

FEBRUARY 2020

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Webinar – Competence Center Europe – Smart Buildings

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Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”



Agenda

Why new KNX DALI Gateways?

Overview of all KNX DALI Gateways from ABB

Definitions

- Tunable White

- Human Centric Lighting (HCL)

- Dim2Warm

KNX DALI Gateway Premium DG/S x.64.5.1

- Overview and Functions

- ETS Application and ABB i-bus[®] tool (Practical Demonstration)

- Commercial and Marketing Aspects

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Why new KNX DALI Gateways?

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Why new KNX DALI Gateways?

Situation

- KNX products from ABB are well known, have a great performance and a good reputation, with innovative features and local support
- Since the beginning of KNX DALI Gateways ABB has offered various devices, developed and launched continuously further components with great success
- Lighting control, especially with DALI, both in commercial and more and more in residential projects has a significant value for the building market and for ABB
- Increased demands in Lighting Control of buildings, visible in specification texts
- Keywords:
Tunable White, Human Centric Lighting (HCL)






Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Overview of all KNX DALI Gateways from ABB

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Status February 2020



	Gateway DG/S 8.1	Gateway DG/S 1.64.1.1	Gateway DG/S 2.64.1.1	Light Controller DLR/S 8.16.1M	Light Controller DLR/A 4.8.1.1
Controlled	Broadcast	Group and individual	Group and individual	Group	Group
DALI outputs	8 (A...H)	1	2	1	1
DALI ballast	128 (max. 16 per output)	64	2 x 64	64	64
DALI addressing	not necessary	64	2 x 64	64	64
Lighting groups established via	cable installation	DALI and KNX	DALI and KNX	DALI	DALI
Lighting groups per Gateway	8 (installation)	16 (DALI) + via KNX	2 x 16 (DALI) + via KNX	16 (DALI)	8 (DALI)
Constant light control				8 groups	4 groups





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Status March 2020



new



	Gateway DG/S 8.1	Gateway DG/S x.64.1.1	Gateway DG/S x.64.5.1	Light Controller DLR/S 8.16.1M	Light Controller DLR/A 4.8.1.1		
Controlled	Broadcast	 <ul style="list-style-type: none"> - Group or individual control - DALI Outputs 230V secure - ABB i-bus tool support - DALI Emergency Lighting - ... <p style="text-align: center;">+</p> <p style="text-align: center;">Tunable White, Human Centric Lighting, Dim2Warm and more</p>		Group	Group		
DALI outputs	8 (A...H)			1	1		
DALI ballast	128 (max. 16 per output)			64	64		
DALI addressing	not necessary			64	64		
Lighting groups established via	cable installation			DALI	DALI		
Lighting groups per Gateway	8 (installation)			16 (DALI)	8 (DALI)		
Constant light control						8 groups	4 groups

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Definition: Tunable White

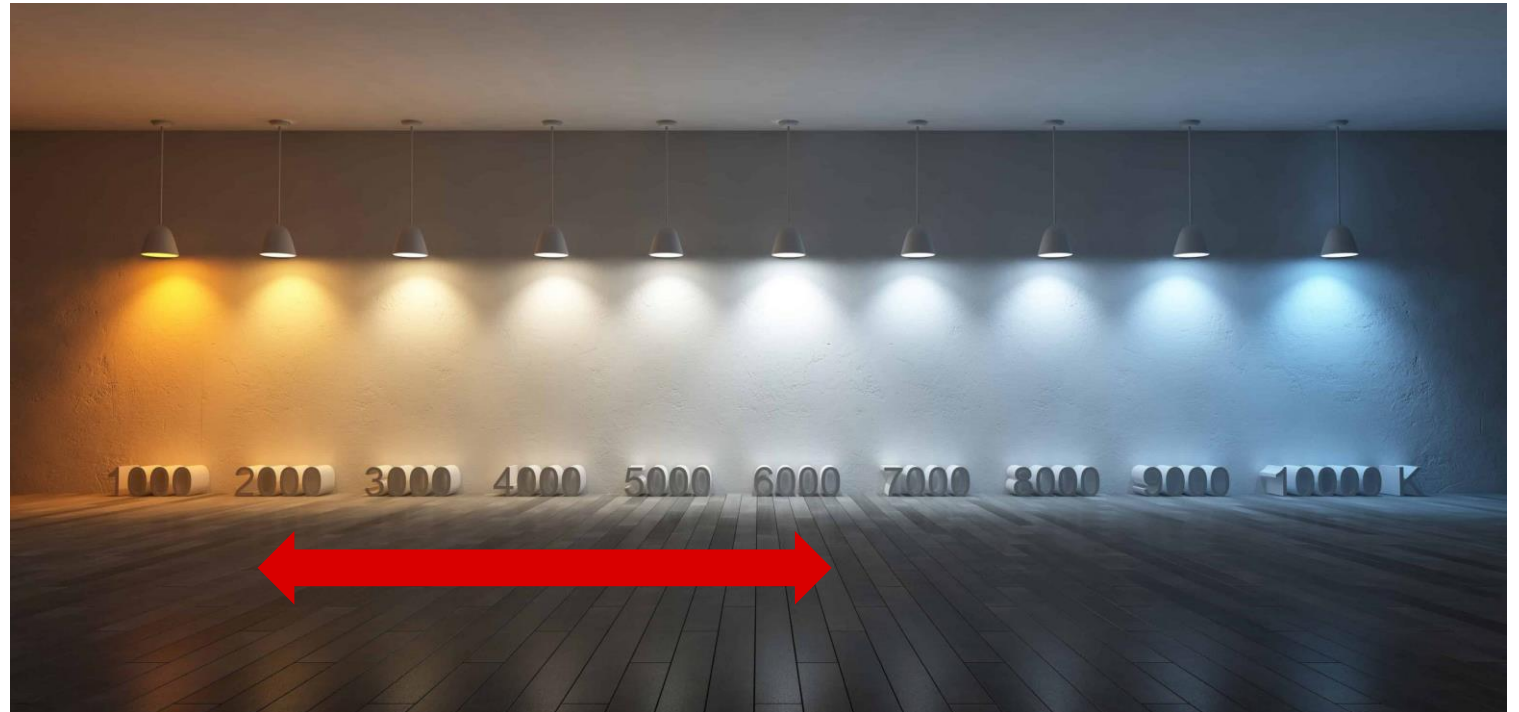
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Tunable white

Principle

Change of colour temperature T_c (Cold \leftrightarrow warm white) with dimming of colour temperature

- Typical range between 2,000K (Kelvin) and 6,000K depending on ballast and lamp
- 2,000K (warm white) ... 6,000K (cold white)
- Quality feature of light is not only brightness level, distribution in the room, no glare effects but also colour temperature T_c
- Optimization of biological and emotional effects (performance and well-being) of light for human beings both in private environment and working activities
- Cold white \rightarrow activity, warm white \rightarrow relaxation
- Demand from the market and in projects, driven also by LED technology



Source: Internet

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Definition: Human Centric Lighting (HCL)

