

Ilija Zivadinovic, Jürgen Schilder, Thorsten Reibel – Global Application and Solution Team

May 2016

ABB GPG Building Automation Webinar Tips around ABB i-bus KNX

Webinar “Tips around ABB i-bus KNX”

Agenda



- Parallel Operation of KNX Presence and Motion Sensors
- Unified RTC with two independent Controller
- Bus cable
- Scene Control
- Status LEDs
- Sending the first Group Address of a Group Object
- Area Coupler – Line Coupler – Line Repeater
- Planning information for a Safe Installation

Webinar “Tips around ABB i-bus KNX”

Agenda



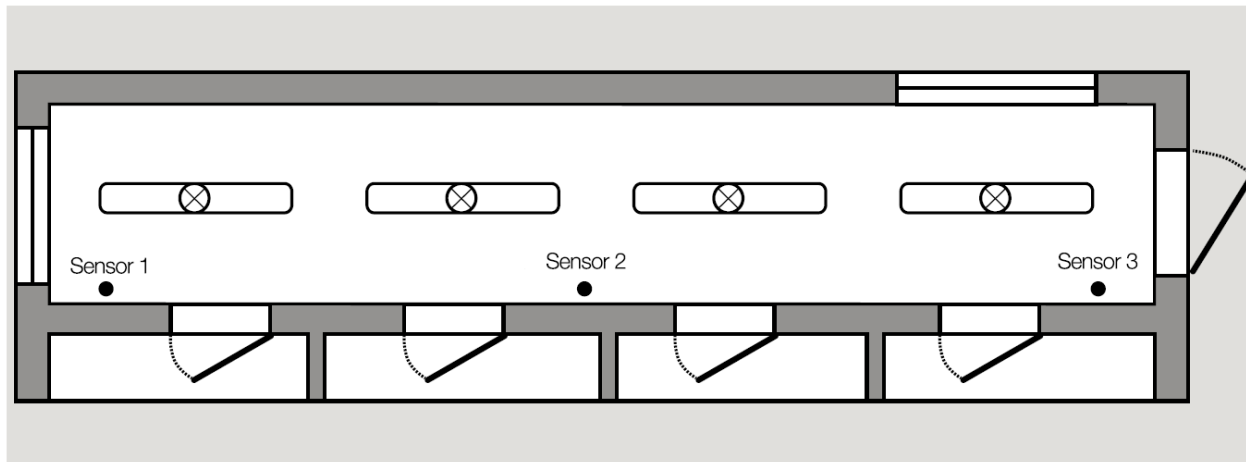
- Parallel Operation of KNX Presence and Motion Sensors
- Unified RTC with two independent Controller
- Bus cable
- Scene Control
- Status LEDs
- Sending the first Group Address of a Group Object
- Area Coupler – Line Coupler – Line Repeater
- Planning information for a Safe Installation

Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

Situation:

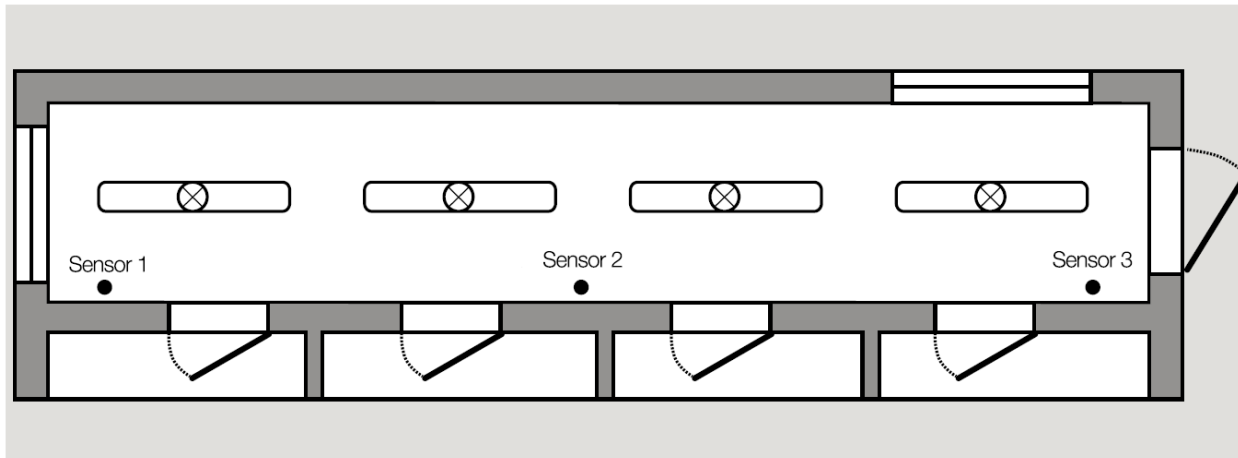
- Several detectors have to be mounted in order to increase the detection range, e.g. in a corridor



Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

- One light circuit, all sensors and actuators are assigned with the same group address
 - All sensors have a light-on time (delay off)
 - If the person leaves the detection range of the first detector the light will be switched off after the light-on time, though the person has reached the detection range from the second sensor
- Light OFF, only with further movement switched on again

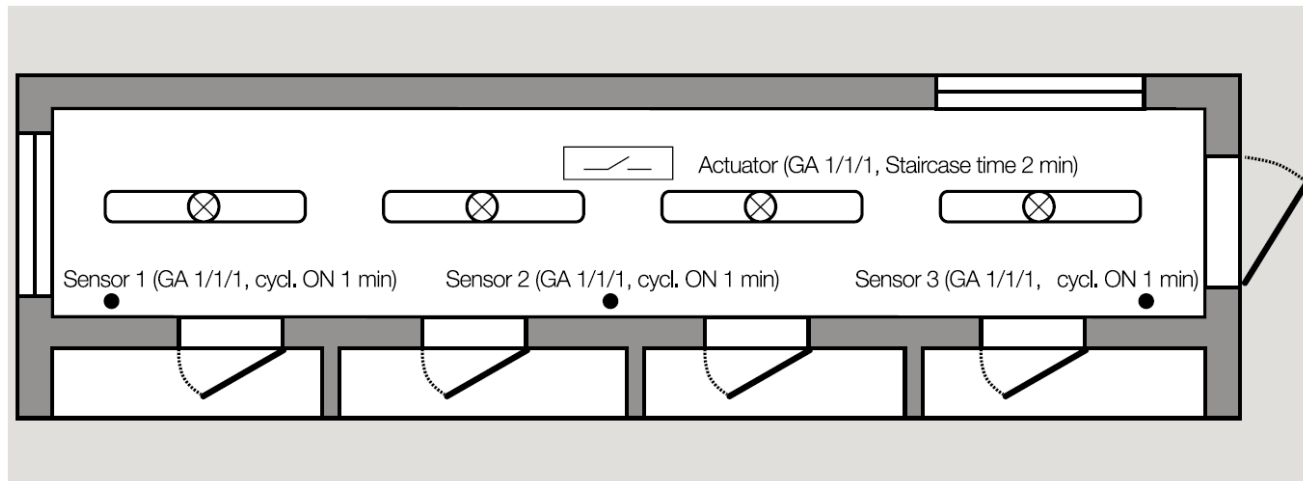


Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

Solution 1

- Sensors send cyclically an ON telegram in case of detection
- Actuator is parameterized with the staircase lighting function
- Cycle time of the sensor is shorter than the staircase lighting time of the actuator



Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

Solution 1

- Parameter: Example Presence Detector

5.5.29 6131/21 Busch-Präsenzmelder Mini Premium > Presence 1 > general parameters

Presence 1	Application	Sensor
general parameters		
+ Presence 2	Type of output	<input checked="" type="radio"/> Master <input type="radio"/> Slave
+ Presence 3	Input Slave	<input checked="" type="radio"/> no <input type="radio"/> yes
+ Presence 4	Output is of type	1 bit
+ Brightness detection	Output object sends at	Switch on
+ Object RTC	Value for switch on	<input type="radio"/> off <input checked="" type="radio"/> on
+ IR functions (white)	Sending value for switch-on cyclic	<input type="radio"/> no <input checked="" type="radio"/> yes
+ IR functions (blue)	Cyclical repeating time	00:01:00 hh:mm:ss
+ Logic functions		

Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

Solution 1

- Parameter Switch Actuator

5.5.30 SA/S4.10.2.1 Switch Actuator, 4-fold, 10A, MDRC > A: Time		
General	Time function	Staircase lighting function
A: General	Duration of staircase lighting Minutes (0...1000)	2
A: Function	Seconds (0...59)	0
A: Time		

Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

Solution 1

- Group Objects Presence Detector and Switch Actuator

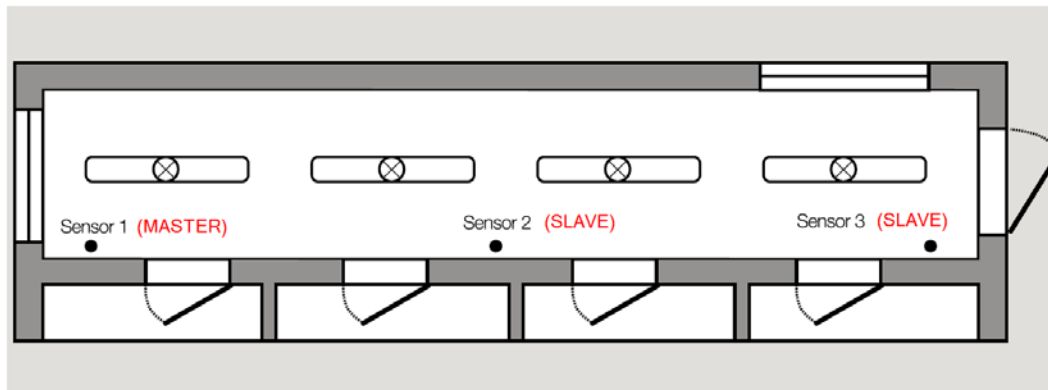
	Number	Name	Object Function	Description	Group Address	Length
⤴	5.5.30 SA/S4.10.2.1 Switch Actuator,4-fold,10A,MDRC					
⤴	0	General	In Operation			1 bit
⤴	10	Output A	Switch		1/1/1	1 bit
⤴	11	Output A	Permanent ON			1 bit
⤴	12	Output A	Disable time function			1 bit
⤴	29	Output A	Status Switch			1 bit
⤴	30	Output B	Switch			1 bit
⤴	49	Output B	Status Switch			1 bit
⤴	50	Output C	Switch			1 bit
⤴	69	Output C	Status Switch			1 bit
⤴	70	Output D	Switch			1 bit
⤴	89	Output D	Status Switch			1 bit
⤴	5.5.29 6131/21 Busch-Präsenzmelder Mini Premium					
⤴	10	P1: Movement (master)	Output	Movement	1/1/1	1 bit
⤴	5.5.28 6131/21 Busch-Präsenzmelder Mini Premium					
⤴	10	P1: Movement (master)	Output	Movement	1/1/1	1 bit

Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

Solution 2 (Master-Slave)

- Master: Sensors 1, Slaves: Sensor 2 and 3
- Master: Detection → ON telegram, no detection → OFF telegram after light-on time (delay off)
- Slaves: Detection → ON telegram cyclically to object slave of Master, no detection → no telegram
- No movement at all → Master sends OFF telegram after light-on time (delay off)



Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

Solution 2 (Master-Slave)

- Parameter Master

5.5.28 6131/21 Busch-Presence detector mini premium > Presence 1 > general parameters

— Presence 1	Application	Sensor
general parameters		
+ Presence 2	Type of output	<input checked="" type="radio"/> Master <input type="radio"/> Slave
+ Presence 3	Input Slave	<input type="radio"/> no <input checked="" type="radio"/> yes
• • •		
Light-on time	00:05:00	hh:mm:ss

Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

Solution 2 (Master-Slave)

- Parameter Slave

5.5.29 6131/21 Busch-Presence detector mini premium > Presence 1 > general parameters

— Presence 1	Application	Sensor
general parameters		
	Type of output	<input type="radio"/> Master <input checked="" type="radio"/> Slave
	Cyclical repeating time	00:00:30 hh:mm:ss

- Cyclical repeating time (Slave) < Light-on time (Master)
- Object Slave input of Master also called “Extension unit input” (Solo Motion sensor)

Webinar “Tips around ABB i-bus KNX”

Parallel Operation of KNX Presence and Motion Sensors

Solution 2 (Master-Slave)

- Group Objects Presence Detector and Switch Actuator

Number	Name	Object Function	Description	Group Address	Length
5.5.30 SA/S4.10.2.1	Switch Actuator,4-fold,10A,MDRC				
0	General	In Operation			1 bit
10	Output A	Switch	Movement Master	5/3/2	1 bit
29	Output A	Status Switch			1 bit
30	Output B	Switch			1 bit
49	Output B	Status Switch			1 bit
50	Output C	Switch			1 bit
69	Output C	Status Switch			1 bit
70	Output D	Switch			1 bit
89	Output D	Status Switch			1 bit
5.5.28	6131/21 Busch-Presence detector mini premium				
3	P1: Slave	Input	Movement Slave	5/3/1	1 bit
10	P1: Movement (master)	Output	Movement Master	5/3/2	1 bit
5.5.29	6131/21 Busch-Presence detector mini premium				
11	P1: Movement (slave)	Output	Movement Slave	5/3/1	1 bit

Webinar “Tips around ABB i-bus KNX”

Agenda



- Parallel Operation of KNX Presence and Motion Sensors
- Unified RTC with two independent Controller
- Bus cable
- Scene Control
- Status LEDs
- Sending the first Group Address of a Group Object
- Area Coupler – Line Coupler – Line Repeater
- Planning information for a Safe Installation

Webinar “Tips around ABB i-bus KNX”

Unified RTC with two independent Controller



Presence Detector



Sidus



solo/future/carat/accent

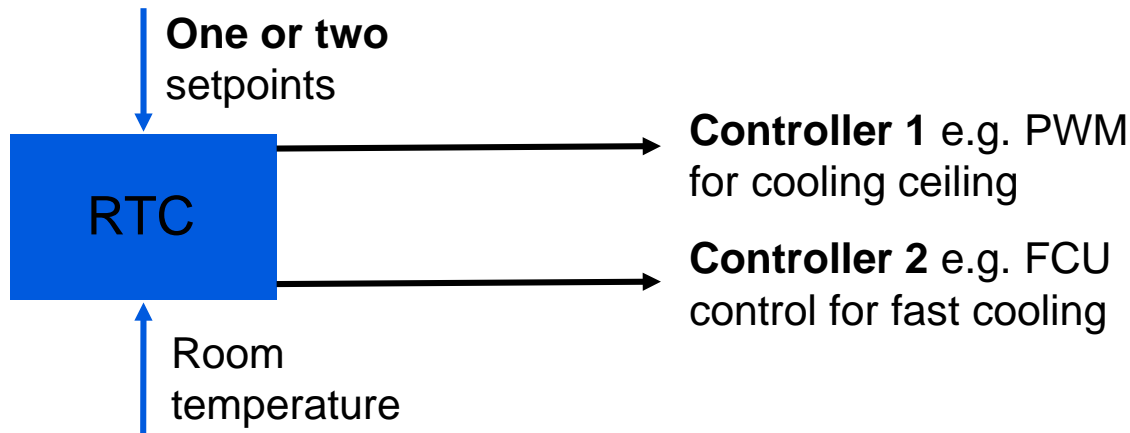


Busch-triton



Fan Coil

- An additional stage in a room temperature controller (RTC) allows to run a separate heating/cooling circuit
- Example (for controlling the same room)
 - Room with cooling ceiling (basic stage) and classical fan coil unit as additional stage
 - Floor heated bathroom (basic stage) with a towel rack as additional stage



Webinar “Tips around ABB i-bus KNX”

Unified RTC with two independent Controller



Presence Detector



Sidus



solo/future/carat/accent



Busch-triton



Fan Coil

■ Parameter

Device function	Single device
Control function	Heating and cooling with additional stage
Operating mode after reset	Heating
Send cyclic 'in operation' (min)	Heating with additional stage
	Cooling
	Cooling with additional stage
	Heating and cooling
Additional functions/objects	Heating and cooling with additional stage ✓
Delay time for read telegrams after reset (s)	5

■ Parameter for control of the **basic** stage

Control value type	2-point 1 bit, (Off/On)
	2-point 1 bit, (Off/On) ✓
	2-point 1 byte, (0/100%)
	PI continuous, 0-100%
	PI PWM, On/Off
	FanCoil

Webinar “Tips around ABB i-bus KNX”

Unified RTC with two independent Controller



Presence Detector



Sidus



solo/future/carat/accent



Busch-triton



Fan Coil

- ... and the same **independently** for the **additional** stage

Control value type

- 2-point 1 bit, (Off/On) ✓
- 2-point 1 byte, (0/100%)
- PI continuous, 0-100%
- PI PWM, On/Off
- FanCoil

- Control parameter **independently** for **basic** and **additional** stage

Additional heating type ☒ Fan coil 4°C 90 min ☐ Free configuration

Temperature difference to basic stage (x 0.1°C)

Extended settings ☐ no ☒ yes

- Group objects control value

RTC: Heating control value	Output	1 byte
RTC: Additional stage heating	Output	1 byte
RTC: Cooling control value	Output	1 byte
RTC: Additional stage cooling	Output	1 byte

Webinar “Tips around ABB i-bus KNX”

Unified RTC with two independent Controller



Presence Detector

- Important parameter (additional stage)

Temperature difference to basic stage (x 0.1°C) 20



Sidus

- The setpoint temperature of the additional stage is defined as the difference to the basic setpoint



solo/future/carat/accent

- The value represents the setpoint at which the additional stage starts to operate



Busch-triton

- For heating the setpoint for the additional stage is higher, for cooling it is lower than the basic setpoint

- Adjustment of the difference to zero:

- Two parallel circuits with the same setpoint and room temperature but different control parameters



Fan Coil

Webinar “Tips around ABB i-bus KNX”

Unified RTC with two independent Controller



Presence Detector



Sidus



solo/future/carat/accent



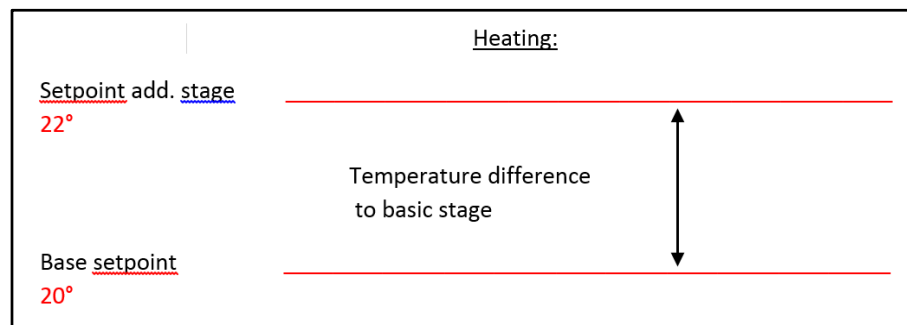
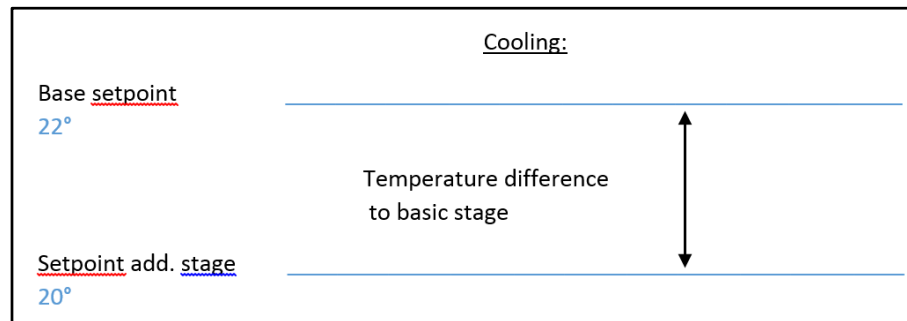
Busch-triton



Fan Coil

▪ Example

- Cooling setpoint is 22 degrees Celsius, temperature difference to basic stage is two Kelvin
- If there is a request for getting 20 degrees or less in the room additional stage will start cooling



Webinar “Tips around ABB i-bus KNX”

Unified RTC with two independent Controller



Presence Detector



Sidus



solo/future/carat/accent



Busch-triton



Fan Coil

- Basic load always active with a minimum control value ...

- Parameter

Min. control value for basic load (0 to 255)	20
--	----

- ... or switchable via object

RTC: Basic load	Input	1 bit
-----------------	-------	-------

- Example: Floor heating system with basic warmth
 - Minimum control value is active though the calculated control value of is lower
 - Deactivation in Summer, cold ground ok

Webinar “Tips around ABB i-bus KNX”

Agenda



- Parallel Operation of KNX Presence and Motion Sensors
- Unified RTC with two independent Controller
- **Bus cable**
- Scene Control
- Status LEDs
- Sending the first Group Address of a Group Object
- Area Coupler – Line Coupler – Line Repeater
- Planning information for a Safe Installation

Webinar “Tips around ABB i-bus KNX”

Bus cable



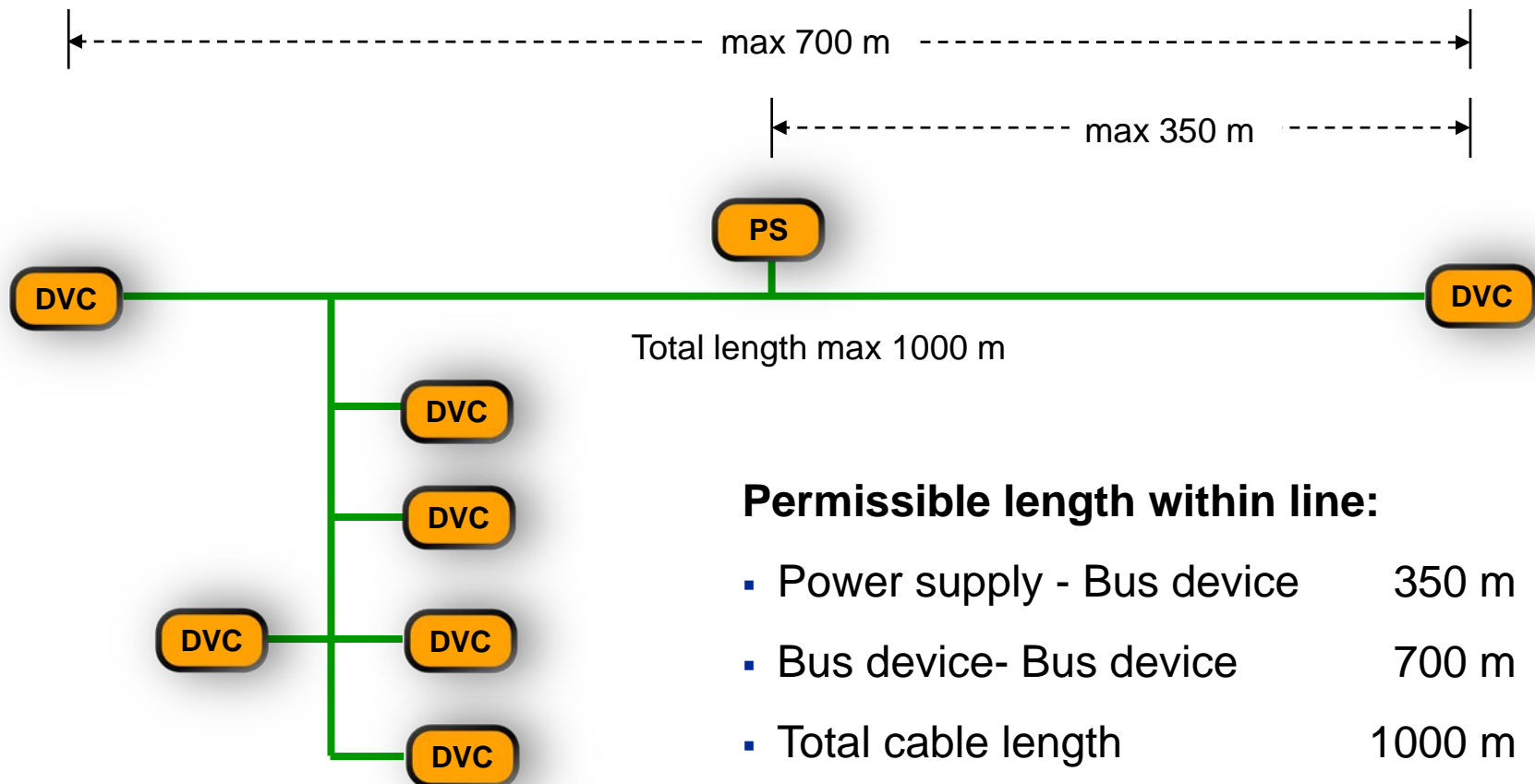
- Cable fulfilling the KNX requirements in volume 9 of the KNX Specifications can be approved (without KNX logo) or certified (with KNX logo) by KNX Association
- Only the standard KNX TP cable guarantees
 - Max. cable length of a line
 - Max. distance between two bus devices in a line
 - Max. number of bus devices per line
- The requirements for instance include a loop resistance of 75 Ohm and a loop capacitance of 100 nF per 1000 m
- It is not necessary to connect the shielding of the cables

Source: KNX Basic Course Documentation
Chapter “KNX TP Installation”

Webinar “Tips around ABB i-bus KNX”

Bus cable

Cable lengths within line



Webinar “Tips around ABB i-bus KNX”

Bus cable



When installing a standard cable, the following conditions apply

- Used wire pair:
 - Red: plus
 - Black: minus
- Spare wire pair: Permitted use of the spare wire pair:
 - No connection at all
 - For other SELV low voltage networks
e.g. 12V supply voltage for Security Terminal MT/U
 - It is not permitted to use it for another KNX line !!!
- Please make sure that all installed cables are properly identified and marked!

