



MAY 2020

KNX DALI Gateway Premium DG/S x.64.5.1

Competence Center Europe – Smart Buildings

Thorsten Reibel, Jürgen Schilder

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

KNX DALI Gateway Premium DG/S x.64.5.1

Why new KNX DALI Gateways?

KNX DALI Gateway Premium DG/S x.64.5.1

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)






KNX DALI Gateway Premium DG/S x.64.5.1

Overview of all KNX DALI Gateways from ABB

KNX DALI Gateway Premium DG/S x.64.5.1

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






KNX DALI Gateway Premium DG/S x.64.5.1

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>All Functions of DG/S x.64.1.1</p> <p>+</p> <p>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

KNX DALI Gateway Premium DG/S x.64.5.1

Definition: Tunable White

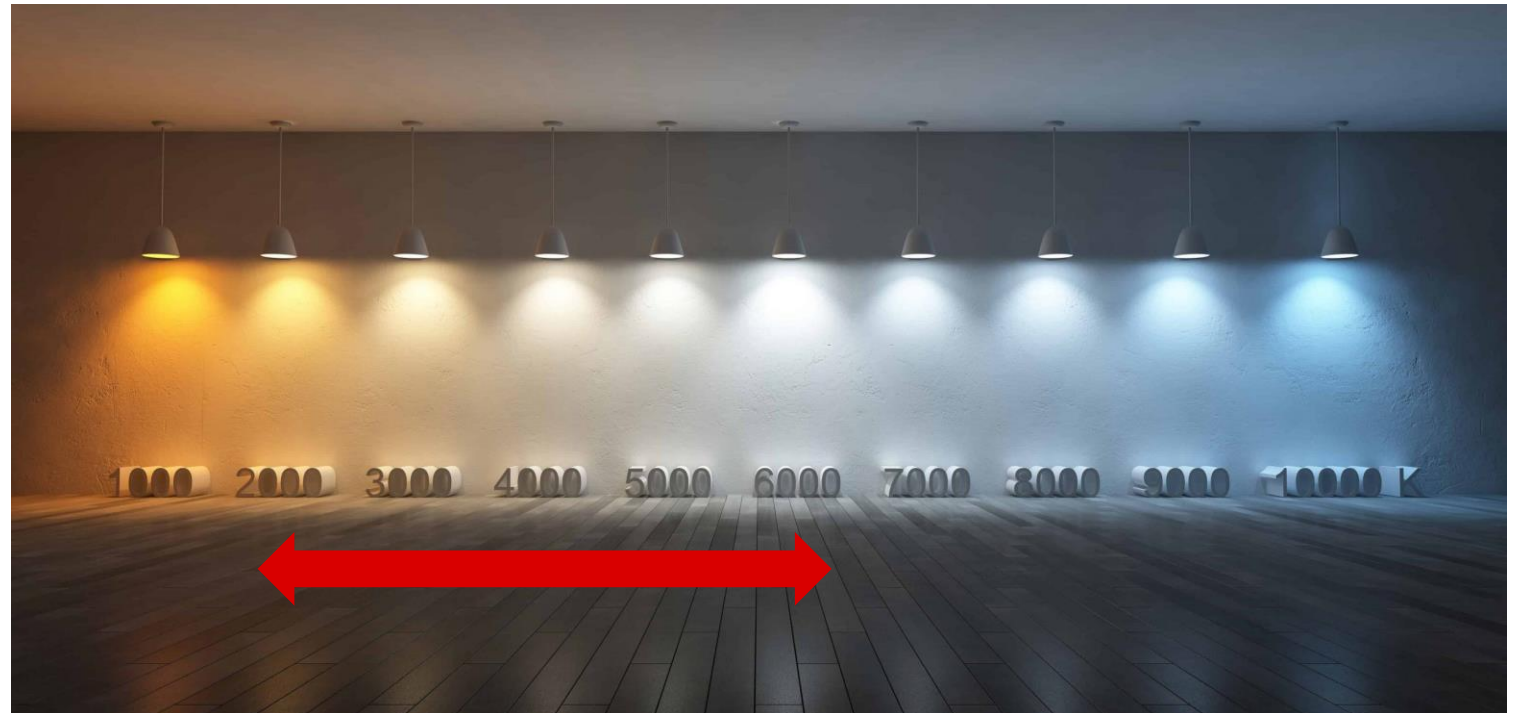
KNX DALI Gateway Premium DG/S x.64.5.1

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

KNX DALI Gateway Premium DG/S x.64.5.1

Definition: Human Centric Lighting (HCL)

KNX DALI Gateway Premium DG/S x.64.5.1

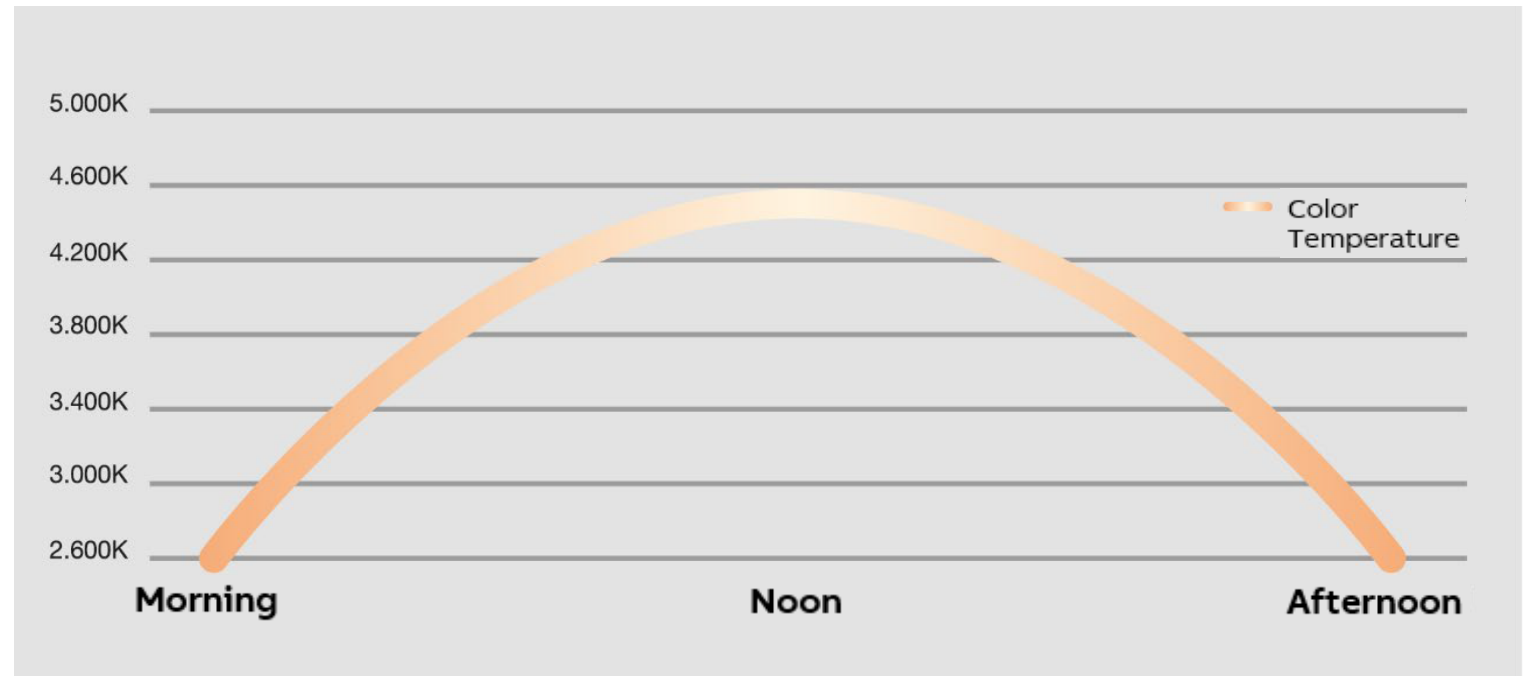
Human Centric Lighting (HCL)

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.



KNX DALI Gateway Premium DG/S x.64.5.1

Definition: Dim2Warm

KNX DALI Gateway Premium DG/S x.64.5.1

Dim2Warm

Principle

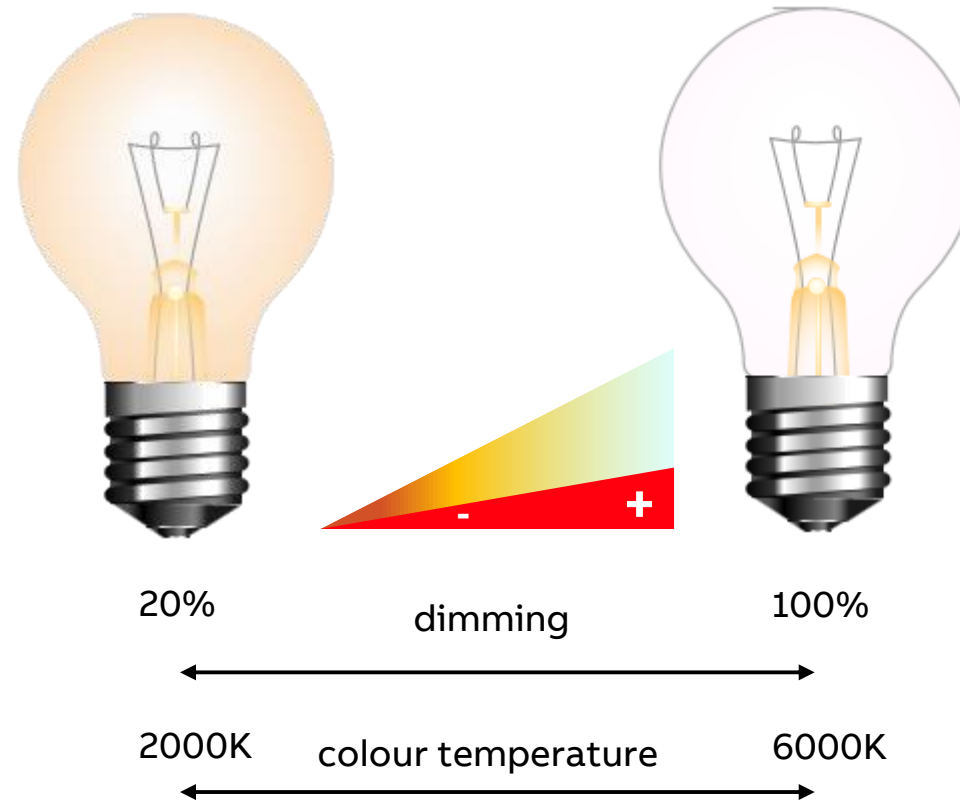
Change of colour temperature proportionally to brightness, resulting in an effect like a light bulb