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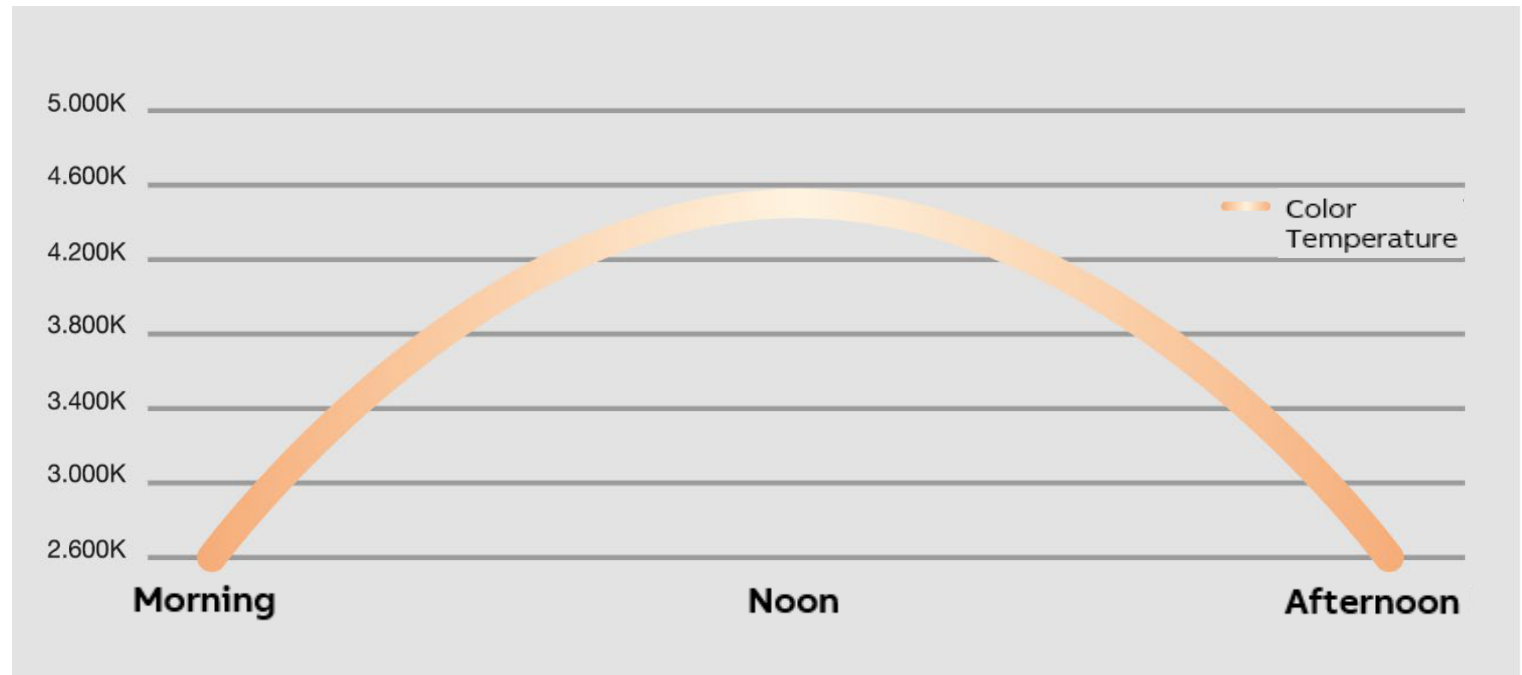
Human Centric Lighting (HCL)

Principle

With Human Centric Lighting (HCL), the daylight is simulated in the building, means the colour temperature of the outside light is reproduced by colour temperature controllable lights in the room

Actually it is the function tunable white, automatized for a dynamic and suitable light situation with change of colour temperature over the day and with all positive aspects mentioned before

In complex HCL lighting systems, brightness, light distribution, direction of light and colour temperature are varied. The dynamic of the daylight, the seasons and the location of the building are considered. Furthermore special light situation can be created, e.g. scene with cold light for focused working at a machine.



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Definition: Dim2Warm

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KNX DALI Gateway Premium DG/S x.64.5.1

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

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
 - ...



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Features

Training material of DG/S x.64.1.1

Training & Qualification Database:

<https://go.abb/ba-training>

- Webinar videos and slides KNX ABB DALI Gateway DG/S x.64.1.1 Part 1 and 2
- Video Tutorials ABB i-bus® tool with DG/S x.64.1.1 Part 1 – 5
- eLearning ABB i-bus® KNX Lighting: DALI and DALI Gateways
- ...

Content	System	Training Type	Language	Published
Various Software Tools for KNX	i-bus KNX	Webinar Video	English	2019-02-15
Various Software Tools for KNX	i-bus KNX	Webinar Slides	English	2019-02-15
Tips from the KNX expert	i-bus KNX	Webinar Video	English	2017-06-23
Tips from the KNX expert	i-bus KNX	Webinar Slides	English	2017-07-14
Special functions in KNX	i-bus KNX	Webinar Video	English	2017-06-23
Special functions in KNX	i-bus KNX	Webinar Slides	English	2017-07-14
Lighting Control	i-bus KNX	Application Manual	English	2017-08-10
KNX LED Dimmer UD/S	i-bus KNX	Webinar Slides	English	2018-12-07
KNX LED Dimmer UD/S	i-bus KNX	Webinar Video	English	2018-12-07
KNX DALI-Gateways DGS x.64.1.1 Part 2	i-bus KNX	Presentation	English	2017-07-14

Page: All 1 2 3 4

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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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Features

What is new? – Various Features

Standby Shutdown

- Ballast voltage shutdown 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



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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



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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



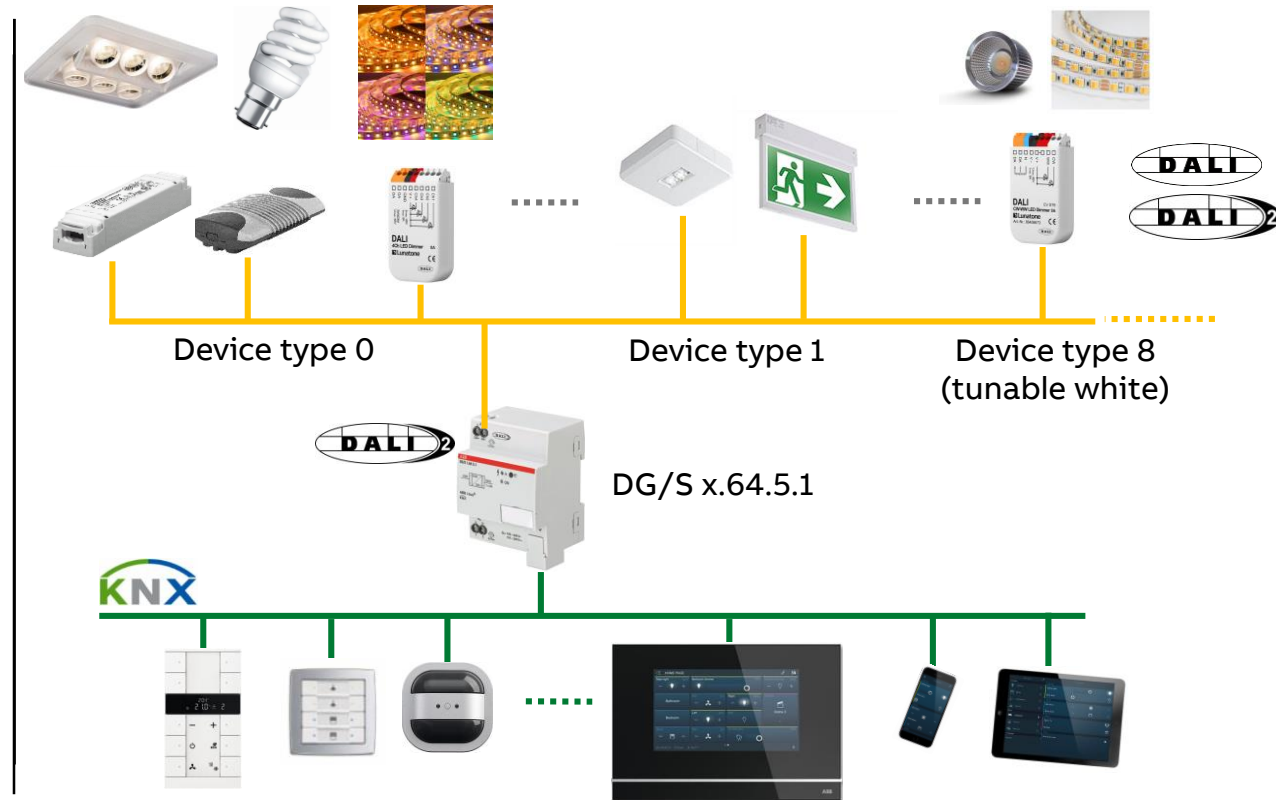
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System overview

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 Color-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.



