

MAY 2020

# Webinar “DALI Gateway Premium DG/Sx.64.5.1 – Special Functions”

Webinar – Competence Center Europe – Smart Buildings

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

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# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"



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# Agenda

Overview and the features of the DALI Gateway Premium DG/S x.64.5.1

Dim2Warm – Colour temperature changes proportionally to brightness with the effect like a light bulb

Human Centric Lighting (HCL) – Colour temperature curve following daylight

Standby switch-off – Ballast voltage shutdown via additional switching actuator to save energy

Scenes – 1 bit recall and 1 byte coded scenes

ABB i-bus® tool – Search menu for a ballast with unknown address, operating hours, ...

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# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

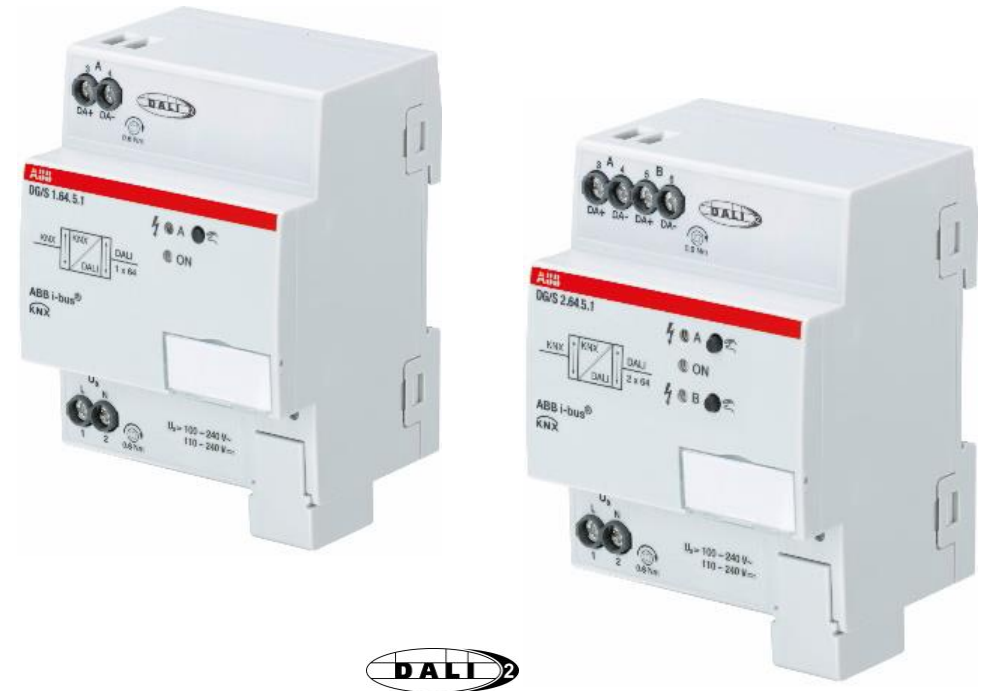
Overview and the features of the DALI Gateway Premium DG/S x.64.5.1

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Features

### Overview

- Two devices
  - DG/S 1.64.5.1 (one channel, 64 ballasts)
  - DG/S 2.64.5.1 (two independent channels, 2 x 64 ballasts)
- All functions of DG/S x.64.1.1 included
  - Flexible combination of DALI groups, single control or KNX groups
  - DALI Outputs 230V secure
  - ABB i-bus® Tool support
  - Emergency Lighting
  - Templates
  - Manual operation
  - ...



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Features

### What is new? – Main Features

#### Tunable White

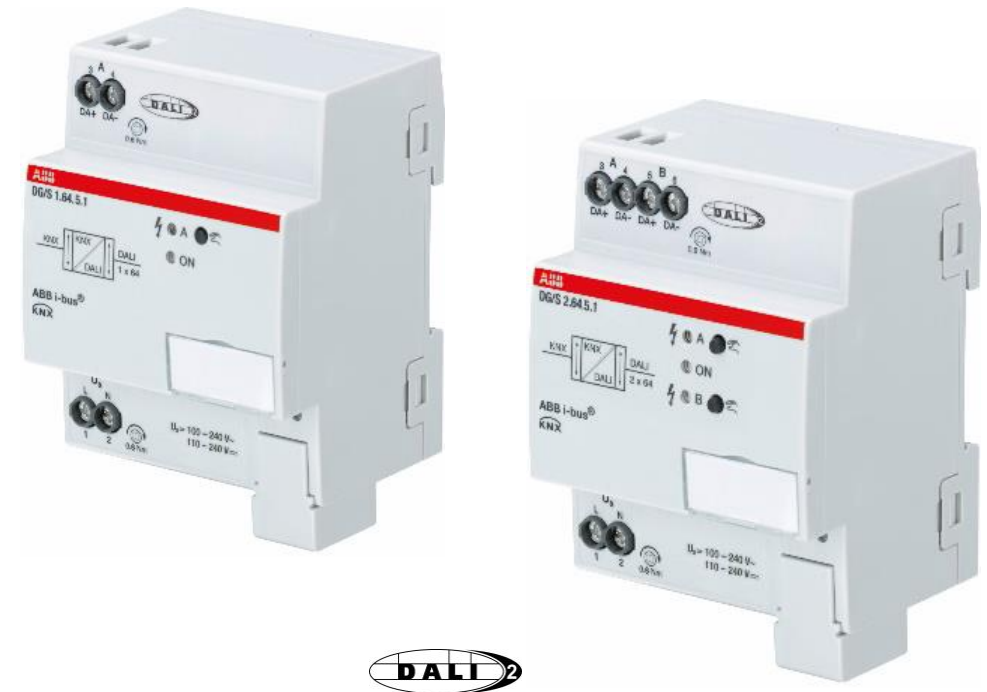
- Change of colour temperature  $T_c$  (Cold to warm white) with setting and dimming of colour temperature and brightness for lamps according to device type 8 (tunable white, no colour lighting functions like RGB)

#### Human Centric Lighting (HCL)

- Colour temperature curve following daylight

#### Dim2Warm

- Colour temperature changes proportionally to brightness with the effect like a light bulb



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# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

Tunable White



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Features

### What is new? – Main Features

#### Tunable White

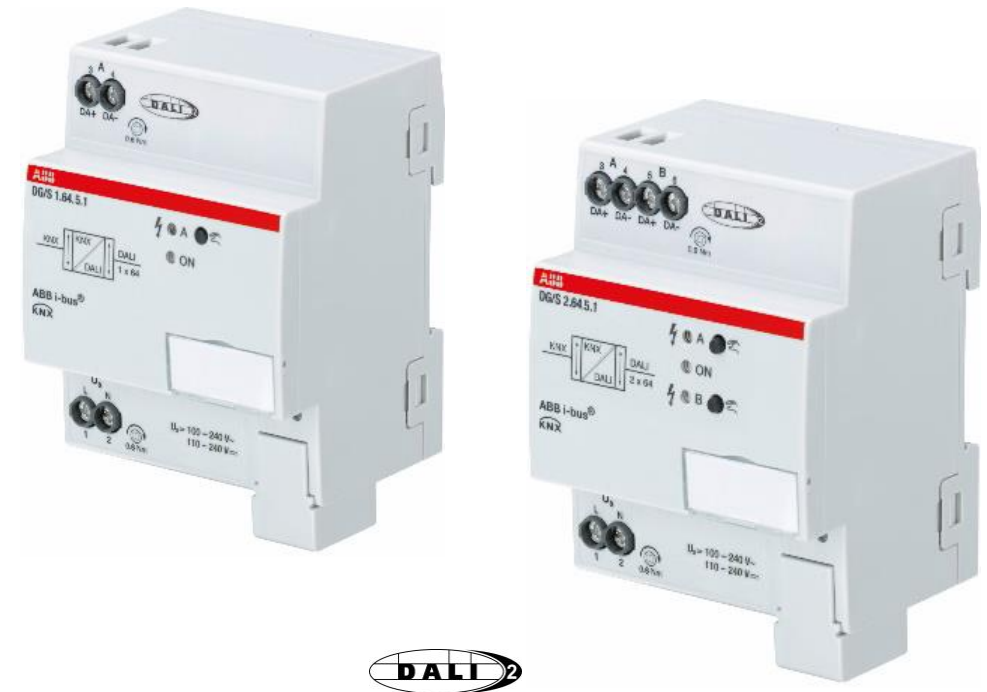
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#### Human Centric Lighting (HCL)

- Colour temperature curve following daylight

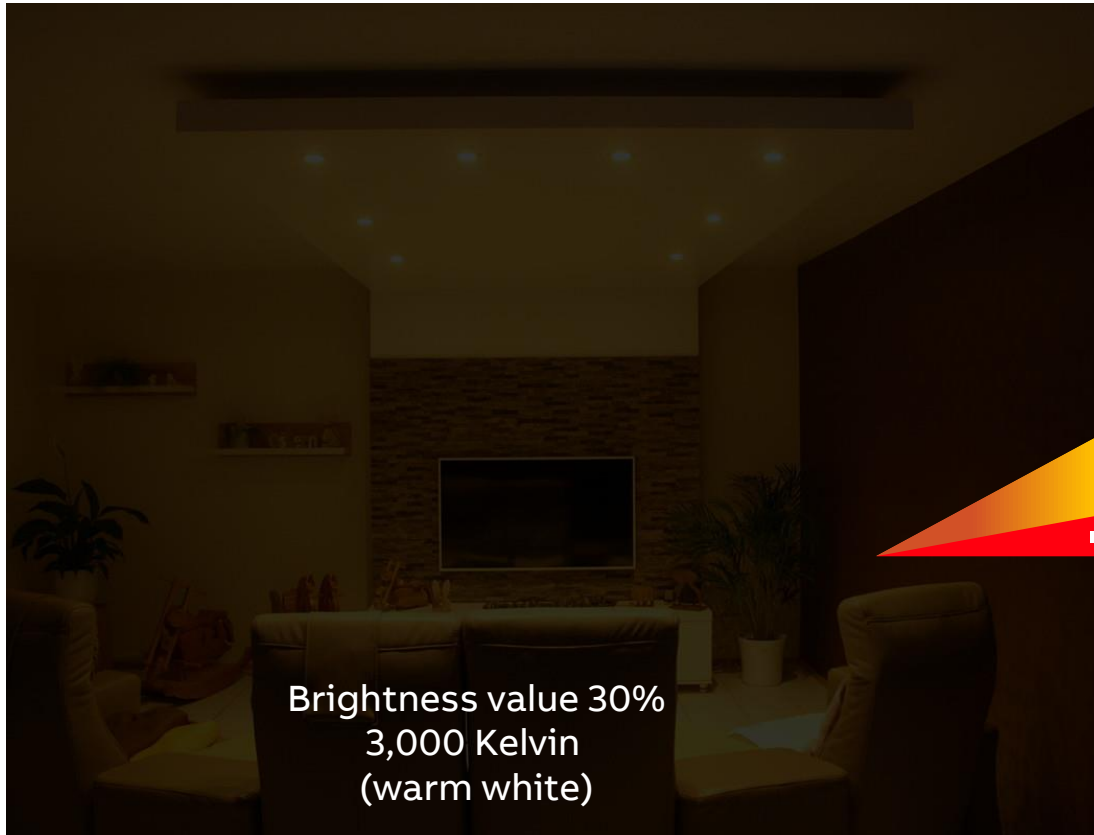
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- Colour temperature changes proportionally to brightness with the effect like a light bulb



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

Colour function "Dim2Warm"



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Features

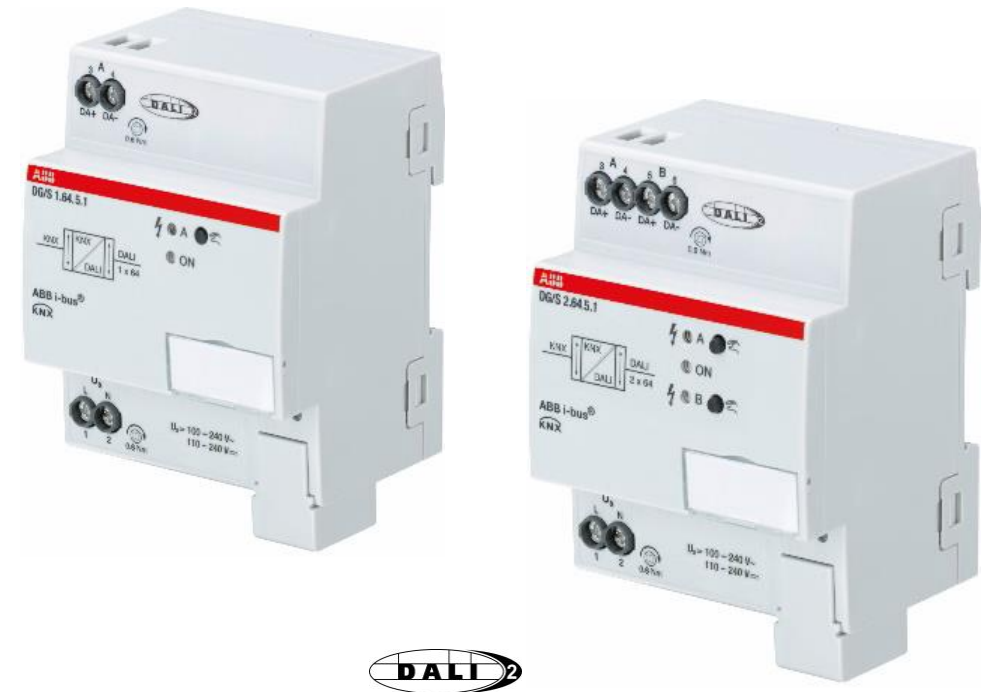
### What is new? – Various Features

#### Standby switch-off

- Ballast voltage switch-off via additional switching actuator
  - In case of all connected lights are turned off all ballasts are only in standby mode
  - Ballasts can be switched off to save energy, e.g. during the night

#### Operating Hours

- Counting of operating hours by means of ABB i-bus® Tool
- Monitoring of circuits/lamps concerning life span for maintenance or replacement



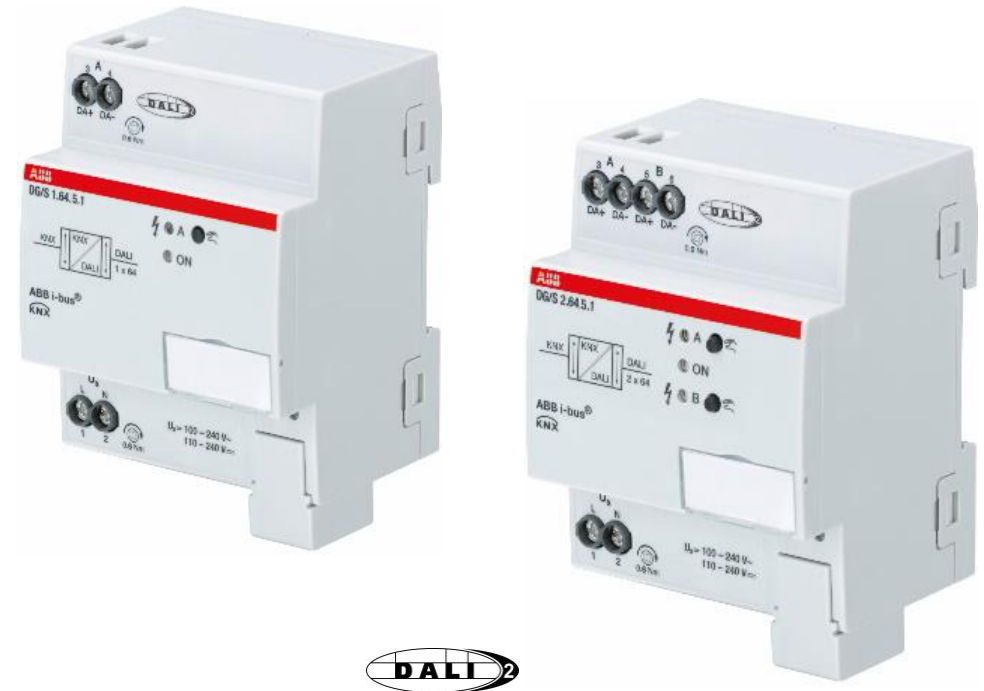
# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Features

### What is new? – Various Features

#### Scenes

- Beside brightness level also the colour temperature can be adjusted in a scene
- For each of the 16 DALI scenes a 1 bit object to recall the scene can be established.
  - Standard is 1 byte with coded content (recall, store and scene number)
  - Advantage 1 bit recall: Easy to use by any sensor or operating element