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

Basically it copies the colour temperature behavior of a light bulb or halogen lamp in case of dimming

Especially in residential lighting solutions this feature is preferred, as it is known and accepted from traditional light bulbs or halogen lamps

Thus LED lighting with tunable white functionality can be used for the same effect



KNX DALI Gateway Premium DG/S x.64.5.1

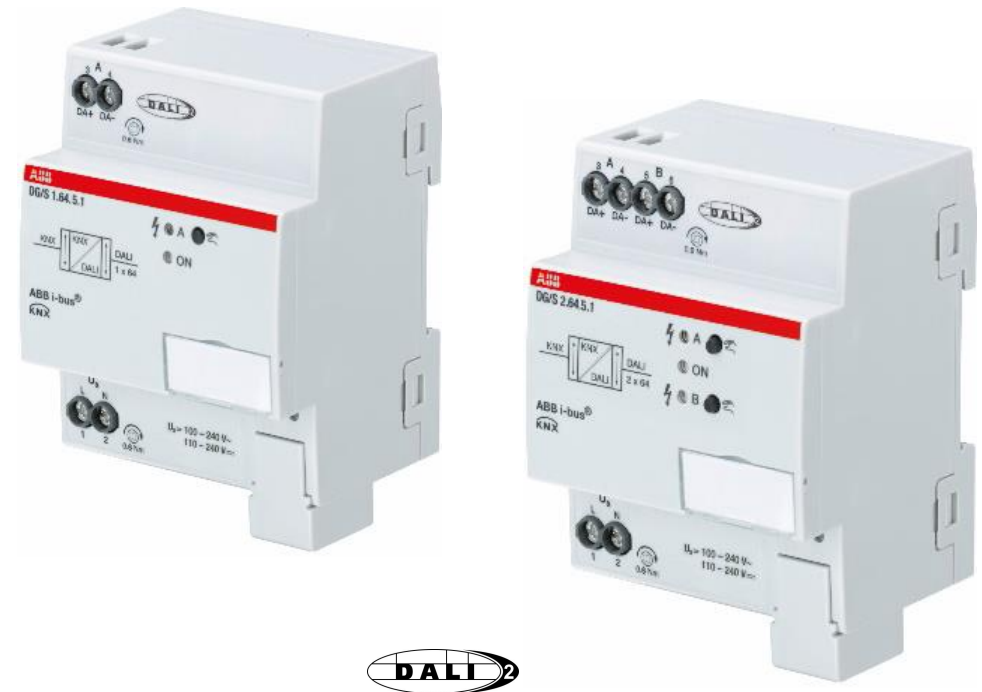
KNX DALI Gateway Premium DG/S x.64.5.1

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
 - ...



KNX DALI Gateway Premium DG/S x.64.5.1

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

KNX DALI Gateway Premium DG/S x.64.5.1

Features

What is new? – Main Features

Tunable White

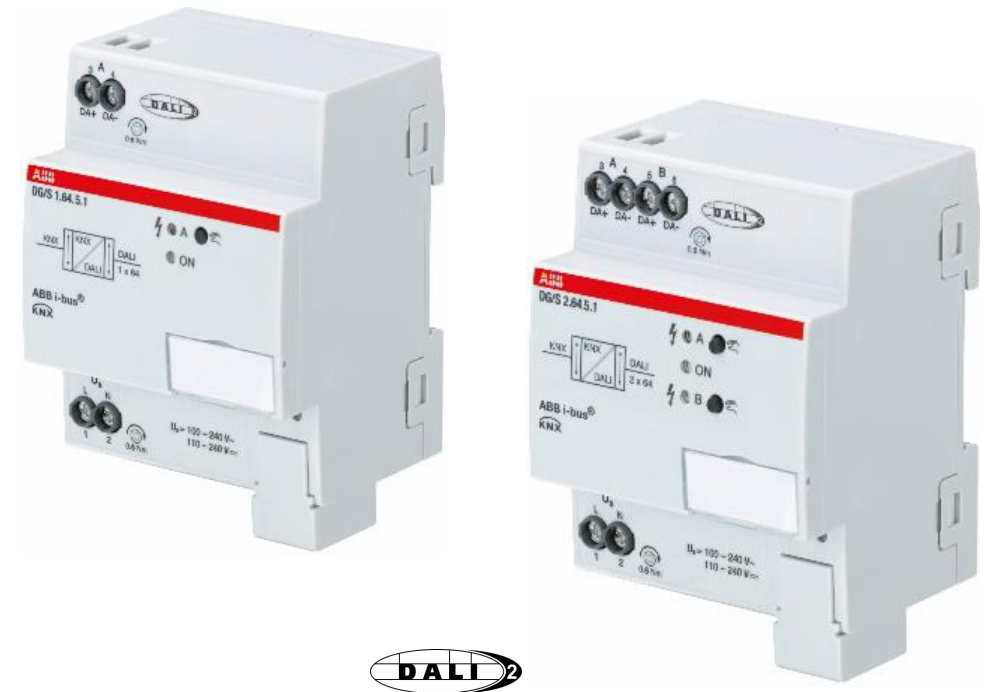
- Change of colour temperature T_c (Cold to warm white) with setting and dimming of colour temperature and brightness for lamps according to device type 8 (tunable white, no colour lighting functions like RGB)

Human Centric Lighting (HCL)

