

MAY 2020

KNX Combi-, Standard-, Professional Switch Actuators – Applications with ETS Programming

Online Learning Session – Competence Center Europe – Smart Buildings

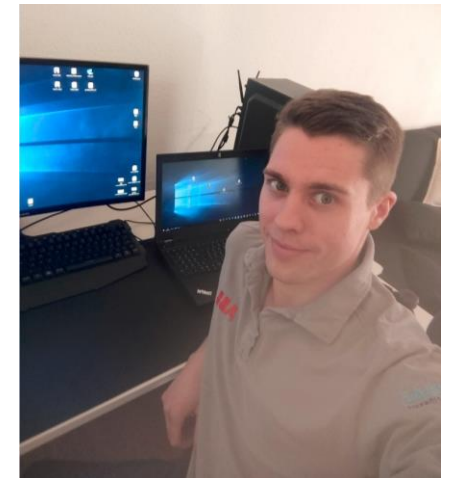
Thorsten Reibel, Jürgen Schilder, Stefan Grosse, Martin Wichary & Olaf Stutzenberger

Online Learning Session – Competence Center Europe - Smart Buildings

From home office to home office



ABB STOTZ-KONTAKT GmbH
Heidelberg / Germany



Agenda

ETS Application

- Safety Function and forced operation

- Scenes

- Threshold

- Staircase function

- Flashing function

Switching of ...

- DC-Loads

- 3-phase Loads

- LED-Loads

KNX Combi-, Standard-, Professional Switch Actuators – Applications and ETS Programming

Next Generation Switching

Combi Switch Actuators



- Compact + switch/shutter modes
- 8 (4MW), 16 (8MW) & 24 (12 MW) channels
- 6A, 10A & 16A - AC1 ratings
- 3 x 3 devices

Standard Switch Actuators



- 2, 4, 8 & 12 channels
- 6A, 10A & 16A - AC1 ratings
- 3 x 4 devices

Professional Switch Actuators



- 2, 4, 8 & 12 channels
- 16/20A C-load
- 2 x 4 devices

Residential



Applications



Commercial

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Next Generation Switching

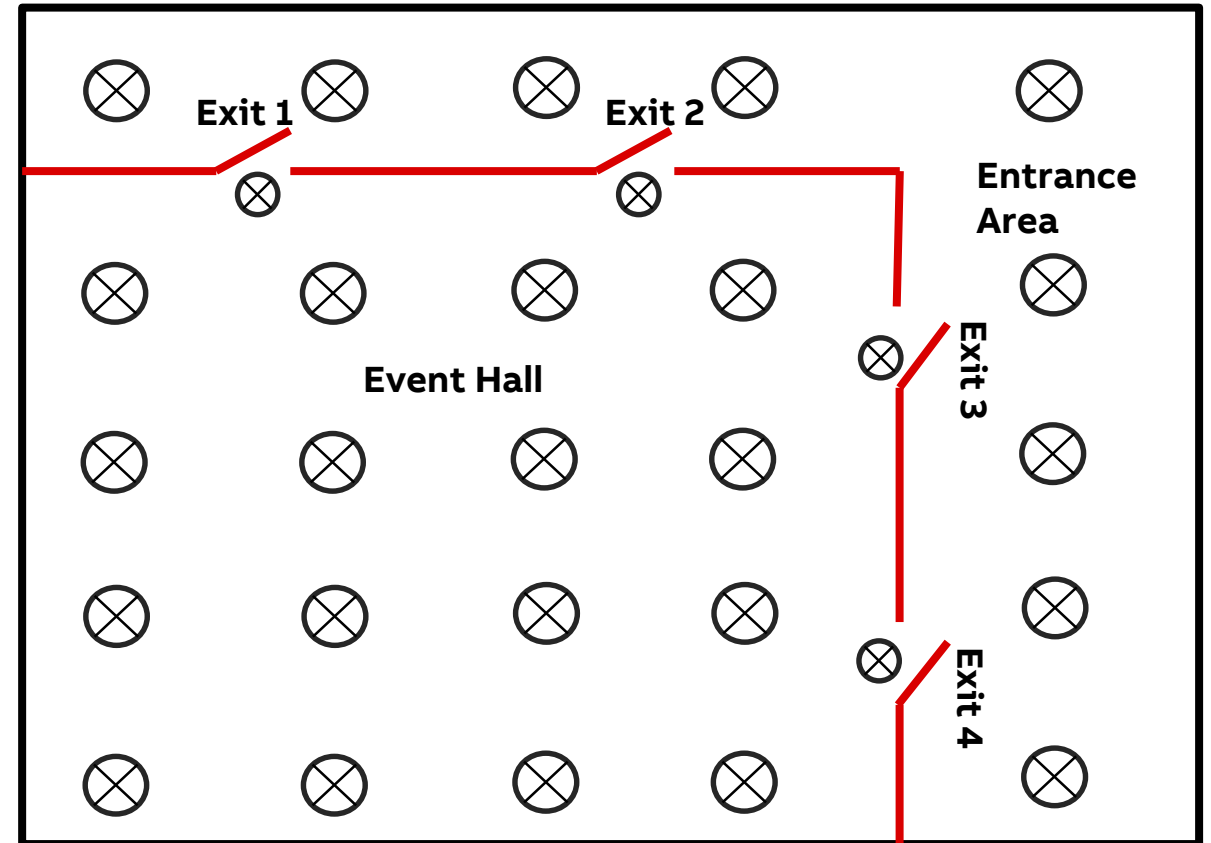
Threshold,- Staircase,- central functions and forced oper.