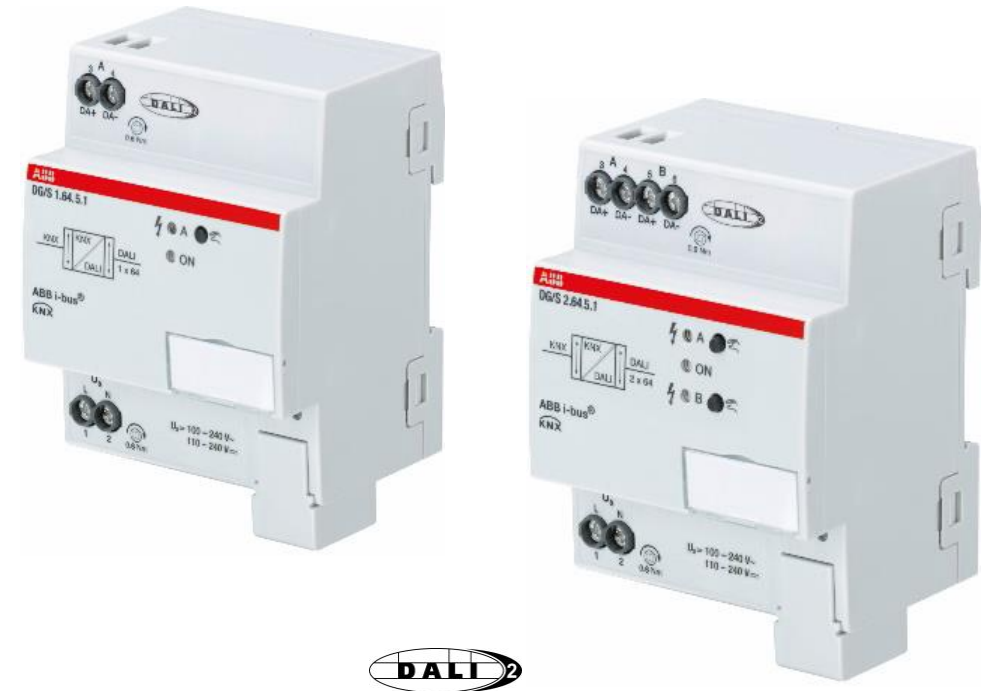


# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Features

### What is new? – Various Features

- Fully functional and individual DALI outputs for 64 DALI devices each in accordance with IEC 62 386 Part 201, 202 and 209
  - Normal DALI luminaires (device type 0)
  - DALI single battery emergency light (device type 1)
  - Colour-controlled DALI luminaires (device type 8)  
Note: DG/S x.64.5.1 supports tunable white, right now no other DT8 colour lighting functions like XY coordinate, RGBWAF, ...
- Long-frames + extended memory service support (shorter download times, e.g. with USB/S 1.2, IPS/S 3.1.1 and IPR/S 3.x.1)
- ABB i-bus® Tool for diagnostics and commissioning with more functions
- DALI protocol controller can be updated via application download
- Application for ETS5 only
- Set colour temperature (Object 1 byte in % or 2 byte colour temp.)
- Relative dimming (4 bit) of colour temperature
- Additional template page for colour temperature



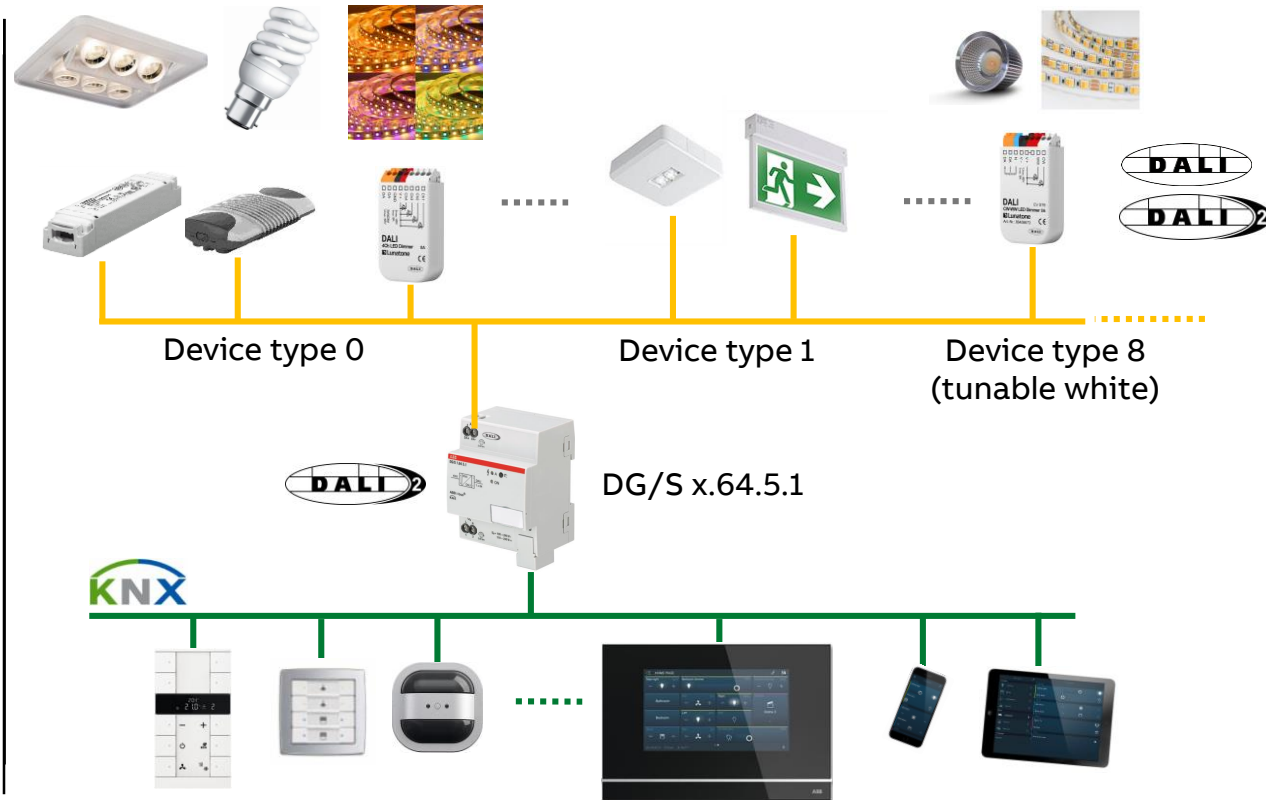
# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## System overview

The DALI Gateways DG/S x.64.5.1 are used to control DALI equipment (only slaves) to EN 62386 with

- Device type 0: DALI interfaces (Part 201)
  - Ballasts, transformers, LED drivers, ...
- Device type 1: DALI self-contained emergency converter with individual batteries (Part 202), e.g.
  - ABB Kaufel route escape signs "Ovano"
  - ABB Kaufel LED downlights "Serenga"
- Device type 8: DALI Colour-controlled luminaires (Part 209)
  - LED drivers for tunable white (Colour temperature  $T_c$ )

Note: The DALI Gateway is a DALI single master with integrated DALI power supply and up to 64 DALI devices (slaves) can be connected per output. Other DALI masters, DALI power supplies or functional devices must not be connected to the DALI output.



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

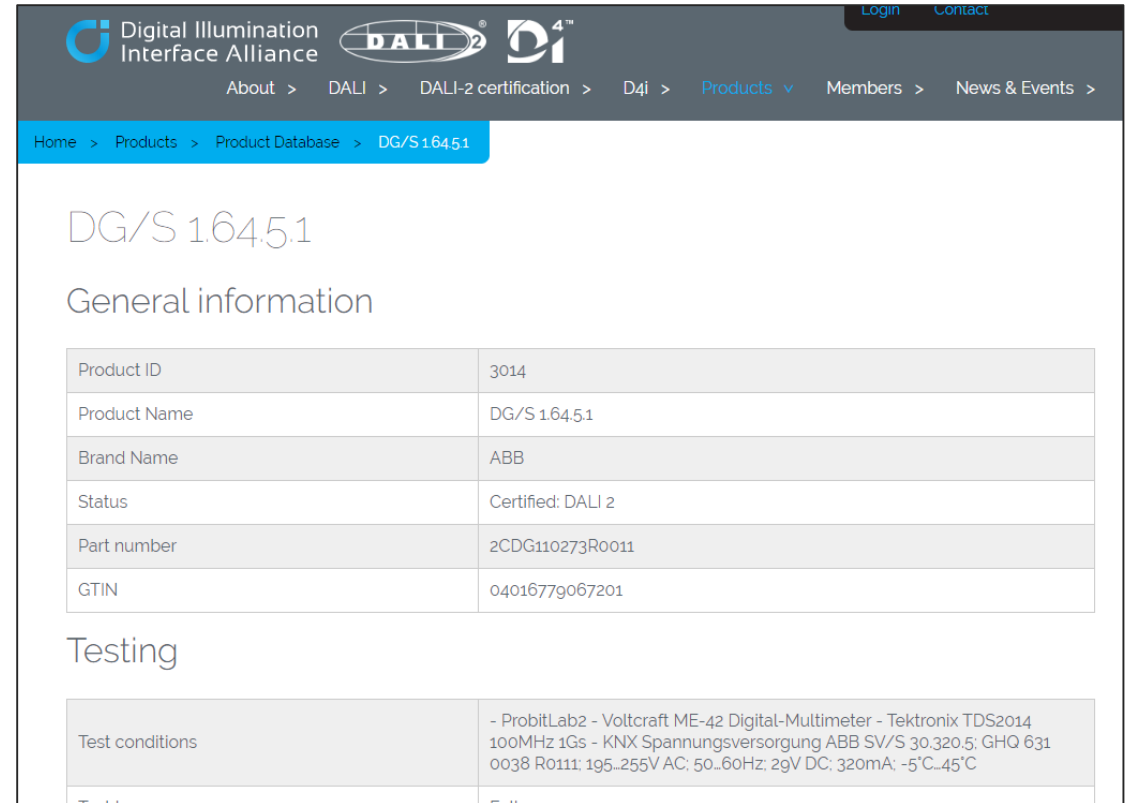
## Certified DALI-2 Products

ABB DALI Gateways DG/S x.64.x.1 have successfully completed the DALI-2 certification process and are certified

<https://www.digitalilluminationinterface.org/> 

→ Products → Product Database

Brand Name	Product Name	DALI Parts	Initial registration	DALI 2 Certified
ABB	DG/S 1.64.5.1 DALI Gateway, Premium 1-fold	101, 103	Feb 20, 2020	Yes
ABB	DG/S 2.64.5.1 DALI Gateway, Premium 2-fold	101, 103	Feb 20, 2020	Yes
ABB	DG/S 1.64.1.1 DALI Gateway, Basic 1-fold	101, 103	Sep 4, 2019	Yes
ABB	DG/S 2.64.1.1 DALI Gateway, Basic 2-fold	101, 103	Sep 4, 2019	Yes



The screenshot shows the website interface for the Digital Illumination Interface Alliance. The top navigation bar includes the logo and links for 'About', 'DALI', 'DALI-2 certification', 'D4i', 'Products', 'Members', and 'News & Events'. A breadcrumb trail indicates the current page is 'Home > Products > Product Database > DG/S 1.64.5.1'. The main content area displays the product name 'DG/S 1.64.5.1' and a section for 'General information' with a table of product details:

Property	Value
Product ID	3014
Product Name	DG/S 1.64.5.1
Brand Name	ABB
Status	Certified: DALI 2
Part number	2CDG110273R0011
GTIN	04016779067201

Below this is a 'Testing' section with a table of test conditions:

Test conditions	Details
Test conditions	- ProbitLab2 - Voltcraft ME-42 Digital-Multimeter - Tektronix TDS2014 100MHz 1Gs - KNX Spannungsversorgung ABB SV/S 30.320.5; GHQ 631 0038 R0111; 195...255V AC; 50...60Hz; 29V DC; 320mA; -5°C...45°C

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## Product properties

- Application controllers
  - Supports DALI version-1 control gear
  - Supports DALI-2 control gear
    - More than one DALI bus supported
    - Bus powered
    - Support for event messages from input devices
    - Support for other application controllers on the same bus
    - Support for Push-buttons (part 301)
    - Support for Switches/sliders (part 302)
    - Support for Occupancy sensors (part 303)
    - Support for Light sensors (part 304)
    - Support for generic input devices
  - Support for Self-contained emergency (part 202, DT1)
    - Support for Discharge lamps (part 203, DT2)
    - Support for Low voltage halogen (part 204, DT3) specific features
    - Support for Incandescent dimmer (part 205, DT4) specific features
    - Support for Conversion to DC (1-10V) interface (part 206, DT5) specific features
    - Support for LED (part 207, DT6) specific features
    - Support for Switching (part 208, DT7) specific features
  - Support for Colour control (part 209, DT8)
    - Supports colour type xy coordinate
    - Supports colour type Tc
    - Supports colour type RGBWAF
  - Supports feedback from control gear (including lamp failure feedback)
  - Provides support for addressing or grouping of control gear
  - Support for features of connected control devices: Feedback (332) and/or Manual configuration (333)
  - D4i

Product properties of DG/S x.64.5.1

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# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

Colour Function "Dim2Warm"

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Colour function "Dim2Warm"

### What is "Dim2Warm"?

→ A change in colour temperature during dimming

#### Applications

- Quite a few people associate the change in colour temperature when dimming in the direction of warmer colours with cosiness and comfort
  - At home in the bedroom or in the living room like in the glow of candles or by the cozy fireplace
- To give the feeling of the warm and welcoming atmosphere
  - Hotel bar, restaurant, ... in the evening
  - In the morning at breakfast
- ...



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Colour function "Dim2Warm"

### What is "Dim2Warm"?

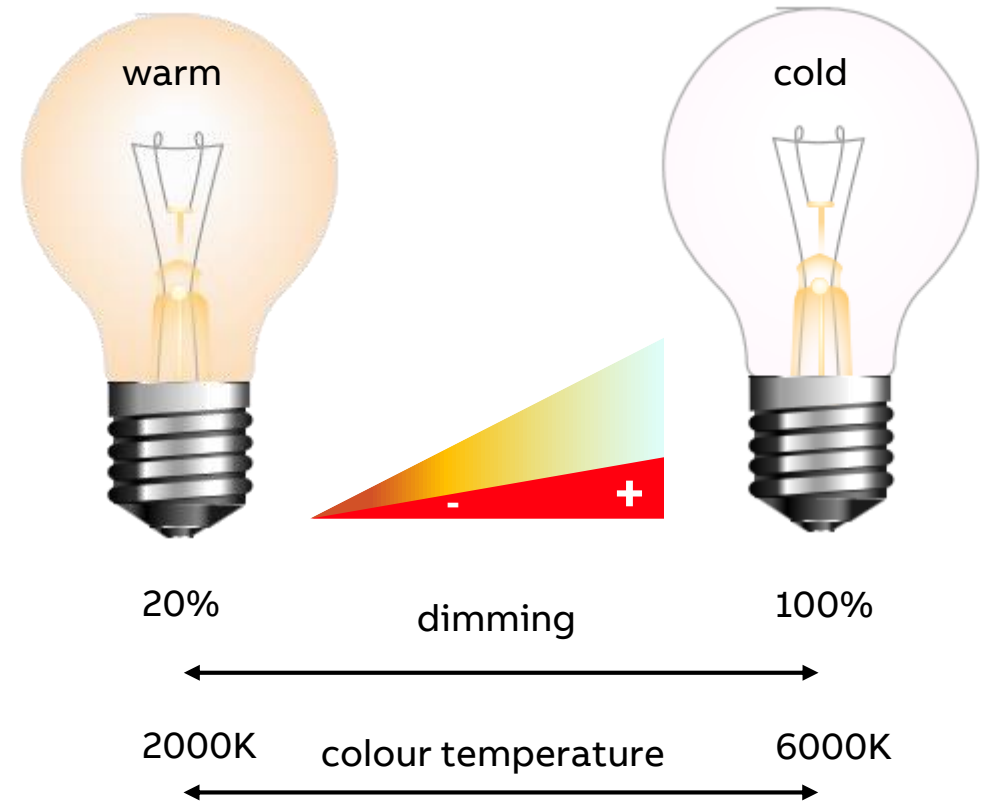
The DALI Gateway has an additional function called "Dim2Warm", which changes the colour temperature based on the brightness

The colour temperature changes proportionally to brightness

- Dimming up: Increasing of colour temperature  
→ cold white
- Dimming down: Decreasing of colour temperature  
→ warm white

Dim2Warm can be activated on a group or a ballast

This dependency is similar to the dimming behavior of a light bulb (light bulb effect)