- Colour temperature curve following daylight

Dim2Warm

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



KNX DALI Gateway Premium DG/S x.64.5.1

Features

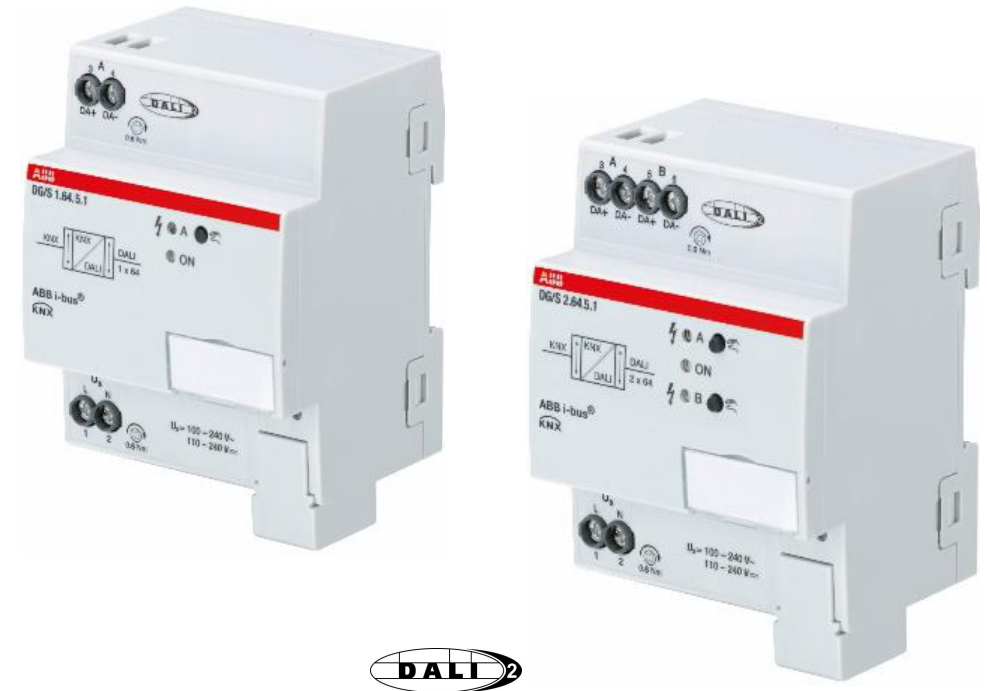
What is new? – Various Features

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



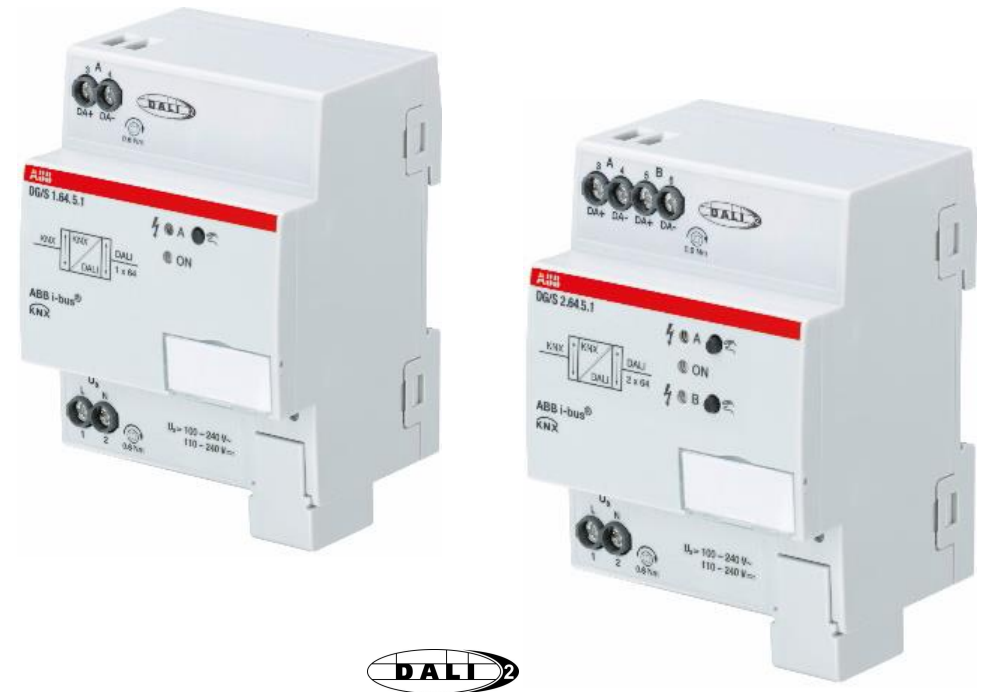
KNX DALI Gateway Premium DG/S x.64.5.1

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

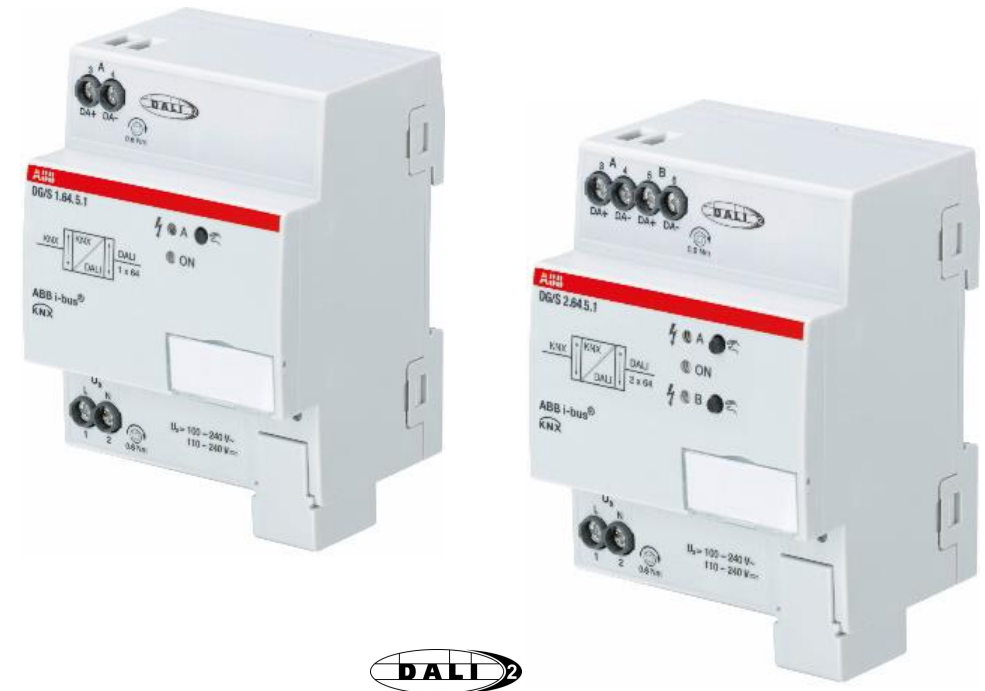


KNX DALI Gateway Premium DG/S x.64.5.1

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



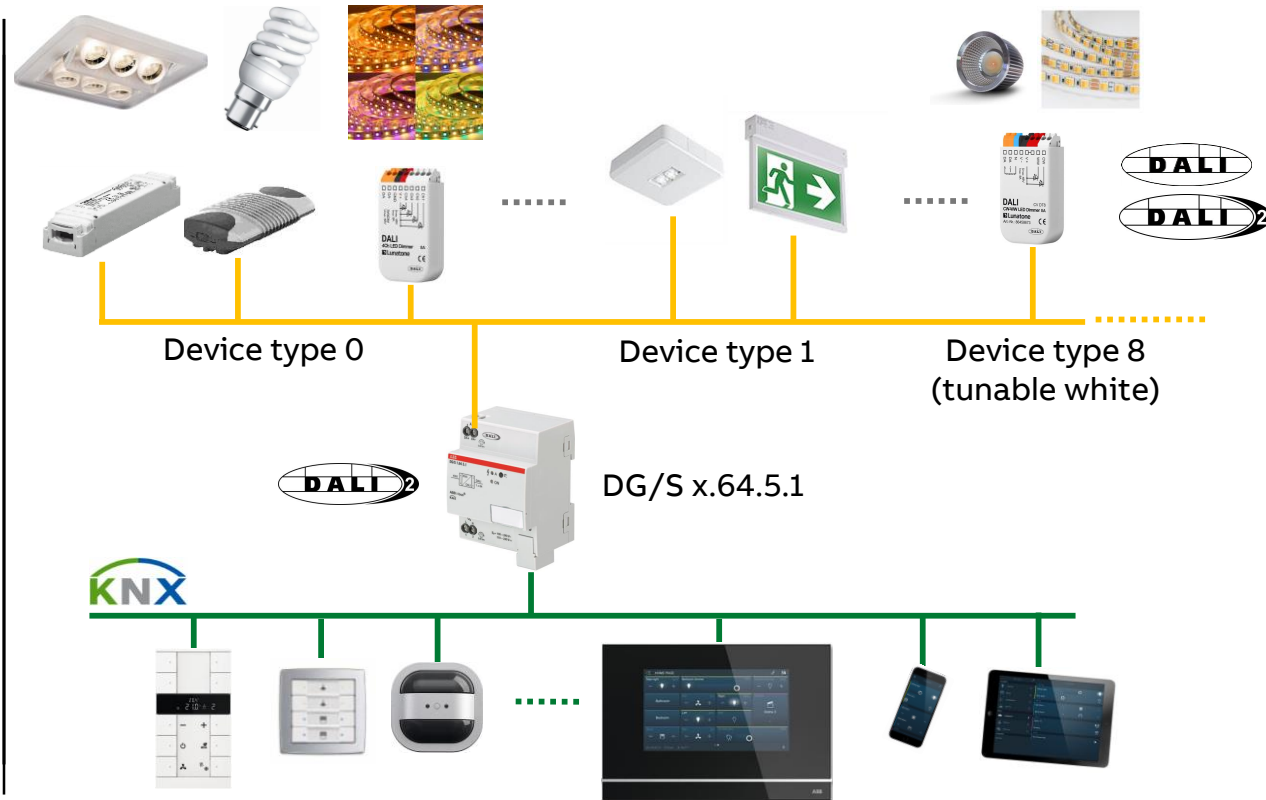
KNX DALI Gateway Premium DG/S x.64.5.1

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.



KNX DALI Gateway Premium DG/S x.64.5.1

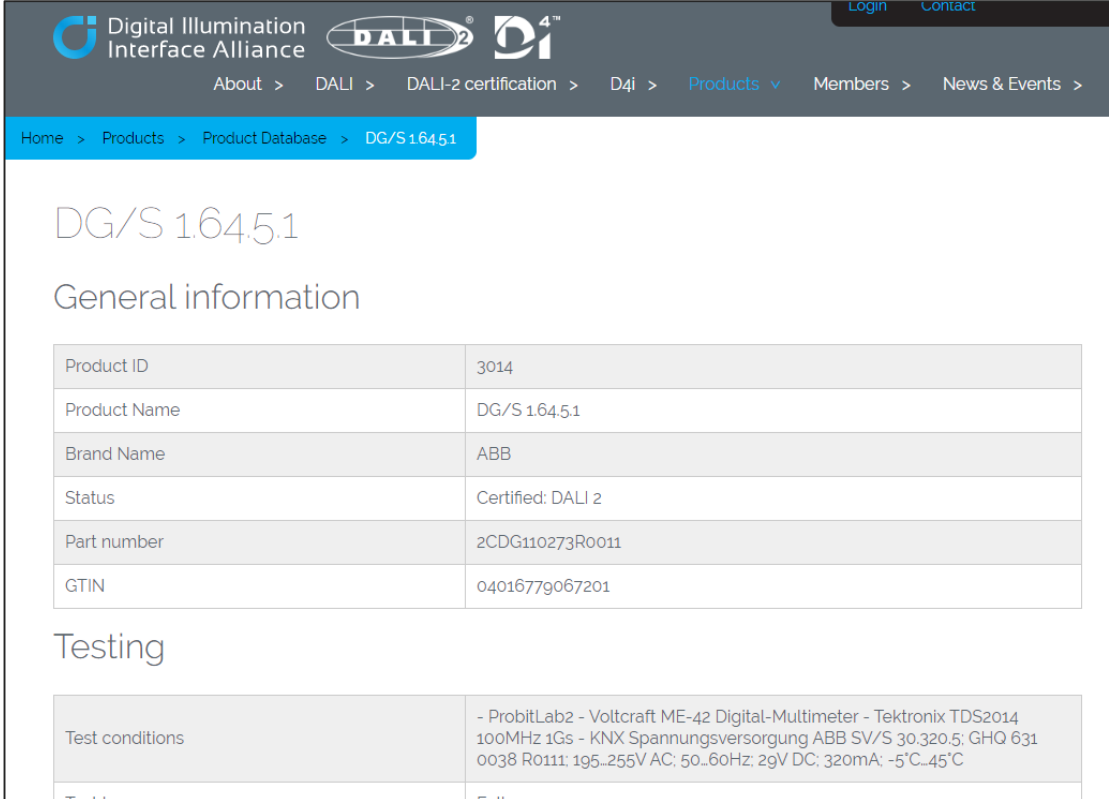
Certified DALI-2 Products



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



Digital Illumination Interface Alliance  

About > DALI > DALI-2 certification > D4i > Products > Members > News & Events >

Home > Products > Product Database > DG/S 1.64.5.1

DG/S 1.64.5.1

General information

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

Testing

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
-----------------	--

KNX DALI Gateway Premium DG/S x.64.5.1

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

Product properties

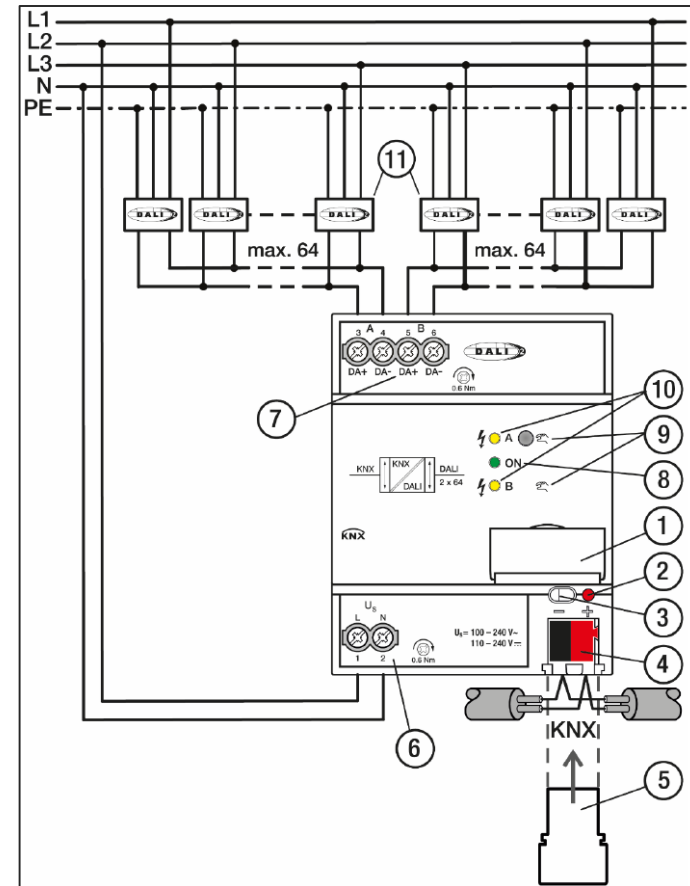
- Application controllers
 - Supports DALI version-1 control gear
 - Supports DALI-2 control gear
 - More than one DALI bus supported
 - Bus powered
 - Support for event messages from input devices
 - Support for other application controllers on the same bus
 - Support for Push-buttons (part 301)
 - 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