In an event hall the illumination is dimmable (DALI Lighting). If the illumination in the hall is dimmed down to a certain level, the lights at the exits and the entrance area behind (both operated via Switch Actuator) of the hall have to be switched on due to safety reasons.

Actually the light in the entrance area has a staircase time function. When the entrance area light has to be switched on due to low dimming level in the hall, the light has to be permanent on.

There is a central function which turns off all lights with higher priority as any local operation (Forced operation). In case of fire alarm all lights (hall, exit, entrance) are switched on with highest priority

Solution: Switch Actuator with threshold function, safety priority function, forced operation, Staircase function with permanent on



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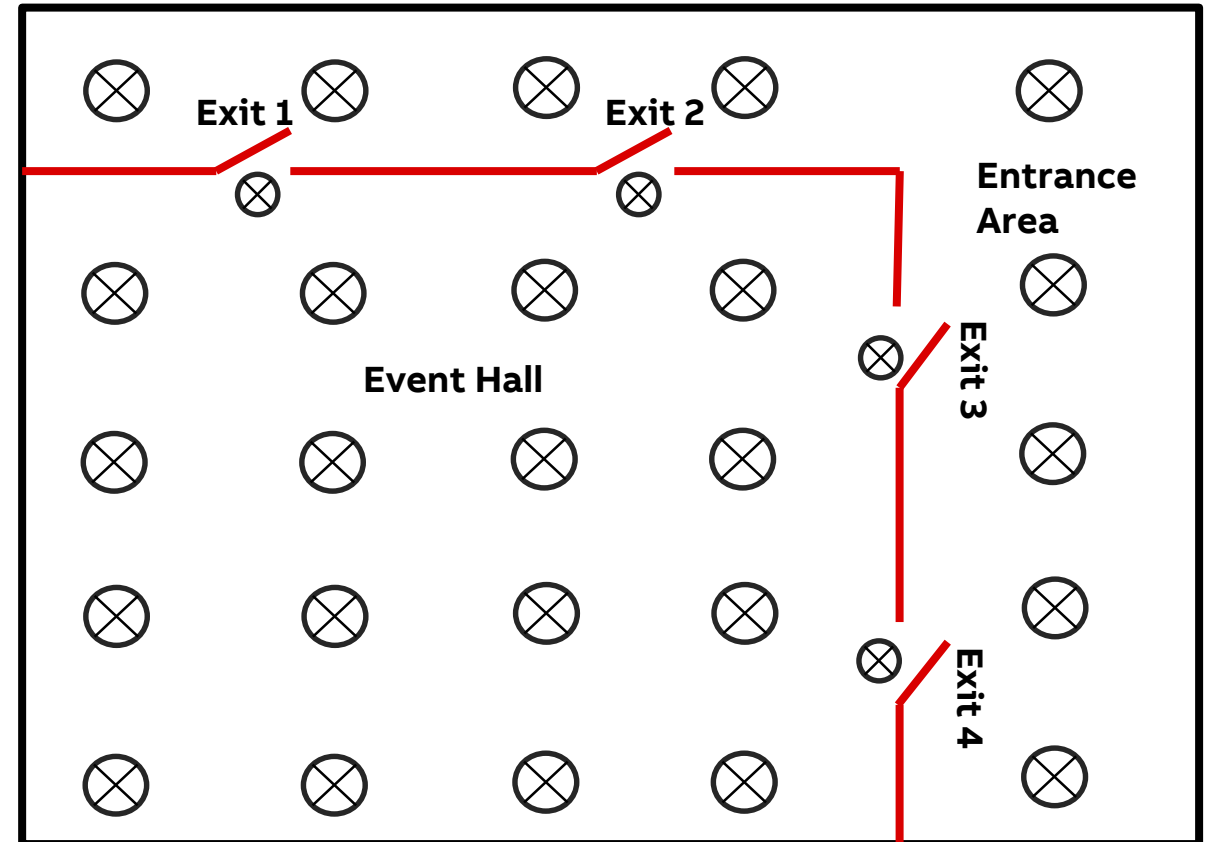
Next Generation Switching