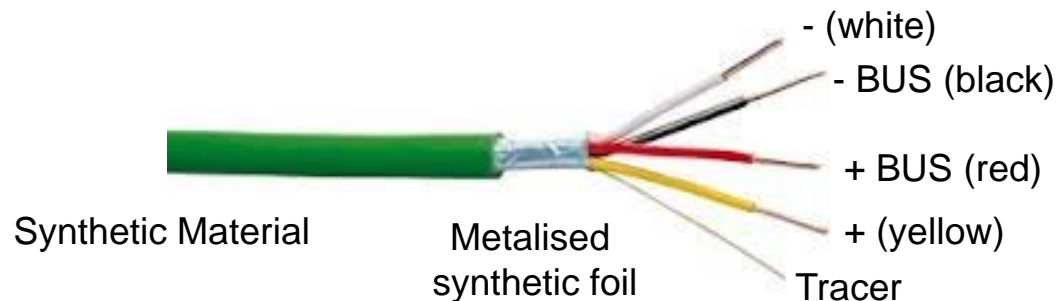
Source: KNX Basic Course Documentation
Chapter “KNX TP Installation”

Webinar “Tips around ABB i-bus KNX”

Bus cable

Types of Bus Cable

- YCYM 2x2x0,8
 - Fixed installation: dry, humid and wet rooms; wall-mounted, flush-mounted, in conduits
 - Outdoor: If protected against direct sun radiation
 - Test voltage: 4 kV according to EN 50090
- J-Y (St) Y 2x2x0,8
 - Fixed installation: dry and humid industrial sites; wall-mounted, flush-mounted, in conduits
 - Outdoor: Flush-mounted and conduits
 - Test voltage: 2,5 kV according to EN 50090



Webinar “Tips around ABB i-bus KNX”

Bus cable

- www.KNX.org → KNX Certified Products → Cable solid



Screenshot of the KNX Certified Products website showing a search engine results for solid cables.

SEARCH ENGINE

Choose a product family
Cable

Choose a product type
Solid

Total: 27 products

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z #

Company	Product Name	Order Number
B		
Belcom Cables	EIB/KNX LSZH/SWNLSZH DataGuard 2x2x0.8J-2Y(St) HSWAH Black	142101Q08S44
Belcom Cables	EIB LSZH FireFighter 1x2x0.8 J-2Y(St)H	2101P08S44
Belcom Cables	EIB LSZH FireFighter 2x2x0.8 J-2Y(St)H	2101Q08S44
Belcom Cables	EIB LSZH FireFighter 2x2x0.8 J-2Y(St)H White	2101Q08S44-10
Belcom Cables	EIB LSZH FireFighter 2x2x0.8 J-2Y(St)H Duct Grade	22101Q08S44
Belden Wire & Cable B.V.	EIB-Y(St)Y 1x2x0.8	YE00819
Belden Wire & Cable B.V.	EIB-Y(St)Y 2x2x0.8	YE00820
Belden Wire & Cable B.V.	EIB-H(St)H 1x2x0.8	YE00905
Belden Wire & Cable B.V.	EIB-H(St)H 2x2x0.8	YE00906
F		
FS Cables	FSC KNX Cable 1 Pair 0.8 mm	31000501H

Webinar “Tips around ABB i-bus KNX”

Bus cable

- e.g. FS Cables, www.fscables.com



The screenshot shows the FS Cables website. The main header features the FS cables logo and contact information: Tel. 01727 840 841, Fax. 01727 840 842, sales@fscables.com, and www.fscables.com. A navigation bar lists various cable types: Data, Coaxial, Signal & Control, Power, Fire & Security, High Temperature, Audio Visual, and Accessories & Tools. The main content area is titled 'KNX / EIB Cable' and includes a 'MEMBER KNX' logo. The text describes the benefits of KNX systems, the features of FS Cables' KNX cable (TP1), and provides information about the duct grade, armoured, and white versions. A large image of the cable is shown, along with a 'Print Product Datasheet' button. The left sidebar lists various cable types: Alternative to Belden, Structured Wiring Cables, Bus Cables (Databus® Foundation Fieldbus Type A, Databus® Foundation Fieldbus Type B, Databus® Foundation Fieldbus High Speed, CAN Bus Cable, CC-Link 1.10 FieldLink® Cable, DeviceNet™ Thick, DeviceNet™ Thin, Echelon LonWork System Cabling - 16AWG, Echelon LonWork System Cabling - 22AWG, Industrial Ethernet Cable to IEEE 802.3, Interbus Cable, Modbus, Profibus DP Cable, Pilz Safety Bus p®, Lutron GRX-CBL-346S Grafik Eye & Mode Lighting Cable, KNX / EIB Cable, Simmtronic Cable Specs 3 & Lighting Multicores, and ASI Bus Cables.

Webinar “Tips around ABB i-bus KNX”

Bus cable

- e.g. FS Cables, www.fscables.com

No. of Pairs	Sheath Colour	KNX Reg No	Colour Code
1	GREEN	150/8928/10	Black/Red
1 Quad	GREEN	-	Red/Black/Yellow/White
2	BLACK	150/8928/10	Red/Black&Yellow/White Pairs
2	BLACK	150/8928/10	Red/Black&Yellow/White Pairs
2	GREEN	150/8928/10	Red/Black&Yellow/White Pairs
2	WHITE	150/8928/10	Red/Black&Yellow/White Pairs



Webinar “Tips around ABB i-bus KNX”

Agenda



- Parallel Operation of KNX Presence and Motion Sensors
- Unified RTC with two independent Controller
- Bus cable
- Scene Control
- Status LEDs
- Sending the first Group Address of a Group Object
- Area Coupler – Line Coupler – Line Repeater
- Planning information for a Safe Installation

Webinar “Tips around ABB i-bus KNX”

Scene Control

What is a “Scene” ???

- With a scene a group of lamps, shutters/blinds, fan coil units, ... can be put into a desired operating state by a defined action
- An action is a KNX telegram that activates the scene
- The action telegram can be initiated by different elements, e.g. push buttons, motion detectors, timers or security panel



Scenes to suit your mood

- Welcome
- Start presentation
- Coffee break
- End of meeting
- All On/Off

Webinar “Tips around ABB i-bus KNX”

Scene Control

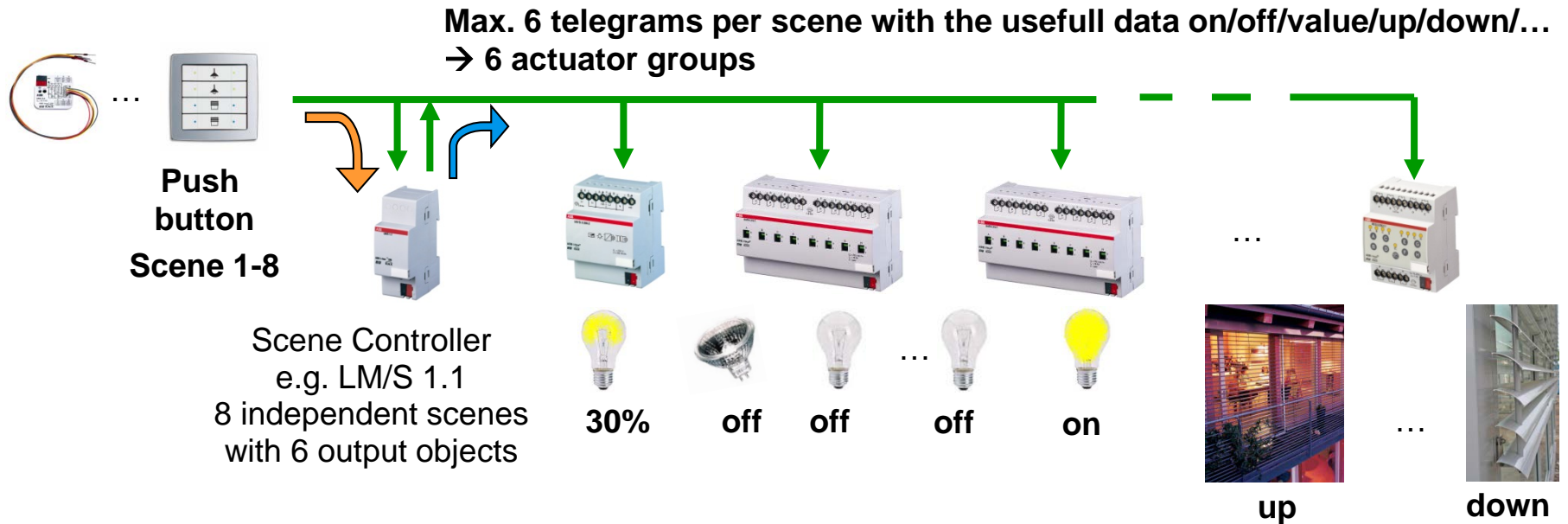
How does it work?

There are three possibilities:

1. Store scenes in a “scene controller” (in former times) e.g.
 - Logic Module LM/S 1.1
3 different functions there of 8 independent scenes with 6 output objects
2. Store scenes in a sensor
3. Store scenes in actuators (preferred solution)

Webinar “Tips around ABB i-bus KNX”

Scene Control – 1. Store scenes in a “SceneController”



Webinar “Tips around ABB i-bus KNX”

Scene Control – 1. Store scenes in a “SceneController”

- Parameter Logic Module LM/S1.1 – Output datatypes

1.1.2 LM/S1.1 Logic Module,MDRC > A - Output types

General	Datatype of output 1	1-Bit Value (EIS1)
A - Scenes Common	Datatype of output 2	1-Byte Value in % [0...100%] (EIS6)
A - Output types	Datatype of output 3	1-Byte Value [0...255]
A - Scene 1	Datatype of output 4	2-Byte Temperature value (EIS 5)
A - Scene 2	Datatype of output 5	1-Byte Value in % [0...100%] (EIS6)
A - Scene 3	Datatype of output 6	1-Byte Value in % [0...100%] (EIS6)

	Numb	Group	Name	Object Function	Length	C	R	W	T	U	Data Type	Priority
A - Scene 4	0		A:Scene output 1	Send telegram	1 bit	C	-	W	T	U		Low
A - Scene 5	1		A:Scene output 2	Send telegram	1 byte	C	-	W	T	U		Low
A - Scene 6	2		A:Scene output 3	Send telegram	1 byte	C	-	W	T	U		Low
A - Scene 7	3		A:Scene output 4	Send telegram	2 bytes	C	-	W	T	U		Low
A - Scene 8	4		A:Scene output 5	Send telegram	1 byte	C	-	W	T	U		Low
	5		A:Scene output 6	Send telegram	1 byte	C	-	W	T	U		Low
	6		A:Scene call S1S2	OFF = Sc 1, ON = Sc 2	1 bit	C	-	W	-	-		Low
	7		A:Scene call S3S4	OFF = Sc 3, ON = Sc 4	1 bit	C	-	W	-	-		Low
	8		A:Scene call S5S6	OFF = Sc 5, ON = Sc 6	1 bit	C	-	W	-	-		Low
	9		A:Scene call S7S8	OFF = Sc 7, ON = Sc 8	1 bit	C	-	W	-	-		Low
	10		A:Scene Programming mode	Programming mode on/off	1 bit	C	-	W	-	-		Low
	11		A:Scene Save indication	Scene was stored	1 bit	C	-	-	T	-		Low

Webinar “Tips around ABB i-bus KNX”

Scene Control – 1. Store scenes in a “SceneController”

- Parameter Logic Module LM/S1.1 – Values Scene 1

1.1.2 LM/S1.1 Logic Module, MDRC > A - Scene 1		
General	Preset output 1	ON
A - Scenes Common	Preset output 2	10 %
A - Output types	Preset output 3	218
A - Scene 1	Preset output 4	21
A - Scene 2	Preset output 5	10 %
A - Scene 3	Preset output 6	10 %
A - Scene 4	Delay between sending the output telegrams	none
A - Scene 5		
A - Scene 6		
A - Scene 7		
A - Scene 8		

Webinar “Tips around ABB i-bus KNX”

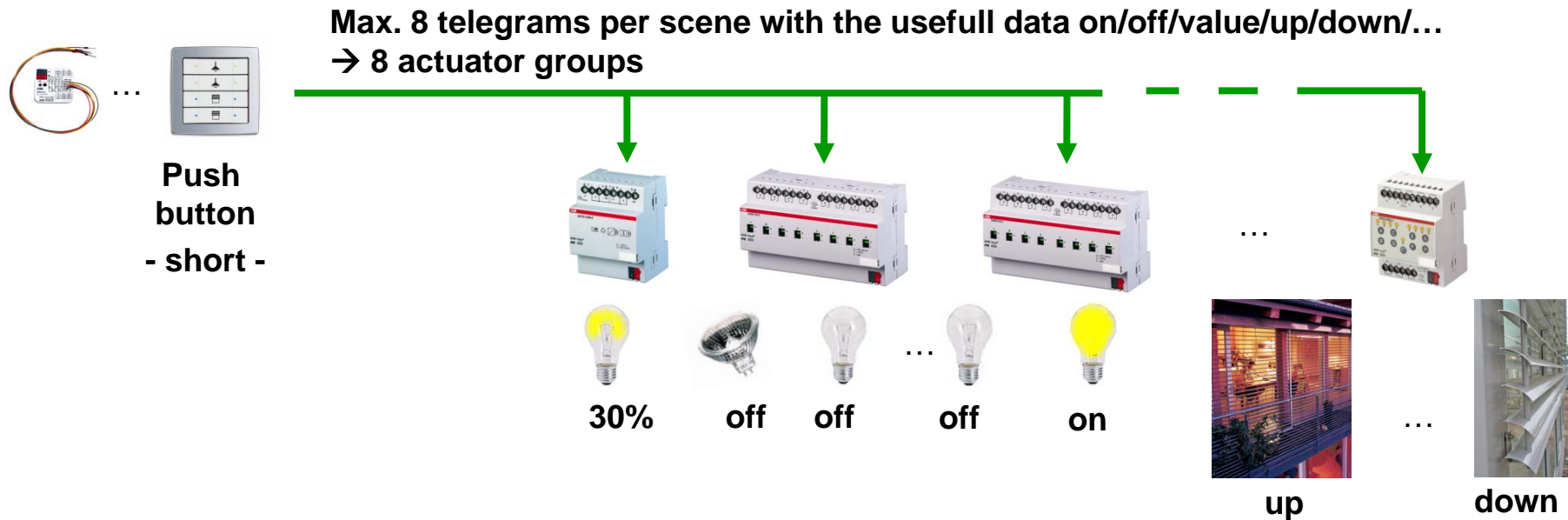
Scene Control – 2. Store scenes in a “Sensor”



- Control Element, Universal Interface, Touch Panel, ...
 - Number of stored scenes are limited (e.g. control element max. 8)
 - Number of actuator groups per scene are limited (e.g. control element max. 8)
- Call a scene (short): The sensor sends group addresses to the actuator outputs with the usefull data (on/off/value/up/down/...)
- Store a scene (long): The sensor sends a read request to these actuator outputs (are you on/off/brightness value?) and stores the answer
 - more bus traffic
 - max. 8 scenes and 8 groups (e.g. control element)
 - Scenes are stored in different sensors (loosing the overview)

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in a “Sensor”



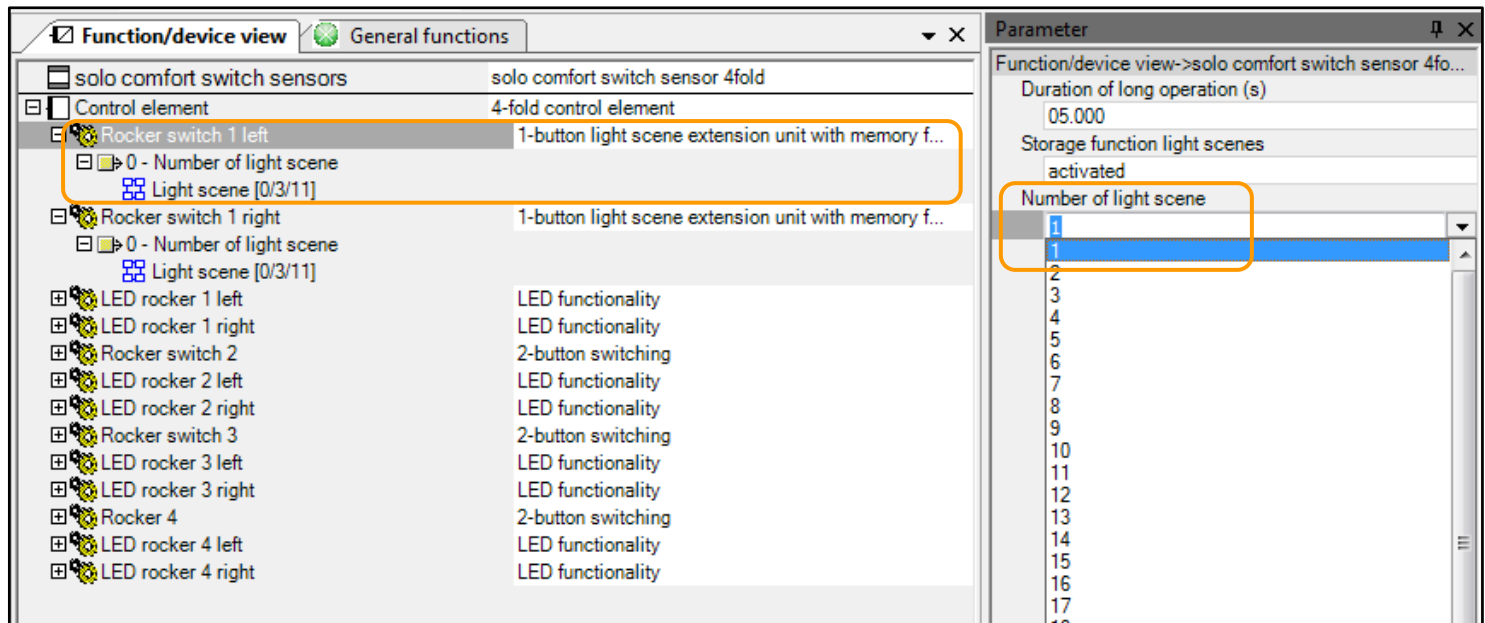
Example:

When leaving a building, the corridor lighting is dimmed to 30% and the other lighting is switched off. The shutters in the ground floor are closed, all others are open

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in a “Sensor”

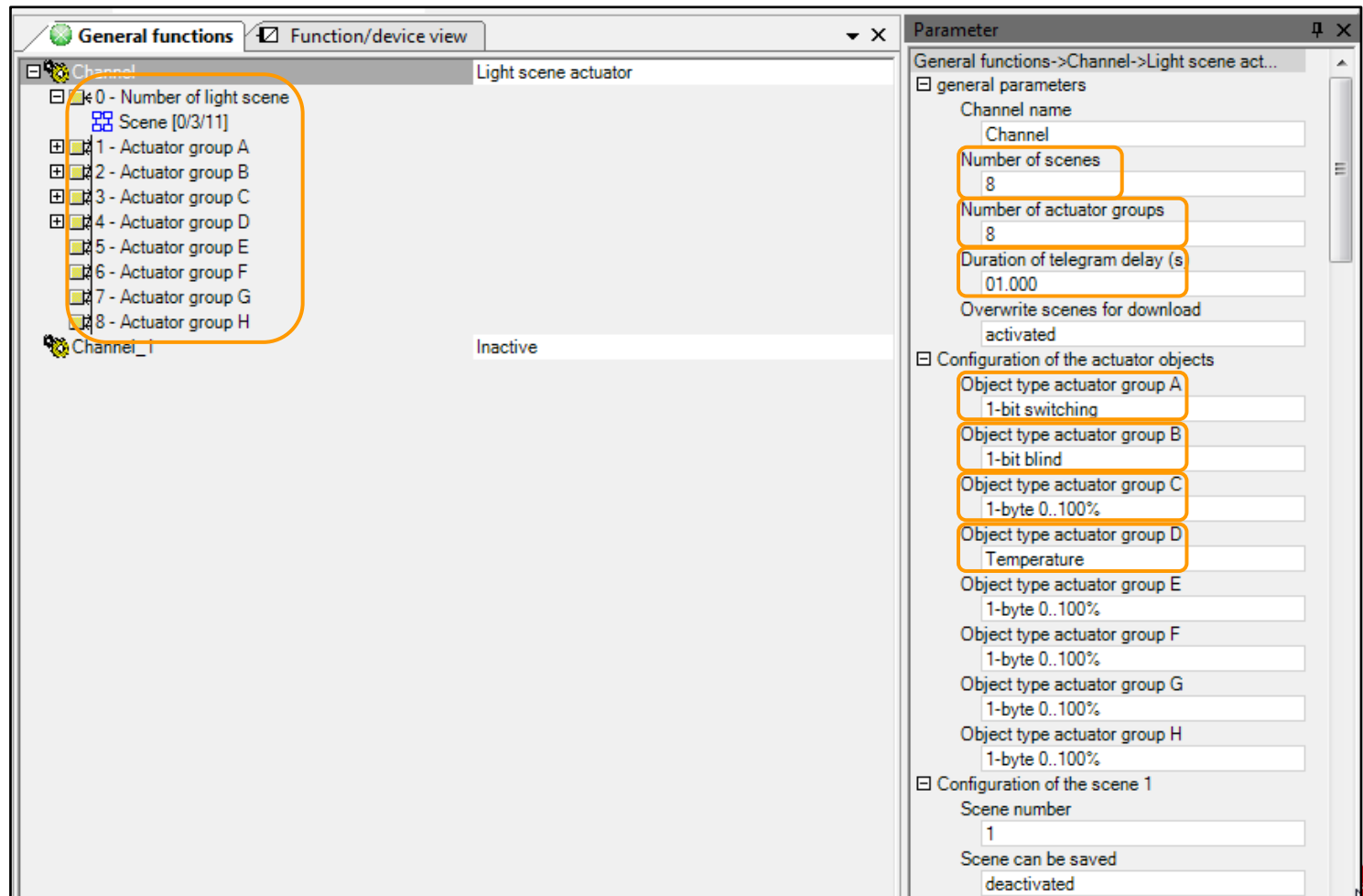
- Parameter Control Element – Send number of scene 1...64



Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in a “Sensor”

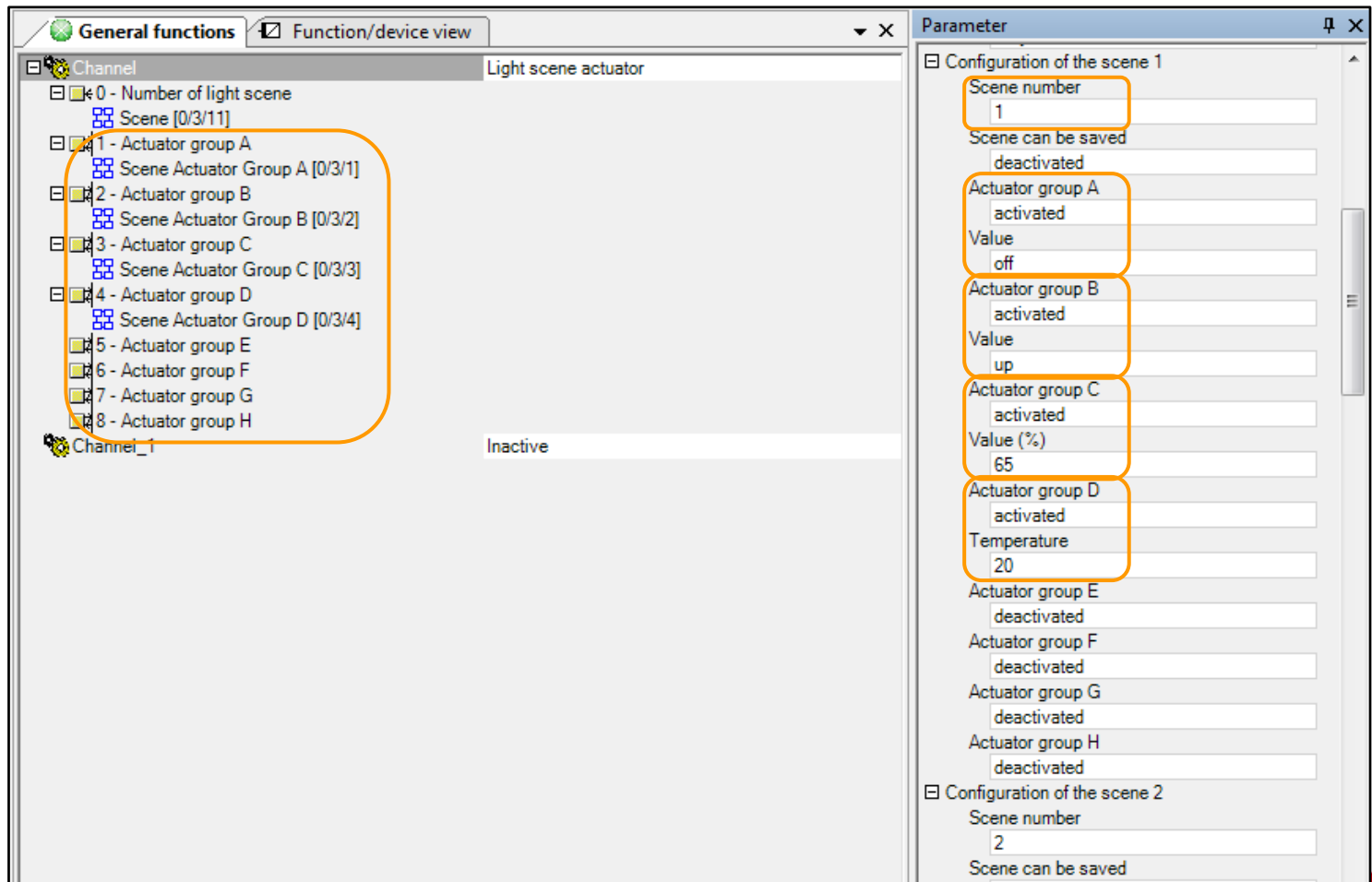
- Parameter Control Element – Number of scenes and actuator groups



Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in a “Sensor”

- Parameter Control Element – Configuration of scene 1...64



Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in a “Sensor”

- How to link group addresses

	Numb	Group Address	Name	Length	C	R	W	T	U	Data Type	Priority	Description
0	0/3/11		Rocker switch 1 left.0 - Number of light scene	1 byte	C	-	-	T	-		Low	Scene
1	0/3/11		Rocker switch 1 right.0 - Number of light scene	1 byte	C	-	-	T	-		Low	Scene
2	0/3/11		Channel.0 - Number of light scene	1 byte	C	-	W	-	-		Low	Scene
3	0/3/1		Channel.1 - Actuator group A	1 bit	C	-	W	T	U		Low	Scene Actuator Group A
4	0/3/2		Channel.2 - Actuator group B	1 bit	C	-	W	T	U		Low	Scene Actuator Group B
5	0/3/3		Channel.3 - Actuator group C	1 byte	C	-	W	T	U		Low	Scene Actuator Group C
6	0/3/4		Channel.4 - Actuator group D	2 bytes	C	-	W	T	U		Low	Scene Actuator Group D
7			Channel.5 - Actuator group E	1 byte	C	-	W	T	U		Low	
8			Channel.6 - Actuator group F	1 byte	C	-	W	T	U		Low	
9			Channel.7 - Actuator group G	1 byte	C	-	W	T	U		Low	
10			Channel.8 - Actuator group H	1 byte	C	-	W	T	U		Low	

Send to KNX Actuators

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in a “Sensor”

- Bus traffic – Call a scene (short)

Diagnostics

Monitor

Group Monitor

Bus Monitor

Start

Stop

Clear

Open

Save

Print

Replay Telegrams

Options

Group Functions

Search

Group Address

...

Data point type

1.001 switch

Last received value

Value

Off

Delay time[sec]

0

Send cyclically

Diagnostics

#

Time

Service

Prio

Source Add

Source Name

Destination

Destination Name

Route

Type

DPT

Info

1

24.05.2016 12:00:48,7...

Start

Recording was started. Host=

2

24.05.2016 12:00:53,2...

from bus

Low

1.110

solo comfort switch sensor 4fold

0/3/11

Scene

6

Write

5.010 counter pulses (0..255)

\$00 | 0

3

24.05.2016 12:00:53,2...

from bus

Low

1.110

solo comfort switch sensor 4fold

0/3/1

Scene Actuator Group A

6

Write

1.001 switch

\$00 | Off

4

24.05.2016 12:00:54,221

from bus

Low

1.110

solo comfort switch sensor 4fold

0/3/2

Scene Actuator Group B

6

Write

1.008 up/down

\$00 | Up

5

24.05.2016 12:00:55,2...

from bus

Low

1.110

solo comfort switch sensor 4fold

0/3/3

Scene Actuator Group C

6

Write

5.001 percentage (0..100%)

\$A5 | 65 %

6

24.05.2016 12:00:56,2...

from bus

Low

1.110

solo comfort switch sensor 4fold

0/3/4

Scene Actuator Group D

6

Write

9.001 temperature (°C)

07 D0 | 20 °C

7

24.05.2016 12:01:01,575

Stop

Recording was stopped

0/3/11	Scene	6	Write	5.010 counter pulses (0..255)	\$00 0
0/3/1	Scene Actuator Group A	6	Write	1.001 switch	\$00 Off
0/3/2	Scene Actuator Group B	6	Write	1.008 up/down	\$00 Up
0/3/3	Scene Actuator Group C	6	Write	5.001 percentage (0..100%)	\$A5 65 %
0/3/4	Scene Actuator Group D	6	Write	9.001 temperature (°C)	07 D0 20 °C

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

What is it?

- Fix states that are parameterized and stored in the actuators (e.g. switching states, brightness values, shutter positions ,...) are called by a single telegram (8 bit)

Which devices?

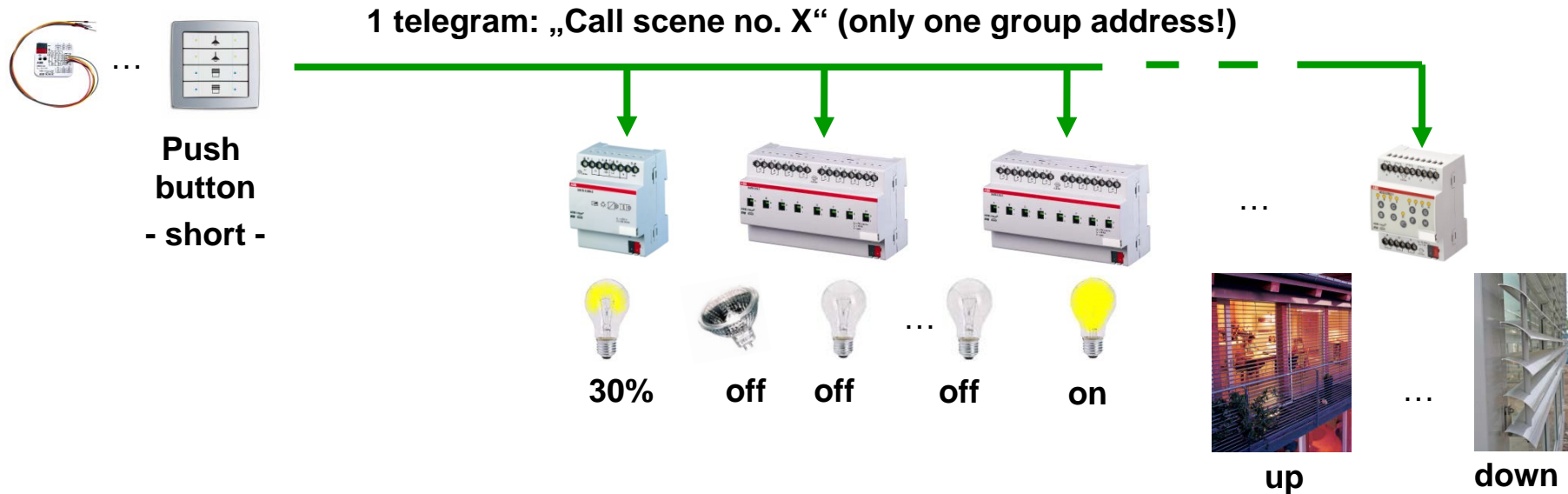
- Switch actuators, shutter actuators, dim actuators, DALI-gateways, ...

What is it used for?

- For comfortable operation of room functions
- In addition to that for flexible reaction on events, so that logic functions can be considerably reduced

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

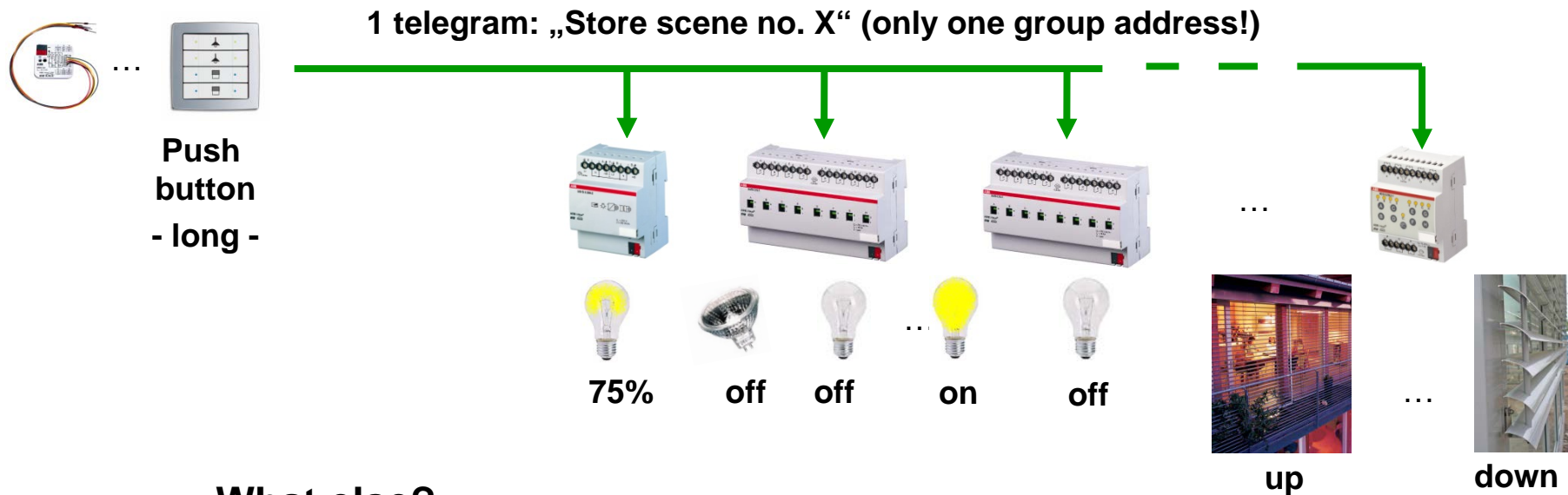


Example:

When leaving a building, the corridor lighting is dimmed to 30% and the other lighting is switched off. The shutters in the ground floor are closed, all others are open

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”



What else?

- Scenes can also be adapted to the user's demands
- When pressing the push-button for a long time (e.g. 3 sec.) , the actuator stores the current output state in memory
- The next time the scene is called, the actuator will restore this state

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

8-Bit-Scene

- 8-bit object for calling and storing up to 64 scenes
- Object value contains
 - A scene number (bit no. 1-6)
 - A command call or store the scene (bit no. 8)
- In the parameters the outputs are assigned to one or more a scene numbers
- KNX datapoint type DPT 18.001 DPT_SceneControl

Data Type
18.* scene control
18.001 scene control

Webinar “Tips around ABB i-bus KNX”

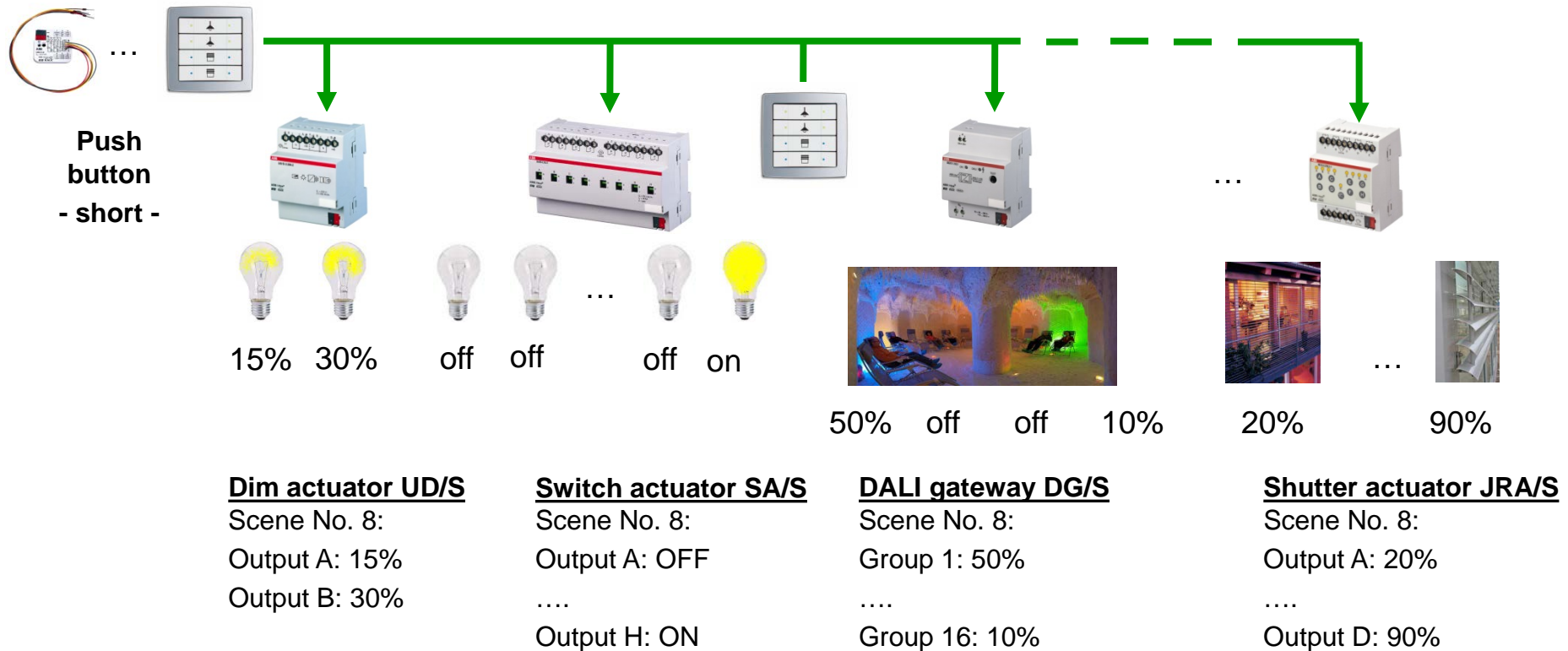
Scene Control – 2. Store scenes in “Actuators”

- The information (on, off, brightness value, ...) are stored in all actuators and can be retrieved via a telegram
- Only one communication object “8-bit-Scene”
- **Calling scene** 1 to 64 with a 8-bit telegram
 - Call scene 1 with usefull data „0” (00000000)
 - Call scene 2 with usefull data „1” (00000001)
 - Call scene 64 with usefull data „63” (00111111)
- **Storing scene** 1 to 64 with the same 8-bit telegram
 - Store scene 1 with usefull data „128” (10000000)
 - Store scene 2 with usefull data „129” (10000001)
 - Store scene 64 with usefull data „191” (10111111)

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

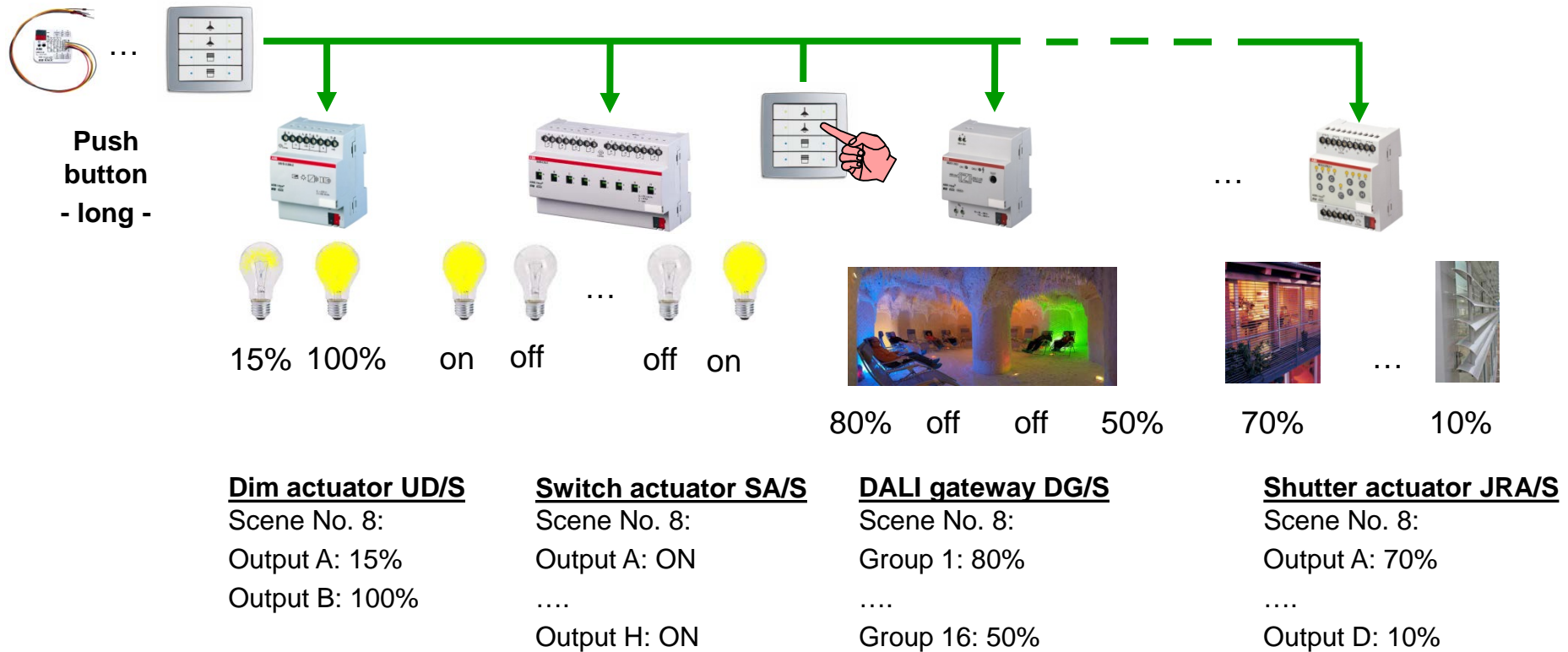
Short: Telegram usefull data „7“ → Calling KNX scene No. 8 with a 8-bit telegram



Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

Long: Telegram usefull data „135“ → Storing KNX scene No. 8 with a 8-bit telegram



Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

Advantages

- With the 8-bit scene the system receives an instruction to call/store a scene
- The information (brightness value, shutter position, ...) are not stored in the control element, but rather in all actuators
- All scene devices are addressed by the same group address
- It is sufficient to send a single telegram to call the scene with all outputs involved

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”



- Short rocker left: Calling scene no. 8 (telegram value „7”)
- Long rocker left: Storing scene no. 8 (telegram value „135”)
- Scenes are not stored in the control element!

Function/device view

Control element	Function
Control element	Double control element
<ul style="list-style-type: none"> Rocker switch 1 left <ul style="list-style-type: none"> Number of light scene Rocker switch 1 right <ul style="list-style-type: none"> Number of light scene LED rocker 1 left LED rocker 1 right Rocker switch 2 left <ul style="list-style-type: none"> Number of light scene Rocker switch 2 right <ul style="list-style-type: none"> Number of light scene LED rocker 2 left LED rocker 2 right 	<ul style="list-style-type: none"> Light scene extension unit with storage function Light scene extension unit with storage function Inactive Inactive Light scene extension unit with storage function Light scene extension unit with storage function Inactive Inactive

Parameter

Function/device view->solo comfort switch sensor 2fold->

Duration of long operation (s)	05.000
Storage function light scenes	activated
Number of light scene	8

Address	Object Address	Description	Length
0	1/1/11	Rocker switch 1 left.Number of light scene	1 Byte
1	1/1/11	Rocker switch 1 right.Number of light scene	1 Byte
2	1/1/11	Rocker switch 2 left.Number of light scene	1 Byte
3	1/1/11	Rocker switch 2 right.Number of light scene	1 Byte

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

- All scenes are stored in the actuators!