KNX DALI Gateway Premium DG/S x.64.5.1

Connection Diagram

1. Label Carriers
2. Programming LED
3. Programming Button
4. Bus Connection Terminal
5. Cover Cap
6. Operating voltage (100-240V AC 50/60Hz, 110-240V DC)
7. DALI Output
8. Operation LED (green)
9. Manual operation channel A/B
10. Manual Operation LED (yellow)
11. DALI ballasts



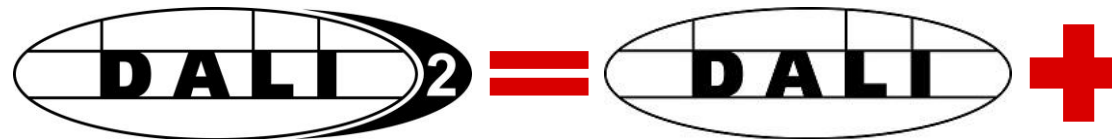
KNX DALI Gateway Premium DG/S x.64.5.1

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

KNX DALI Gateway Premium DG/S x.64.5.1

ETS Application

KNX DALI Gateway Premium DG/S x.64.5.1

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

The screenshot displays the configuration interface for a DALI Gateway Premium. The left sidebar shows a tree view with 'DALI output A' expanded to 'A Output' > 'Functions' > 'Colour functions'. Within 'Colour functions', 'Group 4 Colour temperature T_C' and 'Ballast 29 Colour temperature T_C' are highlighted with red boxes. The main panel shows the configuration for 'Colour function HCL' and 'Colour function Dim2Warm'. The HCL section includes options for 'HCL Colour temperature source' (16-bit group object Colour temperature), 'Transition time' (20 s), and 'Enable group object "Output - Activate automatic HCL Colour function"'. The Dim2Warm section includes 'Limit proportional range' (Yes), 'Lower brightness limit' (20% (51)), 'Upper brightness limit' (80% (204)), 'Limit Colour temperature range' (Yes), 'Minimum Colour temperature' (2700 K), and 'Maximum Colour temperature' (4000 K). A 'Broadcast' section at the bottom allows enabling 'Output - Set Colour temperature (K)' with a transition time of 2 s.

KNX DALI Gateway Premium DG/S x.64.5.1

ETS

Dim2Warm

Parameter block Output A or B → Colour functions

– Colour function Dim2Warm

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

The screenshot shows the configuration interface for the 'Colour function Dim2Warm' parameter block. On the left, a tree view under 'Colour functions' shows 'DALI output B' selected. The main panel displays the following settings:

- Colour function Dim2Warm** (highlighted in red)
- Description: 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
- Description: 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
- Description: 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

KNX DALI Gateway Premium DG/S x.64.5.1

ETS

Dim2Warm

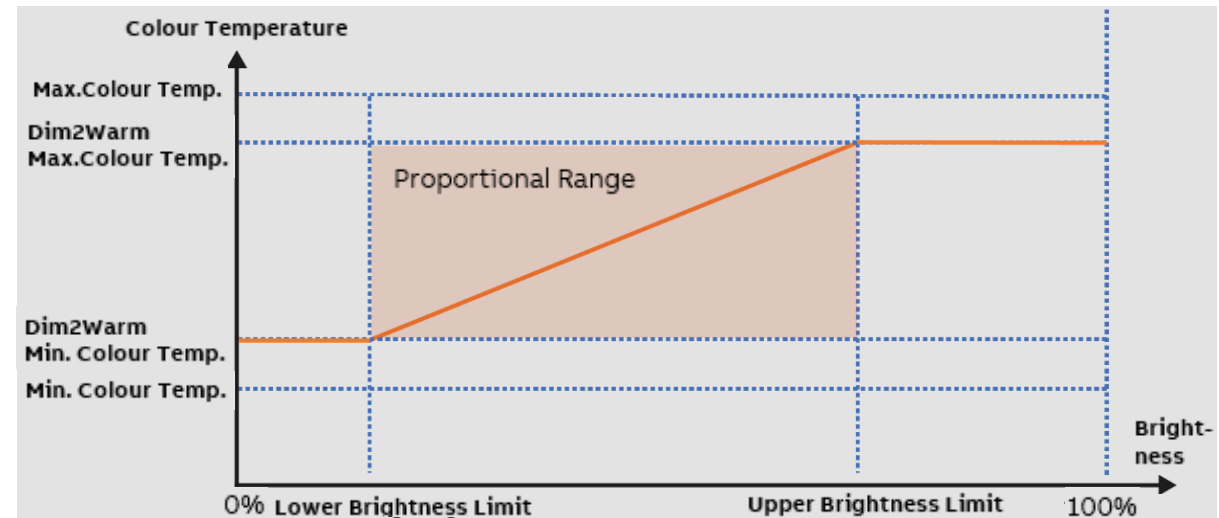
The proportional range describes the range in which is a linear relationship between the colour temperature and the brightness

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



KNX DALI Gateway Premium DG/S x.64.5.1

ETS

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 6,500 K
- Automatic light for normal activities: Normal illuminance and HCL active
- Relaxation light for relaxation phases and for storytelling: Normal illuminance 2,700 K



Source: Internet

KNX DALI Gateway Premium DG/S x.64.5.1

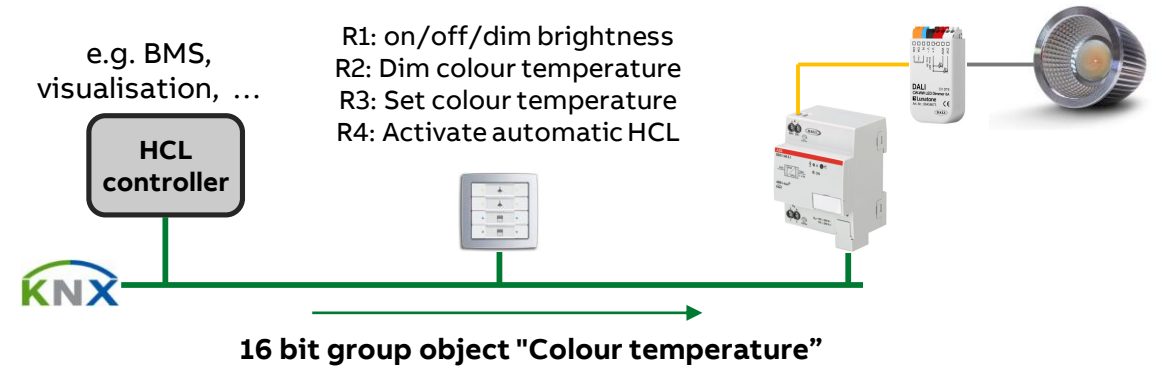
ETS

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	

KNX DALI Gateway Premium DG/S x.64.5.1

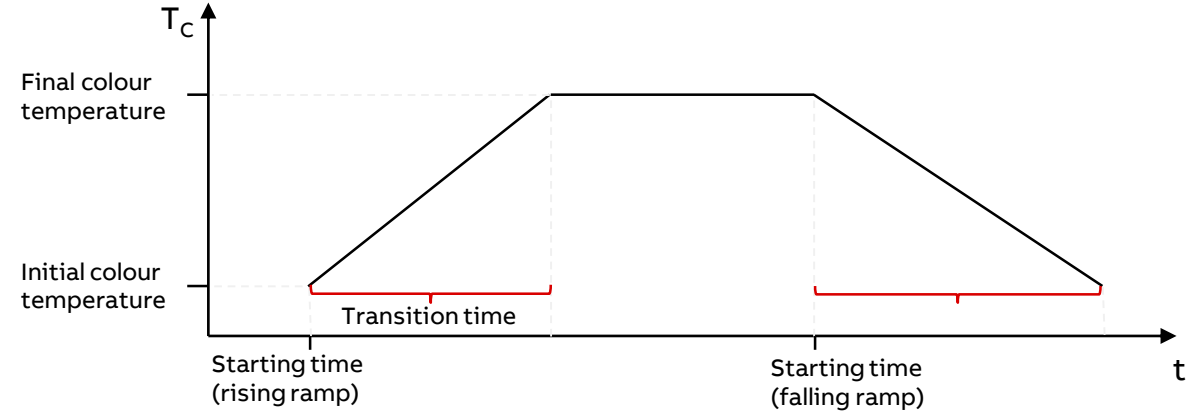
ETS

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



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

KNX DALI Gateway Premium DG/S x.64.5.1

ETS

Tunable White Parameters

Further parameter per ballast or DALI group for the colour functions

- Minimum/Maximum colour temperature
 - Note: Possible range depending on ballast and lamp
- Group object format to set colour temperature (8 bit in % or 16 bit as absolute colour temperature value)
- 1 bit preset for two individual colour temperatures
- Type of colour function (Dim2Warm or Human Centric Lighting HCL)

4.3.1 DG/S2.64.5.1 DALI Gateway Premium,2f,MDRC > DALI output A > A Ballasts > Ballast 29 > Ballast 29 Colour temperature Tc

General

Parameter settings Apply from template Individual

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

Group object format 16-bit Colour temperature (DPT 7.600) 8-bit percent (DPT 5.001)

Transition time 5 s

Permit switch-on via setting No Yes

Dim Colour temperature

Transition time (for entire Colour temperature range) 5.7 s

Permit switch-on via dimming No Yes

Enable group object "Colour temperature status" No Yes

Enable 1-bit presets for Colour temp. No Yes

Use Colour function Dim2Warm

Activation via group object "Activate Dim2Warm Colour function"

