low
1.2.10 SLAVE: RT/U30.0.1 ABB RoomTouch	454	Actual temperature	Output	Actual Temperature	8/1/24	2 bytes	C	-	-	T	-	temperatu...	Low
1.2.20 MASTER: Fan Coil Controller FCC/S1.3.2...	494	Controller status HVAC (master)	Output			1 byte	C	R	-	T	-	percentag...	Low
Manual operation	587	Control On/Off (slave)	input	Confirm ON/OFF	8/1/2	1 bit	C	-	W	T	U	switch	Low
Application	589	External actual temperature	input	Actual Temperature	8/1/24	2 bytes	C	-	W	T	U	temperatu...	Low
Temperature controller	590	Fault, actual temperature (slave)	input/output			1 bit	C	-	W	-	U	switch	Low
Setpoint manager	591	Operation mode (slave)	output	Operating Mode	8/1/25	1 byte	C	-	W	T	U	HVAC mode	Low
Monitoring and safety	592	Override operation mode (master/slave)	input/output			1 byte	C	-	W	T	U	HVAC mode	Low
Valve A	595	Fan coil manual confirmation (slave)	input/output	Confirm fan manually	8/1/33	1 bit	C	-	W	T	U	state	Low
Valve B	599	On/off request (slave)	output	Request ON/OFF	8/1/1	1 bit	C	-	-	T	-	switch	Low
Fan output	600	Setpoint display (slave)	input/output	Set point Display	8/1/22	2 bytes	C	-	W	T	U	temperatu...	Low
Relay output	601	Request setpoint (slave)	output	Request Set point	8/1/20	2 bytes	C	-	-	T	-	temperatu...	Low
Setpoint adjustment	602	Confirm setpoint (slave)	input/output	Confirm Set point	8/1/21	2 bytes	C	-	W	T	U	temperatu...	Low
Input a	603	Heating/cooling request (slave)	output	Heating/Cooling Changeover	8/1/13	1 bit	C	-	-	T	-	cooling/he...	Low
Input b	604	Request fan speed level manual (slave)	output	Request fan manually	8/1/32	1 bit	C	-	-	T	-	switch	Low
Input c	605	Request fan speed level (slave)	output	Request fan Speed	8/1/10	1 byte	C	-	-	T	-	percentag...	Low
Input d	606	Confirm fan speed level (slave)	input/output	Confirm Fan Speed	8/1/11	1 byte	C	-	W	T	U	percentag...	Low
2: General - Status byte device	607	Controller status HVAC (slave)	input/output	HVAC Status	8/1/30	1 byte	C	-	W	T	U	percentag...	Low
4: General - Request status values	1.2.21 SLAVE: ClimaECO Sensor SBC/U10.0 H...												
Device settings	8	DS: Units switchover	Input			1 bit	C	-	W	-	U	switch	Low
Primary function	9	LED: Alarm	Input			1 bit	C	-	W	-	U	alarm	Low
RTC	10	LED: Day/Night mode	Input			1 bit	C	-	W	-	U	switch	Low
CO2 sensor	21	RTC: On/off confirmation (Slave)	Input	Confirm ON/OFF	8/1/2	1 bit	C	-	W	T	U	switch	Low
Relative humidity/dewpoint sensor	23	RTC: External actual temperature	Input	Actual Temperature	8/1/24	2 bytes	C	-	W	T	U	temperatu...	Low
Function block 1	25	RTC: Fault, actual temperature (slave)	Input			1 bit	C	-	W	T	U	switch	Low
Function block 2	28	RTC: Normal operating mode (Slave)	Output	Operating Mode	8/1/25	1 byte	C	-	-	T	-	HVAC mode	Low
Function block 3	29	RTC: Override operating mode (Master/Slave)	Input			1 byte	C	-	W	T	U	HVAC mode	Low
Function block 4	30	RTC: Window contact (master/slave)	Input	Window Contact	8/1/50	1 bit	C	-	-	T	U	switch	Low
Function block 5	31	RTC: Presence detector (master/slave)	Input			1 bit	C	-	W	T	U	switch	Low
Common functions	36	RTC: Fan coil manual confirmation (Slave)	Input	Confirm fan manually	8/1/33	1 bit	C	-	W	T	U	switch	Low
	47	RTC: Condensation/fill level alarm (Master/Slave)	Input			1 bit	C	-	W	T	U	switch	Low
	53	RTC: On/off request (slave)	Output	Request ON/OFF	8/1/1	1 bit	C	-	-	T	-	switch	Low
	54	RTC: Setpoint display (slave)	Input	Set point Display	8/1/22	2 bytes	C	-	W	T	U	temperatu...	Low
	55	RTC: Request setpoint (slave)	Output	Request Set point	8/1/20	2 bytes	C	-	-	T	-	temperatu...	Low
	56	RTC: Confirm setpoint (slave)	Input	Confirm Set point	8/1/21	2 bytes	C	-	W	T	U	temperatu...	Low
	57	RTC: Heating/cooling request (slave)	Output	Heating/Cooling Changeover	8/1/13	1 bit	C	-	-	T	-	cooling/he...	Low
	58	RTC: Request fan speed level manual (slave)	Output	Request fan manually	8/1/32	1 bit	C	-	-	T	-	switch	Low
	59	RTC: Request fan speed level (slave)	Output	Request fan Speed	8/1/10	1 byte	C	-	-	T	-	percentag...	Low
	60	RTC: Confirm fan speed level (slave)	Input	Confirm Fan Speed	8/1/11	1 byte	C	-	W	T	U	percentag...	Low
	62	RTC: Controller status HVAC (slave)	Input	HVAC Status	8/1/30	1 byte	C	-	W	T	U	percentag...	Low
	86	CO2: CO2 value	Output			2 bytes	C	-	-	T	-	parts/milli...	Low