Number	Group Addresses	Name	Object Function	Length
20		General	In Operation	1 bit
10	2/0/1, 1/0/1, 1/0/2...	Output A	Switch	1 bit
15	1/1/1	Output A	Call preset 1/2	1 bit
16	1/1/3	Output A	Set preset 1/2	1 bit
17	1/1/11	Output A	8-Bit-Scene	1 Byte
29	2/0/4	Output A	Telegr. Status Switch	1 bit
30	2/0/11, 1/0/1, 1/0/...	Output B	Switch	1 bit
35	1/1/1	Output B	Call preset 1/2	1 bit
36	1/1/3	Output B	Set preset 1/2	1 bit
37	1/1/11	Output B	8-Bit-Scene	1 Byte
49	2/0/14	Output B	Telegr. Status Switch	1 bit
50	2/0/21, 1/0/1, 1/0/...	Output C	Switch	1 bit
55	1/1/1	Output C	Call preset 1/2	1 bit
56	1/1/3	Output C	Set preset 1/2	1 bit
57	1/1/11	Output C	8-Bit-Scene	1 Byte

Switch Actuator

Number	Group Address...	Name	Object Function	Length
1		General	Excess temperature	1 bit
2		General	Critical excess temper...	1 bit
10	2/1/1, 1/0/1...	Output A	Switch	1 bit
11	2/1/4	Output A	Status switch	1 bit
12	2/1/2, 1/0/12	Output A	Relative dimming	4 bit
13	2/1/3	Output A	Brightness value	1 Byte
14	2/1/5	Output A	Status brightness value	1 Byte
17	1/1/1	Output A	Call preset 1 and 2	1 bit
18	1/1/3	Output A	Set preset 1 and 2	1 bit
19		Output A	Call preset 3 and 4	1 bit
21	1/1/11	Output A	8-bit-scene	1 Byte
32		Output A	Load type	1 bit

Dim Actuator

Number	Group Address...	Name	Object Function	Length
11	3/0/1	Output A	Move blinds Up-Down	1 bit
12	3/0/2	Output A	Louvre adj./ Stop Up-...	1 bit
13		Output A	Move to position 0..255	1 Byte
14		Output A	Move louvres 0..255	1 Byte
15		Output A	Move to position 1/2	1 bit
16		Output A	Move to position 3/4	1 bit
17		Output A	Set position 1/2	1 bit
18		Output A	Set position 3/4	1 bit
21	1/1/11	Output A	Scene	1 Byte

Shutter Actuator

52	1/1/11	Scenes 1..15	8-bit-scene	1 Byte
53	2/2/53, 1/0/51	Device A01	Switch/Status	1 bit
54	2/2/54	Device A01	Relative Dimming	4 bit
55	2/2/55	Device A01	Brightness value/Status	1 Byte
56	2/2/56, 1/0/51	Device A02	Switch/Status	1 bit
57	2/2/57	Device A02	Relative Dimming	4 bit
58		Device A02	Brightness value/Status	1 Byte

DALI Gateway

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

- Switch Actuator SA/S: Channel A
- Reaction on calling a scene 8

1.1.4 SA/S8.16.6.1 Switch Actuator,8-fold,16A,MDRC > A: Scene

General	Output is assigned to (Scene 1...64)	Scene 8
A: General	Standard value	<input checked="" type="radio"/> ON <input type="radio"/> OFF
A: Function	Output is assigned to (Scene 1...64)	Scene 8
A: Scene	Standard value	no allocation Scene 1 Scene 2 Scene 3 Scene 4 Scene 5 Scene 6 Scene 7 Scene 8 Scene 9 Scene 10 Scene 11 Scene 12 Scene 13 Scene 14
B: General	Output is assigned to (Scene 1...64)	
B: Function	Standard value	
C: General	Output is assigned to (Scene 1...64)	
C: Function	Standard value	
D: General	Output is assigned to (Scene 1...64)	
D: Function	Standard value	
E: General		

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

- Dim Actuator UD/S: Channel A
- Reaction on calling a scene 8 (brightness value)

1.1.5 UD/S2.300.2 Universal Dim Act.,2-fold,300VA,MDRC > A: Scene (1)

General	Assignment to scene number 1...64	Scene no. 8
A: General	Standard brightness value	83% (212)
A: Function	Time to call new brightness value "Transition time" in s [0...65535]	3
A: Switch	Assignment to scene number 1...64	no assignment
A: Dimming	Standard brightness value	no assignment ✓
A: Value	Time to call new brightness value "Transition time" in s [0...65535]	Scene no. 1
A: Scene (1)	Assignment to scene number 1...64	Scene no. 2
B: General	Standard brightness value	Scene no. 3
B: Function	Time to call new brightness value "Transition time" in s [0...65535]	Scene no. 4
B: Switch	Enable more scene assignments	Scene no. 5

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

- Shutter Actuator JRA/S: Channel A
- Reaction on calling a scene 8 (height and position)

1.1.7 JRA/S4.230.5.1 Blind/RollerShutterAct,TD,M,4f,230V > A: Scene

A: Functions	Overwrite scenes on download	<input type="radio"/> Yes <input checked="" type="radio"/> No
A: Scene		
A: Status messages	Use 1st assignment	<input checked="" type="radio"/> Yes <input type="radio"/> No
B: General	Assignment to scene number 1...64	Scene No. 8
B: Safety/Weather	Position Height in % [0...100] (0% = top; 100% = bottom)	60
B: Drive	Position Slat in % [0...100] (0% = open; 100% = closed)	45
B: Blinds/Shutter	Use 2nd assignment	<input checked="" type="radio"/> Yes <input type="radio"/> No
B: Functions	Assignment to scene number 1...64	Scene No. 1
B: Status messages	Position Height in % [0...100] (0% = top; 100% = bottom)	Scene No. 1 ✓
C: General	Position Slat in % [0...100] (0% = open; 100% = closed)	Scene No. 2
C: Safety/Weather	Use 3rd assignment	Scene No. 3
	Use 4th assignment	Scene No. 4

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

- DALI Gateway DG/S 1.16.1: Group 1-16
- Reaction on calling a scene 8 (brightness value)

1.1.6 DG/S1.16.1 DALI-Gateway,16G,1f,MDRC > Scene 8

- G4 Fault	Transition time for Scene	2 s
Scenes	Overwrite Scene on download or KNX bus voltage recovery	<input checked="" type="radio"/> yes <input type="radio"/> no
Scene 7	Group 1 Brightness value of Scene	90 % (230)
Scene 8	Group 2 Brightness value of Scene	no change (no member in this Scene)
Scene 9	Group 3 Brightness value of Scene	74 % (189)
Scene 10	Group 4 Brightness value of Scene	73 % (186)
Scene 11	Group 5 Brightness value of Scene	72 % (184)
Scene 12	Group 6 Brightness value of Scene	71 % (181)
Scene 13	Group 7 Brightness value of Scene	70 % (179)
Scene 14	Group 8 Brightness value of Scene	69 % (176)
	Group 9 Brightness value of Scene	68 % (173)
	Group 10 Brightness value of Scene	67 % (171)
		66 % (168)
		65 % (166)
		64 % (163)
		63 % (161)
		62 % (158)

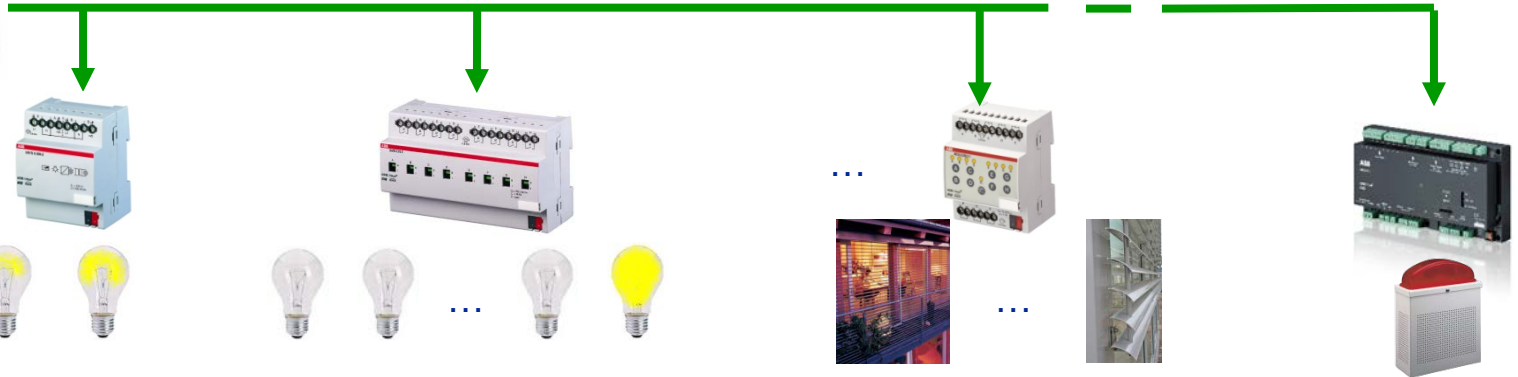
Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

Push
button
- short -



Short: Calling KNX scene No. 4 “Good Night”



Dim actuator UD/S

Bedroom: A - n.A.
Staircase: B - 0%

Switch actuator SA/S

Kitchen light: A - OFF
Kitchen socket outlets: B - OFF
Livingroom light: C - OFF
Bathroom light: D - OFF
Children room: E - n.A.

Shutter actuator JRA/S

Kitchen: A - 100%
Living room: B - 100%
Bathroom: C - 90%
Bedroom: D - 90%
Children room: E - n.A.

Security Panel GM/A:

Internal Set

n.A. – no assignment

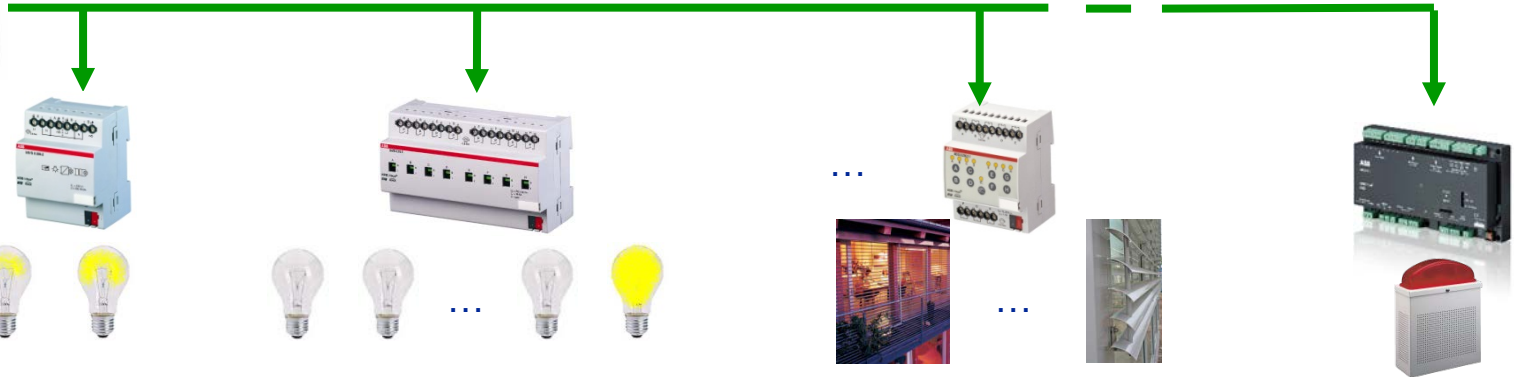
Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

Push
button
- short -



Short: Calling KNX scene No. 6 “Good Morning”



Dim actuator UD/S

Bedroom: A - n.A.
Staircase: B - n.A.

n.A. – no assignment

Switch actuator SA/S

Kitchen light: A - n.A.
Kitchen socket outlets: B - ON
Livingroom light: C - n.A.
Bathroom light: D - n.A.
Children room: E - n.A.

....

Shutter actuator JRA/S

Kitchen: A - 0%
Living room: B - 50%
Bathroom: C - 0%
Bedroom: D - 0%
Children room: E - n.A.

...

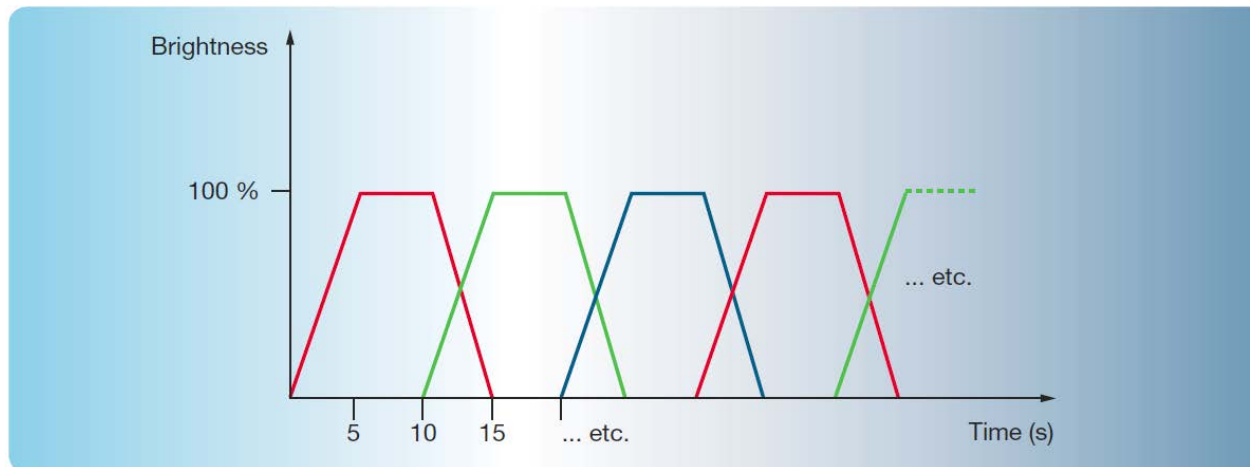
Security Panel GM/A:

Unset

Webinar “Tips around ABB i-bus KNX”

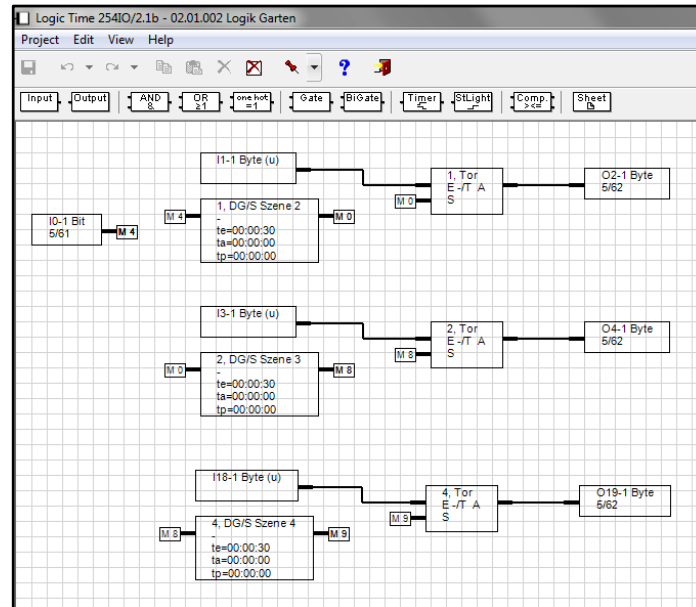
Sequencer

- Scenes can be recalled successively with a sequence
→ external logic, e.g. Application Unit ABL/S
- Transition and scene runtimes can be individually set
- A control element starts and stops the process
- Example:
Colour cycling light sequence in the wellness area of a hotel



Webinar “Tips around ABB i-bus KNX” Sequencer

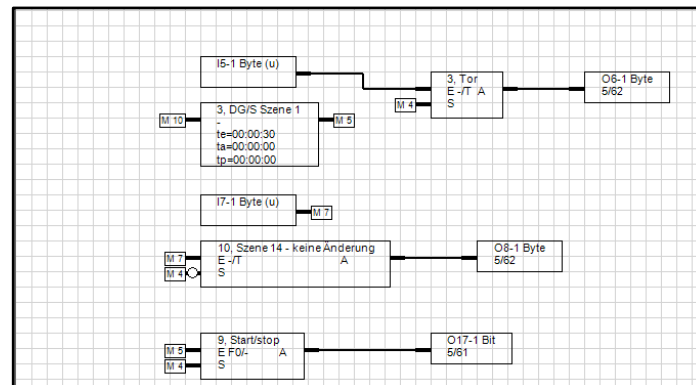
Start/stop sequencer



Call scene no. 2

Call scene no. 3

Call scene no. 4

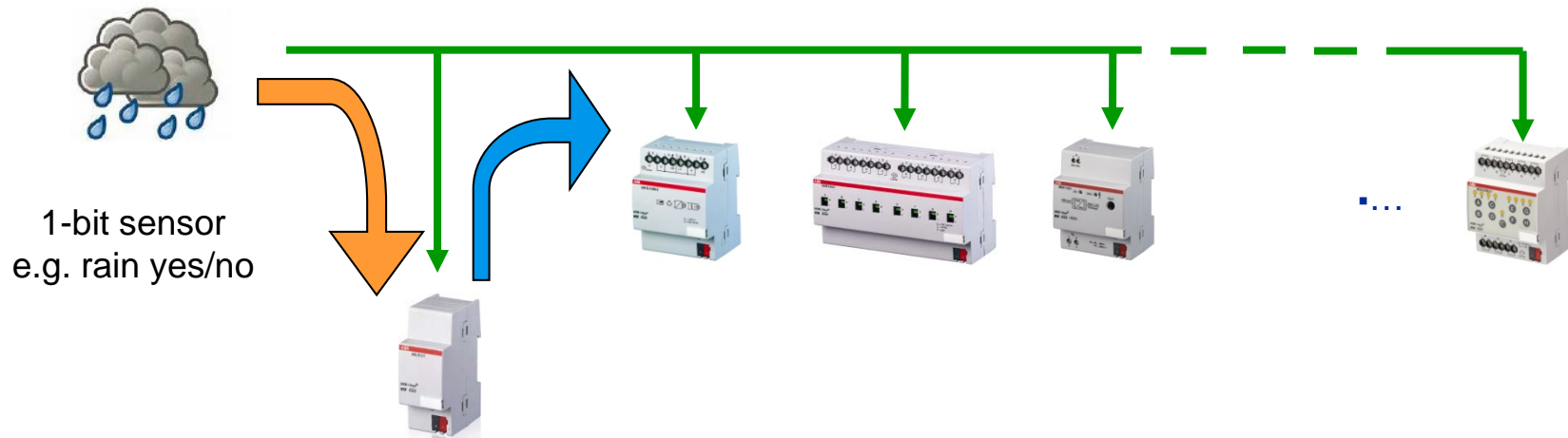


Call scene no. 1

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

- Convert 1-bit to 8-bit



ABL/S2.1 Application Unit Logic

1-bit telegram „1“

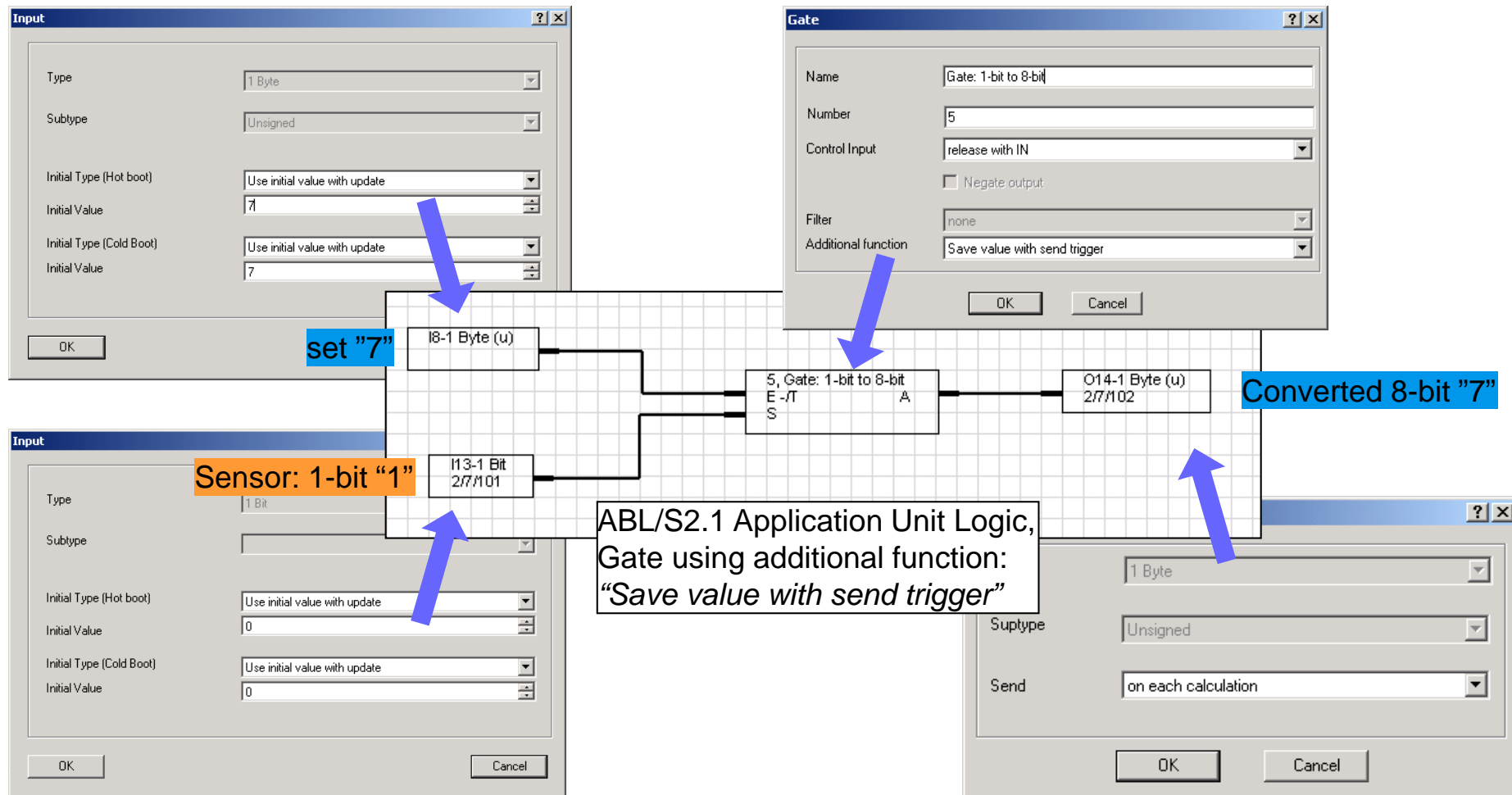


8-bit telegram calling KNX scene No. 8

Webinar “Tips around ABB i-bus KNX”

Scene Control – 2. Store scenes in “Actuators”

- Convert 1-bit to 8-bit – call scene no. 8



Webinar “Tips around ABB i-bus KNX”