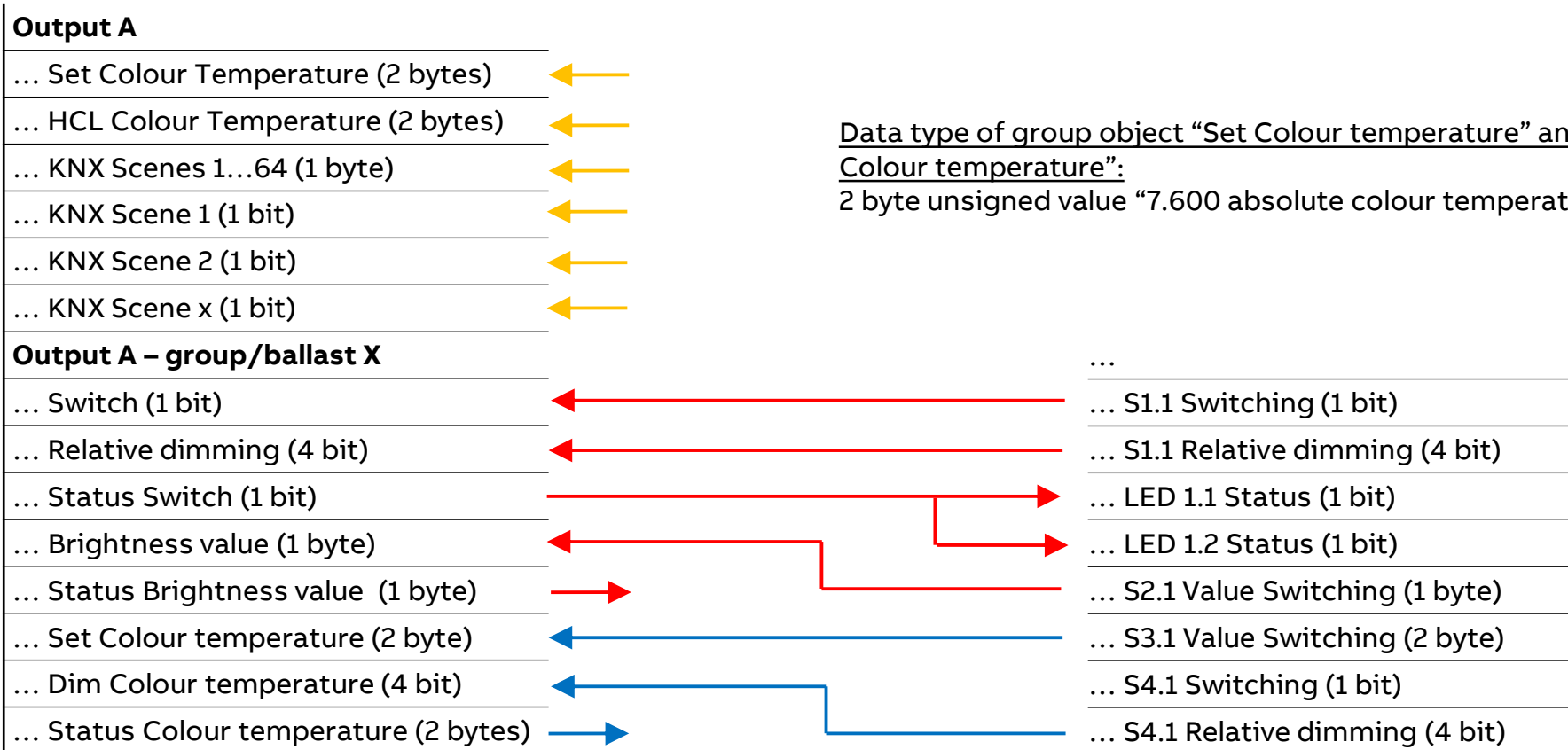
State after KNX recovery and download Like before failure

KNX DALI Gateway Premium DG/S x.64.5.1

Example: Assignment of Group Addresses



DALI Gateway Premium
DG/S x.64.5.16



Data type of group object “Set Colour temperature” and “Status Colour temperature”:
2 byte unsigned value “7.600 absolute colour temperature”

Control element solo® stand.
6127/01-500



KNX DALI Gateway Premium DG/S x.64.5.1

ETS

Standby switch-off

Standby switch-off 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 switch-off in the ETS
2. Set time of delay till switch-off (e.g. 5 min to avoid standby switch-off in case of short term standby situation)
3. Optional: Enable group object “*Enable DALI standby switch-off*”
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 switch-off*” 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 type="radio"/> No <input type="radio"/> Yes
- DALI output A	Enable group object "Fct. Activate Turn off brightness"	<input type="radio"/> No <input type="radio"/> Yes
A DALI configuration	Enable group object "Rem burn-in time"	<input type="radio"/> No <input type="radio"/> Yes
- A Output	Enable group object "Burn-in lamps/Status"	<input type="radio"/> No <input type="radio"/> Yes
Status	Enable group object "Activate Slave offset/Status"	<input type="radio"/> No <input type="radio"/> Yes
Fault	Enable function "Partial failure"	<input 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		

KNX DALI Gateway Premium DG/S x.64.5.1

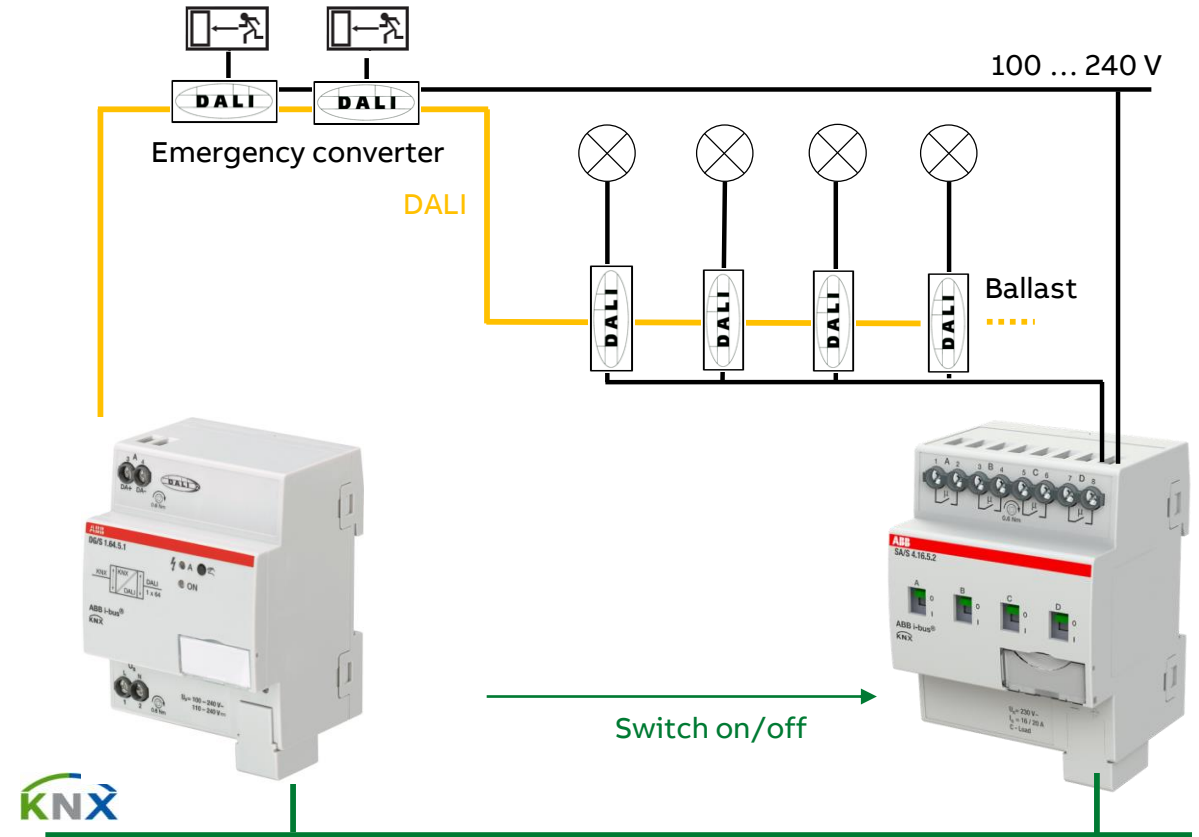
ETS

Standby switch-off

- 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 must 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 switch-off message “Ballast Fault” is suppressed
- DALI emergency converter are not be integrated in Standby switch-off



KNX DALI Gateway Premium DG/S x.64.5.1

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

KNX DALI Gateway Premium DG/S x.64.5.1

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

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)

General

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

Group object format: 16-bit Colour temperature (DPT 7.600) 8-bit percent (DPT 5.001)