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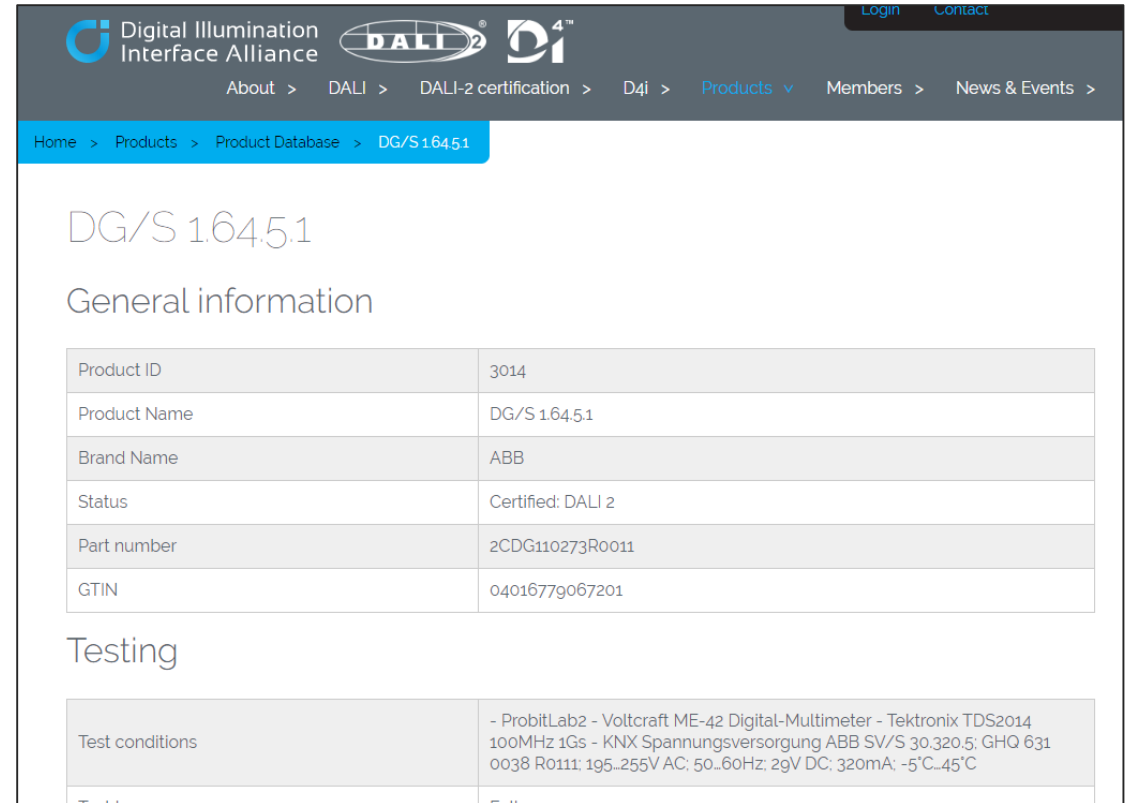
Certified DALI-2 Products

ABB DALI Gateways DG/S x.64.1.1 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 1.64.5.1

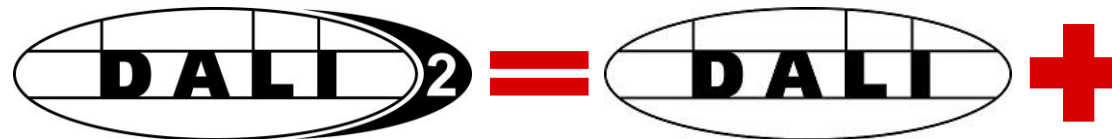
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DALI - DALI-2

Changes from DALI to DALI-2?

- Extension for control devices
- New commands/features
- Higher quality standards, increased testing procedures and thus higher compatibility
- Backwards compatibility
- More detailed specification, less risk for misinterpretations
- Restructuring of specification, dedicated system description

Please note: DALI-2 certification does not mean that all DALI-2 features are supported with DG/S x.64.5.1, e.g. no Multi Master



Fix errors & gaps

New features

Controls (standardized)

Mandatory certification

The new KNX DALI Gateways are the only ones on the market with DALI-2 certification

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ETS Application

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ETS

General

Application like DG/S x.64.1.1 with mainly additional parameters for the new (colour) functions

- Output A or B → Colour functions
 - Dim2Warm
 - HCL
- Group → Colour temperature T_C
- Ballast → Colour Temperature T_C

4.3.1 DG/S2.64.5.1 DALI Gateway Premium.2f.MDRC > DALI output A > A Output > Colour functions

General

DALI output A

A DALI configuration

A Output

Status

Fault

Functions

Colour functions

+ A Group x/ballast x template

- A Groups

+ Group 1

+ Group 2

+ Group 3

- Group 4

Group 4 status

Group 4 fault

Group 4 functions

Group 4 Colour temperature T_C

- A Ballasts

- Ballast 29

Ballast 29 status

Ballast 29 fault

Ballast 29 functions

Ballast 29 Colour temperature T_C

Colour function HCL

Colour temperature curve across all channels. All members with active "Central Colour temperature (HCL)" Colour function follow this Colour temperature.

HCL Colour temperature source

16-bit group object Colour temperature

1-bit group object Ramp curve

The Colour temperature is received via channel obj. "HCL Colour temperature"

Transition time

20 s

Enable group object "Output - Activate automatic HCL Colour function"

No Yes

Colour function Dim2Warm

The Colour temperature changes proportionally to the brightness when "Dim2Warm" Colour function is activated

The following parameters apply to all members with activated "Dim2Warm" Colour function

Limit proportional range

No Yes

The Colour temperature changes proportionately to the brightness between the limits

The minimum Colour temperature is used below the lower limit

The maximum Colour temperature is used above the upper limit

Lower brightness limit

20% (51)

Upper brightness limit

80% (204)

Limit Colour temperature range

No Yes

A limited Colour temperature range is used when the "Dim2Warm" Colour function is activated.

Minimum Colour temperature

2700 K

Maximum Colour temperature

4000 K

Enable group object "Output - Activate Dim2Warm Colour function"

No Yes

Colour temperature setting across all channels (broadcast)

Enable group object "Output - Set Colour temperature (K)"

No Yes

Transition time

2 s

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Dim2Warm

Parameter block Output A or B → Colour functions

– Colour function Dim2Warm

- Limit proportional range in %
- Limit Colour temperature range in K

The screenshot displays the configuration interface for the 'Colour function Dim2Warm' parameter block. On the left, a tree view under 'Colour functions' shows a hierarchy: 'A Group x/ballast x template' (expanded), 'A Groups', 'A Ballasts', 'A Scenes', and 'DALI output B' (expanded). The main panel on the right is titled 'Colour function Dim2Warm' and contains the following settings:

- Limit proportional range:** Radio buttons for 'No' and 'Yes' (selected).
- Lower brightness limit:** A dropdown menu set to '20% (51)'.
- Upper brightness limit:** A dropdown menu set to '80% (204)'.
- Limit Colour temperature range:** Radio buttons for 'No' and 'Yes' (selected).
- Minimum Colour temperature:** A numeric input field set to '2700' K.
- Maximum Colour temperature:** A numeric input field set to '4000' K.
- Enable group object "Output - Activate Dim2Warm Colour function":** Radio buttons for 'No' (selected) and 'Yes'.