Agenda

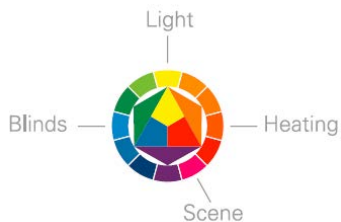
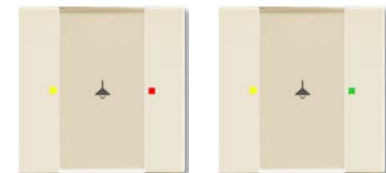
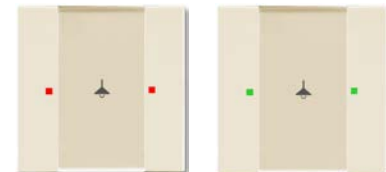


- Parallel Operation of KNX Presence and Motion Sensors
- Unified RTC with two independent Controller
- Bus cable
- Scene Control
- **Status LEDs**
- Sending the first Group Address of a Group Object
- Area Coupler – Line Coupler – Line Repeater
- Planning information for a Safe Installation

Webinar “Tips around ABB i-bus KNX”

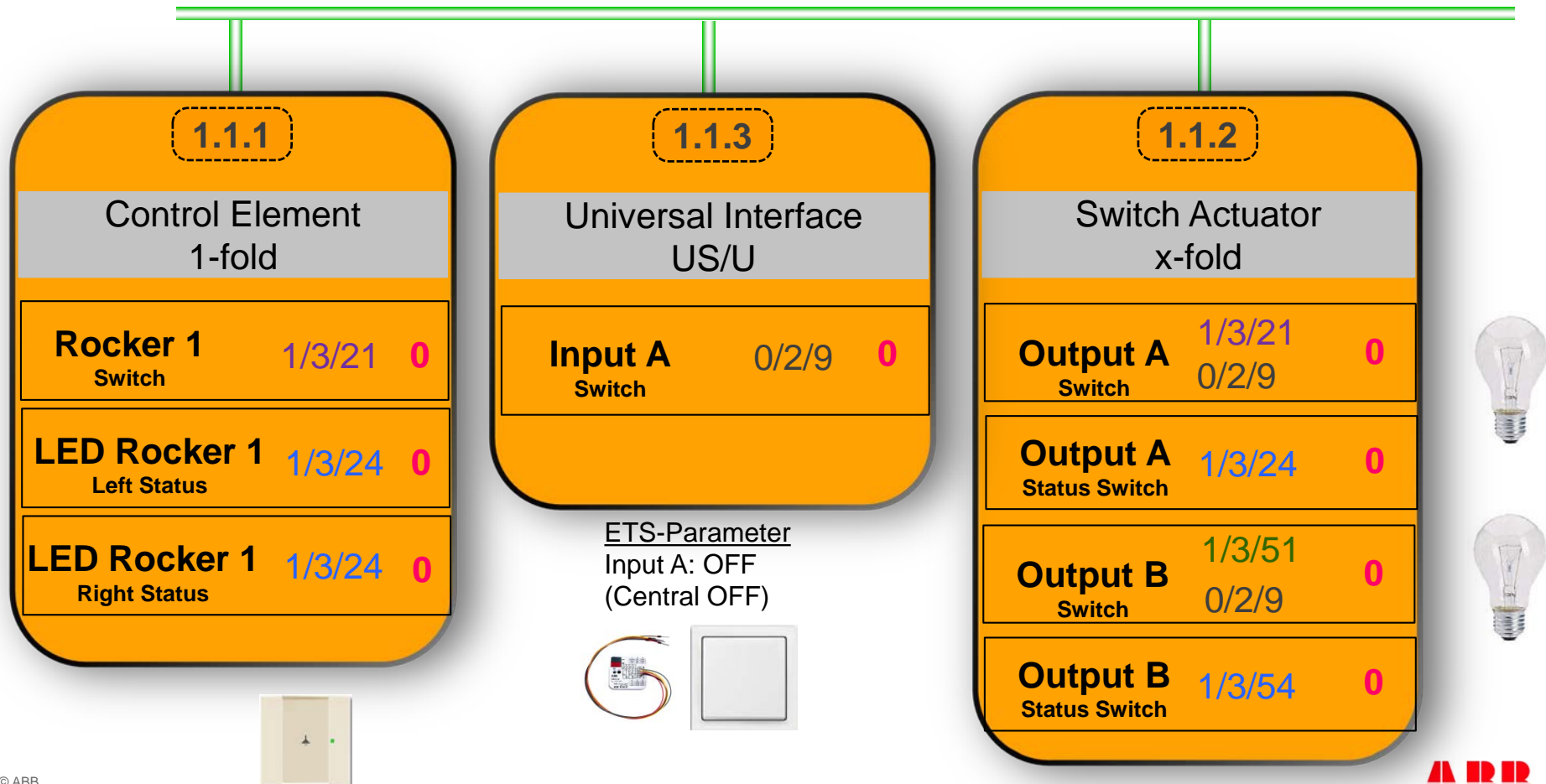
Status LEDs

- LEDs show the correct status of the output
 - Mode of the rocker:
 - Left ON and right OFF
 - Output ON → Left LED RED and right LED OFF
 - Output OFF → Left LED OFF and right LED GREEN
 - Left and right TOGGLE
 - Output ON → Left and right LED RED
 - Output OFF → Left and right LED GREEN
 - Left and right TOGGLE
 - Colour coding Concept: Yellow stands for lighting
 - Output ON → Left YELLOW and right LED RED
 - Output OFF → Left YELLOW and right LED GREEN
- ... and many more possibilities



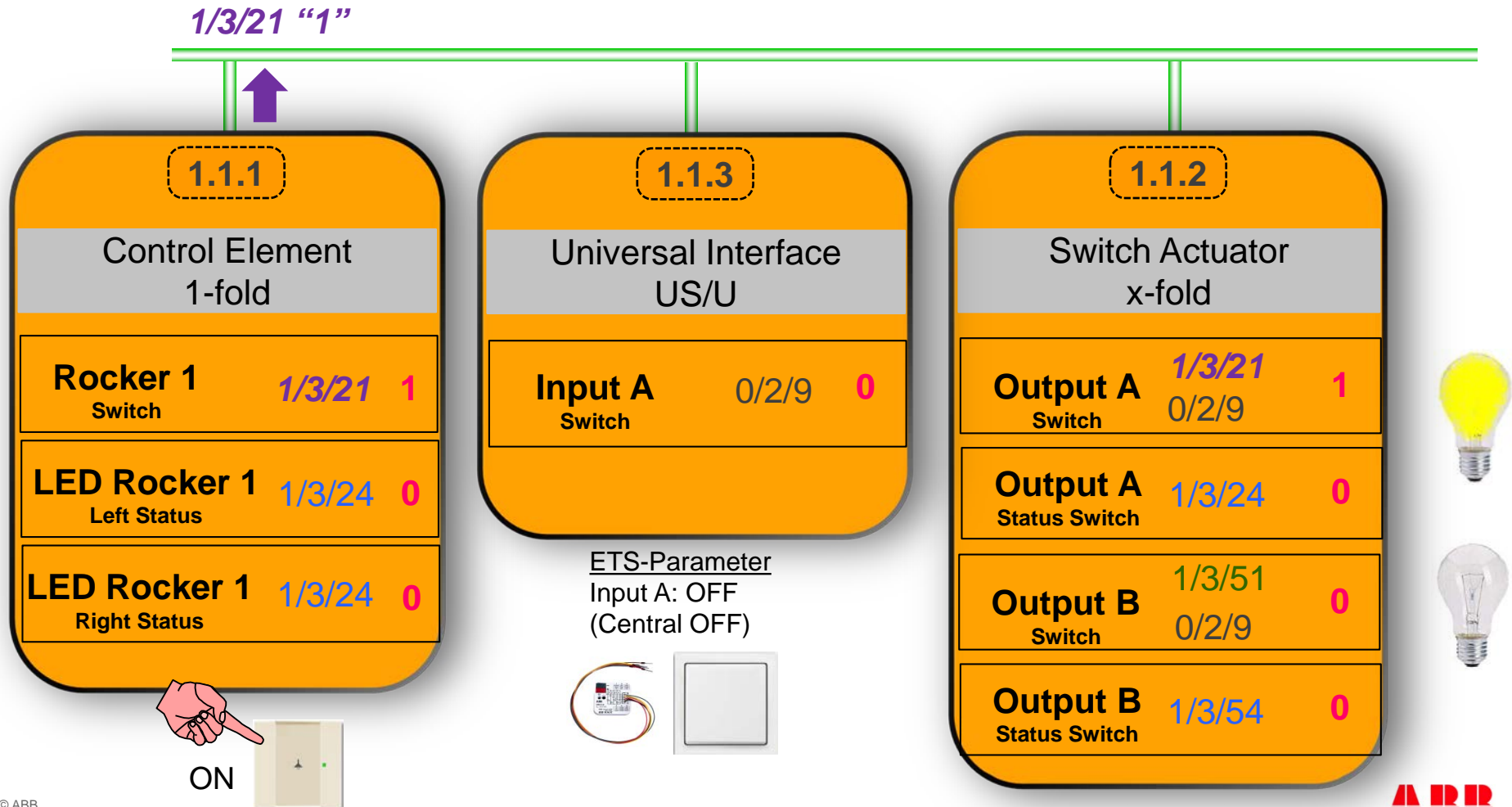
Webinar “Tips around ABB i-bus KNX”

Status LEDs



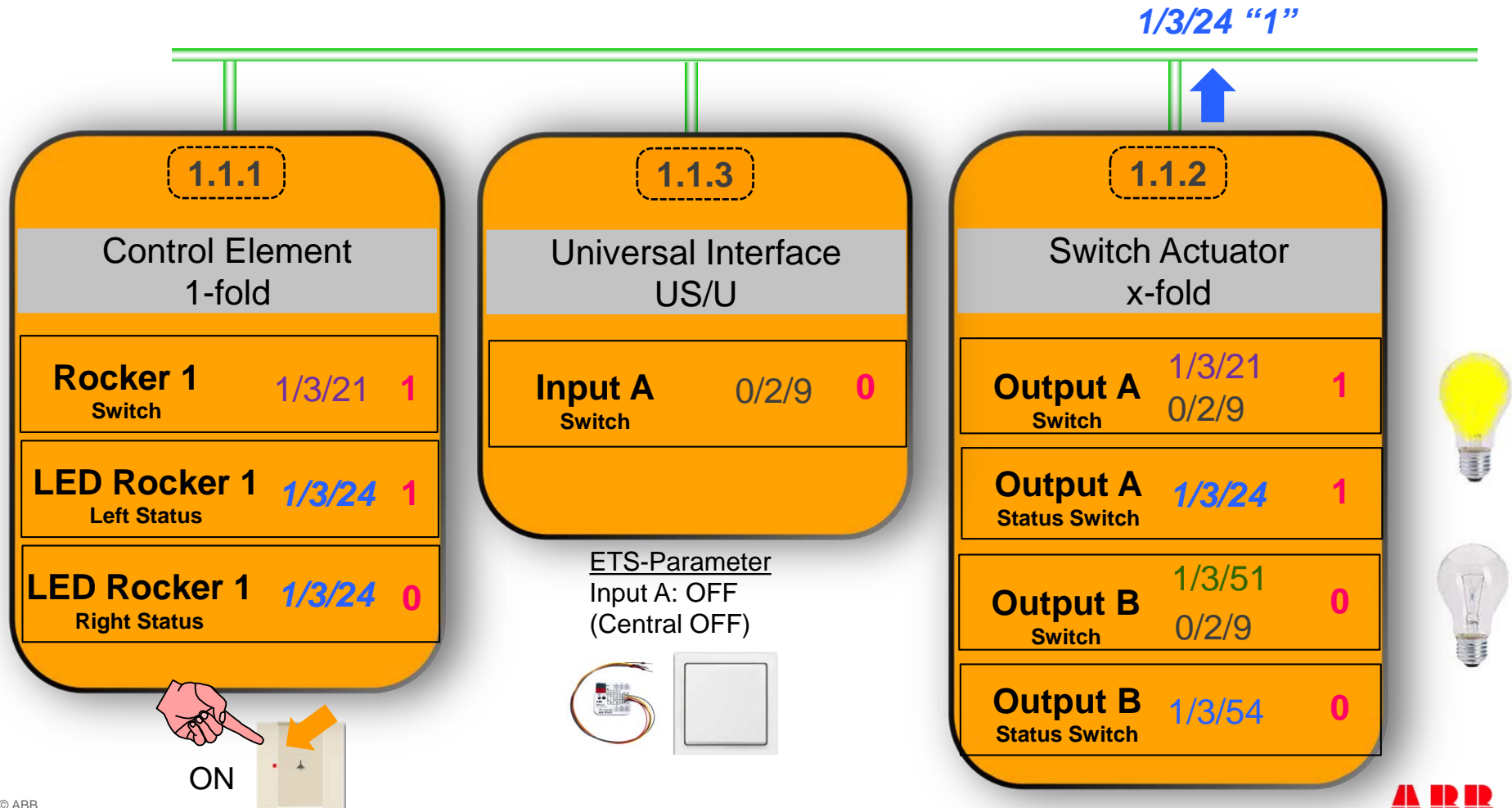
Webinar “Tips around ABB i-bus KNX”

Status LEDs



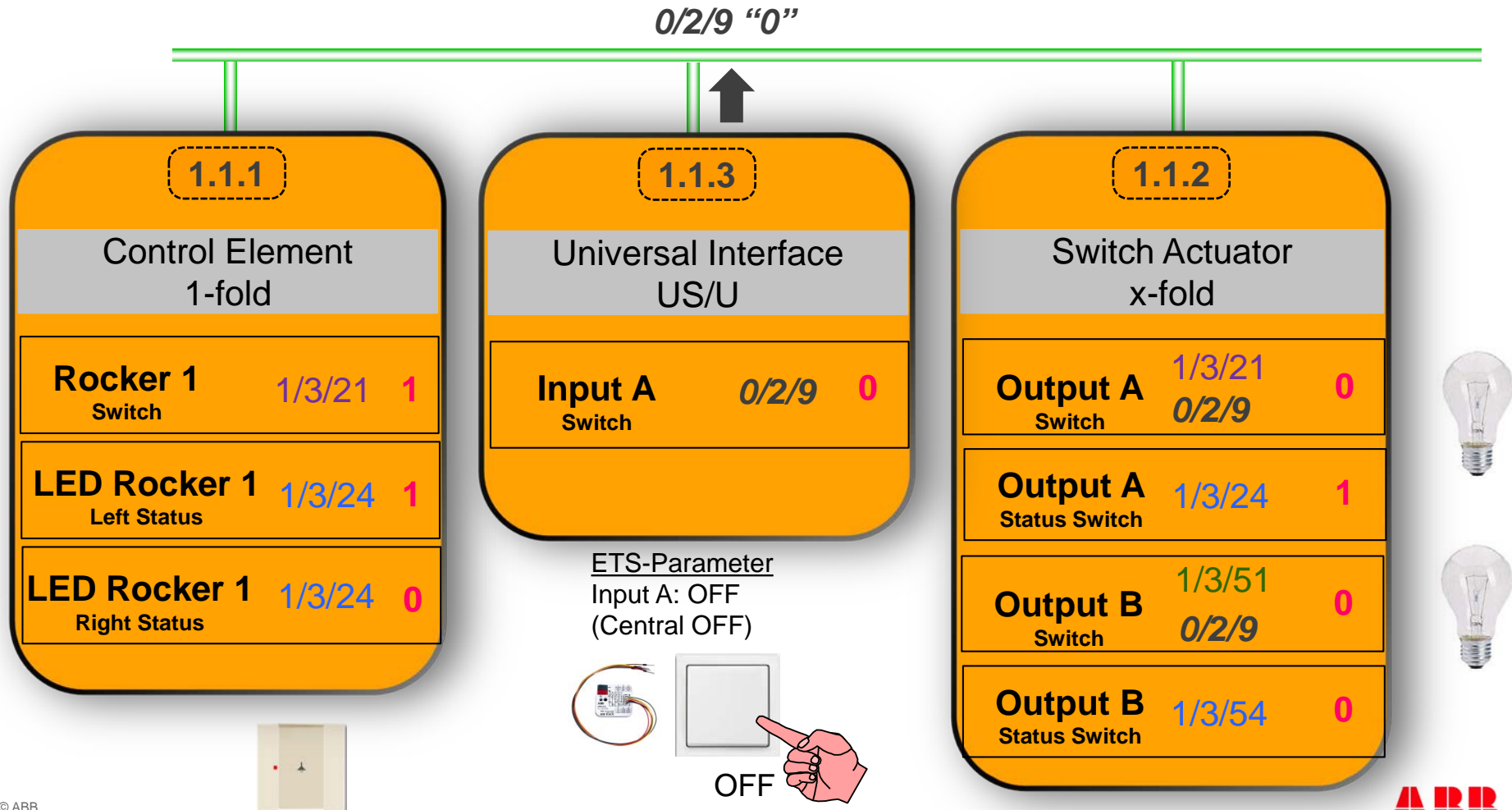
Webinar “Tips around ABB i-bus KNX”

Status LEDs



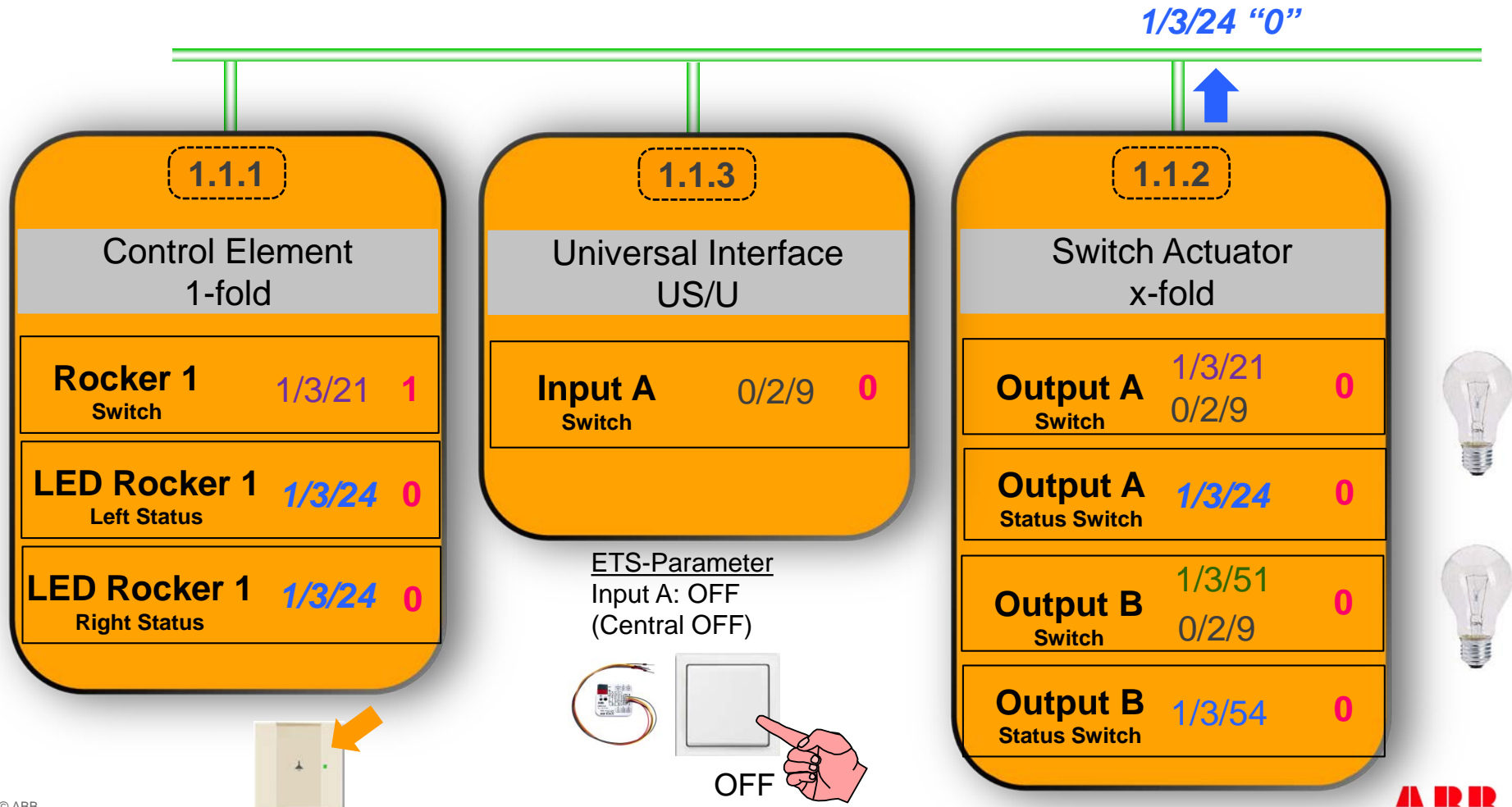
Webinar “Tips around ABB i-bus KNX”

Status LEDs



Webinar “Tips around ABB i-bus KNX”

Status LEDs



Webinar “Tips around ABB i-bus KNX”

Agenda



- Parallel Operation of KNX Presence and Motion Sensors
- Unified RTC with two independent Controller
- Bus cable
- Scene Control
- Status LEDs
- Sending the first Group Address of a Group Object
- Area Coupler – Line Coupler – Line Repeater
- Planning information for a Safe Installation

Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object

- A group object can send only one group address !!!