Transition time: 5 s

Permit switch-on via setting: No Yes

Dim Colour temperature

Transition time (for entire Colour temperature range): 5.7 s

Permit switch-on via dimming: No Yes

Enable group object "Colour temperature status": No Yes

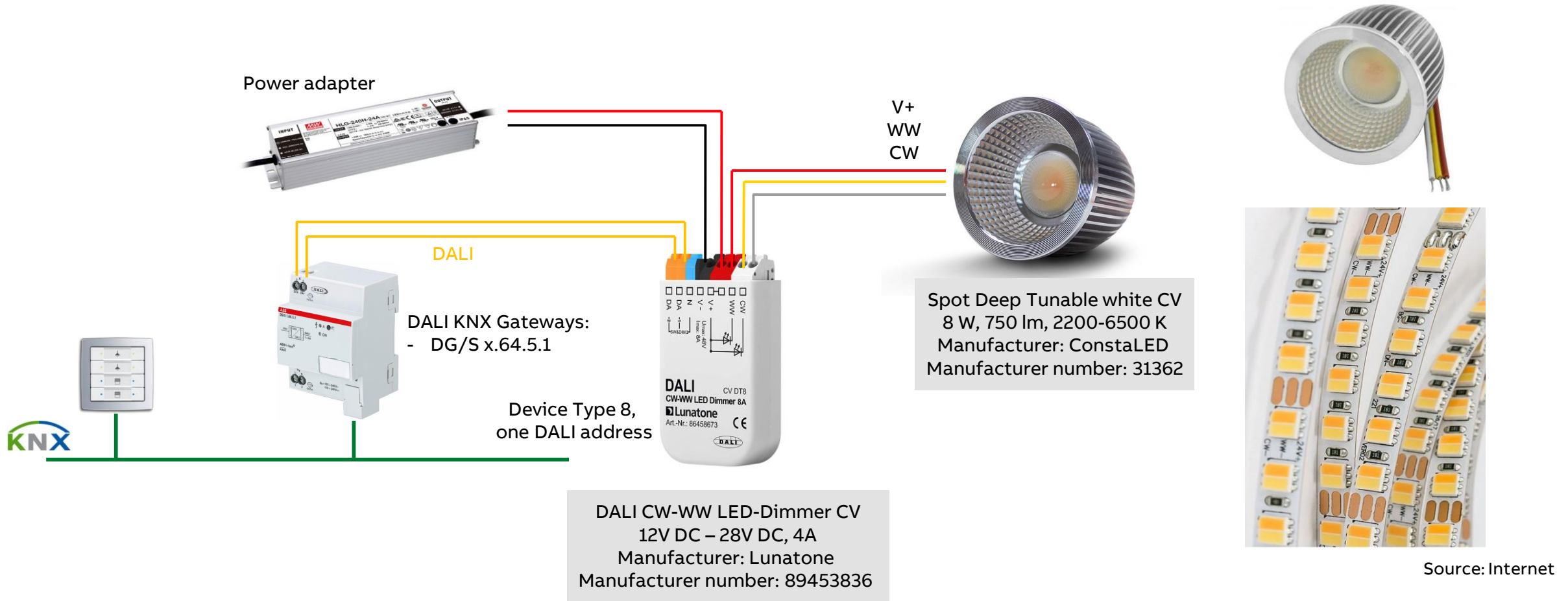
Enable 1-bit presets for Colour temp.: No Yes

Use Colour function: No

The screenshot shows a software interface for configuring a DALI Gateway. The left sidebar contains a tree view with a red box highlighting the 'Colour temperature Tc template (gr...' option under 'A Group x/ballast x template'. The main area displays configuration parameters for this template, including minimum and maximum colour temperatures, transition times, and various control options.

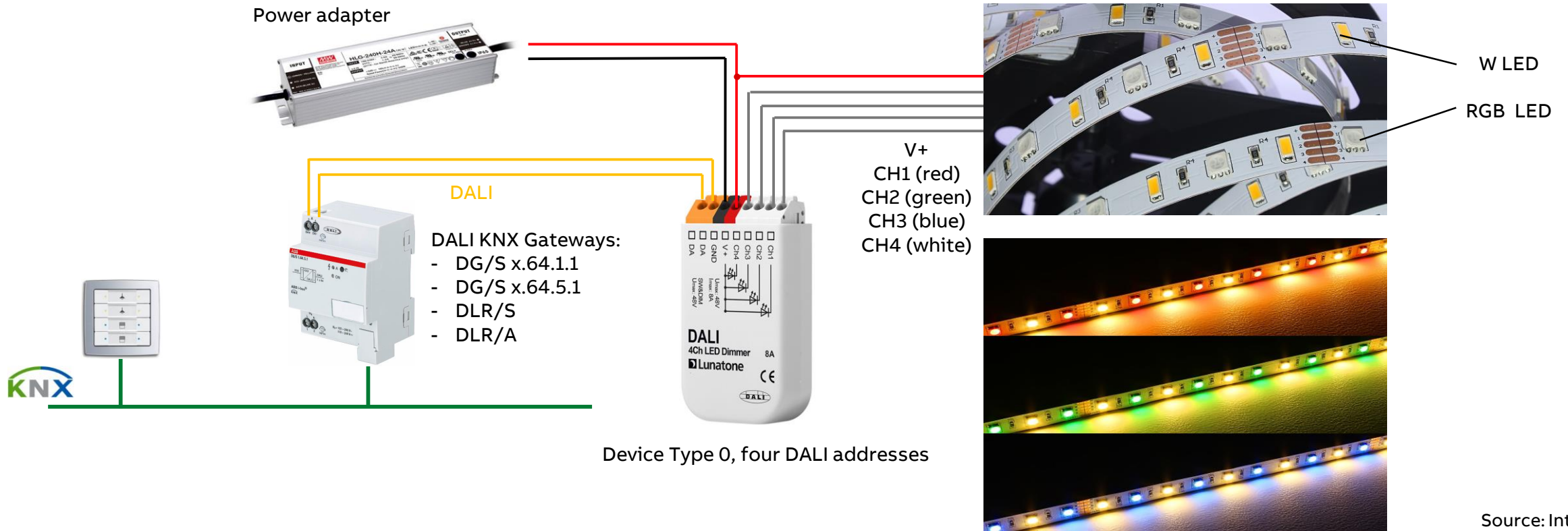
KNX DALI Gateway Premium DG/S x.64.5.1

Example: Hardware for Tunable White with DALI and KNX



KNX DALI Gateway Premium DG/S x.64.5.1

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



KNX DALI Gateway Premium DG/S x.64.5.1

ABB i-bus® Tool

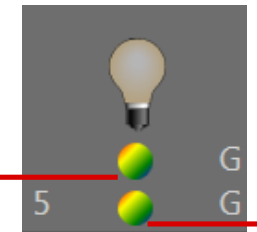
ABB i-bus® Tool – menu “DALI”

- 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 switch-off active yes/no
- Search ballasts

new
new
new
new
new
new
new
new

The screenshot displays the DALI menu interface. At the top is a grid of 64 device status icons, numbered 1 to 64. Each icon shows a light bulb with a green 'G' and a status indicator. Some icons are highlighted in yellow, some in red with a white 'X', and some in green with a white 'X'. Below the grid is a configuration table with the following settings:

	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

KNX DALI Gateway Premium DG/S x.64.5.1

ABB i-bus® Tool

ABB i-bus® Tool – Search Menu

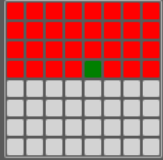
- Search menu for a ballast with unknown address new
- Current situation: to identify address of a ballast worst case up to 64 address buttons in i-bus Tool have to be pushed
- Search Menu reduces it to a few clicks

Search menu for a ballast with unknown address

Please press start button and answer yes/no upon the ballast's selection status

Note: Does not support emergency devices

Step	Selected ballasts	Ballast selected?	Result
1	1..32		Yes
2	1..16		No
3	17..24		No
4	25..28		No
5	29..30		Yes
6	29..29	<input type="button" value="Yes"/> <input type="button" value="No"/>	



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

new

Connect to device

Device/Group Device 29 EVG29

General
DALI
Overview
Detail
Emergency

General

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 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

KNX DALI Gateway Premium DG/S x.64.5.1

Commercial and Marketing Aspects

KNX DALI Gateway Premium DG/S x.64.5.1

Range

Type and Order Code (ABB Version)

KNX DALI Gateway Premium	Order Code
DG/S 1.64.5.1	2CDG110273R0011
DG/S 2.64.5.1	2CDG110274R0011

Type and Order Code (Busch-Jaeger Version)

KNX DALI Gateway Premium	Order Code
DG/S 1.64.5.11	2CDG110273R0021
DG/S 2.64.5.11	2CDG110274R0021



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
- ...

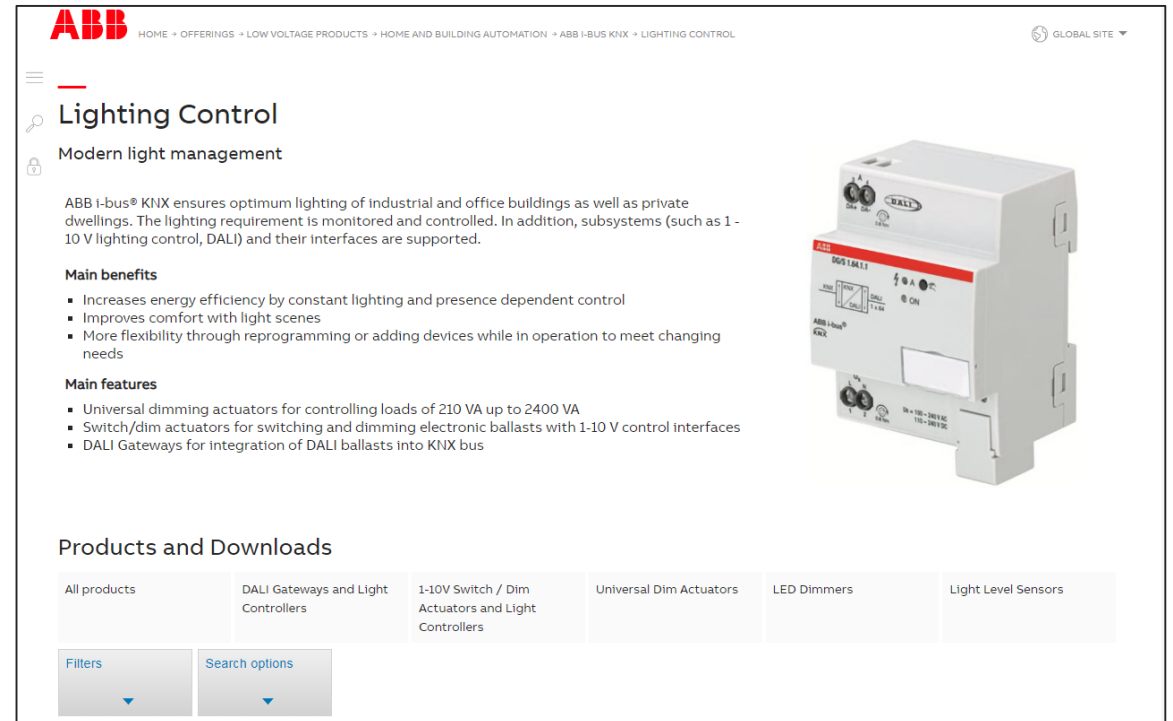


ABB HOME → OFFERINGS → LOW VOLTAGE PRODUCTS → HOME AND BUILDING AUTOMATION → ABB I-BUS KNX → LIGHTING CONTROL GLOBAL SITE ▼

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
--------------	-------------------------------------	--	-------------------------	-------------	---------------------

Filters Search options

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, MDR
 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 16), together in broadcast or per scenes (16/2x 16). Extensive fault and error messages are available. Self-contained emergency converter (64/2x 64) acc. EN 62386-202 will be supported. By means of KNX and emergency converter, different emergency tests (e.g. function and duration test) can be triggered. Feedback is sent. Slave-, staircase-, force-, block- and scene-function are integrated. DALI telegram rate can change. For diagnostic use and individual change of the DALI address or group assignment a separate ABB i-bus® Tool is available.