Scene

Three light scenes are required for the hall, exit lights and entrance area. All scenes can be operated with 1 bit object

	Hall	Exit Light	Entrance
Scene 1	80 %	OFF	ON
Scene 2	60 %	OFF	ON
Scene 3	30 %	ON	OFF

Solution: Scene functionality both in Switch Actuator and DALI Gateway



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Flash Light

An additional intrusion alarm system will be installed.

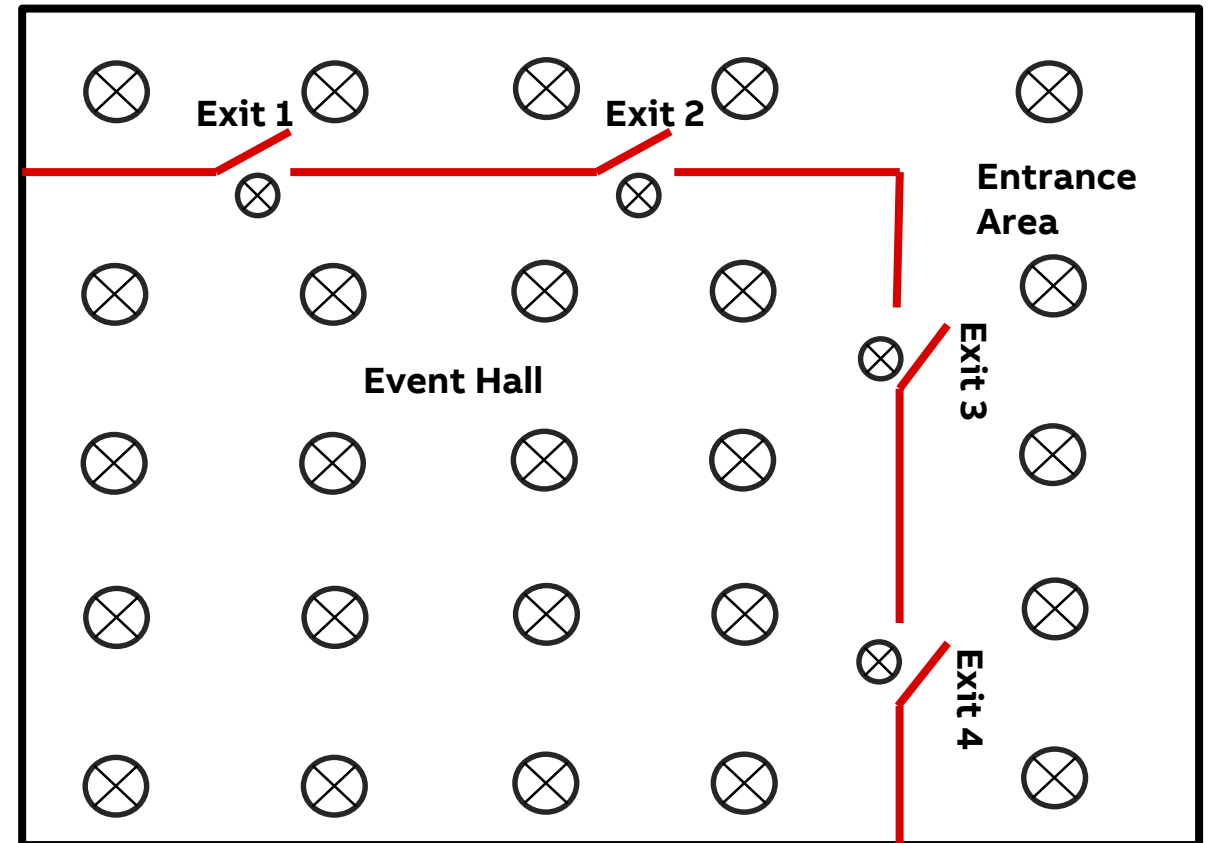
In case of intrusion alarm all lights have to flash