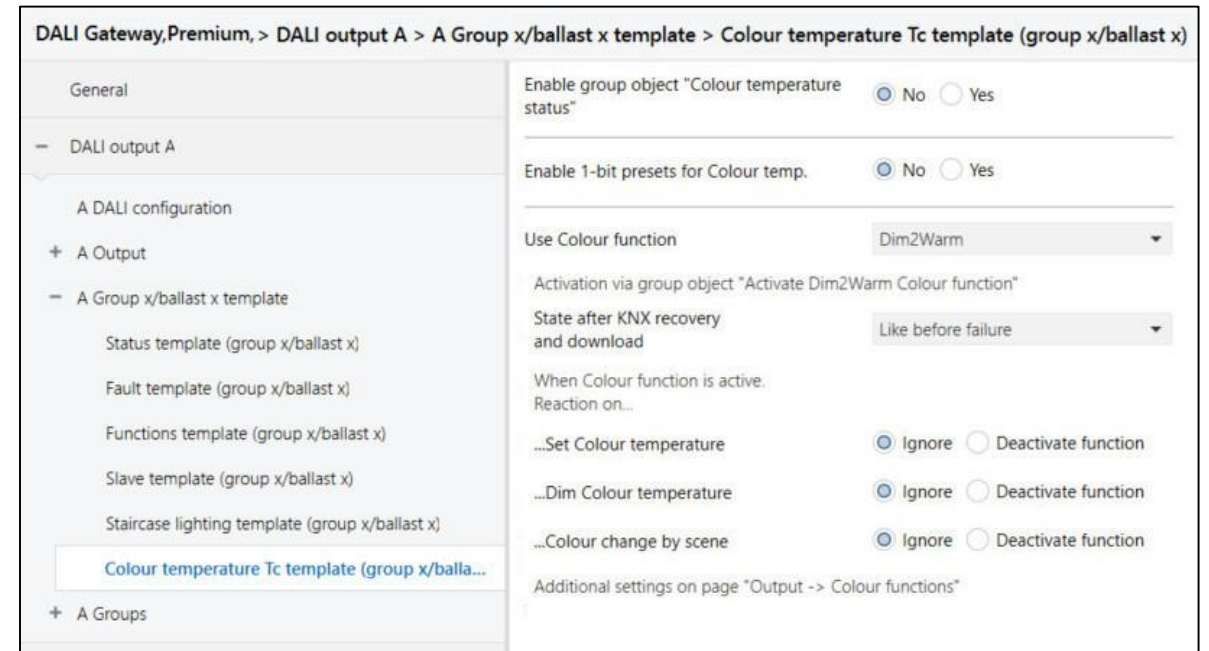
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## Colour function "Dim2Warm"

### Commissioning of the Colour function Dim2Warm

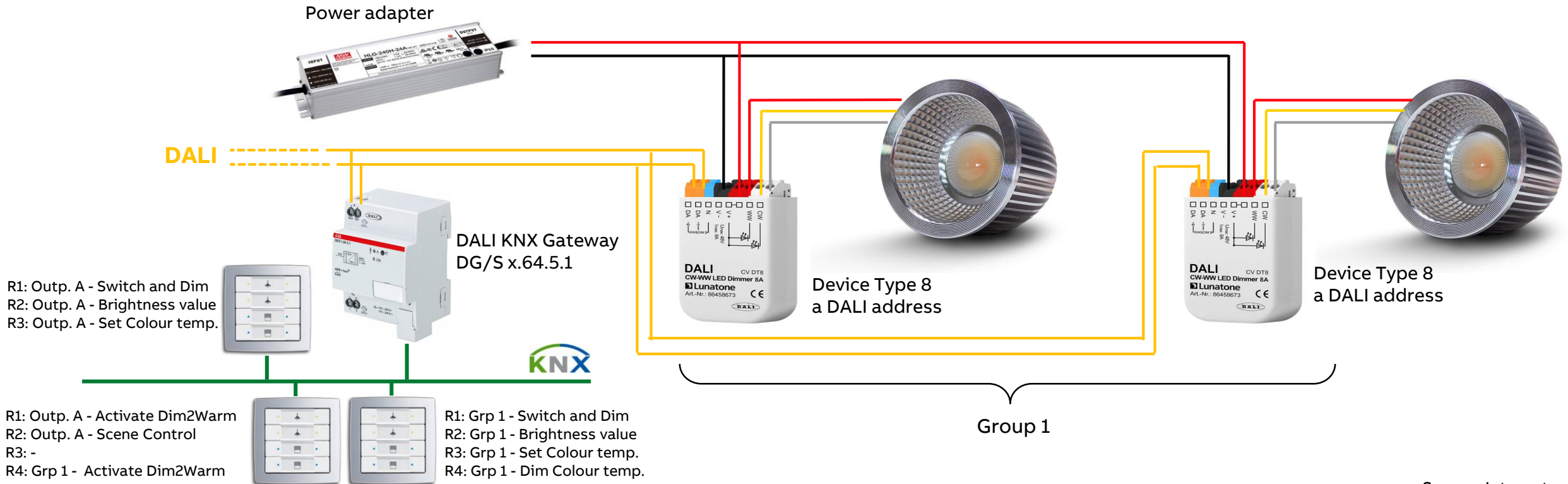
- Set ETS parameter: DALI Output A → Group X or ballast X → Colour functions ... (template or individual)
  - Enable colour function "The Dim2Warm" for the group/ballast
  - "State after KNX recovery and download"
  - Reaction on "Set colour temperature, "Dim colour temperature" and "Colour change by scene" when Colour function is active
- Set ETS parameter: DALI Output A → Output → Colour functions
  - Enable the group object "Output – Activate Dim2Warm colour function" (if necessary)
  - Limitation of the proportional and Colour temperature range (if necessary)

→ Details in Online Learning Session "Dim2Warm"



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Colour function "Dim2Warm" – Example: Hardware for Tunable White with DALI and KNX



Source: Internet

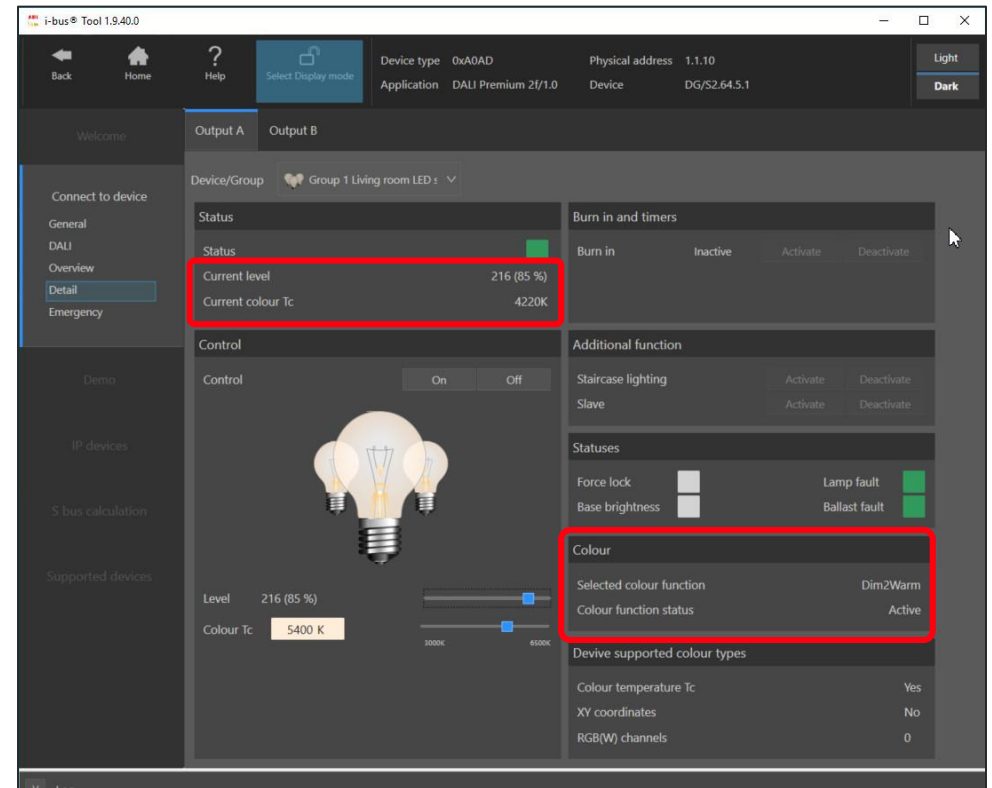
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Colour function "Dim2Warm"

## ABB i-bus® Tool

The selected and the state of the Colour function "Dim2Warm" is displayed

The prerequisite is that the additional function is parameterized in the ETS



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# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

Colour Function "Human Centric Lighting (HCL)"

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Colour function "Human Centric Lighting HCL"

### What is Human Centric Lighting ?

The light of the sun is crucial for our health and well-being

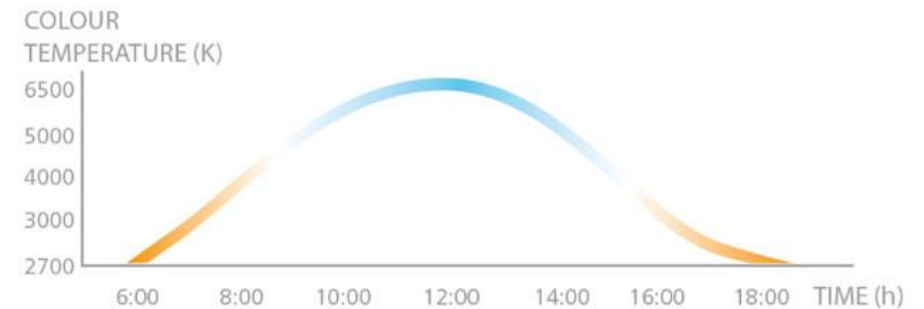
Every artificial light source should therefore match the properties of sunlight as closely as possible

Light affects our mood and level of activity

Human Centric Lighting can adapt people's daily rhythms to one another and increase their motivation, well-being and productivity

Because our physiological response to light depends on the properties of light such as colour spectrum, intensity and timing, the properties of artificial light in our environment are of great importance when we spend a long time in closed rooms

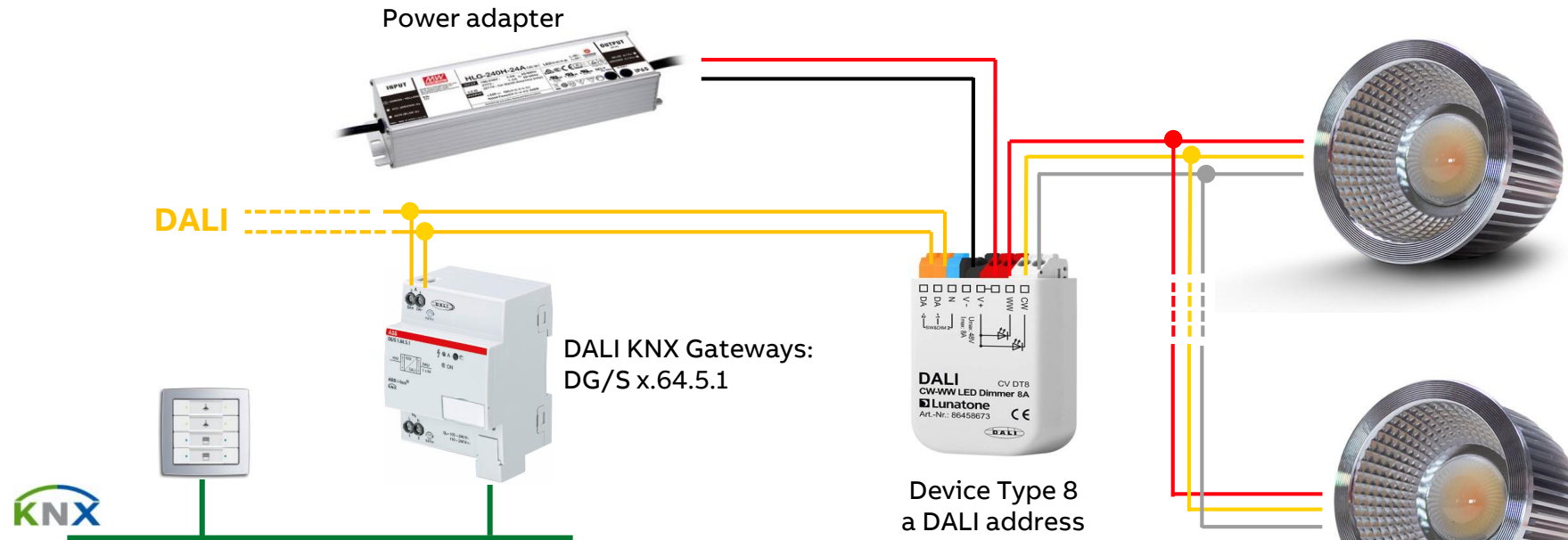
Solutions with Human Centric Lighting can promote the circadian rhythm, improve the ability to concentrate, prevent sleep disorders and increase our general well-being



Source: Internet

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

Colour function "Human Centric Lighting HCL" – Example: Hardware for Tunable White with DALI and KNX



For example:  
Spot Deep Tunable white CV  
8 W, 750 lm, 2200-6500 K  
Manufacturer: ConstaLED  
Manufacturer number: 31362

For example:  
DALI CW-WW LED-Dimmer CV  
12V DC – 28V DC, 4A, 3000-6500K  
Manufacturer: Lunatone  
Manufacturer number: 89453836



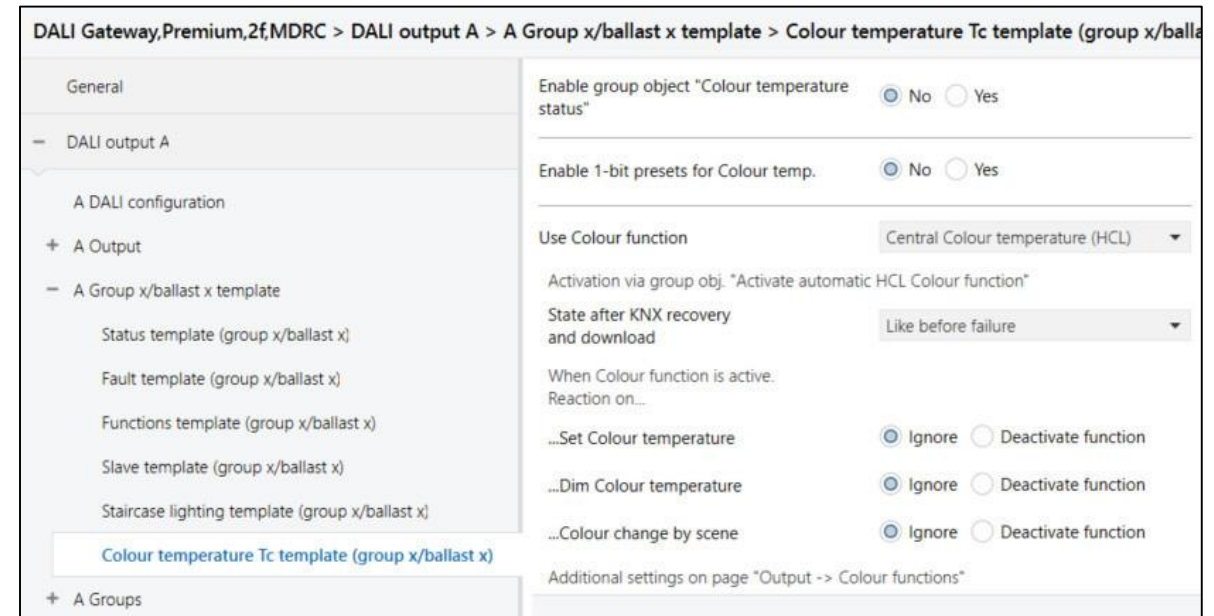
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# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Colour function "Human Centric Lighting HCL"

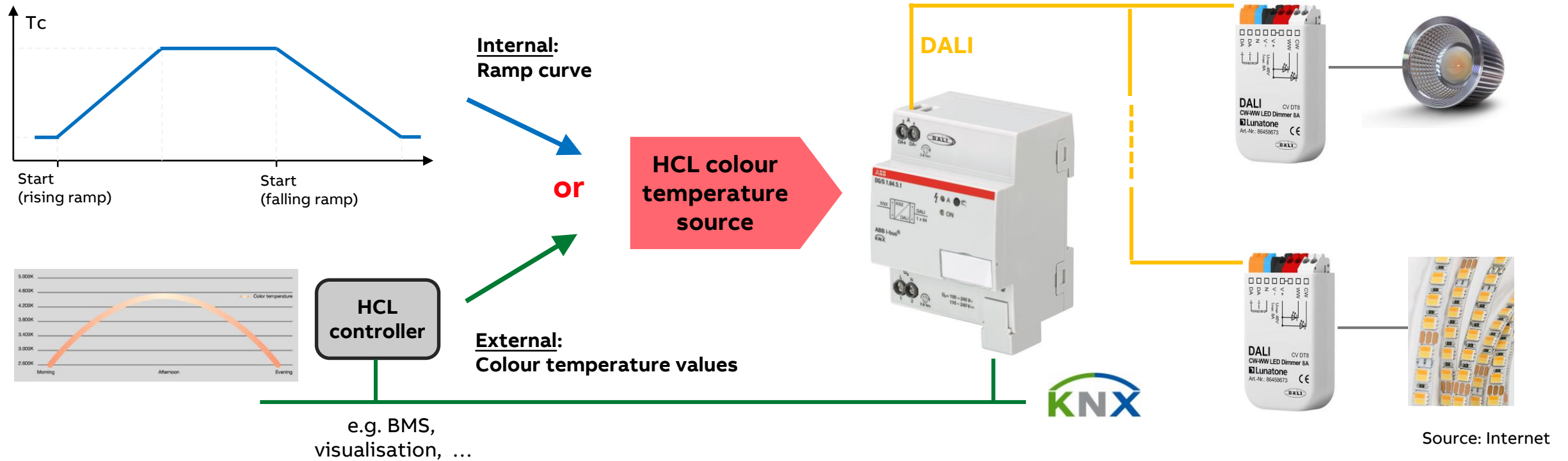
### Commissioning of the Colour function HCL