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Dim2Warm

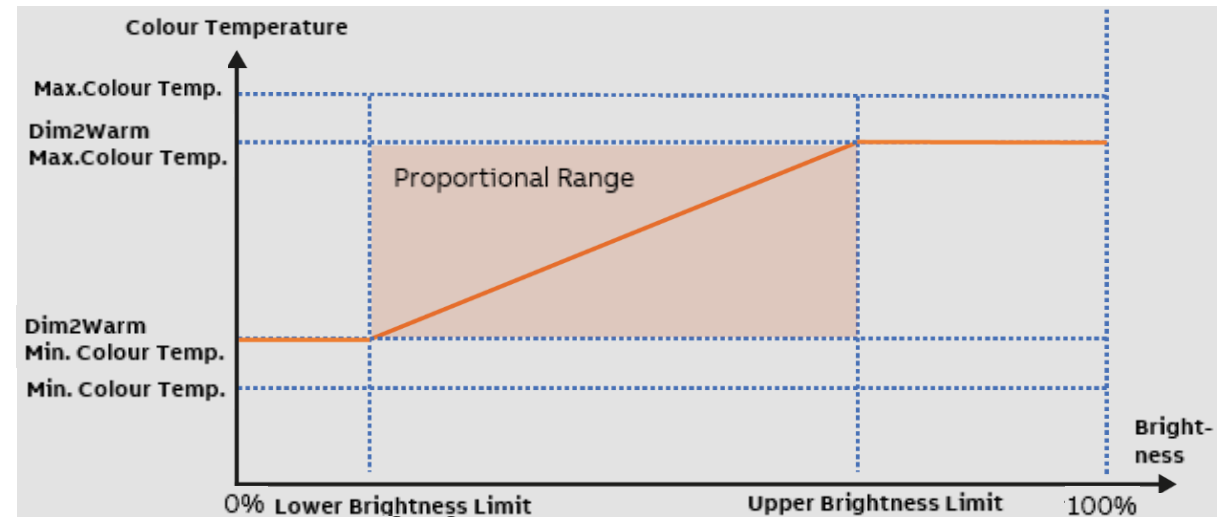
The proportional range describes the range in which is a linear relationship between the colour temperature and the brightness

The brightness range can be reduced with a lower and upper brightness limit

The colour temperature range can be adjusted by setting a minimum and maximum colour temperature for Dim2Warm

The proportional range is always within the parameterized limits. If a group or ballast is activated with active Dim2Warm function and brightness value outside the limits, the colour temperature remains at the value of the exceeded limits, either min. colour temperature or maximum colour temperature with Dim2Warm

Thus it is possible not to undershoot or overshoot certain colour temperature levels



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Human Centric Lighting (HCL): Example: classroom

A classroom is equipped with tunable white lights, which are partly controlled by an automatic sequence and partly via a control element/panel

The automatic sequence is parameterized in the DALI gateway (rising and falling ramp plus transition times)

The teacher can set a focus light with a short-term alertness-promoting effect for concentration tasks and a relaxation light during relaxation phases

- Energy light in the morning or focus light for class examinations: High illuminance, 6500 K
- Automatic light for normal activities: Normal illuminance and HCL active
- Relaxation light for relaxation phases and for storytelling: Normal illuminance, 2700 K



Source: Internet

Source: Internet

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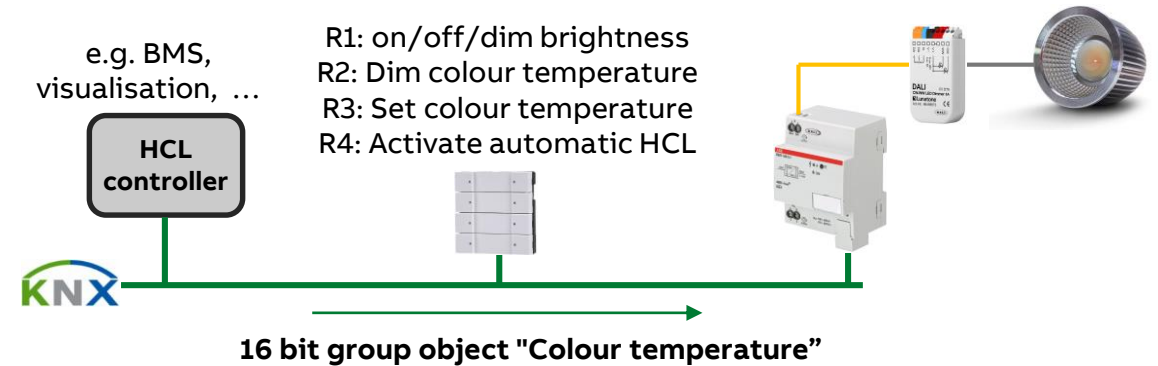
ETS

Human Centric Lighting (HCL)

Parameter block Output A or B → Colour functions

Colour function Human Centric Lighting (HCL)

- Colour temperature source 16 bit or 1 bit
- 16 bit (e.g. from visualization or logic), which calculates and provides cyclically colour temperature values
 - Individual and different curves are possible
- 1 bit, dynamic start of a simplified curve with rising and falling ramp plus transition times
 - Start of rising and falling ramp depending on time (sunrise and sunset time plus offset), e.g. with time switch FW/S 8.2.1, TR/A 1.1 and DCF- or GPS time
 - Transition times, initial and final colour temperature adjustable



General	Colour function HCL
- DALI output A	Colour temperature curve across all channels. All members with active "Central Colour temperature (HCL)" Colour function follow this Colour temperature.
- A DALI configuration	
- A Output	HCL Colour temperature source <input checked="" type="radio"/> 16-bit group object Colour temperature <input type="radio"/> 1-bit group object Ramp curve
Status	The Colour temperature is received via channel obj. "HCL Colour temperature"
Fault	Transition time <input type="text" value="20"/> s
Functions	Enable group object "Output - Activate automatic HCL Colour function" <input type="radio"/> No <input checked="" type="radio"/> Yes
+ A Group x/ballast x template	To control the Colour function on all groups/ballasts with parameterized HCL Colour function
+ A Groups	

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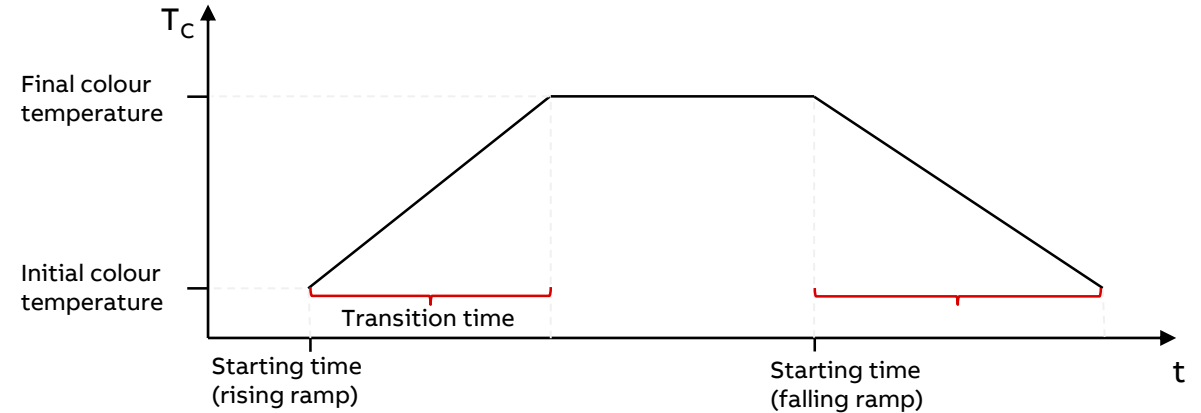
ETS

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 - Transition times, initial and final colour temperature adjustable