Challenge:

Entrance area light has already staircase function in use, second time function is not possible

DALI Gateway DG/S has no flashing function in the application available

Solution: Flashing function of an unused channel in the Switch Actuator, Status on/off of this output connected to the lights for flashing



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Switch Actuator and DC-Load

In some projects low voltage DC networks are required, 5V, 12V, 24V or even 230V DC

Advantage is the energy efficiency due to missing power supplies and transformers, therefore an issue for green buildings

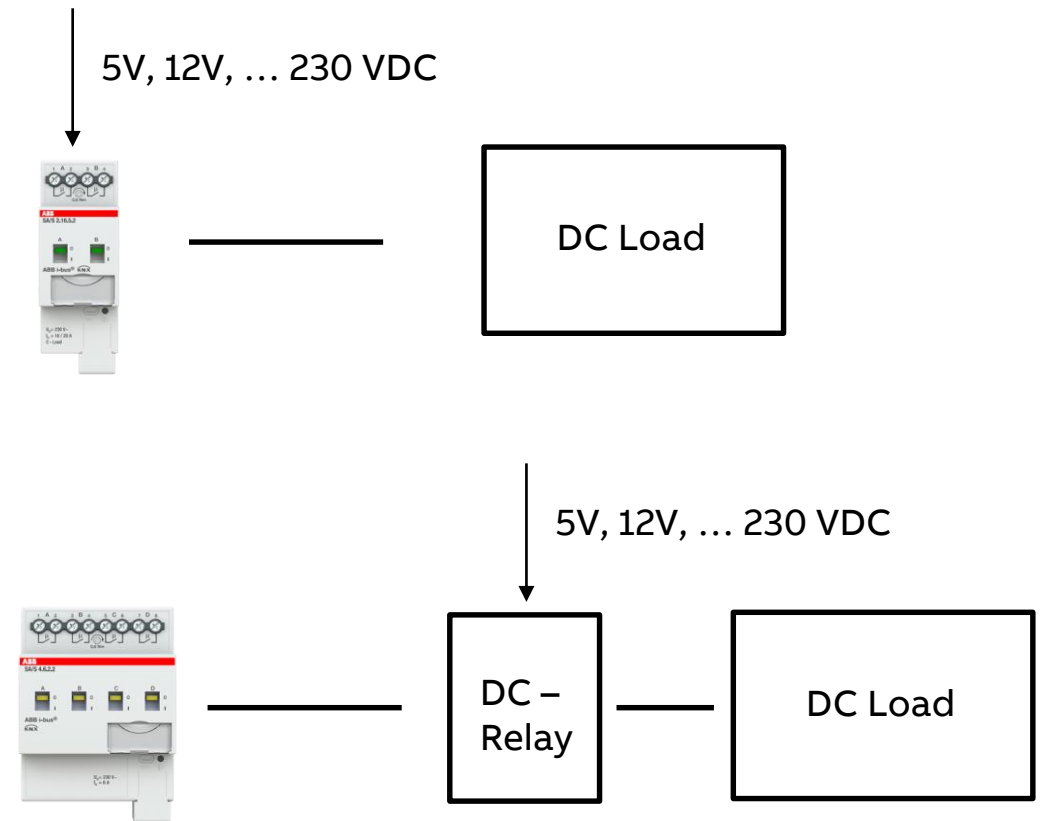
Challenge is switch off of especially inductive DC loads, as an electric arc might appear at the contacts of the relays, with AC load thanks to the zero crossing of the sinusoidal curve less problematic to extinguish