ABB RoomTouch® KNX - Room Temperature Control

ETS

Parameter FanCoil Controller FCC/S

- The part controller in the ETS application is based on unified RTC
- Binary and analogue inputs in FCC/S allow to connect both contacts like window contact, dew point sensor or fill level sensor and temperature sensors

1.2.20 MASTER: Fan Coil Controller FCC/S1.3.2.1 Fan C > Application > Application parameters

General	Device function	<input checked="" type="radio"/> Controller <input type="radio"/> Actuator device
+ Manual operation	The device is used with an internal controller that can control the fan coil unit and other heating/cooling systems in the same room. KNX analog room control units in Slave mode can be used for operation.	
- Application	Caution! A change to the parameterization in this section will result in an ETS reset after download	
Application parameters		
Device function		
- Temperature controller		
- Temperature controller		
Basic-stage heating	Fan coil unit: Water heating coil	
Basic-stage cooling	Deactivated	
Basic-stage heating	Fan coil unit: Water cooling coil	
Basic-stage cooling	Deactivated	
- Setpoint manager	Type of heating/cooling system <input checked="" type="radio"/> 2-pipe <input type="radio"/> 4-pipe	
Setpoint manager	Heating/Cooling changeover Via object only	
Caution! A change to the parameterization in this section will result in an ETS reset after download		
+ Monitoring and safety	Actuate basic-stage heating via Internal output A (valve)	
+ Valve A	Actuate basic-stage cooling via Internal output A (valve)	
+ Valve B	Window status input Via physical device input	
+ Fan output	Note: Configure in 'Input' parameter window	
+ Relay output	Dew point status input Deactivated	
	Fill level sensor input Deactivated	
	Temperature input Via group object	
	Number of temperature input objects <input checked="" type="radio"/> 1 <input type="radio"/> 2	

ABB RoomTouch® KNX - Room Temperature Control

Online Learning Session

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Online Learning Session

ABB RoomTouch® KNX

Webinar about installation, operating concept, commissioning with DCA, ... (Sept. 2020)

- Presentation → [Link](#)
- Video recording → [Link](#)

Homepage

- www.abb.com/knx → Visualisation, Display and Signalling
 - Product Manual
 - Installation and Operating Instructions
 - ETS Application (*.knxprod)
 - ETS App ABB Touch DCA (*.etsapp)
 - ...

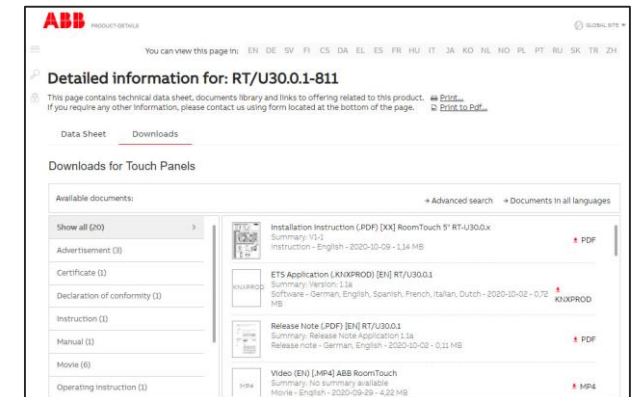


ABB RoomTouch® KNX - Room Temperature Control

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Homepage

[www. www.abb.com/KNX](http://www.abb.com/KNX)

- Products and Downloads
 - Visualisation, Display and Signalling
 - Touch Panels RT/U
- Product Manual
- Installation and Operating Instructions
- ETS Application (*.knxprod)
- ETS App ABB Touch DCA (*.etsapp)
- Webinar recordings and presentations
- ...

The screenshot displays the ABB Product-Details page for the RT/U30.0.1-811. The page is in English and includes a language selection bar at the top. The main heading is "Detailed information for: RT/U30.0.1-811". Below this, there is a note stating that the page contains technical data sheets, documents, and links to offerings related to the product. There are links for "Print..." and "Print to Pdf...".