- Set ETS parameter: DALI Output A → Group X or ballast X → Colour functions ... (template or individual)
    - Enable the colour function "Central Colour temperature (HCL)" for the group/ballast
    - "State after KNX recovery and download"
    - Reaction on "Set colour temperature, "Dim colour temperature" and "Colour change by scene" when Colour function is active
  - Set ETS parameter: DALI Output A → Output → Colour functions
    - HCL colour temperature source (16-bit group object "Colour temperature" or 1-bit group object "Ramp curve")
    - Enable the group object "Output – Activate automatic HCL colour function colour function" (if necessary)
- Details in Online Learning Session "Human Centric Lighting"



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Colour function "Human Centric Lighting HCL"



Source: Internet

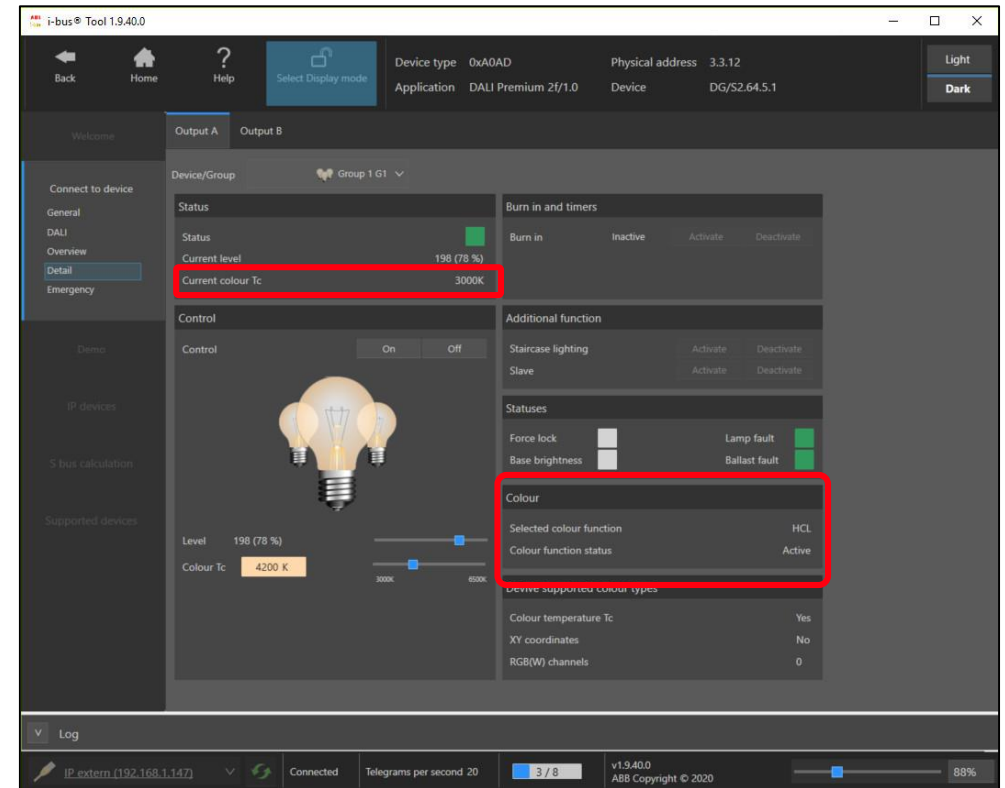
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Colour function "Human Centric Lighting HCL"

## ABB i-bus® Tool

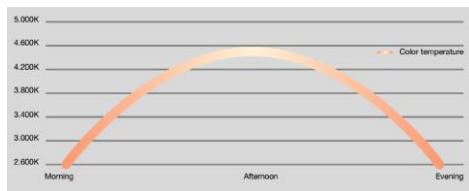
The selected and the state of the Colour function "Human Centric Lighting HCL" is displayed

The prerequisite is that the additional function is parameterized in the ETS

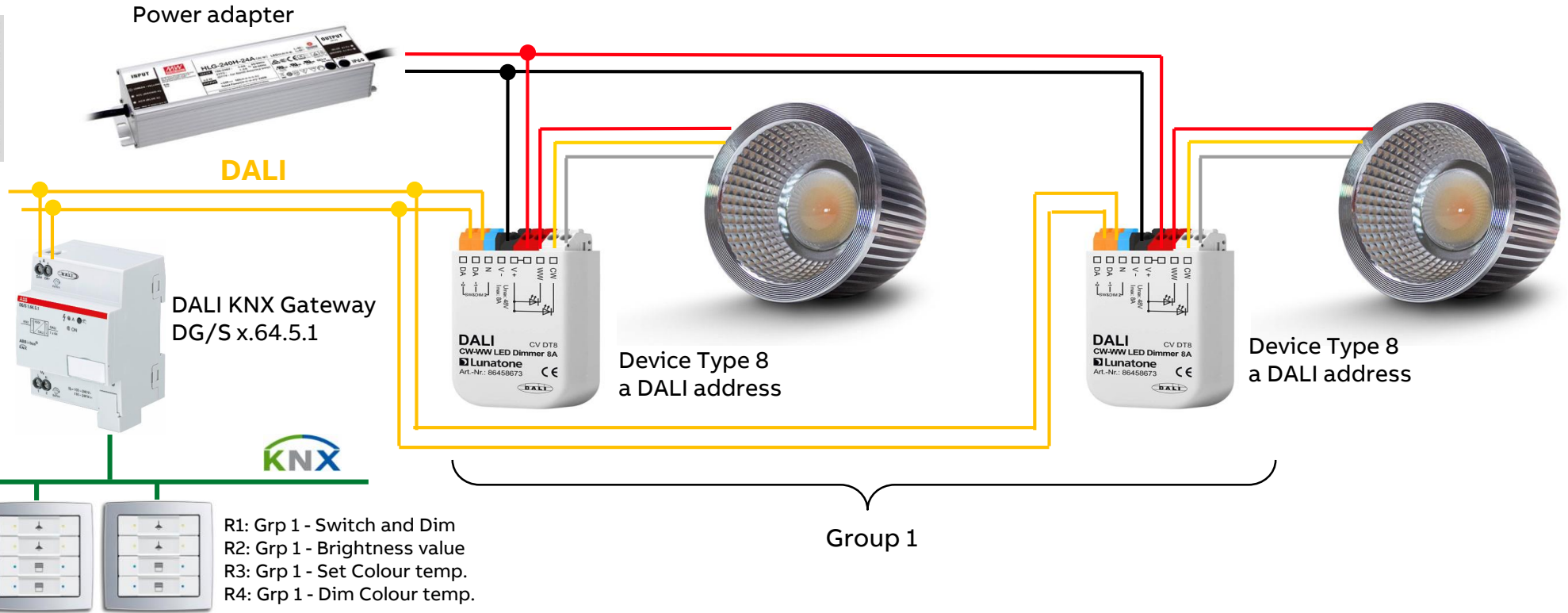


# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

Colour function "Human Centric Lighting HCL" – Colour temperature source: "16-bit group object (external)"

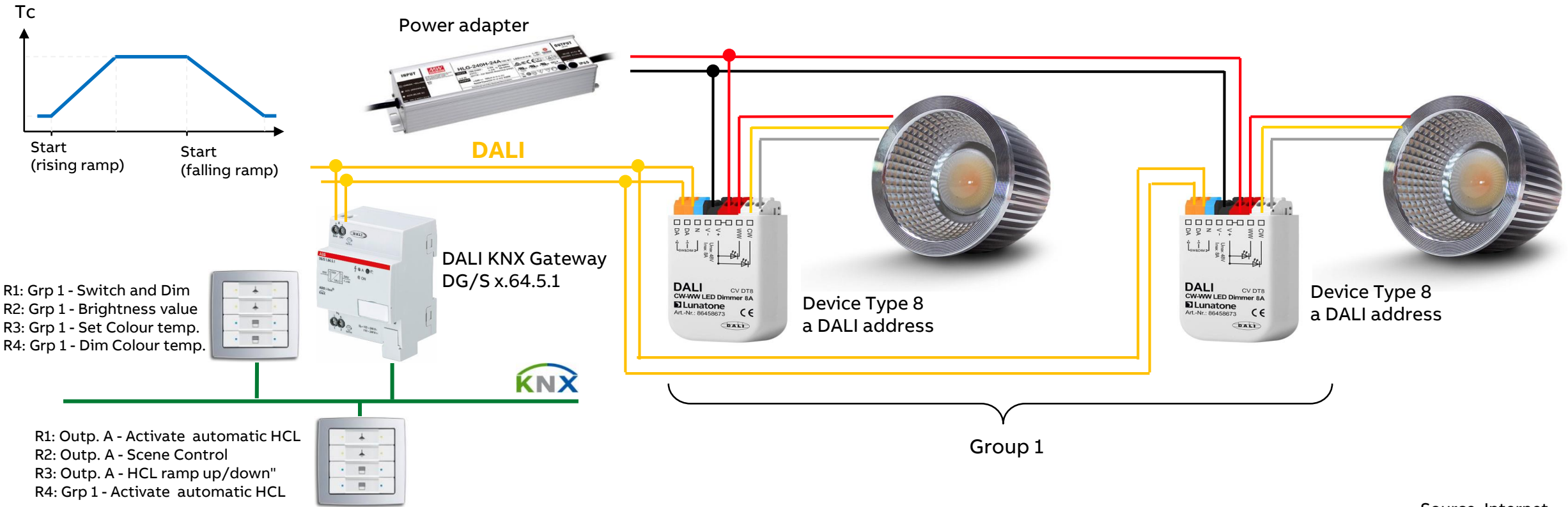


ETS group monitor  
→ Send colour  
temperature values



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Colour function "Human Centric Lighting HCL" – Colour temp. source: "1-bit group object Ramp curve (int.)"



Source: Internet

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# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

Function "Standby switch-off"

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Function "Standby switch-off"

### What is the "Standby switch-off" function?

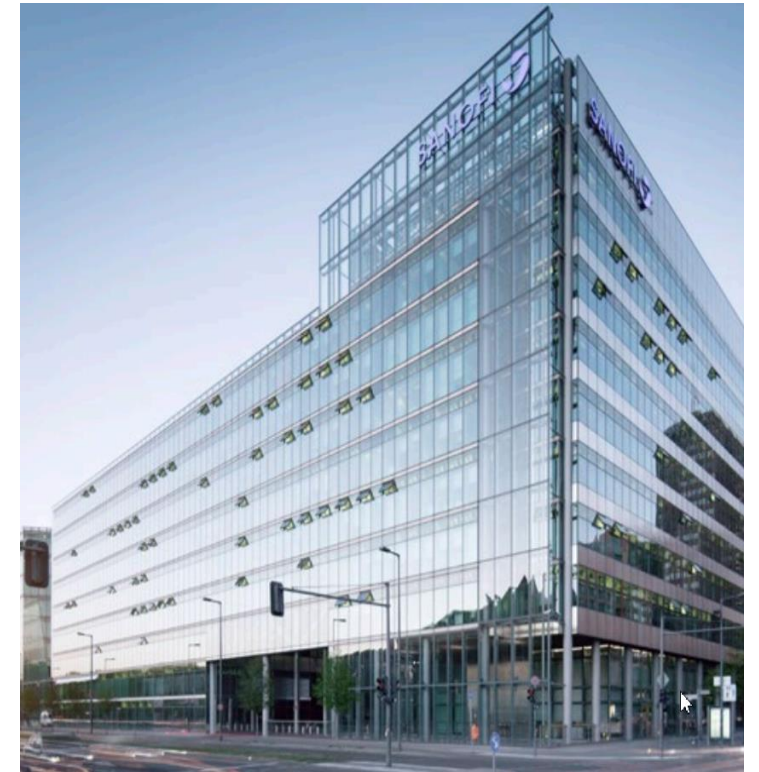
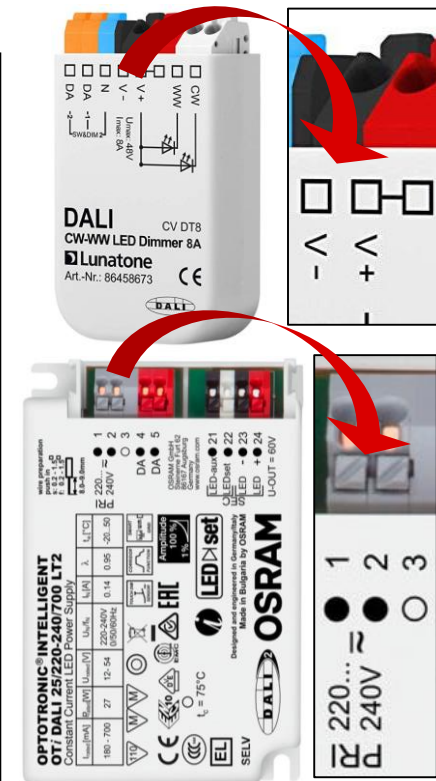
All ballasts are permanently connected to the supply voltage

A modern ballast has a power loss of approx. 0.12 to 0.2 Watts in stand-by mode (switched off)

With a large number of ballasts in a building, this leads to a not inconsiderable energy requirement

The "Standby switch-off" function saves energy by switching off the supply voltage of ballasts when they are all in standby (switched off)

→ This serves to save energy



Source: Internet

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Function "Standby switch-off"

### What is the "Standby switch-off" function?

If only one ballast remains on at a DALI output, no standby switch-off can be carried out

Standby switch-off is available for each DALI output, not for every ballast or group

The supply voltage can, but does not have to, be switched off for all ballasts

The supply voltage of the ballasts is switched on or off in combination with a KNX Switch Actuator SA/S and with a higher load via an installation contactor (e.g. ESB40)

The message "Ballast fault" is suppressed when the ballasts are switched off using the standby switch-off function



Installation contactor  
(e.g. ESB40)



Switch Actuator  
SA/S



Source: Lunatone Industrielle Elektronik GmbH

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Function "Standby switch-off"

### What is the "Standby switch-off" function?

DALI emergency converter are not be integrated in Standby switch-off function

#### Note:

- Ballasts must support individual DALI power-on level (last value before failure), to be adjusted in the ETS Application under "Fault"



Installation contactor  
(e.g. ESB40)



Switch Actuator  
SA/S



Source: Lunatone Industrielle Elektronik GmbH

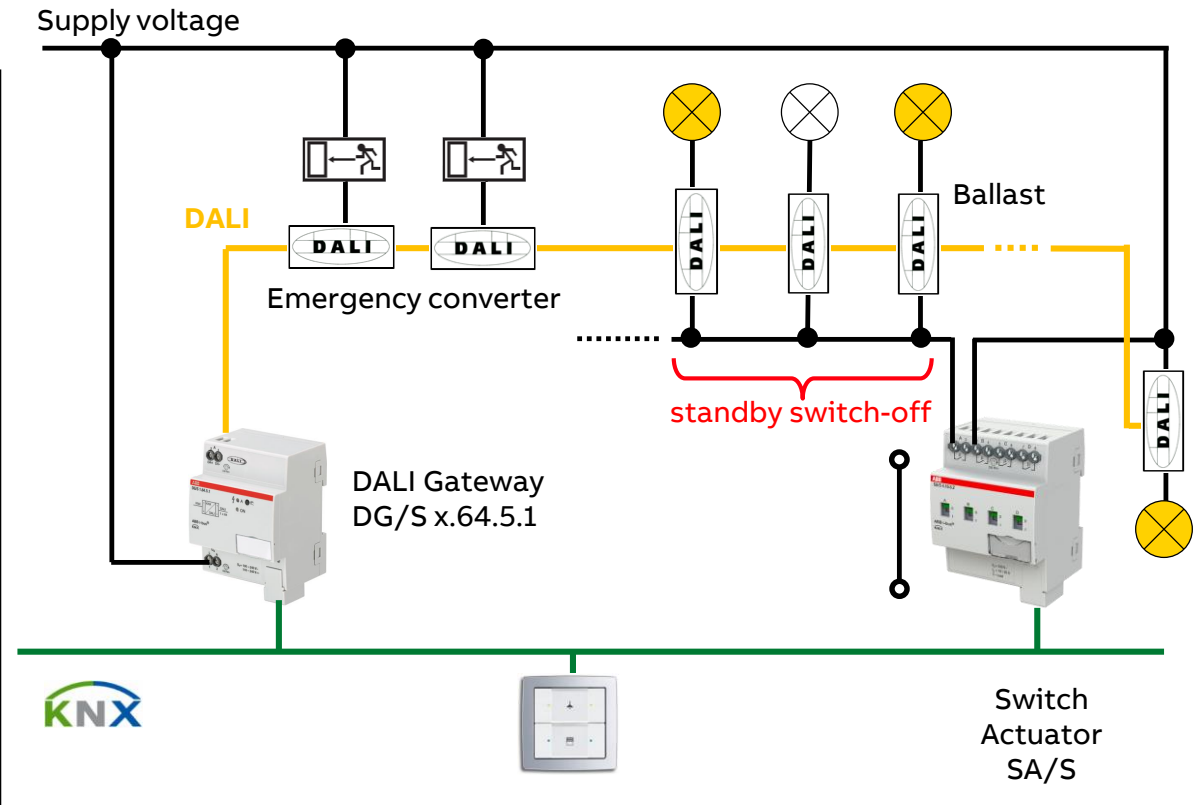
# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Function "Standby switch-off"