Numb	Group Address	Name	Object Function
0		Input A	Disable
1	1/5/11, 1/5/14	Input A	Telegr. switch

Group Address	Descr	Data Type	Sending
1/5/11	Light ceiling in room 3-001 on/off	S	
1/5/14	Light ceiling in room 3-001 status	-	

Group Address	Descr	Data Type	Sending
1/5/11	Light ceiling in room 3-001 on/off	S	
1/5/14	Light ceiling in room 3-001 status	-	

Open

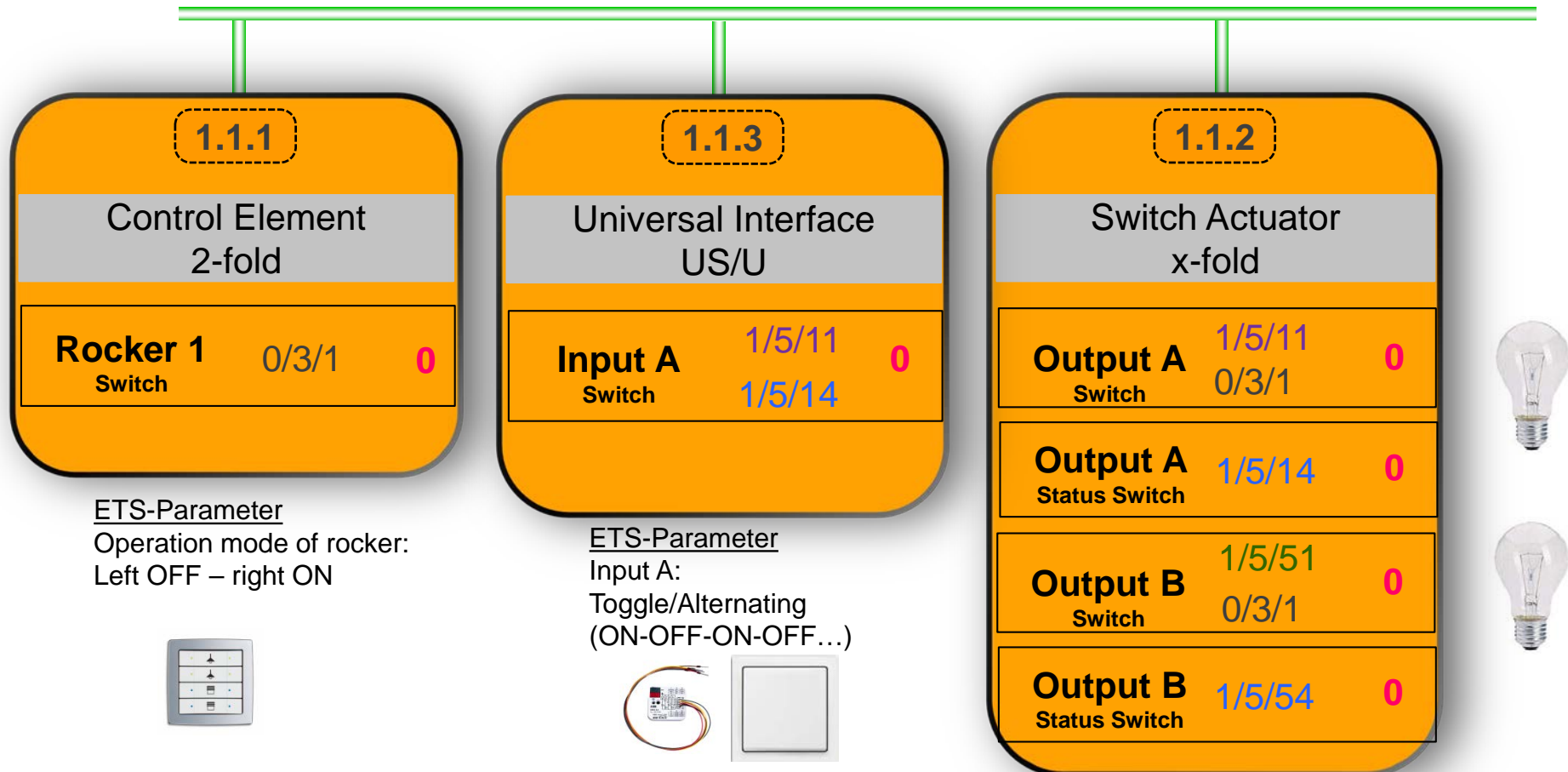
Download

Unlink

Set Sending

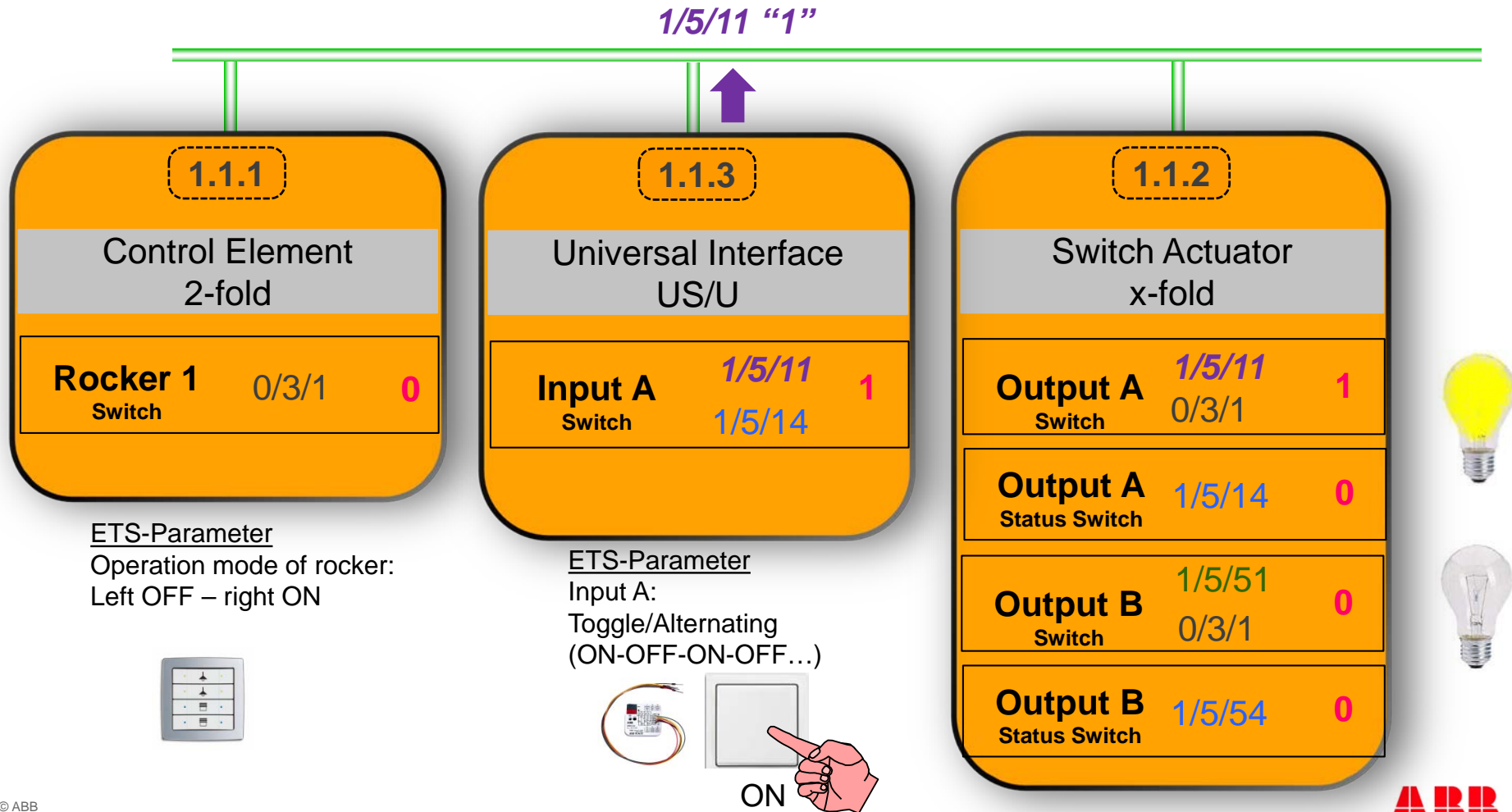
Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object



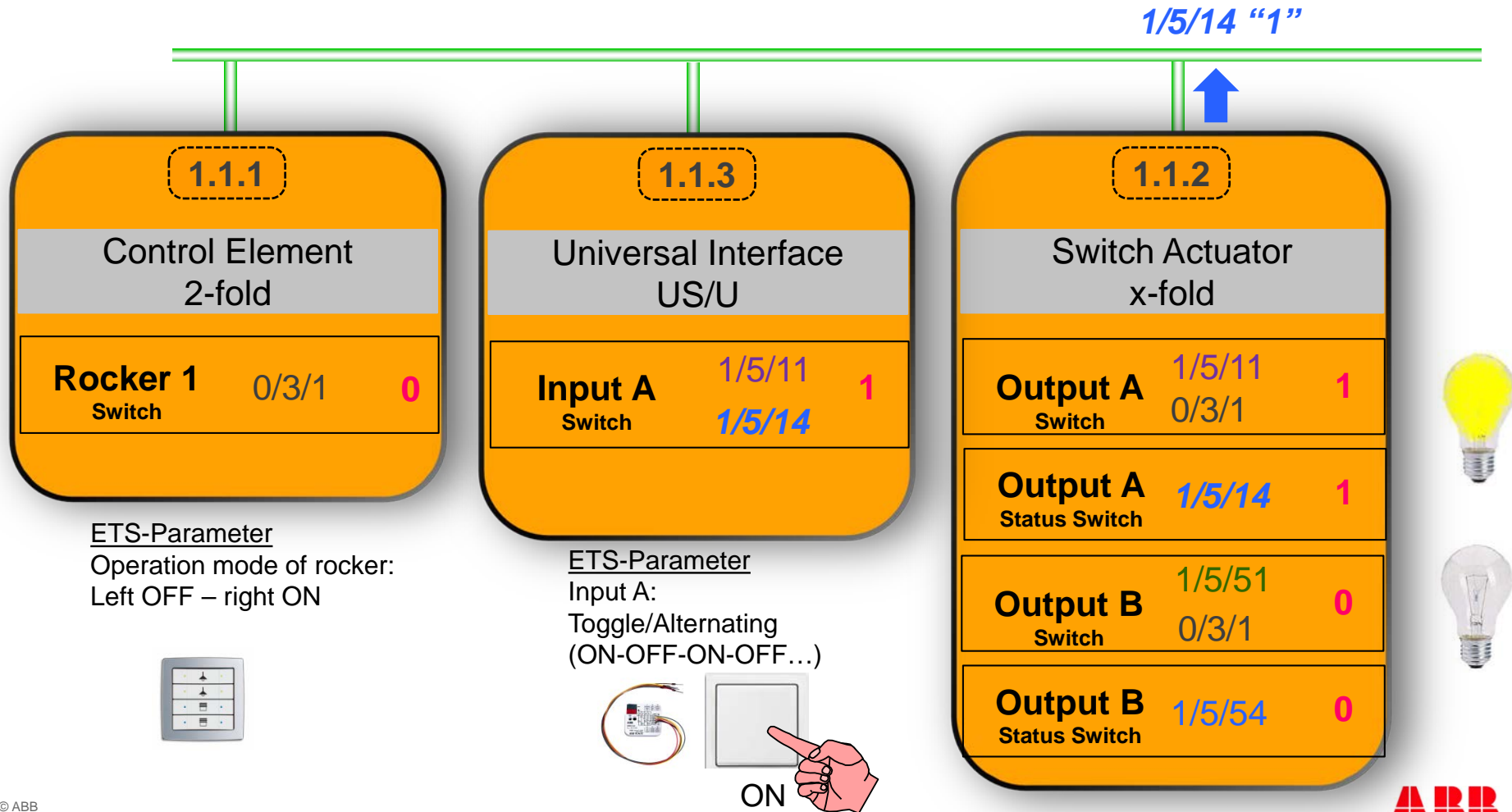
Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object



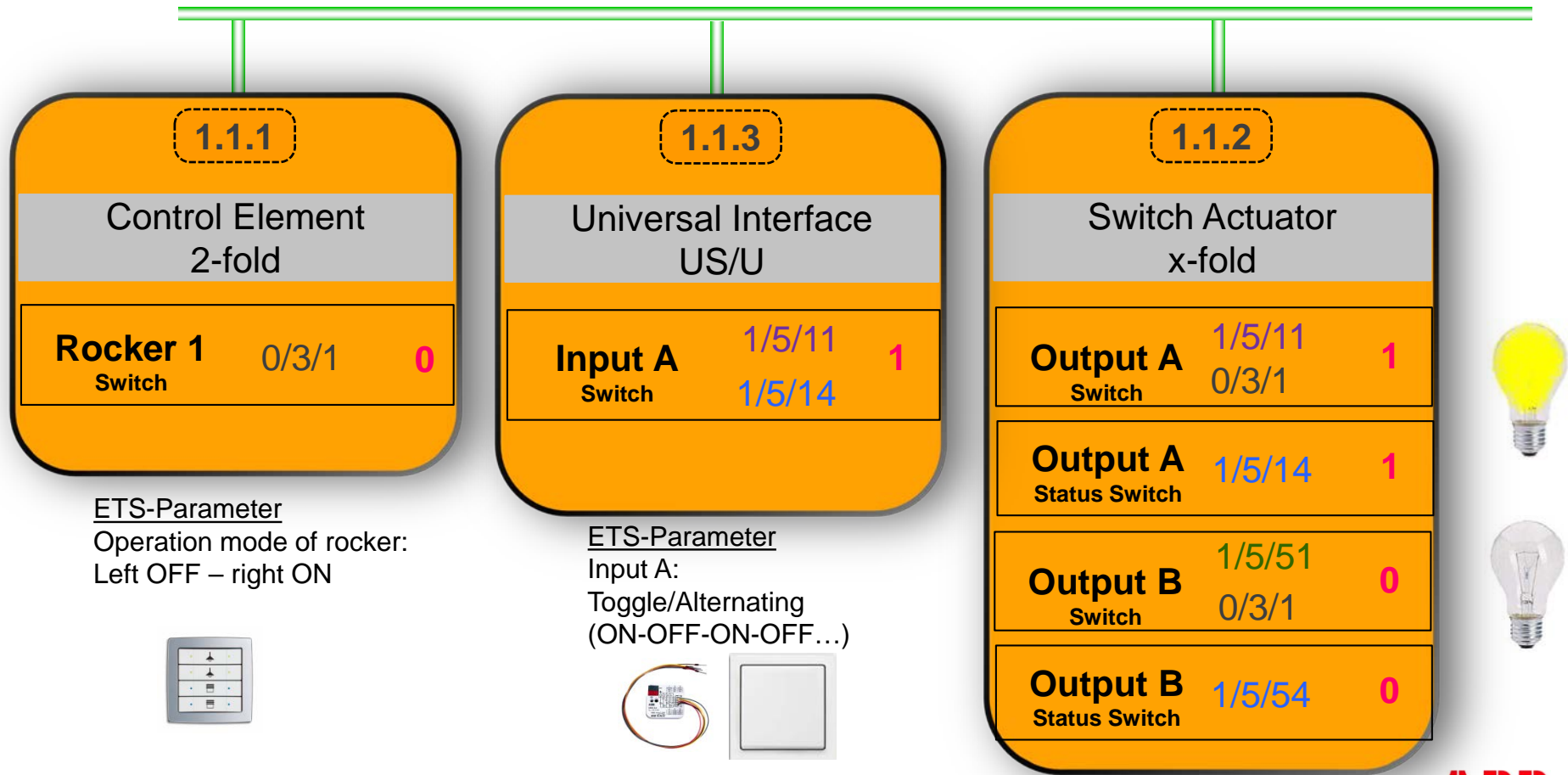
Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object



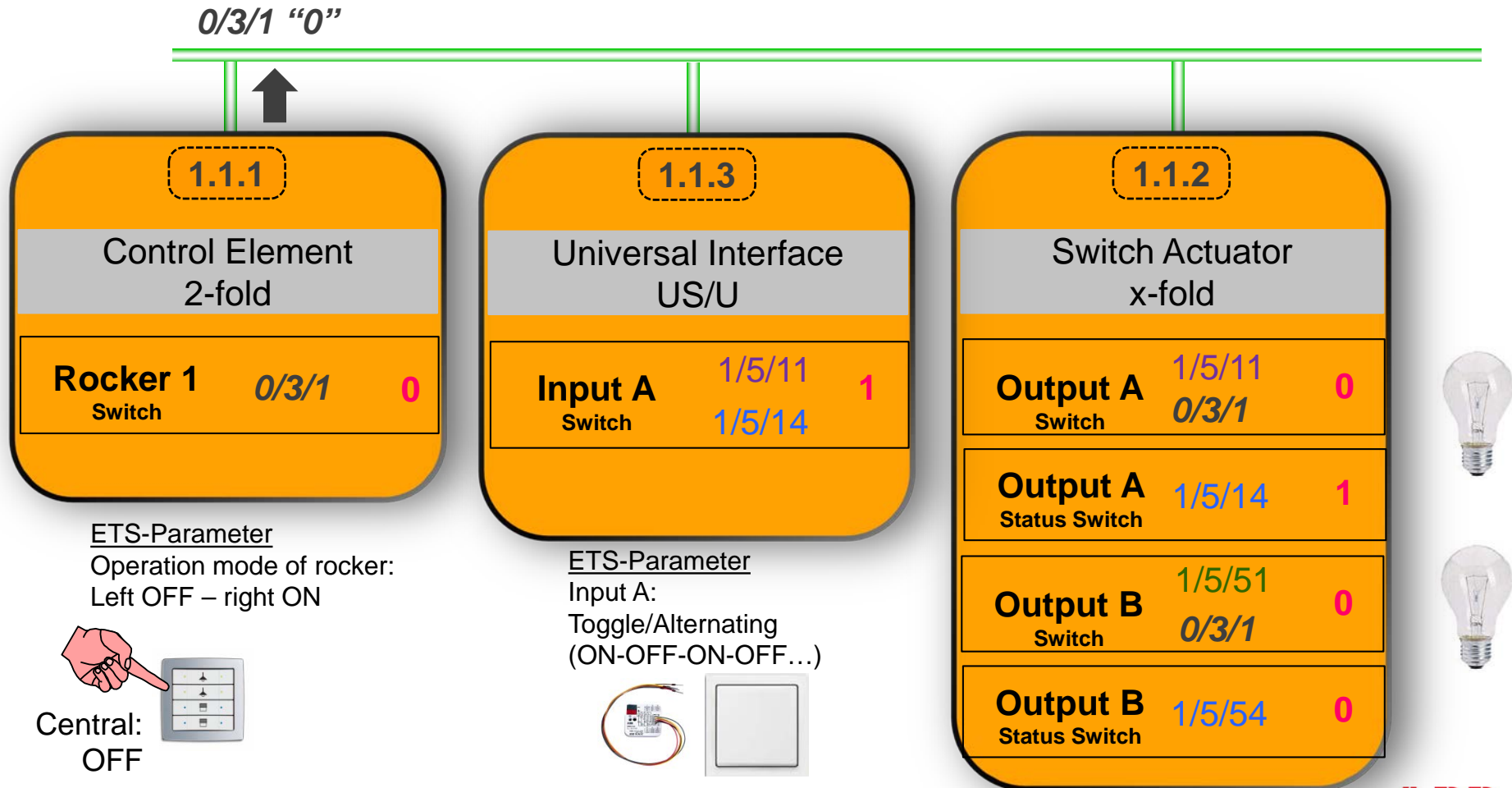
Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object



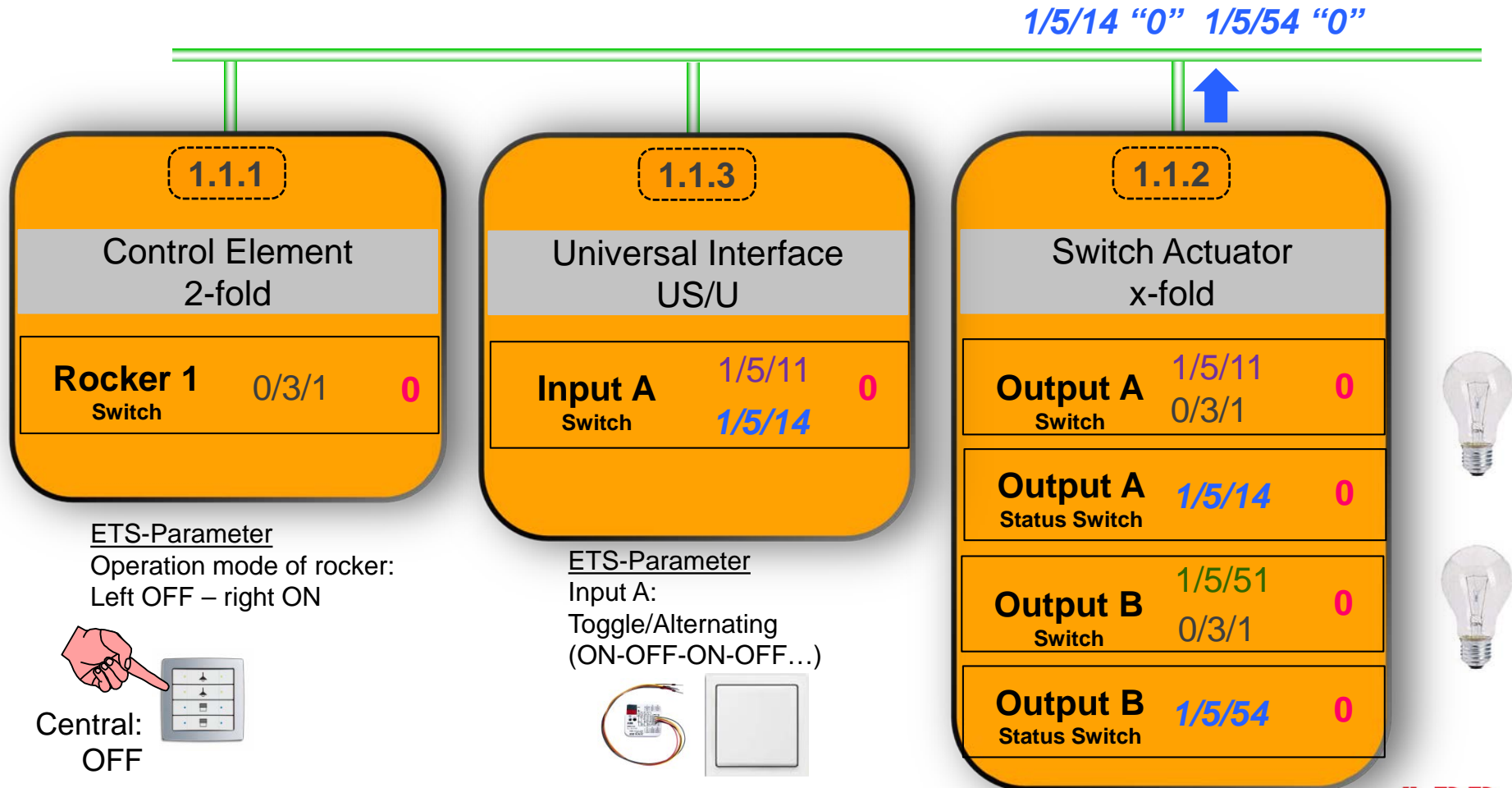
Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object



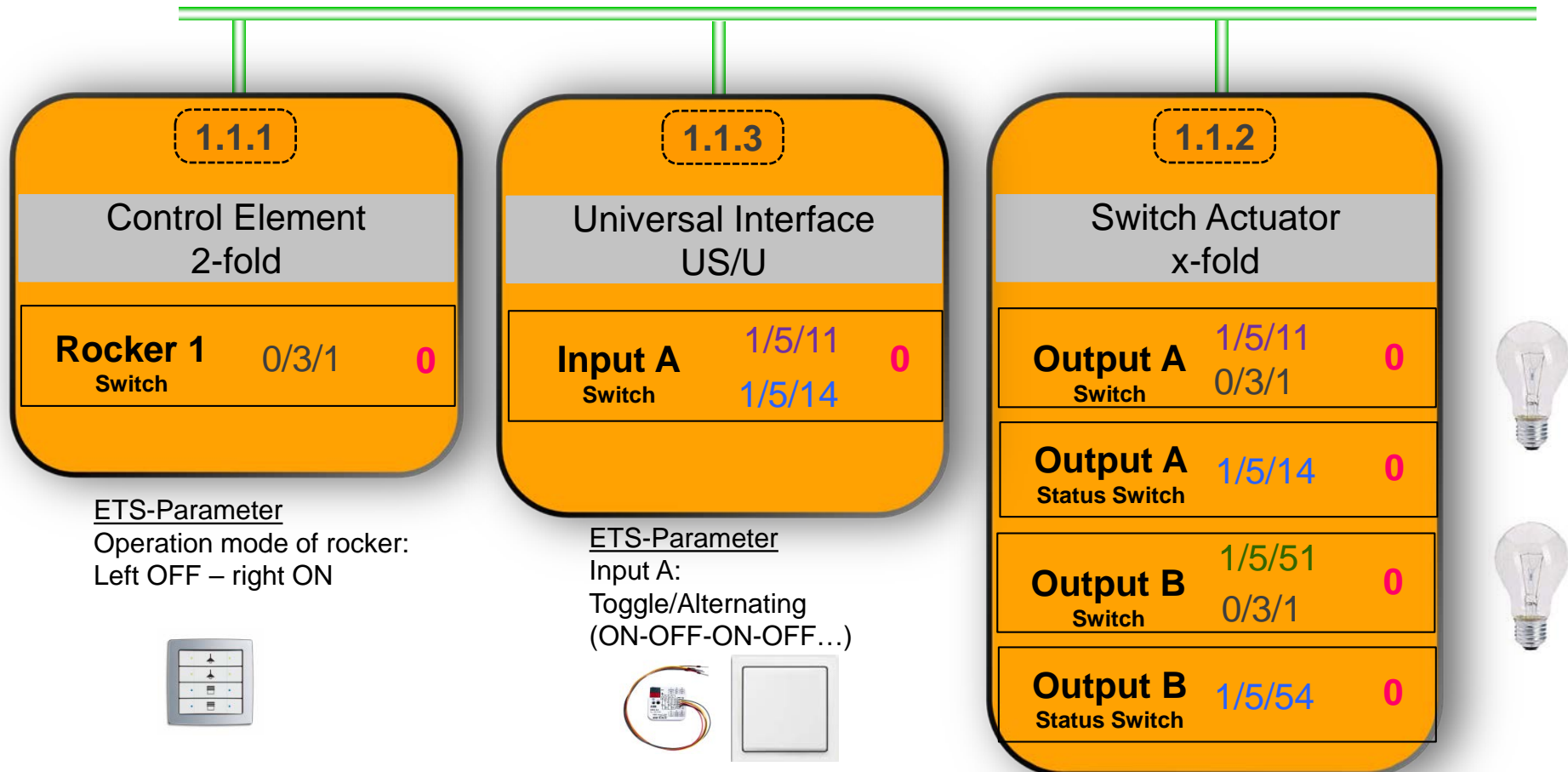
Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object