1 bit group object Ramp curve

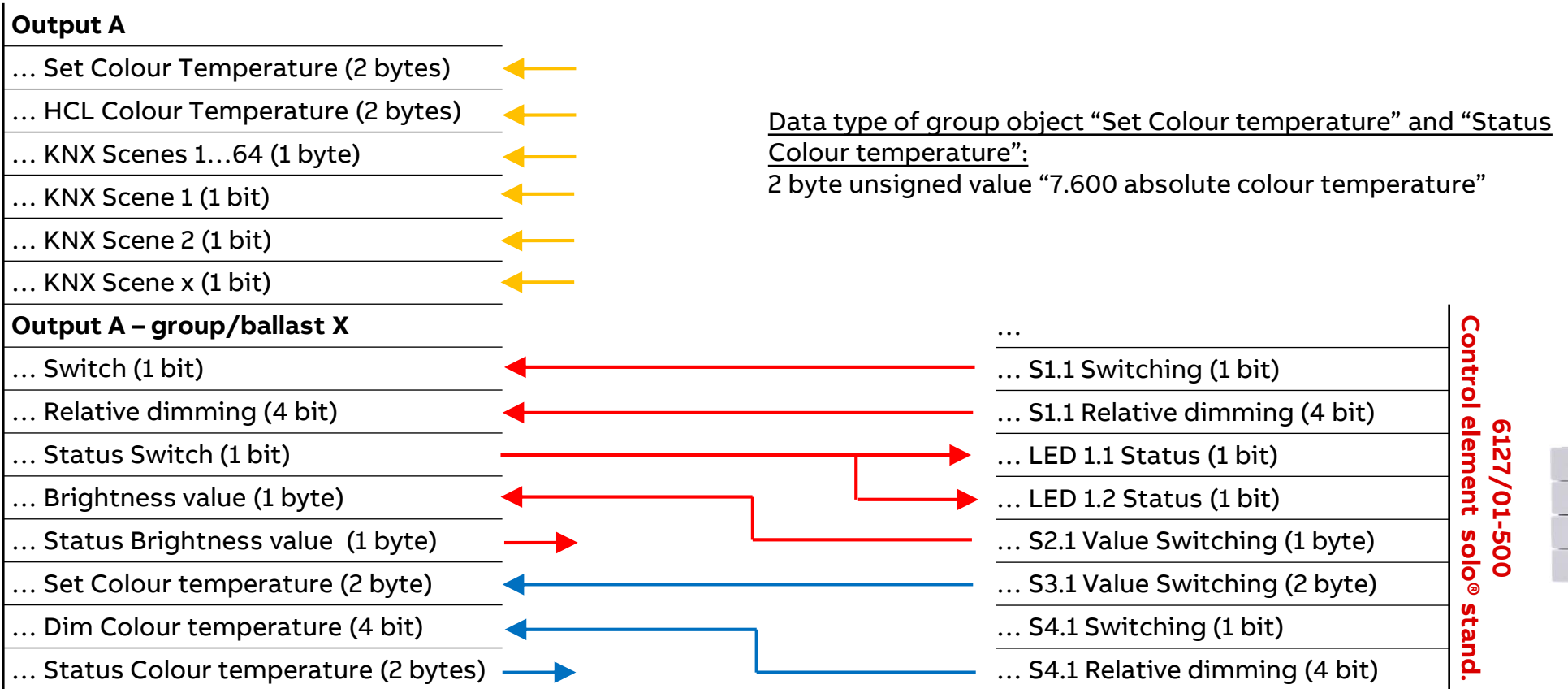
- A Output	The Colour temperature follows a trapezoidal ramp curve Rising and falling ramps are started via the channel object "HCL ramp up/down"		
Status			
Fault			
Functions			
Colour functions			
+ A Group x/ballast x template			
- A Groups			
+ Group 1			
+ Group 2			
+ Group 3			
+ Group 4			
	Rising ramp		
	Initial Colour temperature	2700	K
	Final Colour temperature	6000	K
	Transition time	7200	s
	Falling ramp		
	Initial Colour temperature	6000	K
	Final Colour temperature	2700	K
	Transition time	7200	s
	Enable group object "Output - Activate automatic HCL Colour function"	<input checked="" type="radio"/> No	<input type="radio"/> Yes

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Example: Assignment of Group Addresses



DALI Gateway Premium
DG/S x.64.5.16



Control element solo® stand.
6127/01-500



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ETS

Standby Shutdown

Standby shutdown means, when every ballast is in standby mode, the ballast voltage can be switched off with a group object. This group object must be connected to an output of a switch actuator

1. Enable DALI standby shutdown in the ETS
2. Set time of delay till shutdown (e.g. 5 min to avoid standby shutdown in case of short term standby situation)
3. Optional: Enable group object ‘Enable DALI standby shutdown’
4. Set time (1 ...10s) of delay after restart (needed for restart of ballasts, ballast restart time less than 1s according to DALI standard)
5. Connect the ‘DALI Standby shutdown’ group object to a switching actuator output

4.3.1 DG/S2.64.5.1 DALI Gateway Premium,2f,MDRC > DALI output A > A Output > Functions

General	Enable group object "Flexible dimming/fade time ..."	<input checked="" type="radio"/> No <input type="radio"/> Yes
- DALI output A	Enable group object "Fct. Activate Turn off brightness"	<input checked="" type="radio"/> No <input type="radio"/> Yes
- A DALI configuration	Enable group object "Rem burn-in time"	<input checked="" type="radio"/> No <input type="radio"/> Yes
- A Output	Enable group object "Burn-in lamps/Status"	<input checked="" type="radio"/> No <input type="radio"/> Yes
Status	Enable group object "Activate Slave offset/Status"	<input checked="" type="radio"/> No <input type="radio"/> Yes
Fault	Enable function "Partial failure"	<input checked="" type="radio"/> No <input type="radio"/> Yes
Functions	Fct. Enable standby switch-off	<input type="radio"/> No <input checked="" type="radio"/> Yes
Colour functions	Switch off ballast power supply when all ballasts are switched off (Switch Actuator required)	
+ A Group x/ballast x template	Delay time to switch-off	2000 s
+ A Groups	The delay time begins soon as all ballasts are switched off	
- A Ballasts	Enabling also via group object "Fct. Enable standby switch-off"	<input type="radio"/> No <input checked="" type="radio"/> Yes
- Ballast 29	Delay time after switching back on	1 s
Ballast 29 status	Delay between switching on ballast power supply and first DALI command	
Ballast 29 fault		
Ballast 29 functions		
Ballast 29 Colour temperature Tc		
A Scenes		

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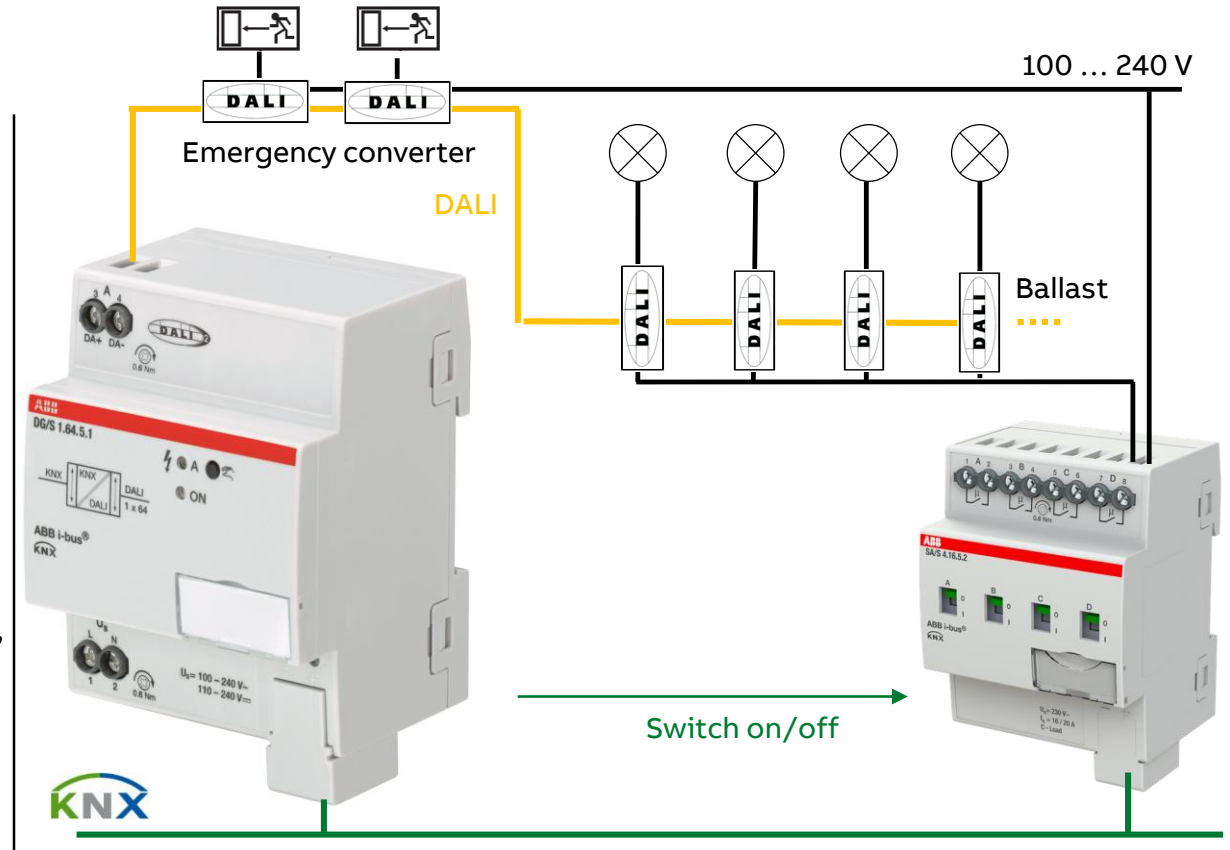
ETS