Our Switch Actuators can operate DC voltage, in the technical data and also the selection table of Switch Actuators visible:

- Professional Switch actuator: 20 A with 24V, resistive load

The higher the voltage the lower the current the relays can stand, with 230 V finally only some mA

Solution is using an external DC relay, operated via one switch actuator channel (6A)



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Next Generation Switching

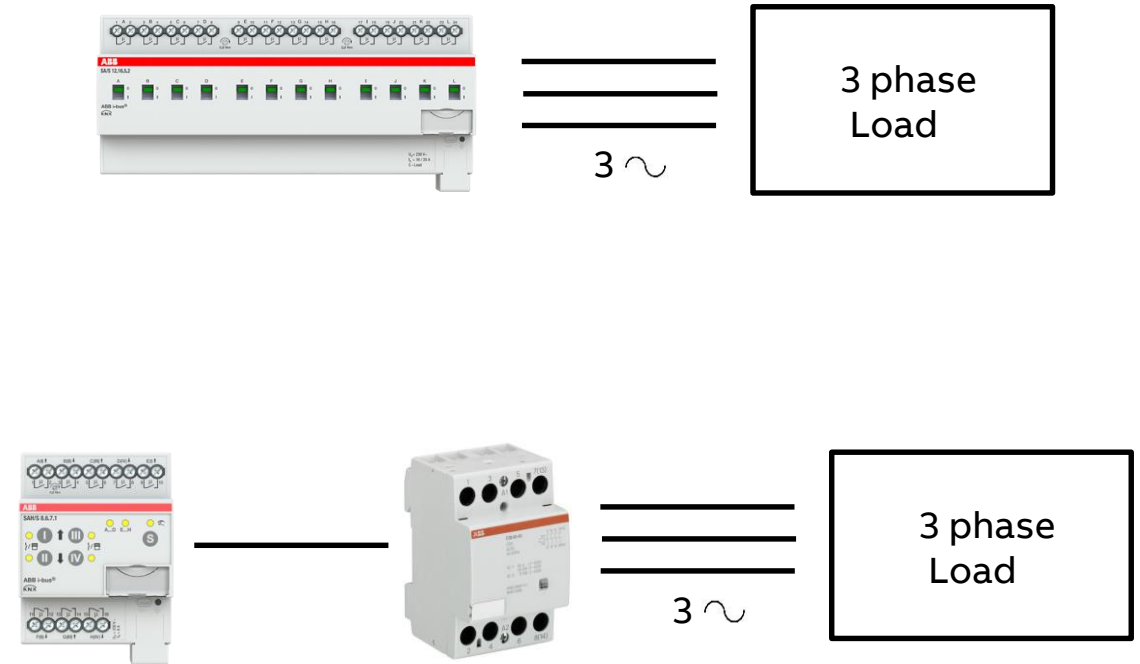
Switch Actuator and 3-phase Load

In some projects 3-phase loads must be controlled, like motors, ovens or light bands. To be observed is the current, but also the need for simultaneous switching of the phases, important for motors

For choosing the right Switch Actuator regarding current the technical data and the selection table can be used

KNX Switch Actuator can not guarantee parallel operation of three relays at the same time, therefore in case of simultaneous switching needed, an external installation contactor must be installed, controlled by one switch actuator output (6A)