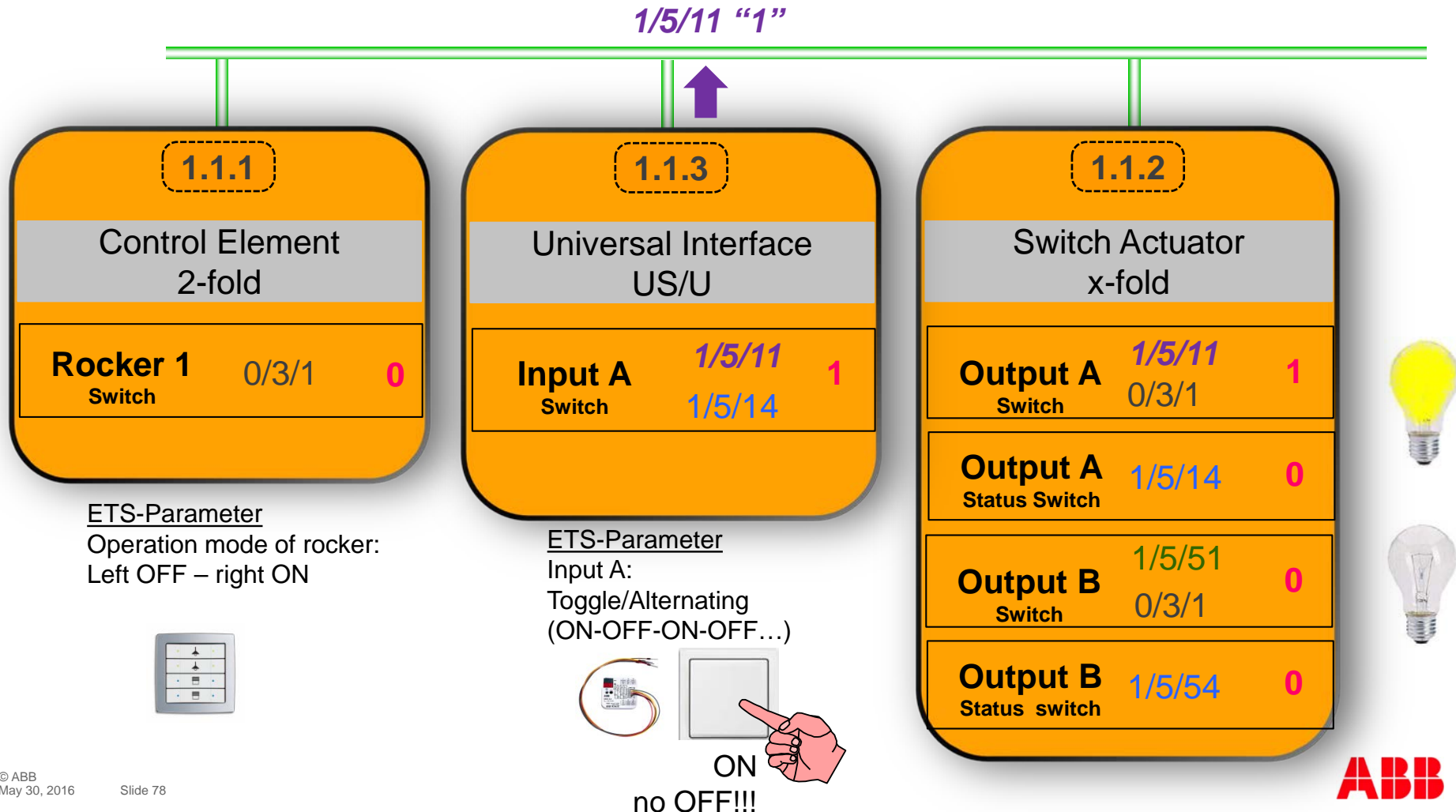
Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object



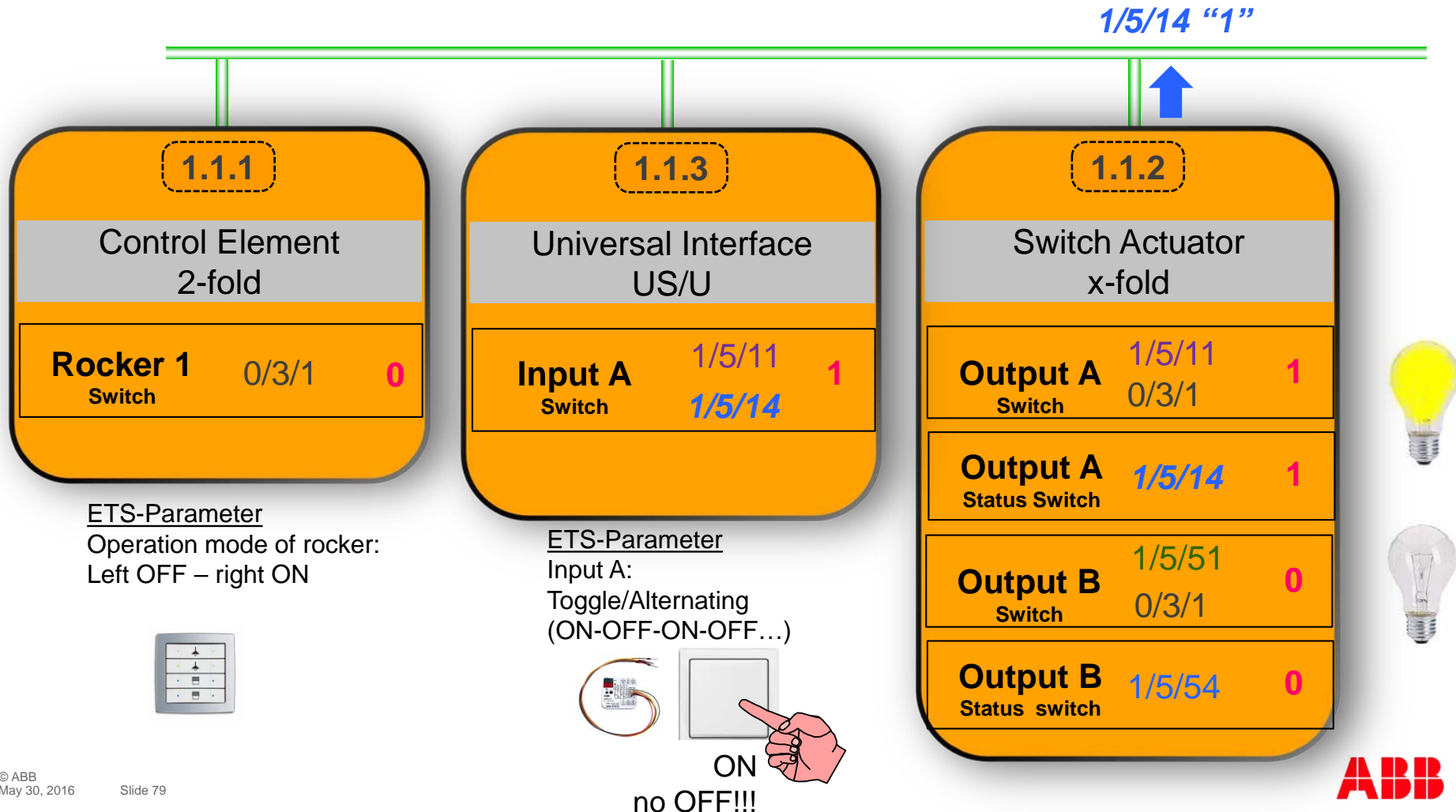
Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object



Webinar “Tips around ABB i-bus KNX”

Sending the first Group Address of a Group Object



Webinar “Tips around ABB i-bus KNX”

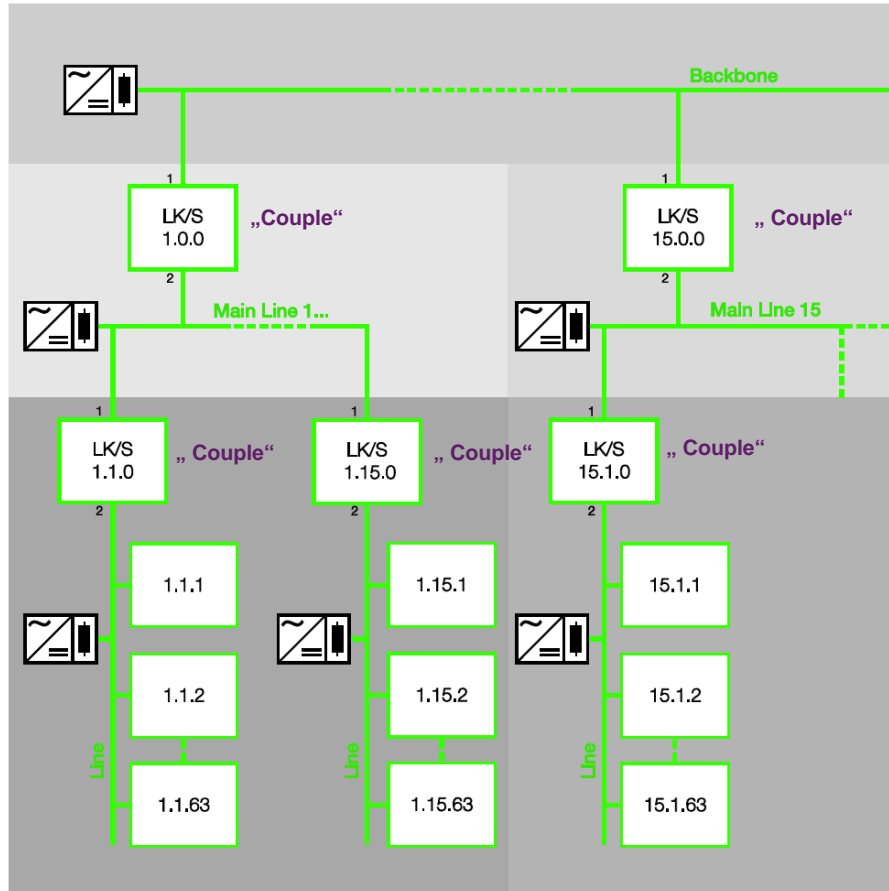
Agenda



- Parallel Operation of KNX Presence and Motion Sensors
- Unified RTC with two independent Controller
- Bus cable
- Scene Control
- Status LEDs
- Sending the first Group Address of a Group Object
- Area Coupler – Line Coupler – Line Repeater
- Planning information for a Safe Installation

Webinar “Tips around ABB i-bus KNX”

Area Coupler – Line Coupler – Line Repeater

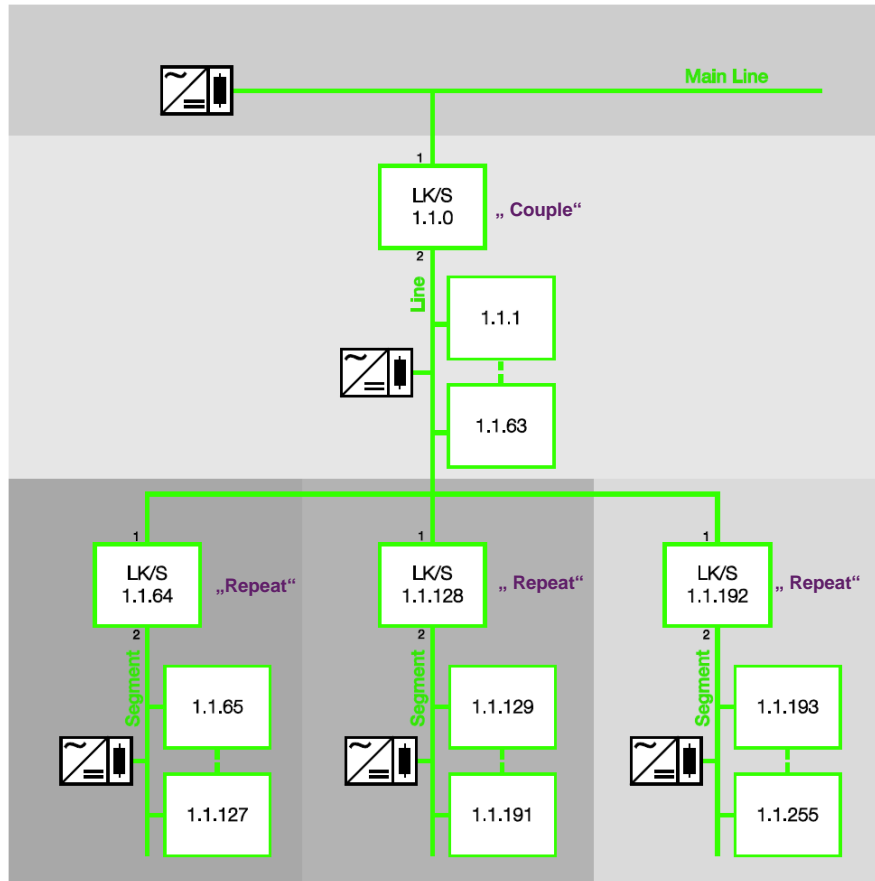


Topology Line/Area Coupler

- Physical address A.0.0
A = 1...15, Area Coupler
- Physical address A.L.0
A,L = 1...15, Line Coupler
- Each line incl. main line requires its own power supply (electrically isolated)

Webinar “Tips around ABB i-bus KNX”

Area Coupler – Line Coupler – Line Repeater

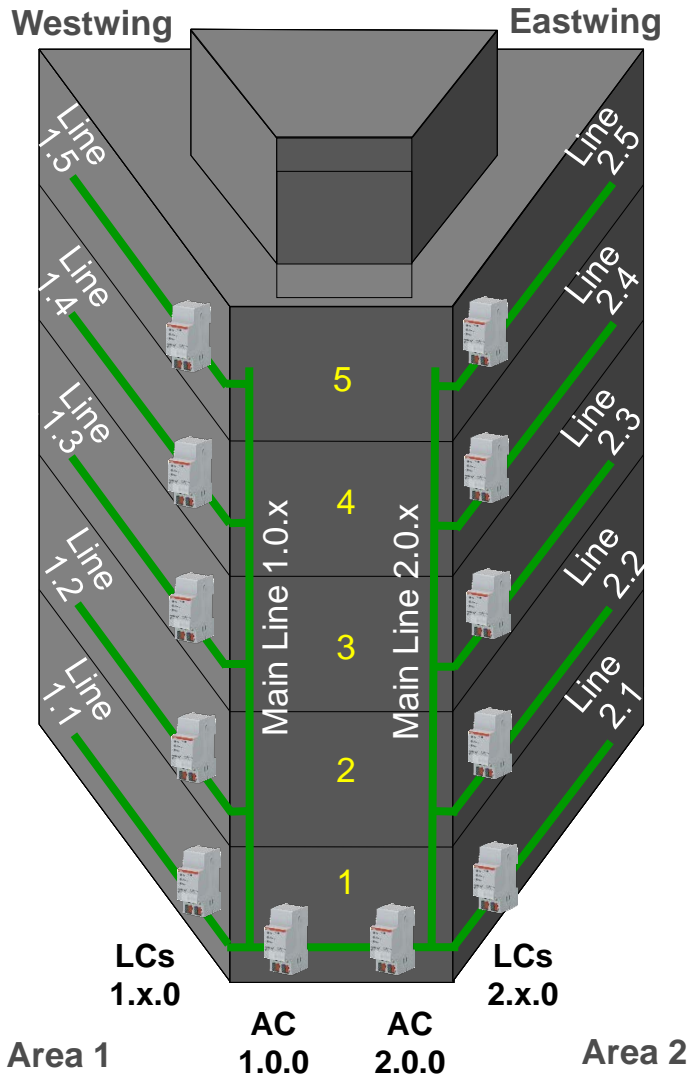


Topology Repeater

- The repeater does not have filter tables
- Behind a coupler up to three repeaters can be connected, so up to 256 devices per line are possible (incl. Line Coupler)
- Every line segment must be provided with power by its own KNX power supply
- The address of a device is not defined with the repeater:
 - Below the LK/S with physical address 1.1.64 the device 1.1.129 could be connected
 - The repeaters in line 1.1 can be programmed with each address from 1.1.1 to 1.1.255.

Webinar “Tips around ABB i-bus KNX”

Area Coupler – Line Coupler – Line Repeater

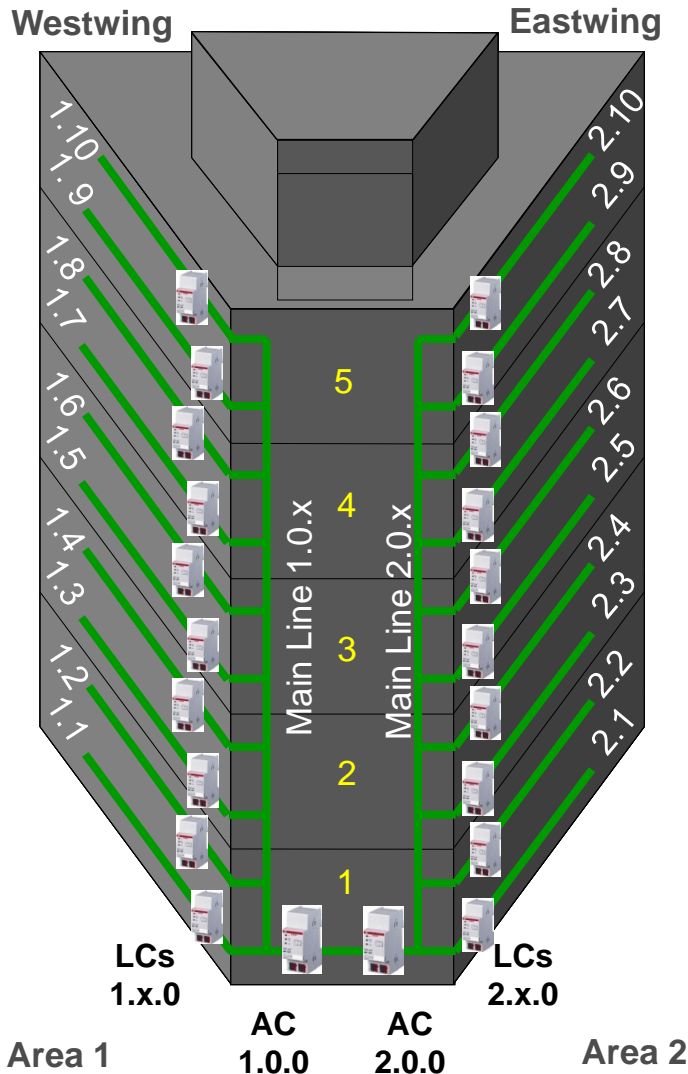


Area		Line	
No.	Comment	No.	Comment
0	Area 0	0	Backbone line
1	West wing	0	Main line West
		1	1 st floor
		2	2 nd floor
		3	3 rd floor
		4	4 th floor
		5	5 th floor
2	East wing	0	Main line East
		1	1 st floor
		2	2 nd floor
		3	3 rd floor
		4	4 th floor
		5	5 th floor

→ max. 64 KNX devices in one floor

Webinar “Tips around ABB i-bus KNX”

Area Coupler – Line Coupler – Line Repeater

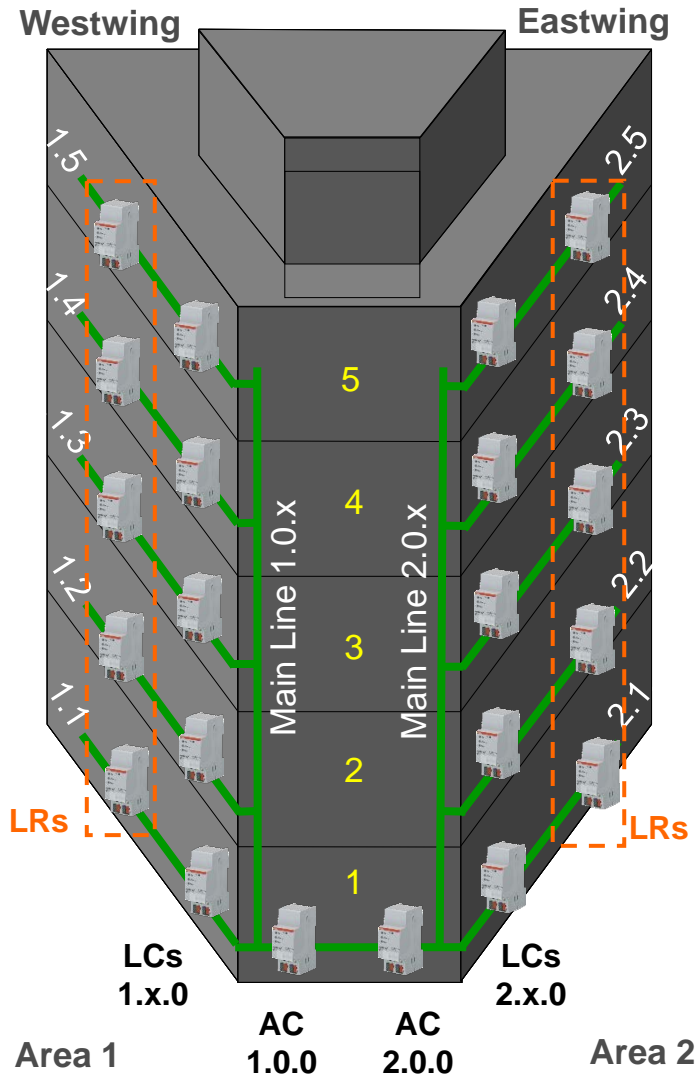


Area		Line	
No.	Comment	No.	Comment
0	Area 0	0	Backbone line
1	West wing	0	Main line West
		1+2	1 st floor
		3+4	2 nd floor
		5+6	3 rd floor
		7+8	4 th floor
		9+10	5 th floor
2	East wing	0	Main line East
		1+2	1 st floor
		3+4	2 nd floor
		5+6	3 rd floor
		7+8	4 th floor
		9+10	5 th floor