Standby Shutdown

- Some lights are turned on, all ballasts with main supply
- All lights are off, after an adjustable delay time switch off telegram from DG/S is sent
- Linked switch actuator(s) deenergize all connected ballasts
- Local push button pressed to turn on one light
- After adjustable delay time (needed for restart of ballasts) all ballasts are ready to work and command is carried out
- Further actions to turn on lights are without delay

Note:

- Ballasts should support individual DALI power-on level (last value before failure), to be adjusted in the ETS Application under “Fault”
- In case of power off via Standby Shutdown message ‘Ballast Fault’ is suppressed
- DALI emergency converter are not be integrated in Standby Shutdown



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ETS

Scenes

- 16 scenes, can be assigned to 64 possible scene numbers used in KNX for 8 bit scenes
- For each member of the scene (DALI group or ballast) brightness level can be adjusted
- For tunable white ballasts also colour temperature parametrizable
 - Now scenes are possible both with brightness and colour temperature
- Recall of each scene with 1 bit object available
- Better overview for selecting scene members, only enabled groups or ballasts are visible and can be chosen

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

General

Transition time for scene: 2.0 s

Overwrite saved scene val. on download: No Yes

DALI output A

A DALI configuration

A Output

A Group x/ballast x template

A Groups

Group 1

Group 2

Group 3

Group 4

A Ballasts

Ballast 29

A Scenes

Scene 1

DALI output B

Group 1 is member of the scene: No Yes

Brightness value: 90% (230)

Group 2 is member of the scene: No Yes

Brightness value: 55% (140)

Group 3 is member of the scene: No Yes

Brightness value: 0% (OFF)

Group 4 is member of the scene: No Yes

Brightness value: 75% (191)

Ballast 29 is member of the scene: No Yes

Change brightness: No Yes

Brightness value: 100% (255)

Change Colour temperature: No Yes

Colour temperature: 3500 K

Output A DALI Scene 1 1 bit

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ETS

Template Colour Temperature

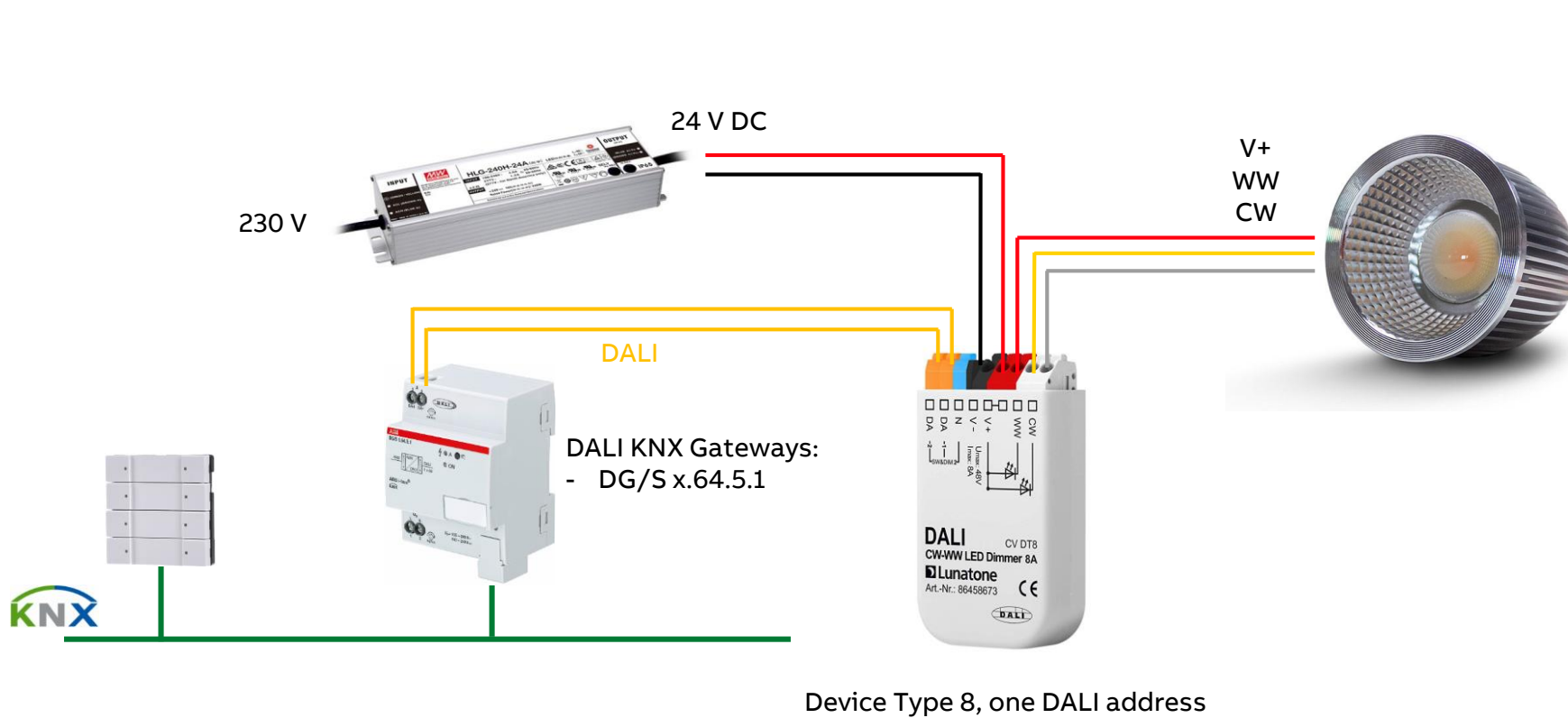
- Further template to adjust colour temperature parameter, to be assigned to DALI groups or individual ballasts
- Templates available per channel
- For each group or ballast individual parameters instead of templates also available

The screenshot displays the configuration interface for a 'Colour temperature Tc template' within the ETS software. The breadcrumb path at the top reads: '4.3.1 DG/S2.64.5.1 DALI Gateway Premium,2f,MDRC > DALI output A > A Group x/ballast x template > Colour temperature Tc template (group x/ballast x)'. The left sidebar shows a tree view with 'A Group x/ballast x template' selected and highlighted with a red box. The main panel contains the following settings:

- Parameter template for pages "Group/ballast x Colour temperature Tc"
- Minimum Colour temperature: 2000 K
- Maximum Colour temperature: 6000 K
- Colour temperature after switching on: Colour temper. value on last switch-off
- Cannot be used when Colour function (HCL, Dim2Warm) active
- Set Colour temperature: 16-bit Colour temperature (DPT 7.600) (selected), 8-bit percent (DPT 5.001)
- Group object format: 16-bit Colour temperature (DPT 7.600)
- Transition time: 5 s
- Permit switch-on via setting: No (selected), Yes
- Dim Colour temperature: Transition time (for entire Colour temperature range): 5.7 s
- Permit switch-on via dimming: No (selected), Yes
- Enable group object "Colour temperature status": No (selected), Yes
- Enable 1-bit presets for Colour temp.: No (selected), Yes
- Use Colour function: No