ABB has these products, e.g. installation contactor type ESB



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Next Generation Switching

Switch Actuator and LED-Load

LED Lighting is becoming more and more standard in buildings for efficient lighting, therefore important to be operated with KNX Switch Actuators

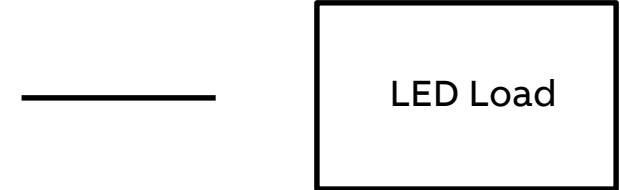
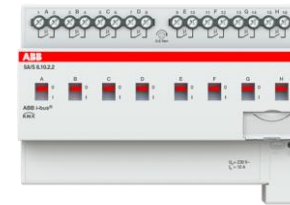
Power of LED is less compared with conventional lighting and same brightness

LED Loads are challenging in terms of switch on behaviour (capacitive behavior), which has to be observed

The inrush current of LED is higher than of conventional lamps like halogen light or bulbs, therefore the possible power per actuator channel for LED is lower

See selection table Switch Actuators:

– [Combi](#) and [Standard/Professional](#)



	SAH/S 8.6.7.1	SAH/S 8.10.7.1	SAH/S 8.16.7.1
	SAH/S 16.6.7.1	SAH/S 16.10.7.1	SAH/S 16.16.7.1
	SAH/S 24.6.7.1	SAH/S 24.10.7.1	SAH/S 24.16.7.1
Range	Combi	Combi	Combi
LED lamps/energy saving lamps	250 W	250 W	250 W

	SA/S 2.6.2.2	SA/S 2.10.2.2	SA/S 2.16.2.2	SA/S 2.16.5.2
	SA/S 4.6.2.2	SA/S 4.10.2.2	SA/S 4.16.2.2	SA/S 4.16.5.2
	SA/S 8.6.2.2	SA/S 8.10.2.2	SA/S 8.16.2.2	SA/S 8.16.5.2
	SA/S 12.6.2.2	SA/S 12.10.2.2	SA/S 12.16.2.2	SA/S 12.16.5.2
Range	Standard	Standard	Standard	Professional
LED lamps/energy saving lamps	400 W	400 W	400 W	650 W

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Homepage

www.abb.com/KNX

- Products and Downloads
 - Lighting Control
 - Search Options DG/S
- Product Manual
- CAD Drawing
- Installation and Operating Instructions
- Specification Text
- ETS Application
- Selection Table
- CE & RoHS Declaration of Conformity
- ...