### How does a "Standby switch-off" function work?

Some lights are turned on and all ballasts are supplied with supply voltage

→ no standby switch-off is possible



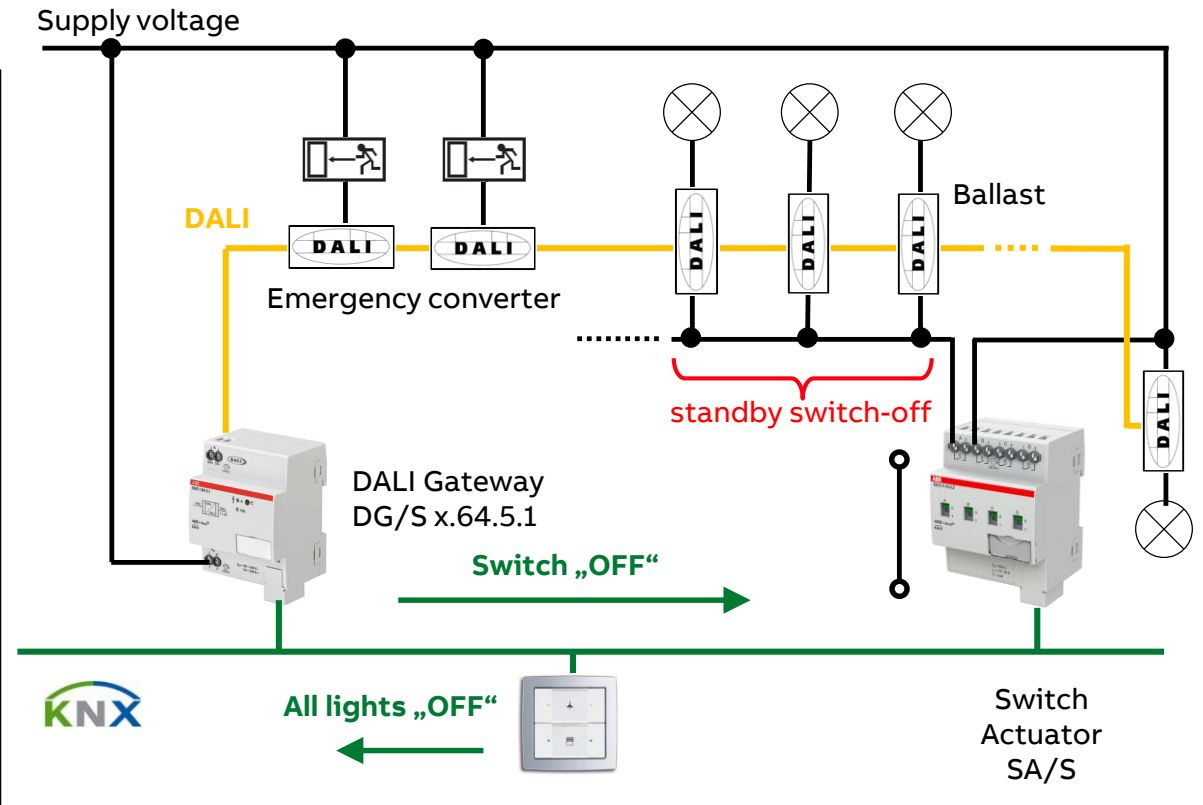
# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Function "Standby switch-off"

### How does a "Standby switch-off" function work?

All lights are turned off and all ballasts are in standby at a DALI output

- After an adjustable delay time (1...65,535sec.) the standby switch-off function is activated
- A switch "OFF" telegram is sent on KNX
- All Switch Actuator SA/S channels linked with this group address switches off the ballasts supply voltage  
→ All connected ballasts are deenergized
- The DG/S message "Ballast fault" is suppressed

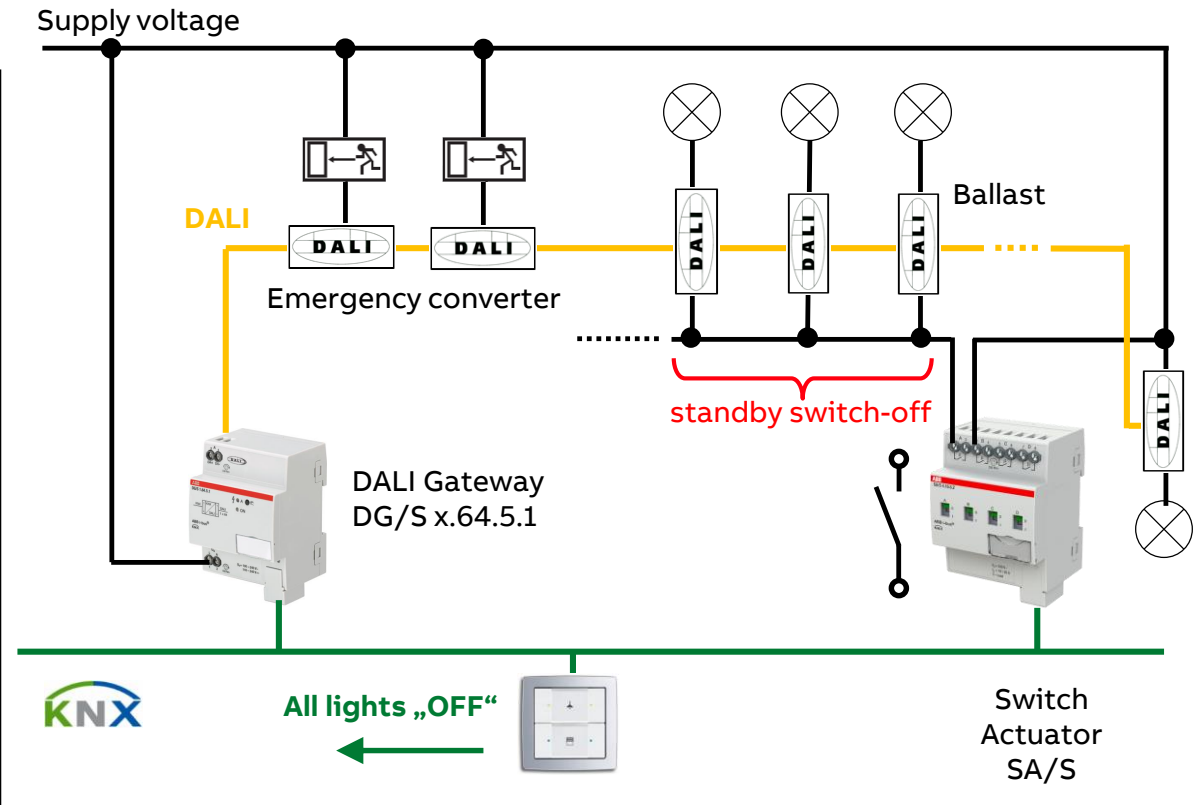


# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Function "Standby switch-off"

### How does a "Standby switch-off" function work?

All lights are turned off and all ballasts are in standby at a DALI output



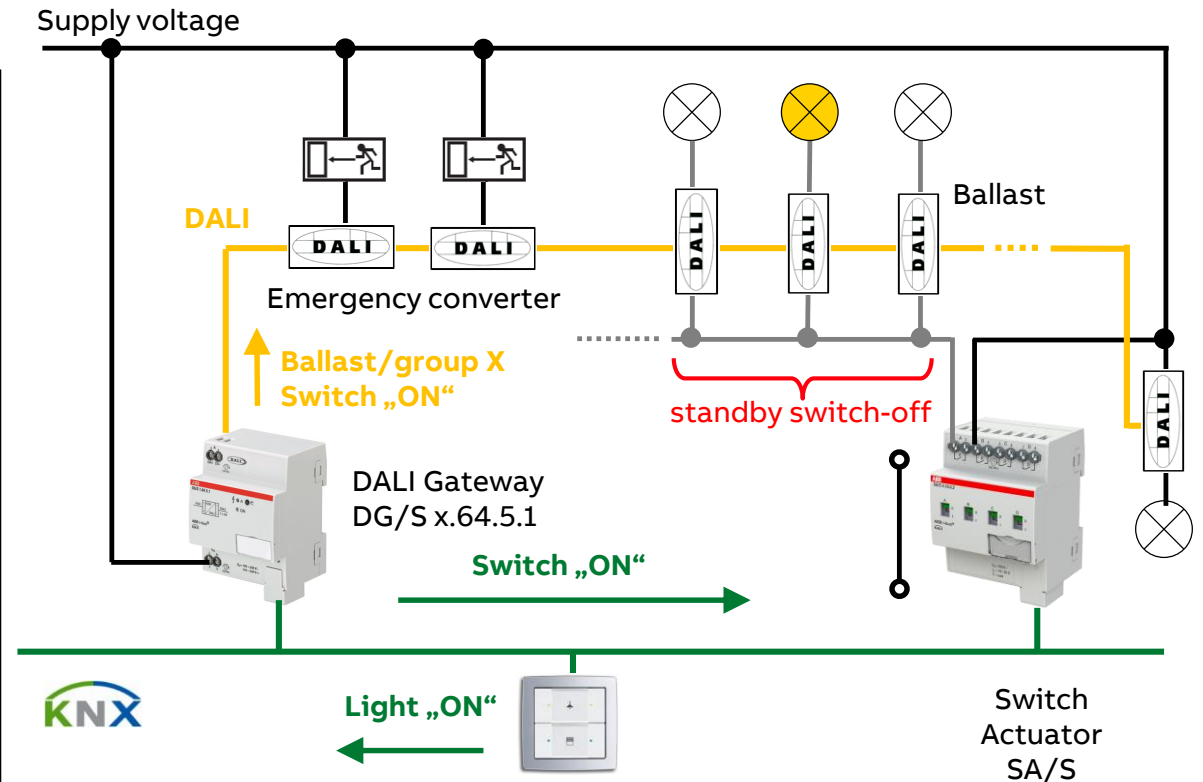
# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Function "Standby switch-off"

### How does a "Standby switch-off" function work?

When the function is active, a KNX sensor (e.g. control element or presence detector) sends a group address to the DALI Gateway to switch on a DALI ballast/group

- The standby switch-off function is deactivated
- A switch "ON" telegram is sent on KNX
- All Switch Actuator SA/S channels linked with this group address switches on the ballasts supply voltage  
→ All connected ballasts are energized
- After adjustable delay time (1...10sec., needed for restart of ballasts) all ballasts are ready to work
- The DALI Gateway sends an "ON" command to the DALI ballast/group and the light switches on
- Further actions to turn on lights are without delay



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Function "Standby switch-off"

### Commissioning of a "Standby switch-off" function

Set ETS parameter: DALI Output A → Output → Functions

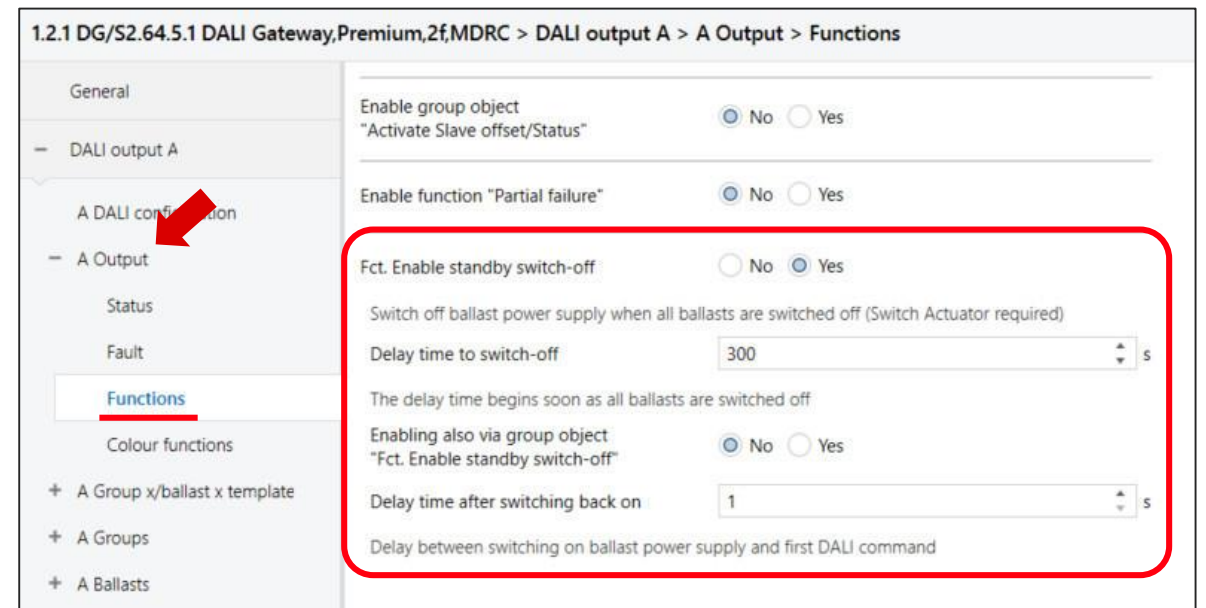
- Enable DALI standby switch-off
- Set time of delay till switch-off (e.g. 5 min to avoid standby switch-off in case of short term standby situation)
- Optional: Enable group object "Enable DALI standby switch-off"
- Set time (1 ...10s) of delay after restart (needed for restart of ballasts, ballast restart time less than 1 sec. according to DALI standard)

Set ETS parameter: DALI Output A → Group X or ballast X → Fault template ... (template or individual)

- Select the "Last value before failure" parameter for all ballasts involved in Standby switch-off function

Connect the "Standby switch-off" group object to a Switch Actuator SA/S channel(s)

→ **Details in Online Learning Session "Standby switch-off"**



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

Function "Standby switch-off" – ABB i-bus® Tool

The screenshot shows the ABB i-bus Tool 1.9.40.0 interface. The top bar includes navigation icons (Back, Home, Help), a 'Select Display mode' button, and device information: Device type 0xA0AD, Physical address 1.2.11, Application DALI Premium 2f/1.0, and Device DG/S2.64.5.1. The main area is divided into 'Output A' and 'Output B' sections, each with a grid of device icons (light bulbs) numbered 1 to 64. A 'Living room...' label is visible above the right grid. On the right side, there is a configuration panel with various settings: Broadcast on/off (On), Automatic DALI addressing (No), Unaddressed devices (No), Conflict in DALI groups (No), Conflict in device type (No), All DALI devices monitored (No), Awaiting fault acknowledge (No), At least one device is burning in (No), DALI line fault (No), Overlapping groups (No), More than 64 devices detected (No), and Standby shutdown active (Yes, highlighted with a red box). Below these settings are buttons for 'Trigger DALI addressing', 'Use gateway values', 'Trigger DALI device monitoring', and 'Acknowledge all faults'. A 'Search ballast' button is also present. A dark grey notification box on the right displays 'Standby shutdown active' in white text and 'Yes' in orange text. The bottom status bar shows 'USB (0)', 'Connected', 'Telegrams per second 20', '5 / 10', 'v1.9.40.0 ABB Copyright © 2020', and a battery level indicator at 103%.