**2 lines with 2 line couplers
→ More than 64 KNX devices in one floor**

Webinar “Tips around ABB i-bus KNX”

Area Coupler – Line Coupler – Line Repeater

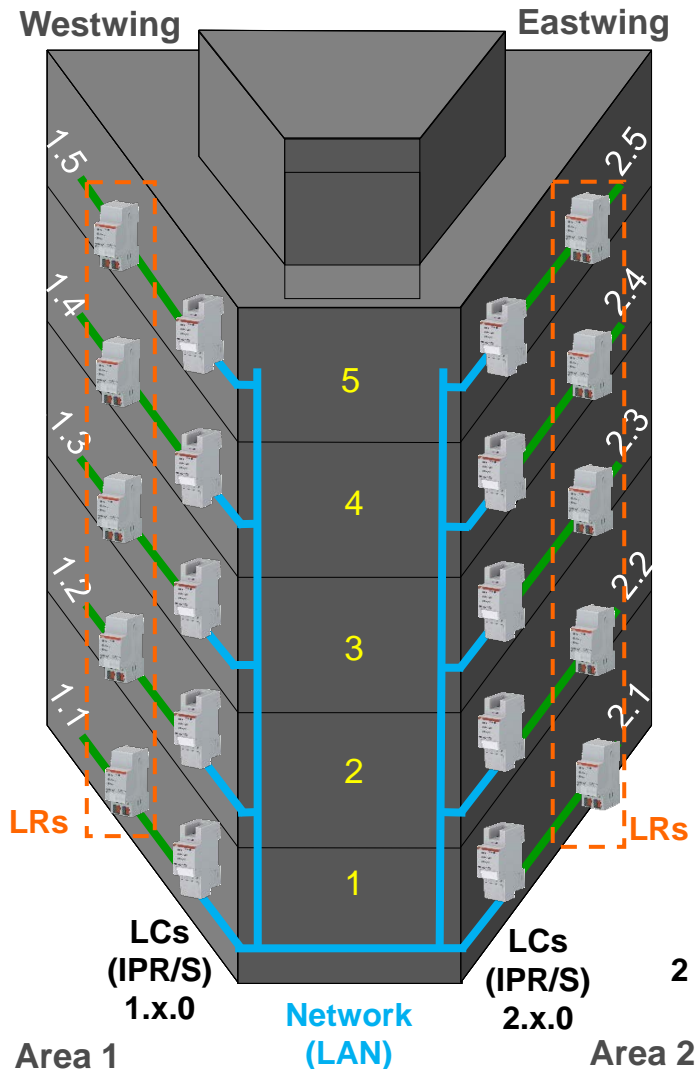


Area		Line	
No.	Comment	No.	Comment
0	Area 0	0	Backbone line
1	West wing	0	Main line West
		1	1 st floor
		2	2 nd floor
		3	3 rd floor
		4	4 th floor
		5	5 th floor
2	East wing	0	Main line East
		1	1 st floor
		2	2 nd floor
		3	3 rd floor
		4	4 th floor
		5	5 th floor

2 lines with 1 line coupler and 1 line repeater
→ More than 64 KNX devices in one floor

Webinar “Tips around ABB i-bus KNX”

Area Coupler – Line Coupler – Line Repeater

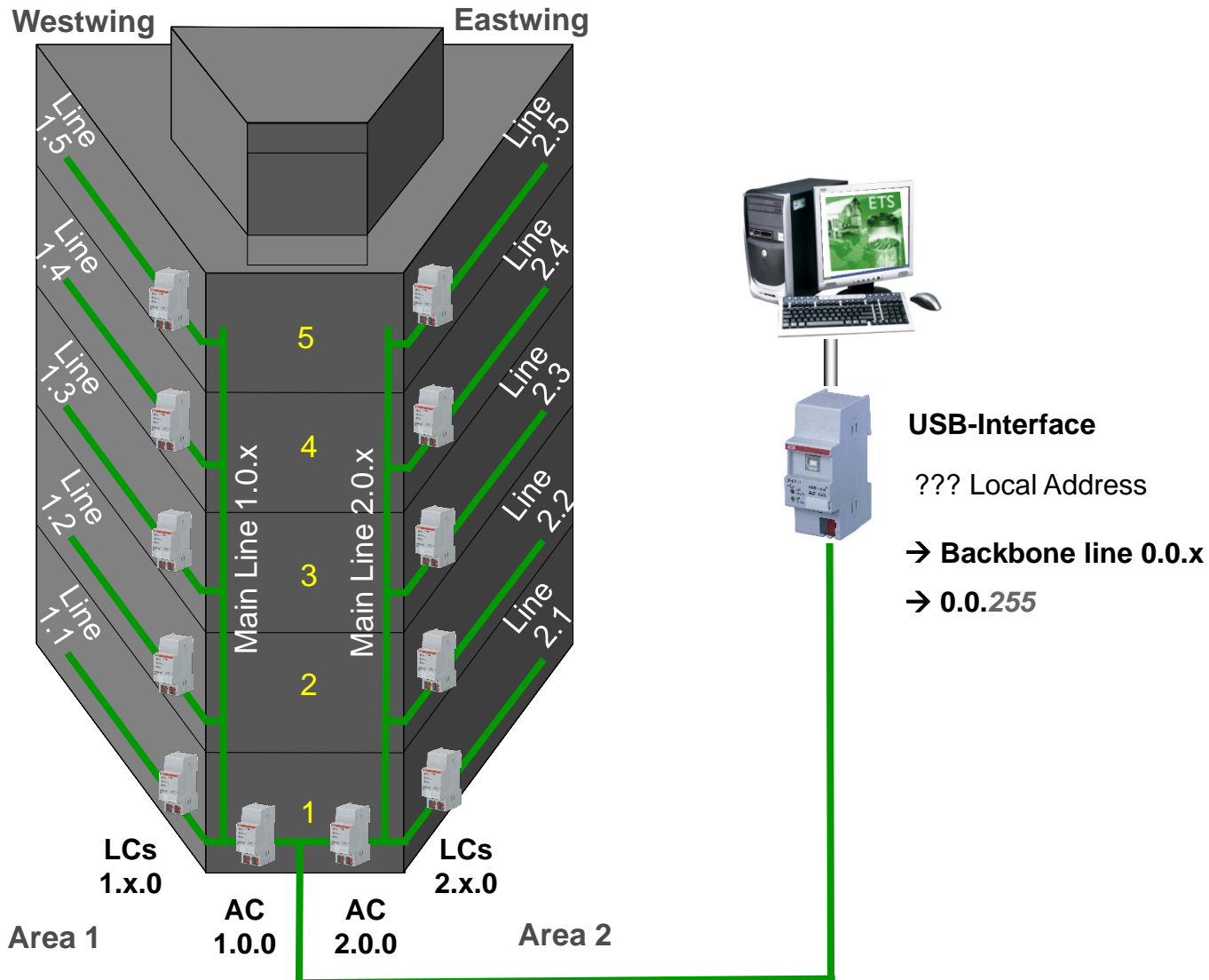


Area		Line	
No.	Comment	No.	Comment
0	Area 0	0	Backbone line
1	West wing	0	Main line West
		1	1 st floor
		2	2 nd floor
		3	3 rd floor
		4	4 th floor
		5	5 th floor
2	East wing	0	Main line East
		1	1 st floor
		2	2 nd floor
		3	3 rd floor
		4	4 th floor
		5	5 th floor

2 lines with 1 line coupler (IPR/S) and 1 line repeater (LK/S)
 → More than 64 KNX devices in one floor

Webinar “Tips around ABB i-bus KNX”

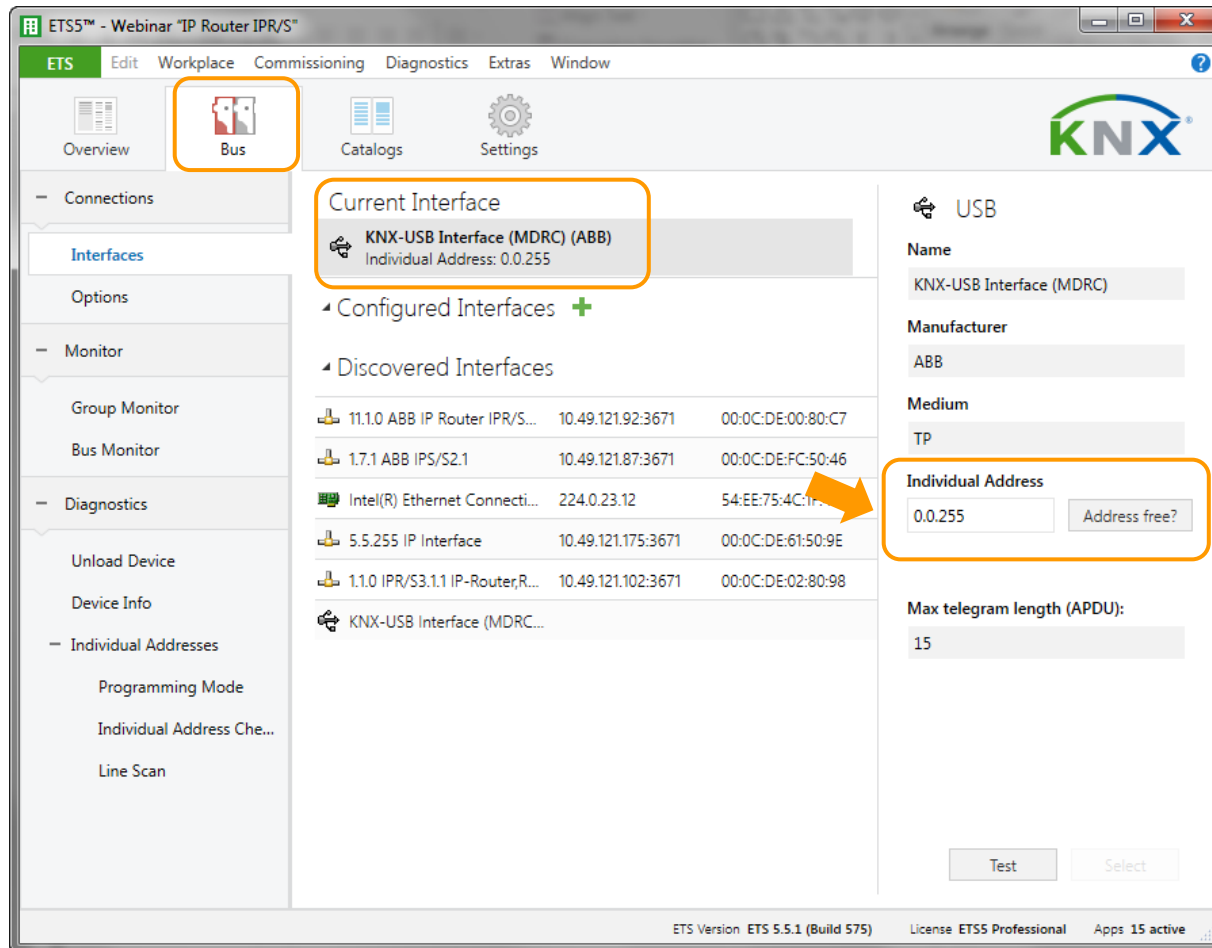
Area Coupler – Line Coupler – Line Repeater



Webinar “Tips around ABB i-bus KNX”

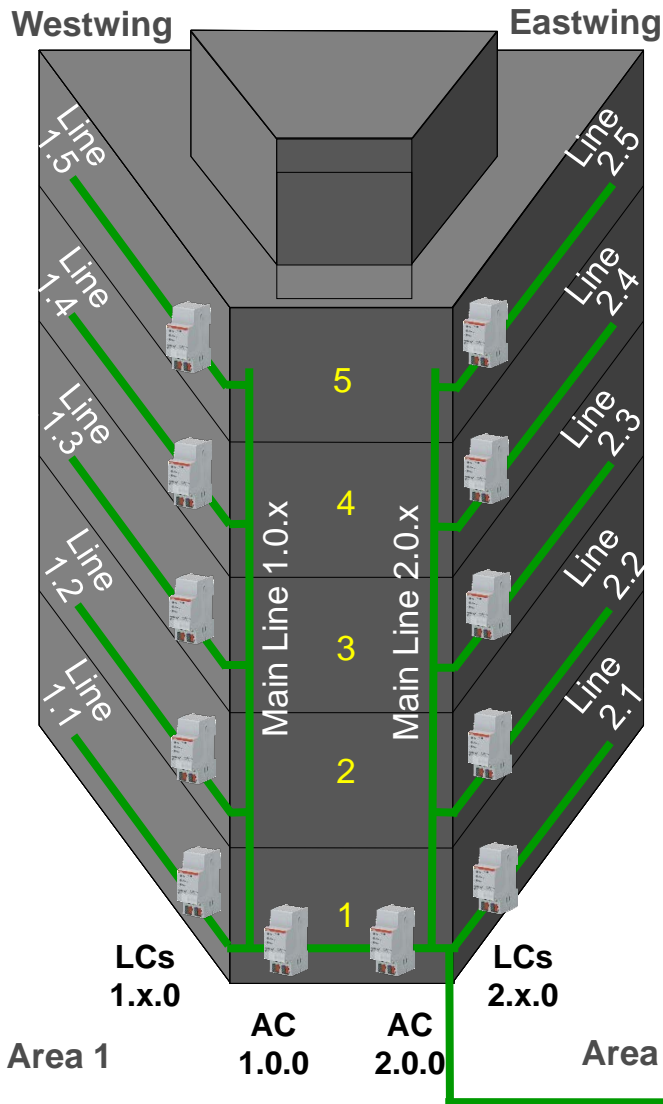
Area Coupler – Line Coupler – Line Repeater

- USB-Interface: Program “local” individual address



Webinar “Tips around ABB i-bus KNX”

Area Coupler – Line Coupler – Line Repeater



USB-Interface

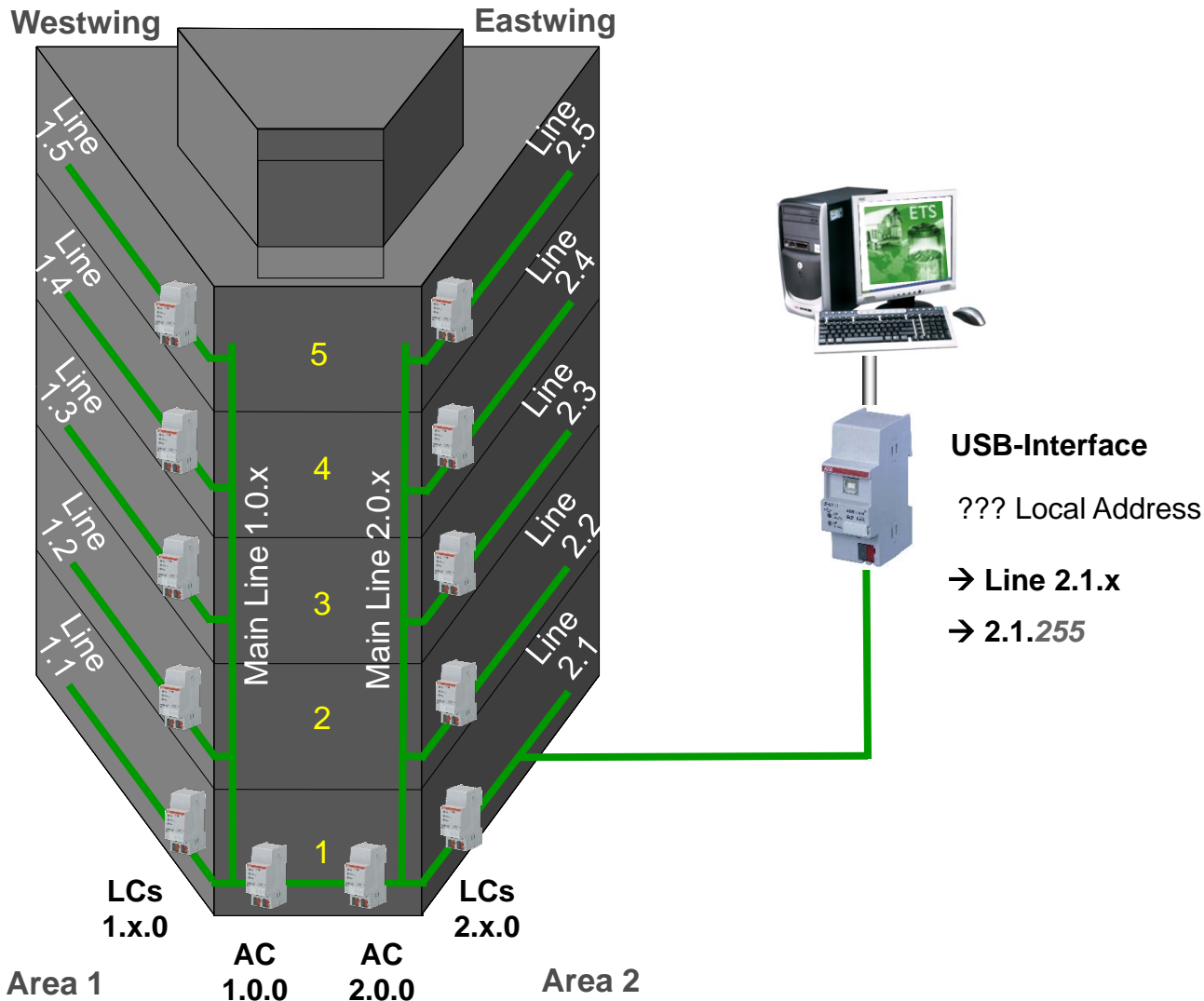
??? Local Address

→ Main line 2.0.x

→ 2.0.255

Webinar “Tips around ABB i-bus KNX”

Area Coupler – Line Coupler – Line Repeater



Webinar “Tips around ABB i-bus KNX”

Agenda



- Parallel Operation of KNX Presence and Motion Sensors
- Unified RTC with two independent Controller
- Bus cable
- Scene Control
- Status LEDs
- Sending the first Group Address of a Group Object
- Area Coupler – Line Coupler – Line Repeater
- Planning information for a Safe Installation

Webinar “Tips around ABB i-bus KNX”

Planning information for a safe Installation

- Securing the external access over LAN, Wi-Fi, KNX bus cable (MAC address filtering, complex passwords, ...)
- Avoidance of unauthorized access to KNX bus cable in public areas (e.g. hotel rooms)
 - central installation of KNX devices in a locked distribution board
 - no KNX control elements
 - conventional push button wired to binary inputs
- Activation of filter table in line couplers LK/S and IP-Router IPR/S, Block “Physically addressed telegrams” and “Broadcast telegrams”
- Security Panels with KNX interface must be operated in a “uni-directional” mode
- Uninterruptible KNX Power Supply SU/S
- Monitoring Unit EUB/S 1.1
Checking basic functions and presence of devices in installations

Webinar “Tips around ABB i-bus KNX”

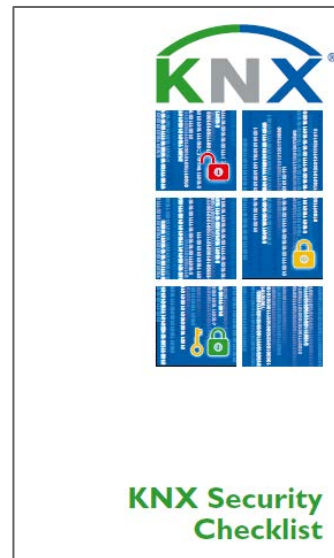
Planning information for a safe Installation

- No KNX bus cable outside the building because
 - Attacker can cause a short circuit
 - Read out and download KNX devices
 - Record and analyze bus traffic → send KNX telegrams
 - Additional external lightning protection measures are required
 - Standard KNX devices are not specified for outside areas (temperature, rain, ...)
→ sending undefined telegrams, cause short circuit, ...
- ABB solution
 - Weather Sensor WES/A (outside) and Weather Unit WZ/S (inside)
 - Push button IP44/66 or movement detector (outside) and Binary Inputs (inside)

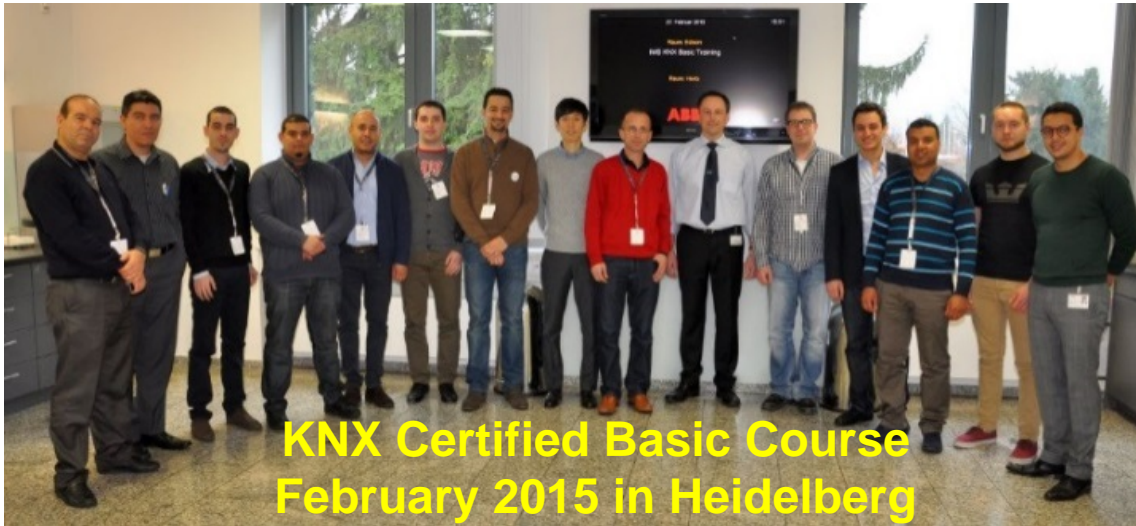
Webinar “Tips around ABB i-bus KNX”

Planning information for a safe Installation

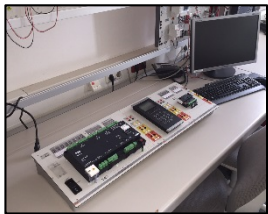
- Further important information on the subject KNX security
 - ABB Smart Home Guide for network security in building systems control
 - KNX Association – KNX Security Checklist
 - KNX Association – KNX Security Position paper



Webinar “Tips around ABB i-bus KNX” Trainings 2016 in Heidelberg



- Certified Advanced Training: 11th to 15th July 2016
- KNX Tutor Course: 17th to 21th October 2016
- KNX Security Panel GM/A 8.1 Basic: 20th to 24th June 2016
- Various courses KNX Security Panel GM/A 8.1 are planned ask your Sales Manager !



Webinar “Tips around ABB i-bus KNX”

Next Webinar



- **Wednesday 15th of June 2016**
 - Morning 09:00 am Europe Time (Berlin, UTC + 2h)
 - Afternoon 03:00 pm Europe Time (Berlin, UTC + 2h)
- **Busch ControlTouch KNX**
 - Numerous functions
 - Visualisation
 - Interfacing
 - myABB-LivingSpace portal
 - ...



Disclaimer

The information in this document 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 document.

In no event shall ABB be liable for direct, indirect, special, incidental or consequential damages of any nature or kind arising from the use of this document, nor shall ABB be liable for incidental or consequential damages arising from use of any software or hardware described in this document.

© Copyright [2016] ABB. All rights reserved.

Power and productivity
for a better world™