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

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

Description	Mod. width	Order details		Price		Pack unit
		Type code	Order code	€ kg	1 piece	
1-fold	4	DG/S 1.64.5.1	ZCDG10279R0011	0.133	1	
2-fold	4	DG/S 2.64.5.1	ZCDG10279R0011	0.15	1	

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



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 switch-off
- 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



KNX DALI Gateway Premium DG/S x.64.5.1



KNX DALI Gateway Premium DG/S x.64.5.1



KNX DALI Gateway Premium DG/S x.64.5.1



KNX DALI Gateway Premium DG/S x.64.5.1



KNX DALI Gateway Premium DG/S x.64.5.1



KNX DALI Gateway Premium DG/S x.64.5.1



KNX DALI Gateway Premium DG/S x.64.5.1



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

KNX DALI Gateway Premium DG/S x.64.5.1

Overview

KNX DALI Gateway Premium DG/S x.64.5.1

Hardware

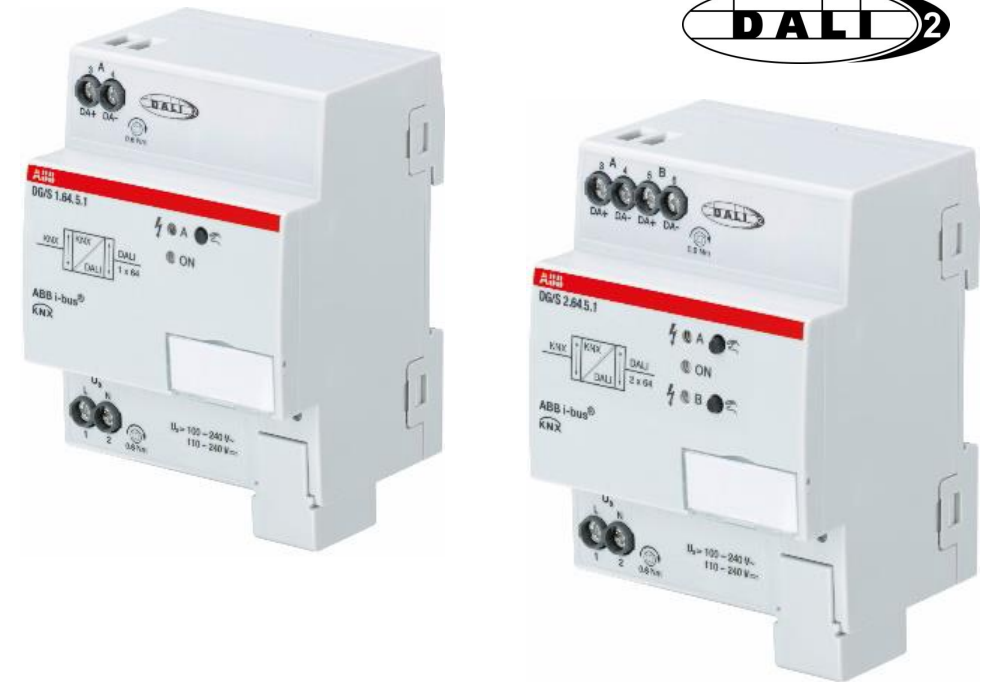
- DG/S 1.64.5.1 (one channel, 64 ballasts)
- DG/S 2.64.5.1 (two independent channels, 2 x 64 ballasts)

The following ballast can be operated on the gateway

- Normal DALI ballasts (device type 0)
- DALI single battery emergency lighting converter (device type 1)
- Colour-controlled DALI ballast (device type 8)

– Functions

- Flexible combination of DALI groups or single control
- ABB i-bus® Tool support
- Templates
- Tunable white
- **Dim2Warm**
- Human Centric Lighting
- Standby switch-off
- ...



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Dim2Warm

The following consideration is behind “Dim2Warm”

- The good old light bulb was never economical, but it could be dimmed so wonderfully: When we turned the dimmer down, the light became weaker and warmer at the same time
- A strongly dimmed light bulb no longer appears warm white, but already clearly orange
- When dimming LEDs, however, the colour temperature usually does not change
- No matter how far down a warm white LED strip is dimmed, it always remains constant - depending on which LED strip is used
- This is where Colour function “Dim2Warm” comes in, which simulate exactly this behavior



KNX DALI Gateway Premium DG/S x.64.5.1

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
- ...



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Start video: Move the mouse over the image and press the start button at the bottom



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

What is “Dim2Warm”?

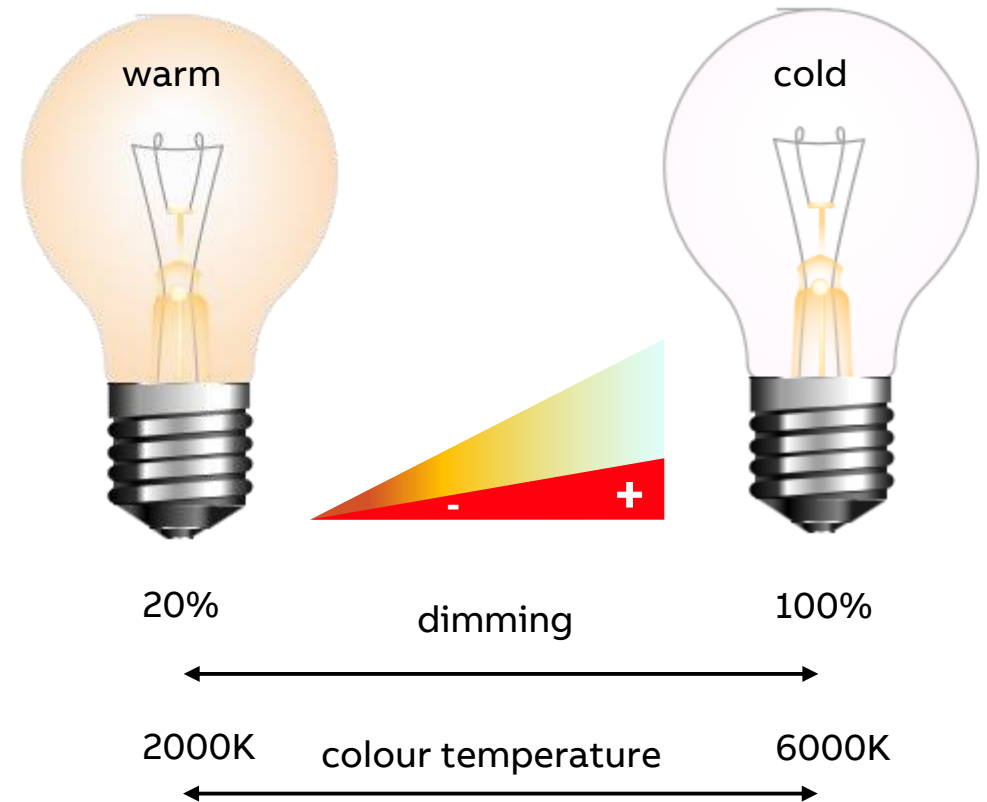
The DALI Gateway has an additional function called “Dim2Warm”, which changes the colour temperature based on the brightness

The colour temperature changes proportionally to brightness

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

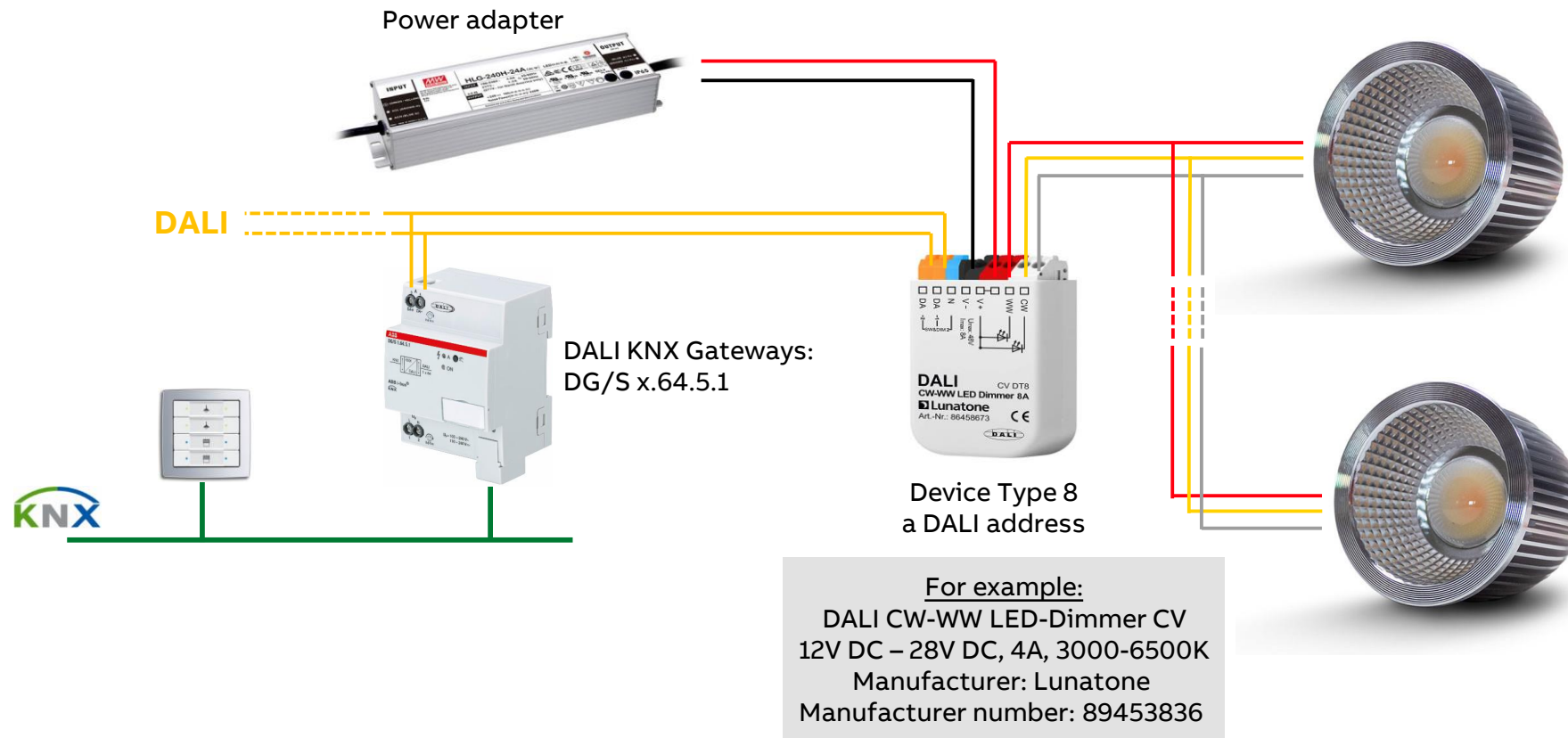
Dim2Warm can be activated on a group or a ballast