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# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

## Controlling Scenes

Typical applications of scenes

- Training room: Start, coffee break, end, ...
- Hotel room: Access, insert and remove key card, , ...
- Residential home: Night, welcome, good bye, alarm, vacation, ...
- Shutter control: Sunrise, night, rain, ...
- Room: Occupied and not occupied
- RGB control (DALI): Coloured light
- Tunable white (DALI): Coloured temperature light

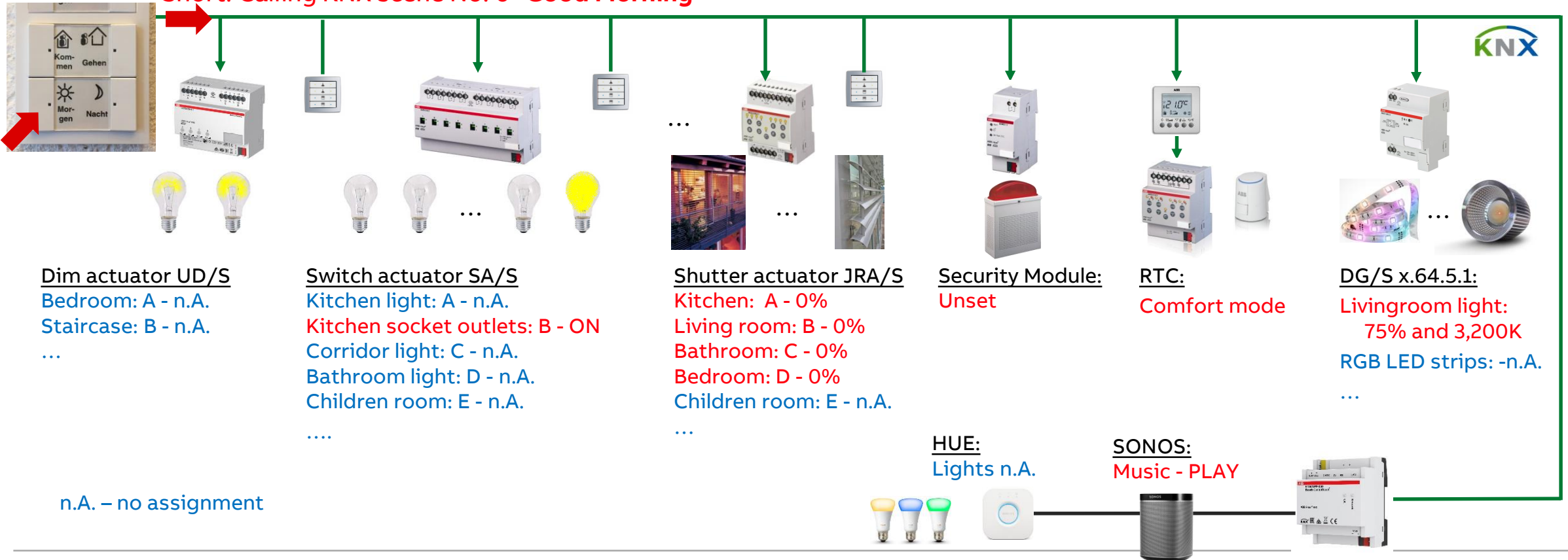
and many more



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

Short: Calling KNX scene No. 6 "Good Morning"



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

## Commissioning of scenes

Set ETS parameter: DALI Output A → DALI Configuration

- Enable DALI scenes (scene control)

Set ETS parameter: DALI Output A → Scenes

- Linking DALI scenes with KNX scenes
- Enable 1-bit group objects for scene retrieval (when needed)
- Set the transition time, brightness and colour temperature values when the scene is recalled

Link the scenes group object to all involved actuator channels

If the colour function (HCL, Dim2Warm) is activated, the behavior when calling a scene can be set (ignore or deactivate the colour function and adopt the scene value)

3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A DALI configuration

General	Enable automatic DALI addressing	<input checked="" type="radio"/> No <input type="radio"/> Yes
- DALI output A	Pause between QUERY STATUS polls	2 x 100 ms
Irrespectively of this, an emergency lighting converter is polled every 64 seconds.		
A DALI configuration		
+ A Output	Enable DALI groups (group control)	<input type="radio"/> No <input checked="" type="radio"/> Yes
+ A Group x/ballast x template	Enable DALI ballasts (individual control)	<input checked="" type="radio"/> No <input type="radio"/> Yes
+ A Groups	Enable DALI emergency lighting converter (emergency lighting control)	<input checked="" type="radio"/> No <input type="radio"/> Yes
+ A Scenes	Enable DALI scenes (scene control)	<input type="radio"/> No <input checked="" type="radio"/> Yes
+ DALI output B		

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

## Use 1-bit group objects for scene retrieval

In addition, the scenes can also be called up using a 1-bit telegram  
This parameter enables the 1-bit group object "DALI Scene x", which can be used to retrieve scenes

- No
  - The group objects are not enabled
- Yes
  - The 1-bit group objects are enabled
  - Scenes can be retrieved with a "0" or "1" on these group objects

3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Scenes

**DALI output A** Use 1-bit objects for scene retrieval  No  Yes

A DALI configuration

+ A Output

+ A Group x/ballast x template

+ A Groups

**- A Scenes**

Scene 1

DALI scene 1: KNX scene number 1

DALI scene 2: KNX scene number 24

DALI scene 3: KNX scene number 47

DALI scene 4: KNX scene number 62

DALI scene 5: KNX scene number 5

DALI scene 6: KNX scene number 37

	Nur	Group Address	Name	Object Function	Length	Data Type
↕	35	1/4/35	Output A	KNX scene 1...64	1 byte	scene control
↕	36	1/4/36	Output A	DALI scene 1	1 bit	trigger
↕	37	1/4/37	Output A	DALI scene 2	1 bit	trigger
↕			Output A	DALI scene ...	1 bit	trigger
↕	51	1/4/51	Output A	DALI scene 16	1 bit	trigger

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

## "Scene x" parameter window

This parameter window is visible if "DALI scene x" is assigned to a "KNX scene" in the "Scenes" parameter window

The properties of the scenes and their members are parametrized in this window

A scene member can be any ballast or group on the DALI output

For a better overview, only the groups and ballasts used are displayed

3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Scenes > Scene 1

General

DALI output A

A DALI configuration

- + A Output
- + A Group x/ballast x template
- + A Groups
- + A Ballasts

A Scenes

- Scene 1**
- Scene 2
- Scene 3
- Scene 4
- Scene 5
- Scene 6
- Scene 15
- Scene 16

+ DALI output B

Transition time for scene: 2.0 s

Overwrite saved scene val. on download:  No  Yes

Group 1 is member of the scene:  No  Yes

Brightness value: 75% (191)

Group 2 is member of the scene:  No  Yes

Brightness value: 100% (255)

Group 3 is member of the scene:  No  Yes

Group 4 is member of the scene:  No  Yes

Ballast 1 is member of the scene:  No  Yes

Change brightness:  No  Yes

Brightness value: 100% (255)

Change Colour temperature:  No  Yes

Colour temperature: 3000 K

Ballast 2 is member of the scene:  No  Yes

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

## Transition time for "Scene x"

This parameter defines how long it takes for scene members to reach their scene value (brightness/colour temperature value) after a scene is recalled

If the dimming process is complete, the scene members have reached the set brightness/colour temperature for the scene

These times are specified by the DALI standard and are stored in the ballast

- Jump to
- 0.7, 2.0, ..., 64.0sec.
- Via group object "Flexible dimming/fade time"

The screenshot shows the configuration interface for a DALI Gateway. The breadcrumb path is "3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Scenes > Scene 1". A red arrow points to the "General" tab in the left sidebar. The "Transition time for scene" parameter is highlighted with a red box and is set to "2.0 s". Other parameters include "Overwrite saved scene val. on download" (Yes), "Group 1 is member of the scene" (Yes), "Group 2 is member of the scene" (Yes), "Group 3 is member of the scene" (No), "Group 4 is member of the scene" (No), "Ballast 1 is member of the scene" (Yes), "Ballast 2 is member of the scene" (No), "Change brightness" (Yes), and "Change Colour temperature" (Yes). The "Colour temperature" is set to 3000 K.

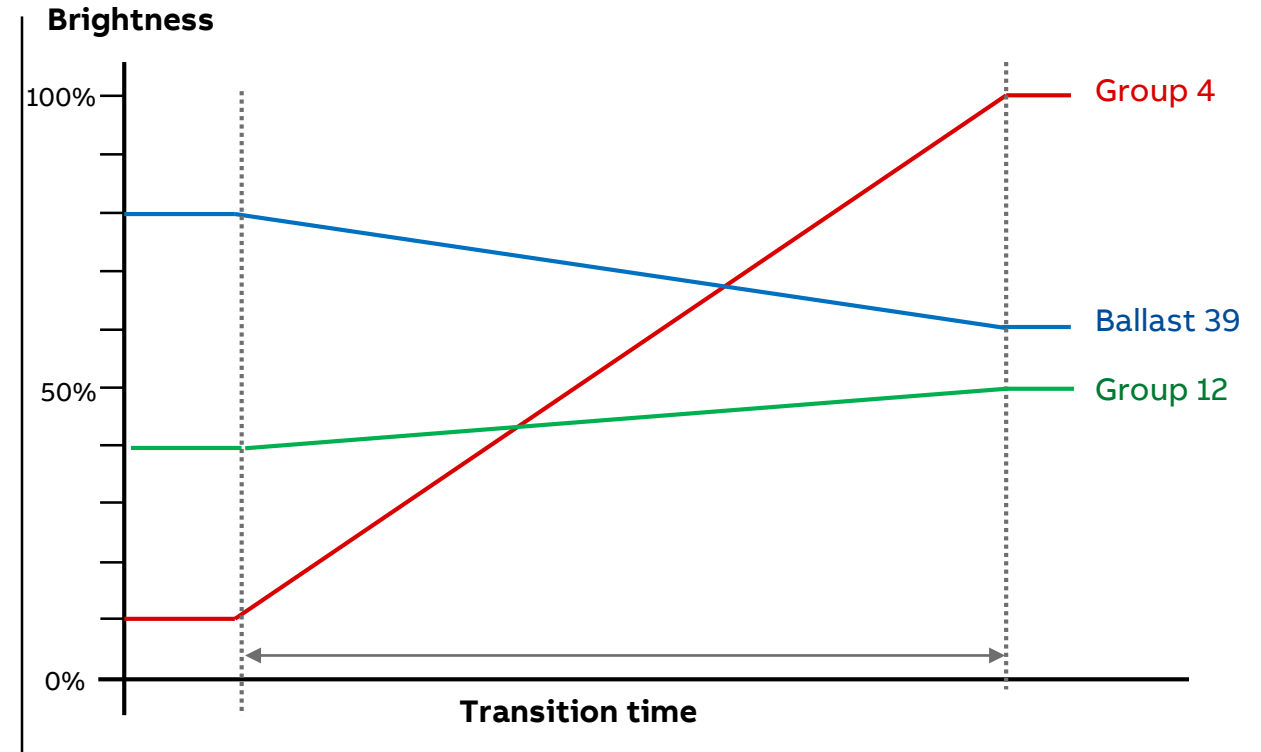
# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

## Transition time for "Scene x"

Example:

- Group 4, which is dimmed from 10% to 90%
  - Group 12, which is dimmed from 40% to 50%
  - ballast 39, which is dimmed from 80% to 60%
- reach the set brightness value of the scene simultaneously



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

## “Group/Ballast x” is member of the scene: Colour temperature

This parameter sets the colour temperature for the member's scene

– Options

- 1,000...3,000...20,000 Kelvin

Note:

The parameter is only available if colour control is selected for the group/ballast (e.g. ballast 1) in the “Colour control type” parameter in the “X groups/Group x” or “X ballasts/Ballast x” window

3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Scenes > Scene 1

General

DALI output A

A DALI configuration

- + A Output
- + A Group x/ballast x template
- + A Groups
- + A Ballasts
- A Scenes
  - Scene 1
  - Scene 2
  - Scene 3
  - Scene 4
  - Scene 5
  - Scene 6
  - Scene 15
  - Scene 16
- + DALI output B

Transition time for scene: 2.0 s

Overwrite saved scene val. on download:  No  Yes

Group 1 is member of the scene:  No  Yes

Brightness value: 75% (191)

Group 2 is member of the scene:  No  Yes

Brightness value: 100% (255)

Group 3 is member of the scene:  No  Yes

Group 4 is member of the scene:  No  Yes

Ballast 1 is member of the scene:  No  Yes

Change brightness:  No  Yes

Brightness value: 100% (255)

Change Colour temperature:  No  Yes

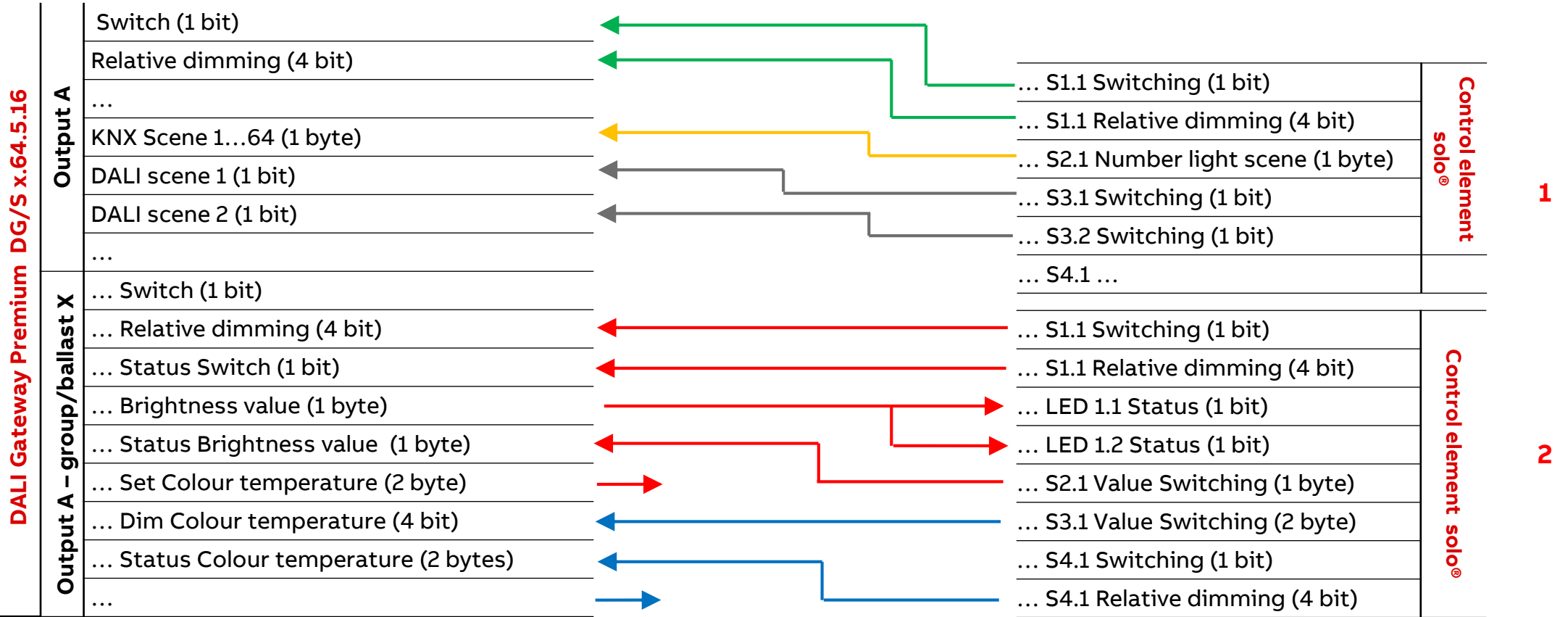
Colour temperature: 3000 K

Ballast 2 is member of the scene:  No  Yes

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

DALI light scenes with individual brightness and colour temperature level

Example: Assignment of Group Addresses



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# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

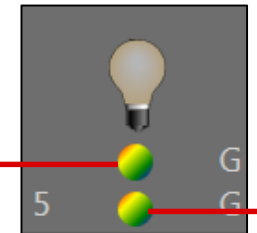
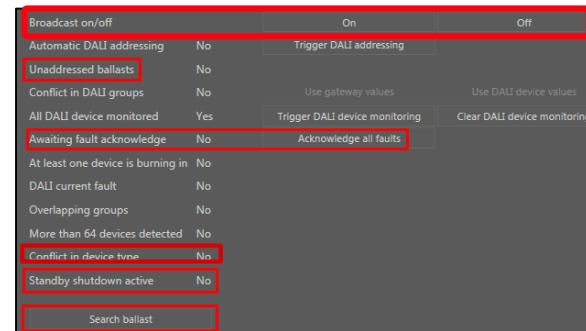
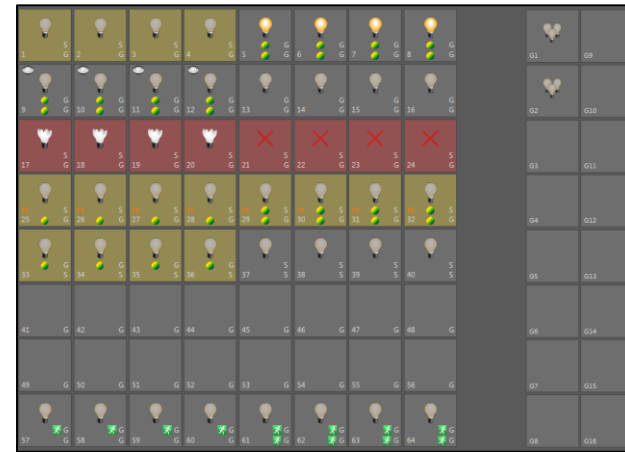
ABB i-bus® Tool

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

ABB i-bus® Tool

## ABB i-bus® Tool – menu “DALI”

- Integration of colour functions
- Shows a detected and in ETS enabled colour ballast
- Broadcast on/off
- Indicates whether there are unaddressed DALI devices
- Acknowledgment of fault notifications
- Conflict in device type
- Standby switch-off active yes/no
- Search ballasts function



Displayed if colour ballast detected in runtime

Displayed if colour ballast enabled in ETS

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

ABB i-bus® Tool

## ABB i-bus® Tool – menu “Detail”

- Read/write operating hours
- Status actual colour temperature  $T_c$
- Adjustment of colour temperature  $T_c$
- Status information
  - Selected colour function (Dim2 Warm, HCL)
  - Colour function active/inactive
  - Supported colour type of selected ballast/group (right now colour temperature  $T_c$ )
  - Colour temperature range of connected ballast