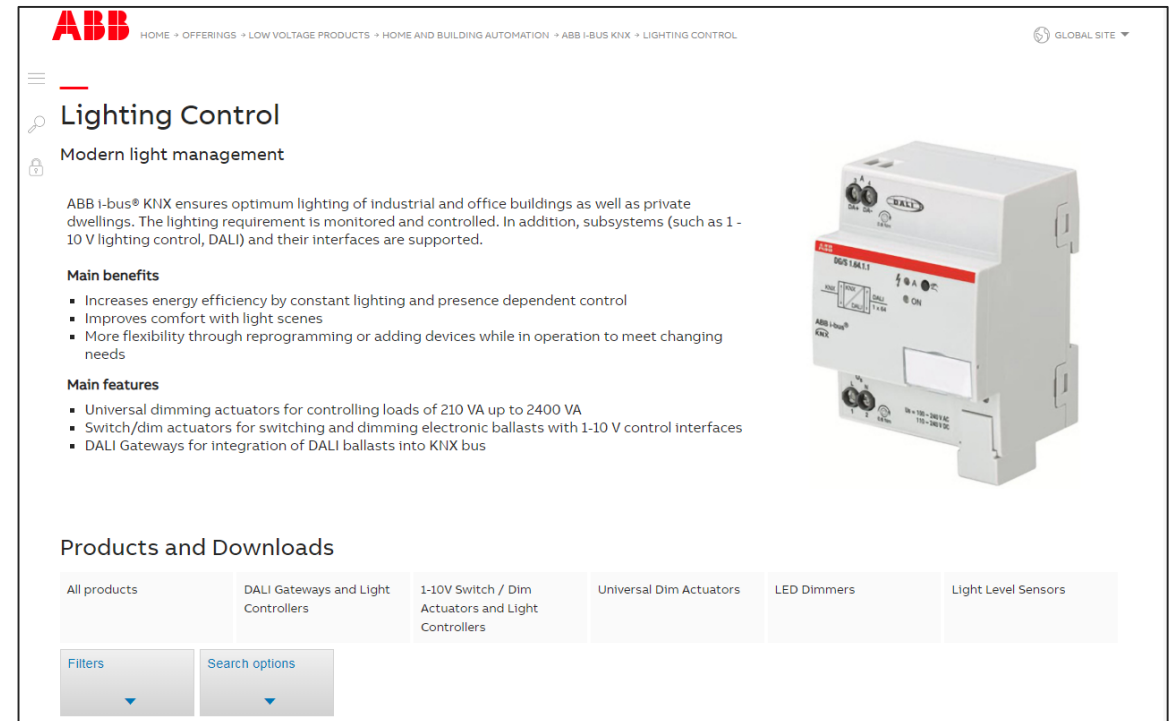


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Lighting Control

Modern light management

ABB I-bus® KNX ensures optimum lighting of industrial and office buildings as well as private dwellings. The lighting requirement is monitored and controlled. In addition, subsystems (such as 1-10 V lighting control, DALI) and their interfaces are supported.

Main benefits

- Increases energy efficiency by constant lighting and presence dependent control
- Improves comfort with light scenes
- More flexibility through reprogramming or adding devices while in operation to meet changing needs


Main features

- Universal dimming actuators for controlling loads of 210 VA up to 2400 VA
- Switch/dim actuators for switching and dimming electronic ballasts with 1-10 V control interfaces
- DALI Gateways for integration of DALI ballasts into KNX bus

Products and Downloads

All products	DALI Gateways and Light Controllers	1-10V Switch / Dim Actuators and Light Controllers	Universal Dim Actuators	LED Dimmers	Light Level Sensors
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Filters Search options



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Product Range Overview

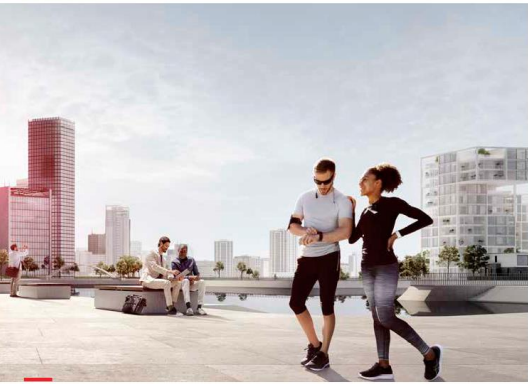
Smarter Solutions for Home and Building Automation

ABB i-bus® KNX

Product Range Overview 2019/2020

– Including KNX DALI Gateway Premium DG/S x.64.5.1

[LINK](#)




ABB

**Smarter Solutions for
Home and Building Automation
ABB i-bus® KNX
Product Range Overview 2019/2020**

Product description, quick and easy
selection of product codes

62 PRODUCT RANGE OVERVIEW 2019/2020 BAKK107492A3188 REV. B


ABB i-bus® KNX
Lighting Control – DALI



DG/S 1.64.1.1

DALI Gateway Basic, MDRC
The device is used to interface between DALI and KNX installations and incorporates the DALI power supply. One/Two DALI output(s) for up to 64/2x 64 DALI Slaves. Control and status feedback is carried out via KNX per DALI slave (64/2x 64), with lighting groups (16/2x 64), together in broadcast or per scenes (16/2x 16). Extensive fault and error messages are available. Self-contained emergency converter (64/2x 64) acc. EN 62386-202 will be supported. By means of KNX and emergency converter, different emergency tests (e.g. function and duration test) can be triggered. Feedback is sent. Slave-, staircase-, force-, block- and scene-function are integrated. DALI telegram rate can change. For diagnostic use and individual change of the DALI address or group assignment a separate ABB i-bus® Tool is available.