The page is divided into two tabs: "Data Sheet" and "Downloads". The "Downloads" tab is active, showing a section titled "Downloads for Touch Panels". This section includes a search bar and a list of available documents. The documents are listed in a table with columns for document type, title, summary, date, and size. The documents include:

Document Type	Title	Summary	Date	Size	Format
PDF	Installation Instruction (.PDF) [XX] RoomTouch 5" RT-U30.0.x	Summary: V1-1	2020-10-09	1,14 MB	PDF
KNXPROD	ETS Application (.KNXPROD) [EN] RT/U30.0.1	Summary: Version: 1.1a	2020-10-02	0,72 MB	KNXPROD
PDF	Release Note (.PDF) [EN] RT/U30.0.1	Summary: Release Note Application 1.1a	2020-10-02	0,11 MB	PDF
MP4	Video (EN) [.MP4] ABB RoomTouch	Summary: No summary available	2020-09-29	4,22 MB	MP4

ABB RoomTouch® KNX - Room Temperature Control

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>
- www.abb.com/knx (→ Services & Tools → Training and Qualification → Training Database)

YouTube

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

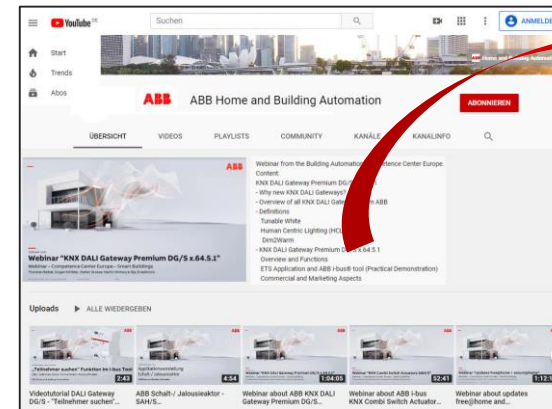
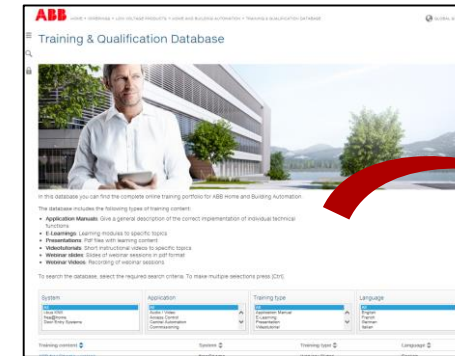


ABB RoomTouch® KNX - Room Temperature Control

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

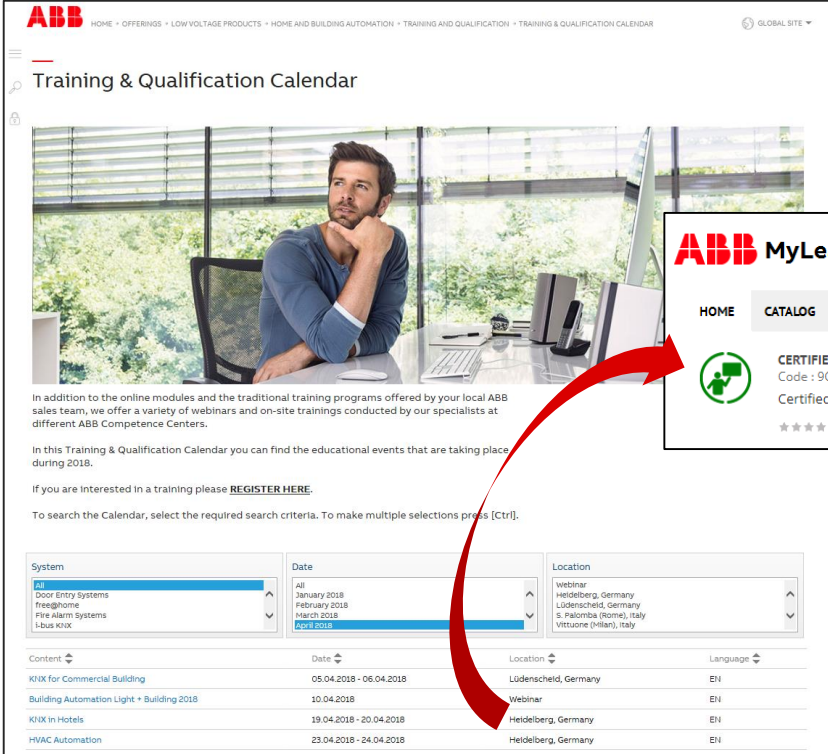
If you are interested in a training please click the training und you will be forwarded to register in “ABB MyLearning”

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

→ Services & Tools

→ Training and Qualification

→ Training Calendar



System	Date	Location
ABB	All	Webinar
Door Entry Systems	January 2018	Heidelberg, Germany
Fire Alarm Systems	February 2018	Lödenscheid, Germany
I-bus KNX	March 2018	S. Palomba (Rome), Italy
	April 2018	Vittuone (Milan), Italy

Content	Date	Location	Language
KNX for Commercial Building	05.04.2018 - 06.04.2018	Lödenscheid, Germany	EN
Building Automation Light + Building 2018	10.04.2018	Webinar	EN
KNX in Hotels	19.04.2018 - 20.04.2018	Heidelberg, Germany	EN
HVAC Automation	23.04.2018 - 24.04.2018	Heidelberg, Germany	EN

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