The screenshot shows the ABB i-bus Tool interface for a device named 'Device 29 EVG29'. The interface is divided into several sections:

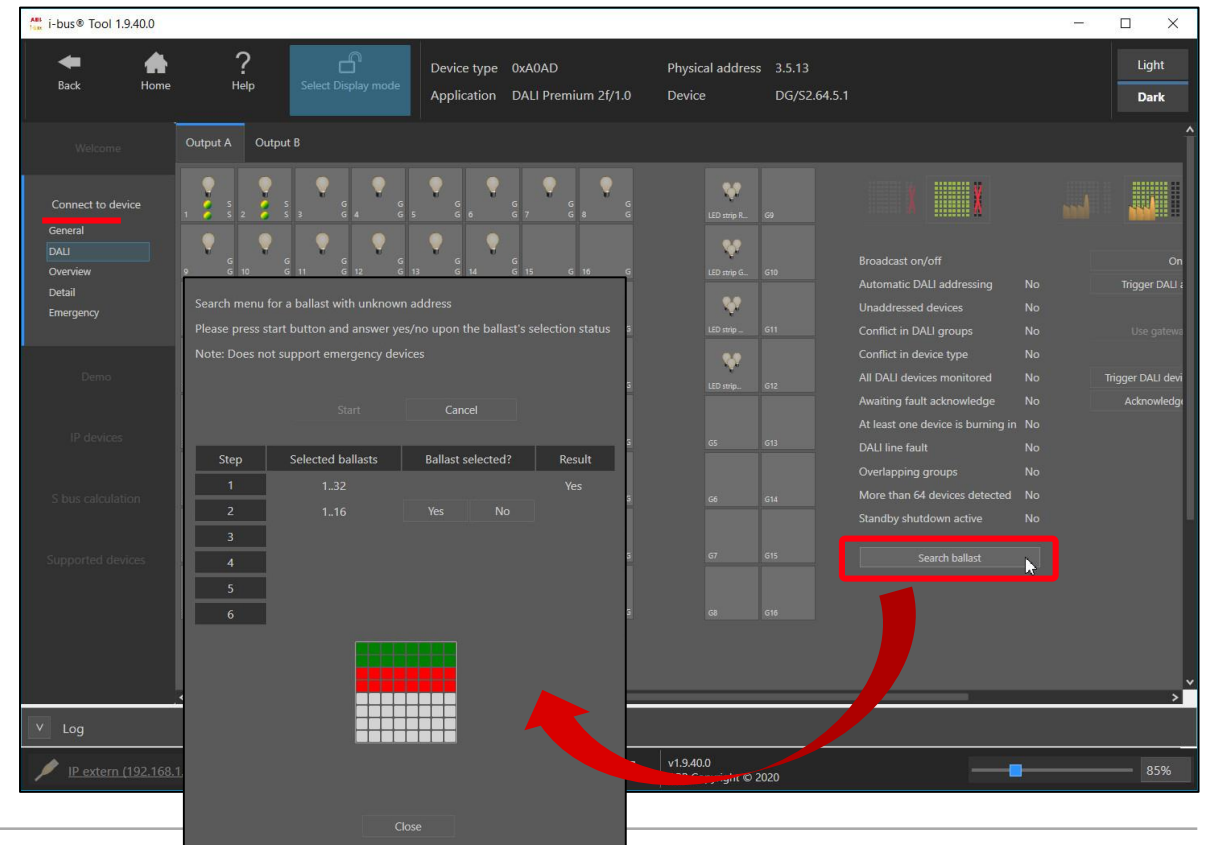
- Status:** Shows 'Actual colour Tc' as 3000K. A red box highlights this value.
- Burn in and timers:** Shows 'Operating hours' as 4h. A red box highlights this value and the 'Write' button.
- Control:** Features a light bulb icon and a slider for 'Colour Tc' set to 5400 K. A red box highlights the slider and its value.
- Additional function:** Includes 'Staircase lighting' and 'Slave' with 'Activate' and 'Deactivate' buttons.
- Statuses:** Shows 'Force lock', 'Basis brightness', 'Lamp fault', and 'Ballast fault' with status indicators.
- Colour:** A red box highlights this section, which includes:
  - 'Selected colour function': Dim2Warm
  - 'Colour function status': Inactive
  - 'Supported colour types':
    - Colour temperature  $T_c$ : Yes
    - XY Coordinates: No
    - RGBW: 0

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

ABB i-bus® Tool

## ABB i-bus® Tool – Search Ballast Function

- Search menu for a ballast with unknown address
- Current situation:  
In the worst case, up to 64 address buttons must be pressed to identify the address of a ballast
- Search ballast function reduces it to max. 6 clicks!
- Press “Start” button and answer yes/no upon the ballast’s ON/OFF status
- Emergency devices are not supported

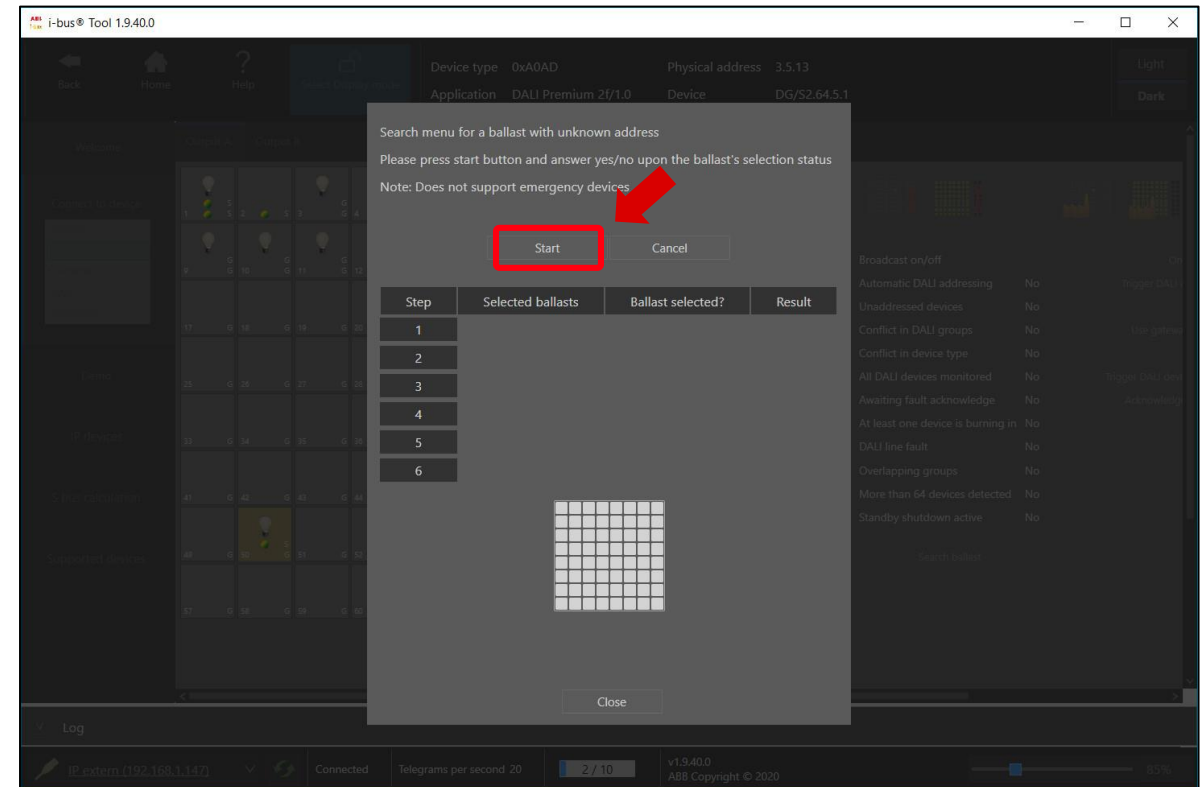


# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

ABB i-bus® Tool

## ABB i-bus® Tool – Search Ballast Function

– Press “Start” button



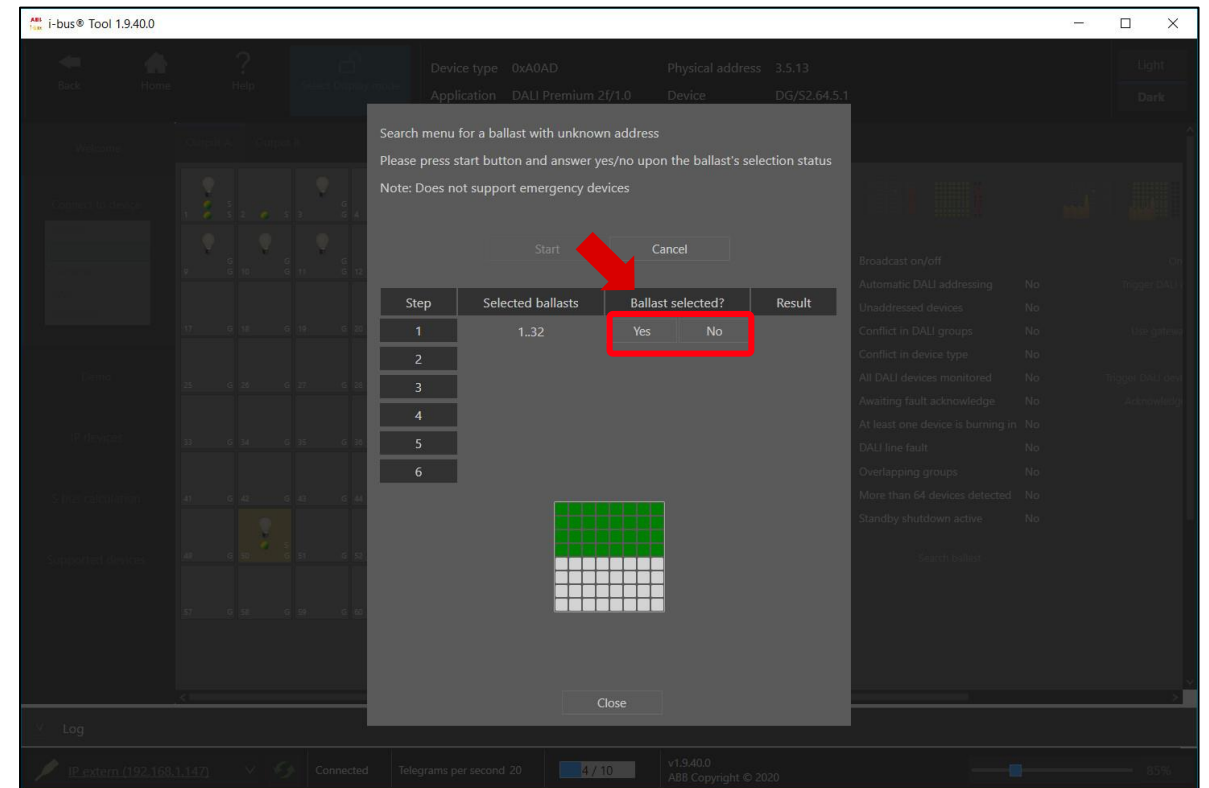
# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

ABB i-bus® Tool

## ABB i-bus® Tool – Search Ballast Function

Is the light of the ballast to be searched on?

- Press the “Yes” or “No” button → 1<sup>st</sup> click  
e.g. “No” (no address between 1...32)



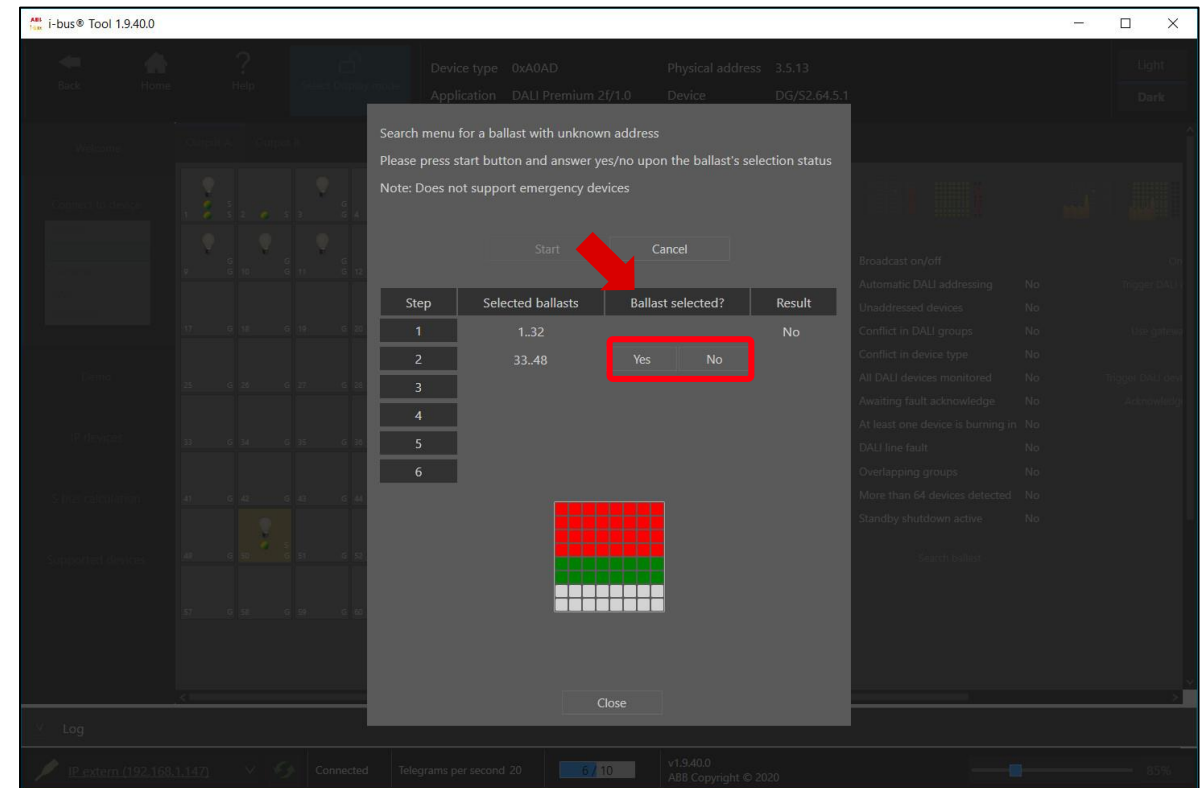
# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

ABB i-bus® Tool

## ABB i-bus® Tool – Search Ballast Function

Is the light of the ballast to be searched on?