Description	Mod. width	Order details		Price		Pack unit
		Type code	Order code	€ kg	pc.	
1-fold	4	DG/S 1.64.1.1	ZCDG10199R0011	0.133	1	
2-fold	4	DG/S 2.64.1.1	ZCDG10199R0011	0.15	1	



DG/S 1.64.5.1

DALI Gateway Colour, MDRC NEW
For controlling DALI devices via the ABB i-bus® KNX. One/Two DALI output(s) for up to 64/2x 64 DALI slaves. DALI power supply is integrated. Control and status feedback is carried out via KNX per DALI slave (64/2x 64), with lighting groups (16/2x 16), together in broadcast or per scenes (16/2x 16). DALI devices type DTZ (Self-contained emergency converter acc. EN 62386-202) and type DT8 (colour temperature Tc / tunable white acc. EN 62386-209) will be supported. Extensive fault and error messages are available. By means of KNX and DTZ converter different emergency tests (e.g. function and duration test) can be triggered, test results are transferred back to KNX. With DT8 devices DimWarm, HCL, set and dim colour temperature are possible. Slave-, staircase-, force-, block- and scene-function are integrated. Feedback is sent. DALI telegram rate can change. For diagnostic use and individual change of the DALI address or group assignment a separate Software-Tool is available. Available January 2020.

Description	Mod. width	Order details		Price		Pack unit
		Type code	Order code	€ kg	pc.	
1-fold	4	DG/S 1.64.5.1	ZCDG10278R0011	0.133	1	
2-fold	4	DG/S 2.64.5.1	ZCDG10278R0011	0.15	1	

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Further information

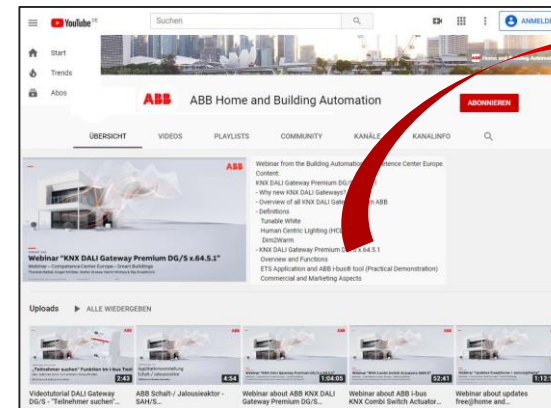
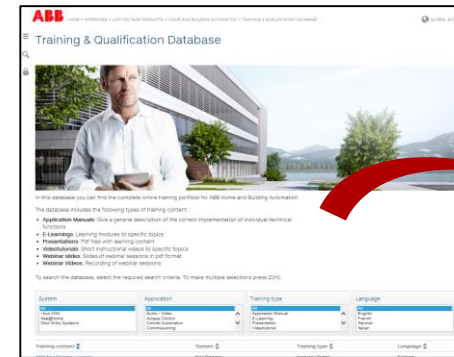
Training & Qualification Database

– The database includes the following types of training content:

- Application Manuals
- E-Learnings
- Presentations
- Video tutorials
- Webinar slides and videos
- www.abb.com/knx or <https://go.abb/ba-training>

Youtube

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



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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>

→ Training and Qualification

→ Training Calendar



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If you are interested in a training please [REGISTER HERE](#).

To search the Calendar, select the required search criteria. To make multiple selections press [Ctrl].

System	Date	Location
All	All	Webinar
Door Entry Systems	January 2018	Heidelberg, Germany
Free@home	February 2018	Lödenscheid, Germany
Fire Alarm Systems	March 2018	s. Palomba (Rome), Italy
I-bus KNX	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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Code : 9CSC007151-GLB-EN-20190218_22
Certified KNX Basic Course at ABB in Heidelberg, Germany, 5 days
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