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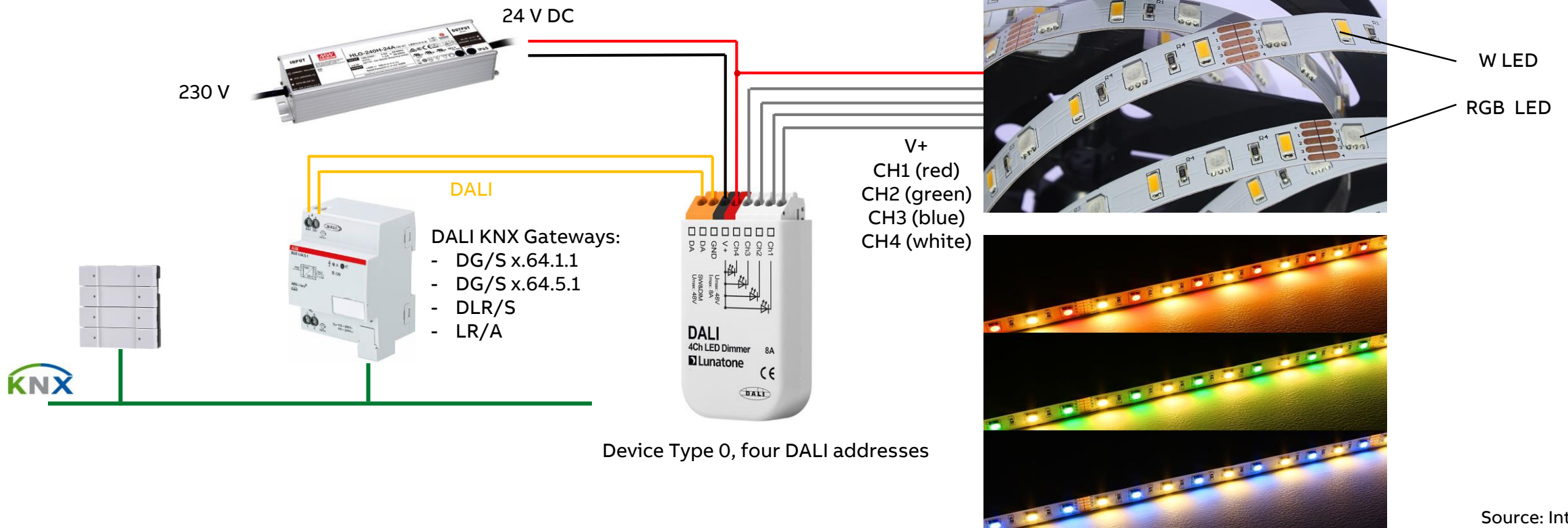
Example: Hardware for Tunable White with DALI and KNX



Source: Internet

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Example: Hardware for RGBW with DALI and KNX (group or individual controlled)



Source: Internet

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

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 Shutdown active yes/no
- Search ballasts

new

new

new

new

new

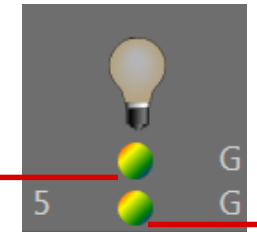
new

new

new



	Broadcast on/off	On	Off
Automatic DALI addressing	No	Trigger DALI addressing	
Unaddressed ballasts	No		
Conflict in DALI groups	No	Use gateway values Use DALI device values	
All DALI device monitored	Yes	Trigger DALI device monitoring	Clear DALI device monitoring
Awaiting fault acknowledge	No	Acknowledge all faults	
At least one device is burning in	No		
DALI current fault	No		
Overlapping groups	No		
More than 64 devices detected	No		
Conflict in device type	No		
Standby shutdown active	No		
Search ballast			



Displayed if colour ballast detected in runtime

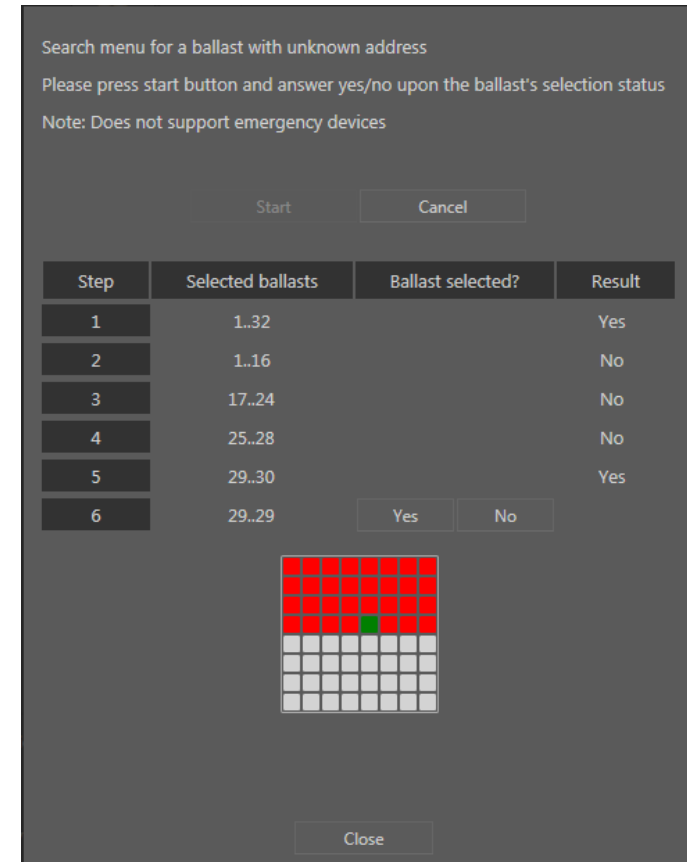
Displayed if colour ballast enabled in ETS

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

ABB i-bus® tool

ABB i-bus® tool – Search Menu

- Search menu for a ballast with unknown address new
- Current situation: to identify address of a ballast worst case up to 64 address buttons in i-bus tool have to be pushed
- Search Menu reduces it to a few clicks



Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

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

new

new

new

new

new

new

new

new

Connect to device

Device/Group Device 29 EVG29

General

DALI

Overview

Detail

Emergency

Connect to device

Device/Group Device 29 EVG29

Status

Status

Actual value 255 (100 %)

Actual colour Tc 3000K

Burn in and timers

Burn in Inactive Activate Deactivate

Burn in time left 0h 0min

Operating hours 4h 0h ^ v Write

Control

Control On Off

Value 0 (0%)

Colour Tc 5400 K 3000K 6000K

Additional function

Staircase lighting Activate Deactivate

Slave Activate Deactivate

Statuses

Force lock Lamp fault

Basis brightness Ballast fault

Colour

Selected colour function Dim2Warm

Colour function status Inactive

Supported colour types

Colour temperature Tc Yes

XY Coordinates No

RGBW 0

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Commercial and Marketing Aspects

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Range

Order Code and List Price (ABB Version)

KNX DALI Gateway Premium	Order Code	List Price (excl. VAT)
DG/S 1.64.5.1	2CDG110273R0011	515 €
DG/S 2.64.5.1	2CDG110274R0011	585 €

Order Code and List Price (Busch-Jaeger Version)

KNX DALI Gateway Premium	Order Code	List Price (excl. VAT)
DG/S 1.64.5.11	2CDG110273R0021	515 €
DG/S 2.64.5.11	2CDG110274R0021	585 €



Availability March (week 11/2020)

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

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
- ...