- Press the “Yes” or “No” button → 1<sup>st</sup> click e.g. “No” (no address between 1...32)
- Press the “Yes” or “No” button → 2<sup>nd</sup> click e.g. “No” (no address between 33...48)



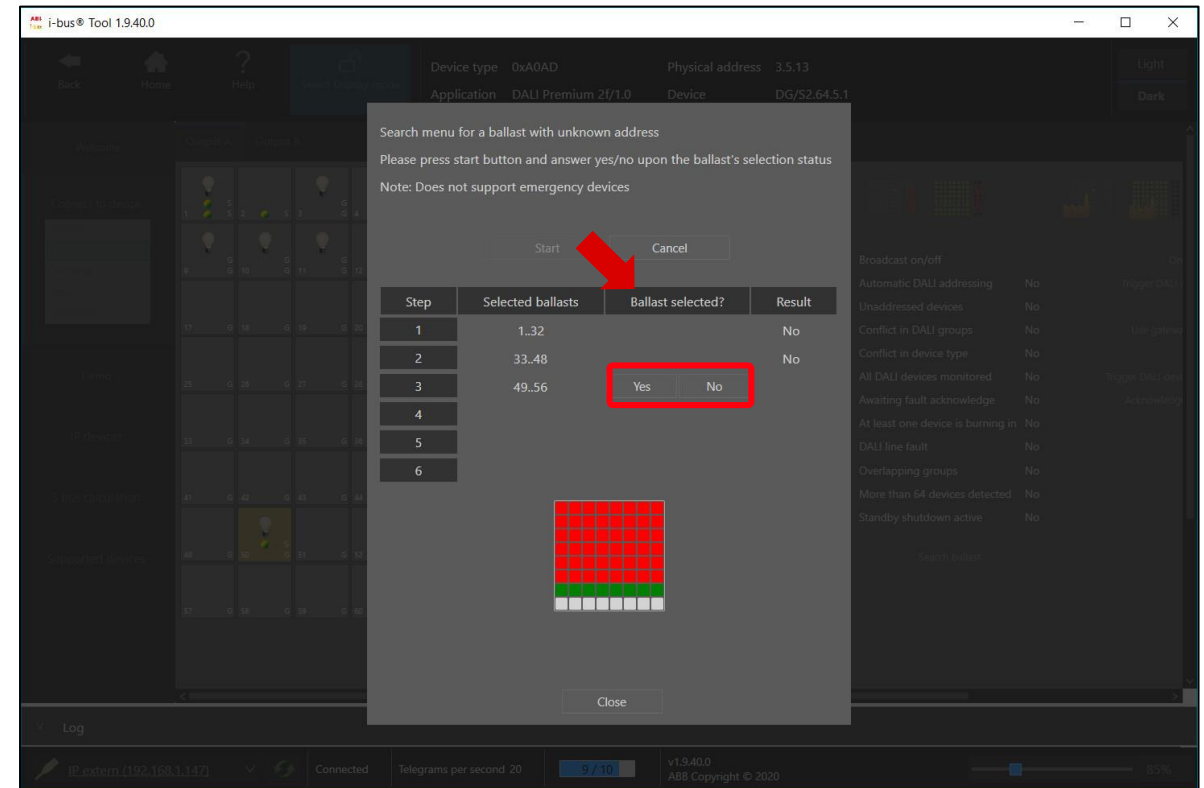
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ABB i-bus® Tool

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- Press the “Yes” or “No” button → 2<sup>nd</sup> click e.g. “No” (no address between 33...48)
- Press the “Yes” or “No” button → 3<sup>rd</sup> click e.g. “YES” (no address between 49...56)



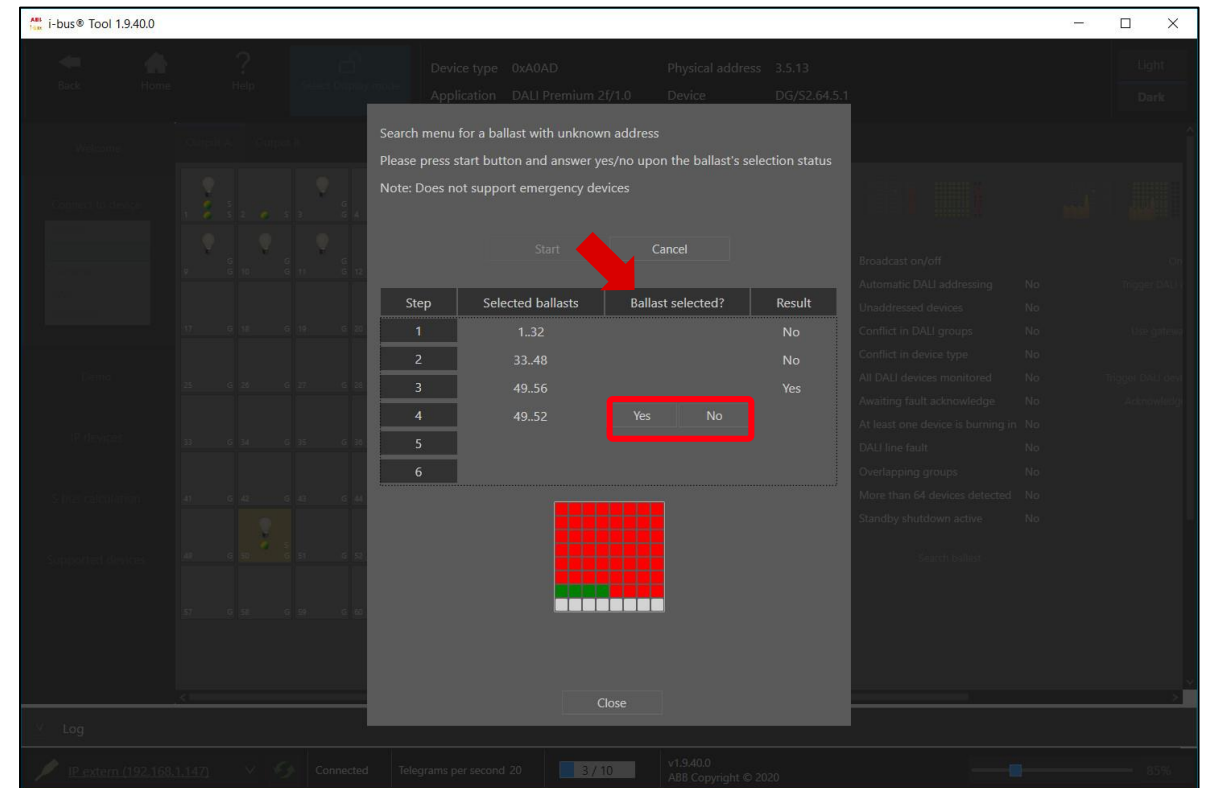
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ABB i-bus® Tool

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- Press the “Yes” or “No” button → 3<sup>rd</sup> click e.g. “YES” (no address between 49...56)
- Press the “Yes” or “No” button → 4<sup>th</sup> click e.g. “YES” (address between 49...52)



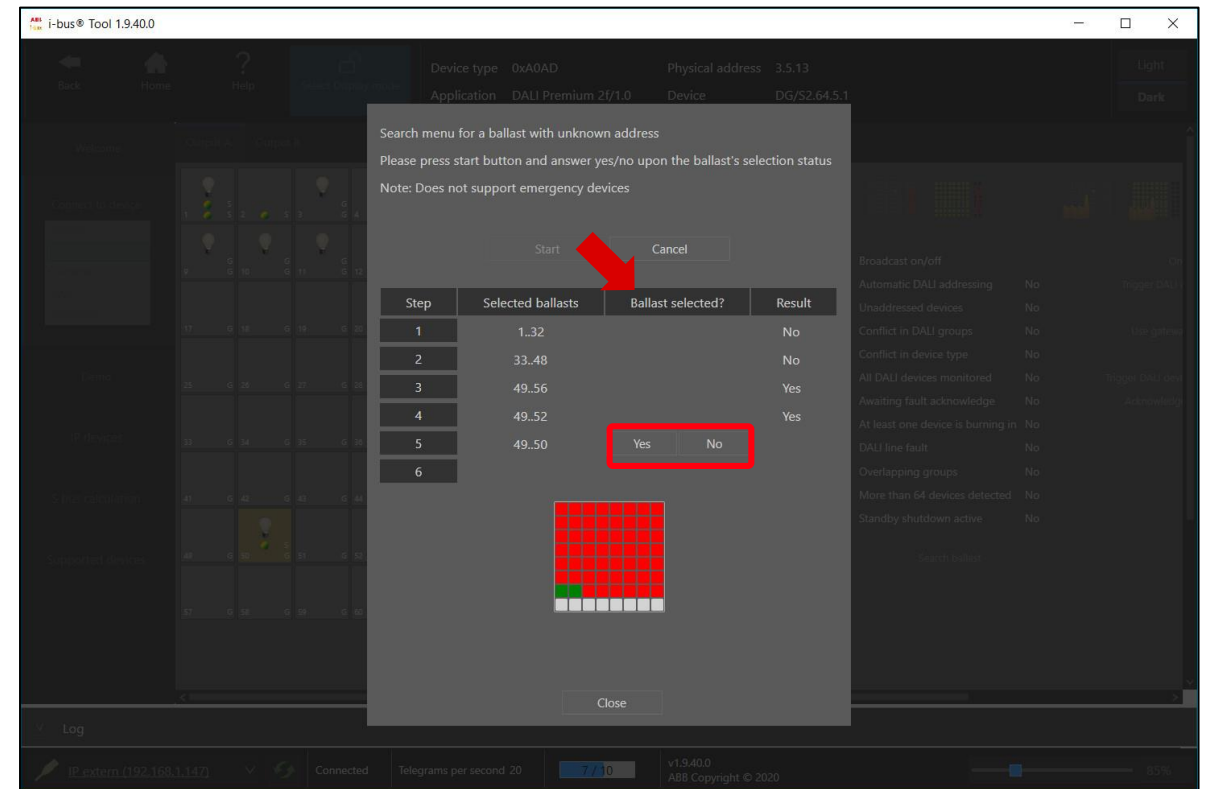
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ABB i-bus® Tool

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- Press the “Yes” or “No” button → 3<sup>rd</sup> click e.g. “YES” (no address between 49...56)
- Press the “Yes” or “No” button → 4<sup>th</sup> click e.g. “YES” (address between 49...52)
- Press the “Yes” or “No” button → 5<sup>th</sup> click e.g. “YES” (address between 49...50)



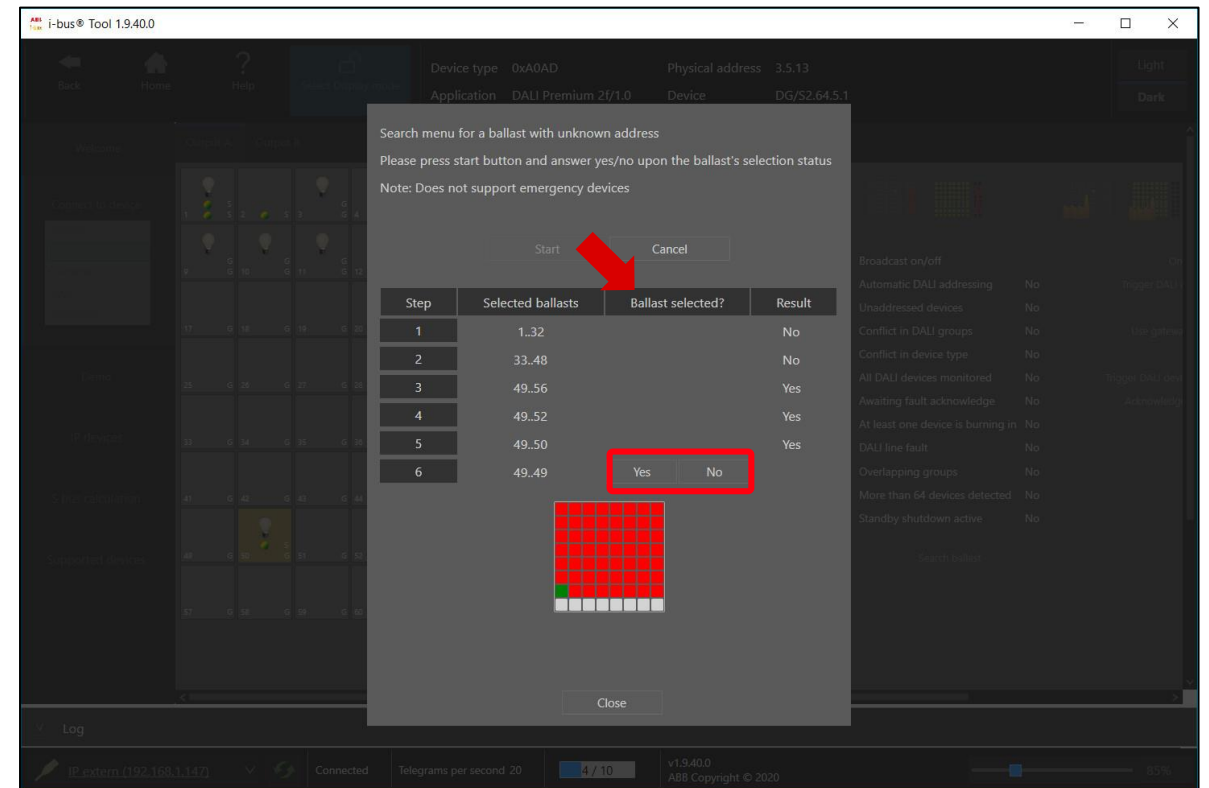
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ABB i-bus® Tool

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- Press the “Yes” or “No” button → 4<sup>th</sup> click e.g. “YES” (address between 49...52)
- Press the “Yes” or “No” button → 5<sup>th</sup> click e.g. “YES” (address between 49...50)
- Press the “Yes” or “No” button → 6<sup>th</sup> click e.g. “No” (address 49?)



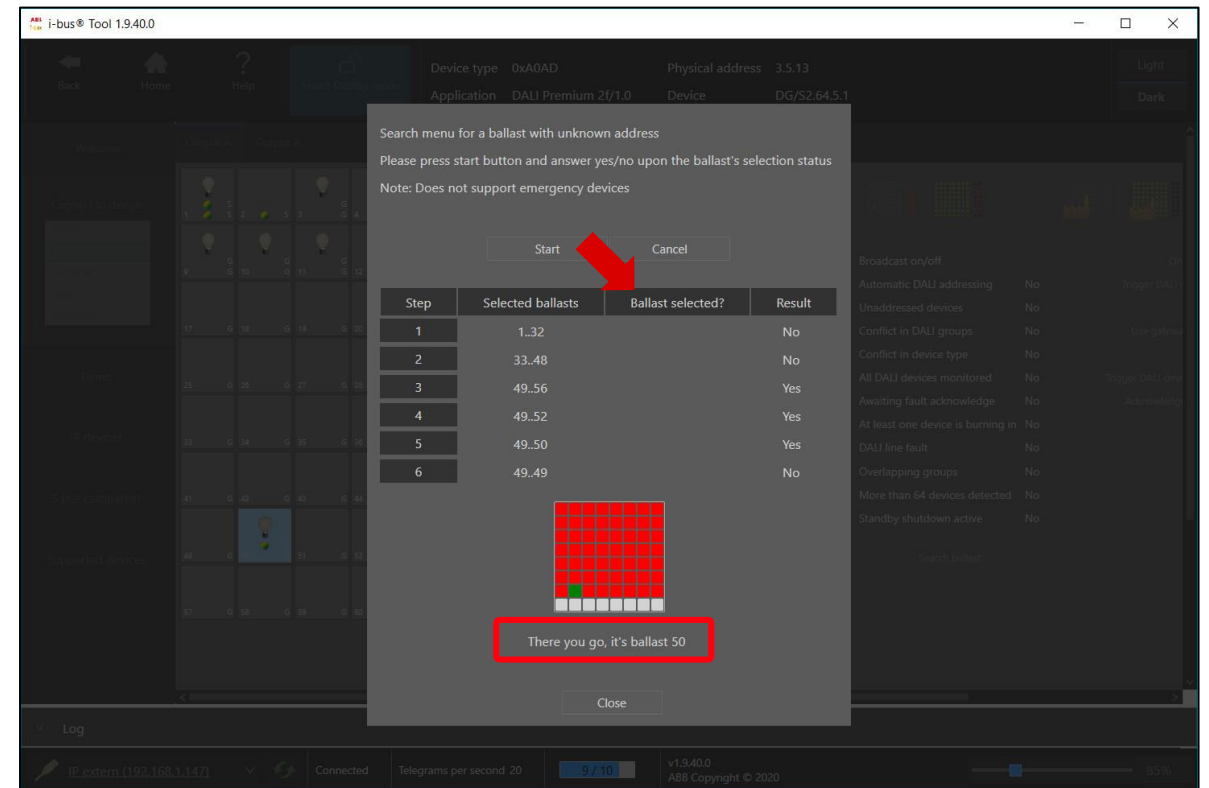
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ABB i-bus® Tool

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  - Press the “Yes” or “No” button → 3<sup>rd</sup> click e.g. “YES” (no address between 49...56)
  - Press the “Yes” or “No” button → 4<sup>th</sup> click e.g. “YES” (address between 49...52)
  - Press the “Yes” or “No” button → 5<sup>th</sup> click e.g. “YES” (address between 49...50)
  - Press the “Yes” or “No” button → 6<sup>th</sup> click e.g. “No” (address 49?)
- Result, e.g. address 50



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Homepage

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

**ABB** HOME → OFFERINGS → LOW VOLTAGE PRODUCTS → HOME AND BUILDING AUTOMATION → ABB I-BUS KNX → LIGHTING CONTROL GLOBAL SITE ▼

### 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

# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## Further information

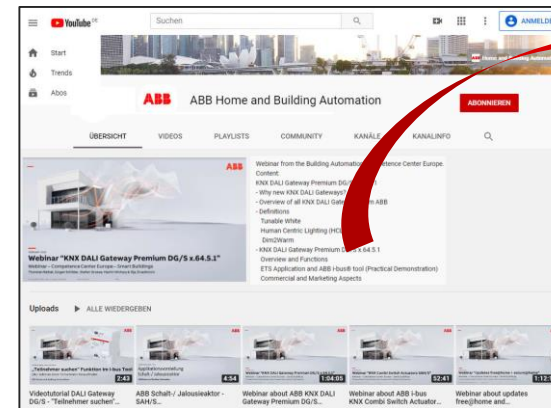
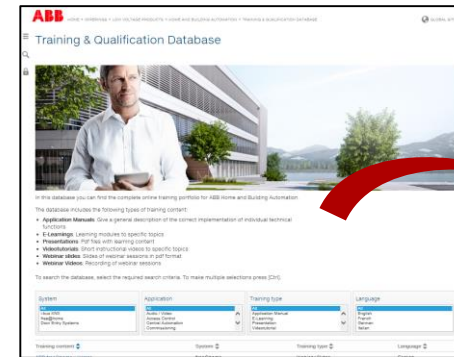
### Training & Qualification Database

– The database includes the following types of training content:

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

### Youtube

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



# Webinar "KNX DALI Gateway Premium DG/S x.64.5.1- Special Functions"

## 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](http://www.abb.com/knx) or <https://go.abb/ba-training>

→ Training and Qualification

→ Training Calendar



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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 webinars and on-site trainings conducted by our specialists at different ABB Competence Centers.

In this Training & Qualification Calendar you can find the educational events that are taking place during 2018.

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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