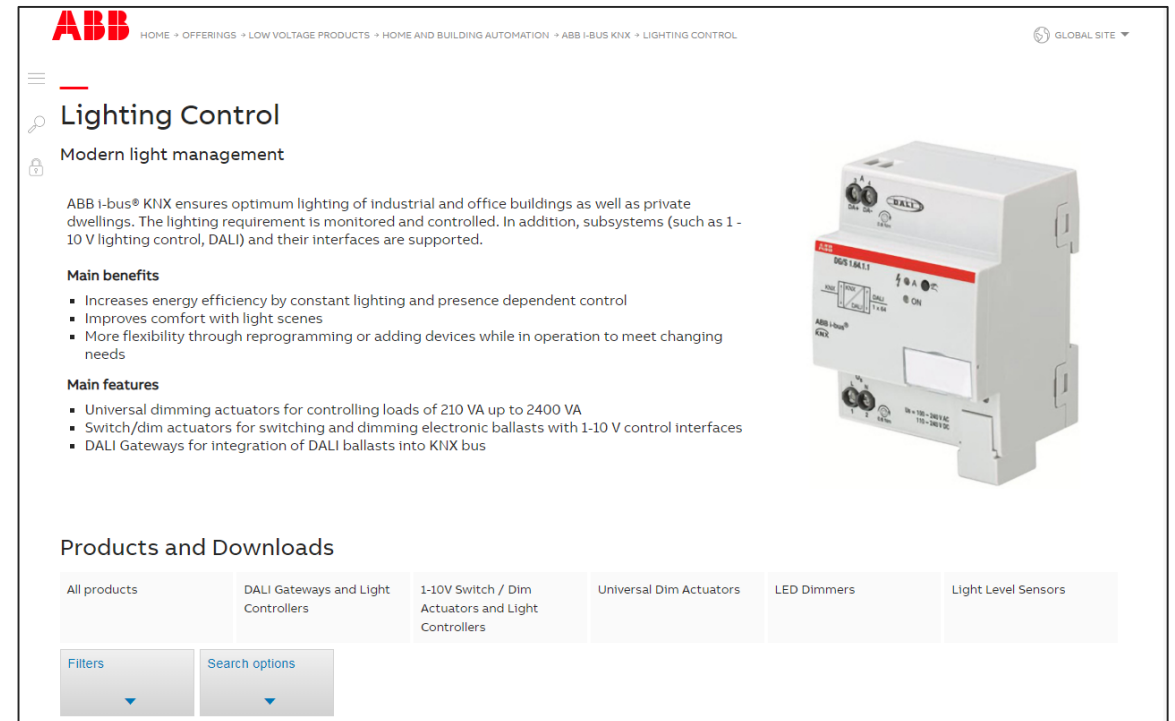


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Lighting Control

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

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

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

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.

DG/S 1.64.5.1

Description	Mod. width	Order details		Price 1 piece	Weight 1 piece	Pack unit
		Type code	Order code			
1-fold	4	DG/S 1.64.5.1	ZCDG10199R0011	0.133	1	1
2-fold	4	DG/S 2.64.5.1	ZCDG10199R0011	0.15	1	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

DG/S 1.64.5.1

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

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Summary of the Features and Advantages

- Components based on the successful and well known DALI Gateways DG/S x.64.1.1
 - proven devices with powerful and now more features
- Choice between one channel (64 ballasts) and two channels (2 x 64 ballasts)
 - the right device situation depending, very cost efficient
- ABB i-bus® tool for DALI adjustments, testing and monitoring
 - unique solution, makes life easier for integrator and user
- Solutions like
- Flexible combination of DALI groups, single control or KNX groups
- 230V secured DALI Outputs
- Integration of Emergency Lighting
- Templates
- real benefits for customers in projects



Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Summary of the Features and Advantages

Main new features:

- Tunable white
- Human Centric Lighting
- Dim2Warm
- Standby Shutdown
- Operating hours (via ABB i-bus® tool)
- Light scenes with individual brightness **and** colour temperature level

→ Valuable functions, required in projects, allowing to implement more sophisticated lighting solutions



Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”



3,000 Kelvin (warm white)



6,500 Kelvin (cold white)

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Training & Qualification Database

this database you can find the complete online training portfolio for ABB Home and Building Automation

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>

→ Training and Qualification

→ Training Database

The screenshot displays the ABB Training & Qualification Database interface. At the top, the ABB logo and navigation links are visible. The main heading is 'Training & Qualification Database'. Below this, there is a large image of a man in a white shirt holding a tablet. The text below the image states: 'In this database you can find the complete online training portfolio for ABB Home and Building Automation. The database includes the following types of training content:'. A list of training content types is provided:

- **Application Manuals:** Give a general description of the correct implementation of individual technical functions.
- **E-Learnings:** Learning modules to specific topics.
- **Presentations:** Pdf files with learning content.
- **Video tutorials:** Short instructional videos to specific topics.
- **Webinar slides:** Slides of webinar sessions in pdf format.
- **Webinar Videos:** Recording of webinar sessions.

Below the list, there is a search section with the text: 'To search the database, select the required search criteria. To make multiple selections, press [Ctrl]'. There are four dropdown menus: 'System' (with 'All' selected), 'Application' (with 'All' selected), 'Training type' (with 'Application Manual' selected), and 'Language' (with 'All' selected). A red arrow points from the 'Webinar Videos' section to a video player showing a webinar titled 'ClimaECO – BA-Controller KNX BAC/S Webinar – Competence Center Europe – Building Automation'.

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

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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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

ABB MyLearning

HOME CATALOG PROFILE ADMINISTER REPORTS MY LEARNING

CERTIFIED KNX BASIC COURSE
Code : 9CSC007151-GLB-EN-20190218_22
Certified KNX Basic Course at ABB in Heidelberg, Germany, 5 days
★★★★★ | Share

Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

KNX Certified Trainings 2020

Certified KNX Courses in Heidelberg

- Advanced Course: 13th to 17th Jul.
- Tutor Course: 19th to 23rd Oct.
- Basic Course : 16th to 20th Nov.
- Followed by two day application training

Save the date!!!

And many more training courses in the calendar
“International Training Dates 2020”

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

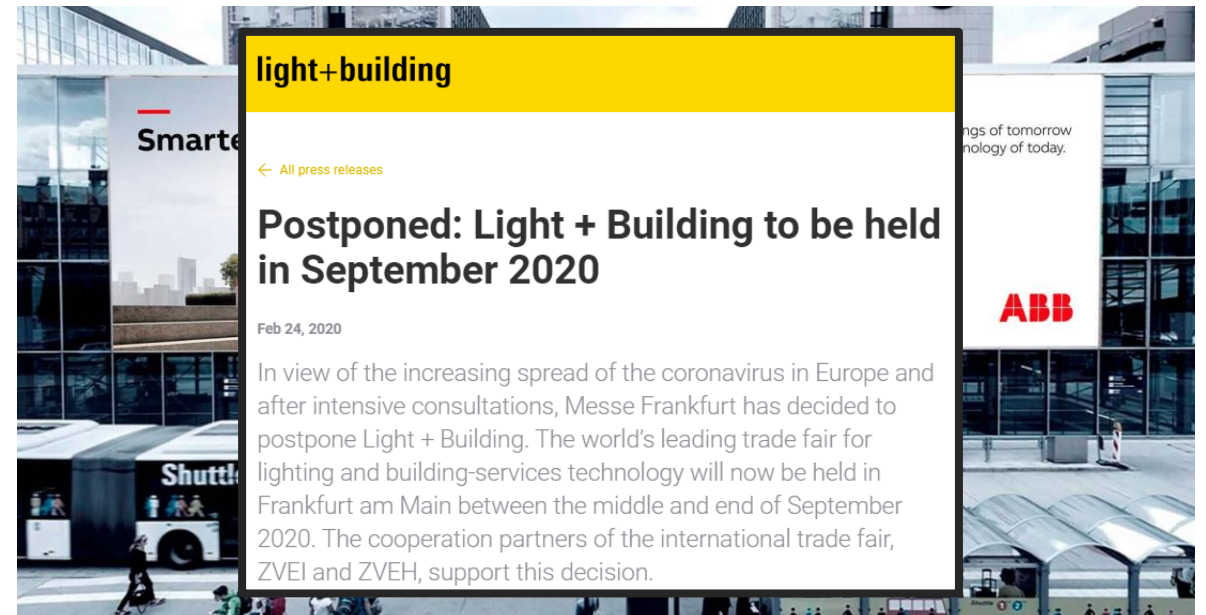


Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Postponed: Light + Building will take place in Sept. 2020

The world’s leading trade fair for lighting and building services technology

- Due to the increased spread of the corona virus in Europe, Messe Frankfurt decided to postpone Light + Building after intensive consultations
- The world's leading trade fair for lighting and building technology will take place in Frankfurt am Main between mid and end of September 2020



Webinar “KNX DALI Gateway Premium DG/S x.64.5.1”

Next Webinar

The topic will be announced ...

Wednesday 25th March 2020

- Morning 09:00 am Europe Time
(Berlin, UTC + 1h)
- Afternoon 03:00 pm Europe Time
(Berlin, UTC + 1h)



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