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



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm” – 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



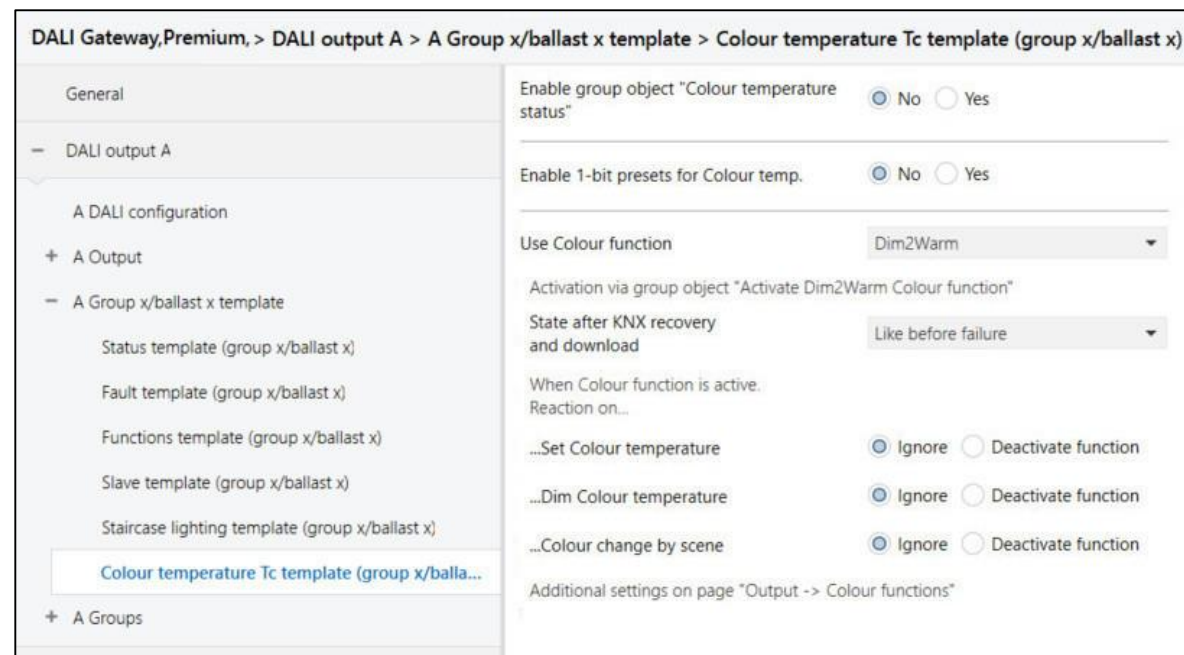
Source: Internet

KNX DALI Gateway Premium DG/S x.64.5.1

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)



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Group x/ballast x templates

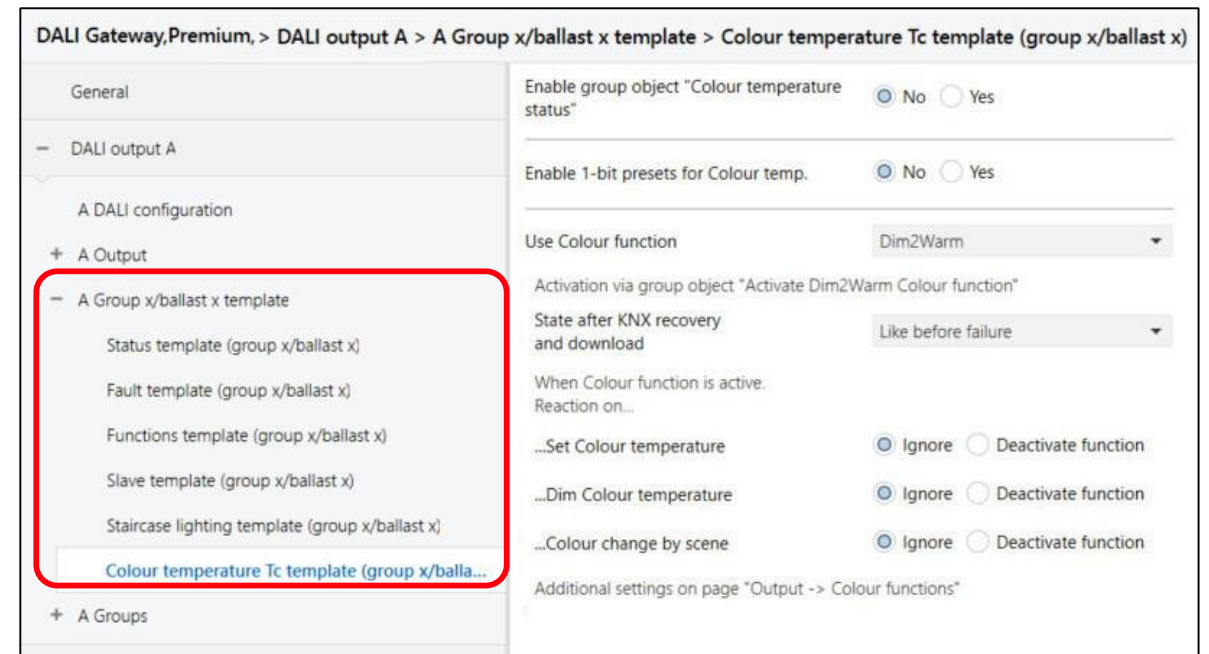
In the ETS application of the gateways, up to 64 individual ballasts or up to 16 DALI groups can be parameterized per channel with different parameter (e.g. status, burn-in, partial failure)

Normally not necessary to make individual parameter settings for each ballast or group

This is very time-intensive so that simplification is useful for identical or slightly different settings

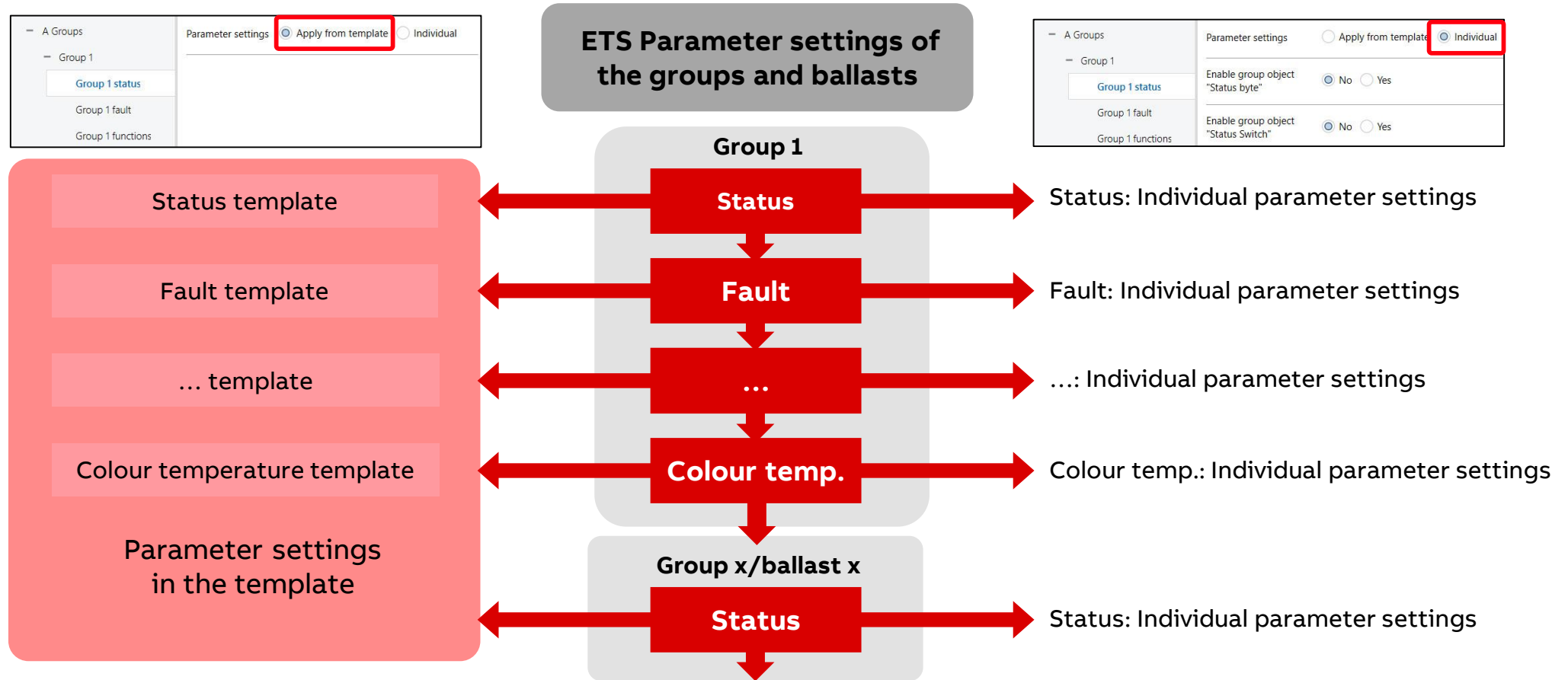
The template is used in the ETS application of the KNX DALI-Gateways divided into the six parameter menus mentioned plus general parameter

For the individual ballasts, DALI groups and for output A or B (Broadcast) you have the choice between using the template or individual parameter settings



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm” – Group x/ballast x templates



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

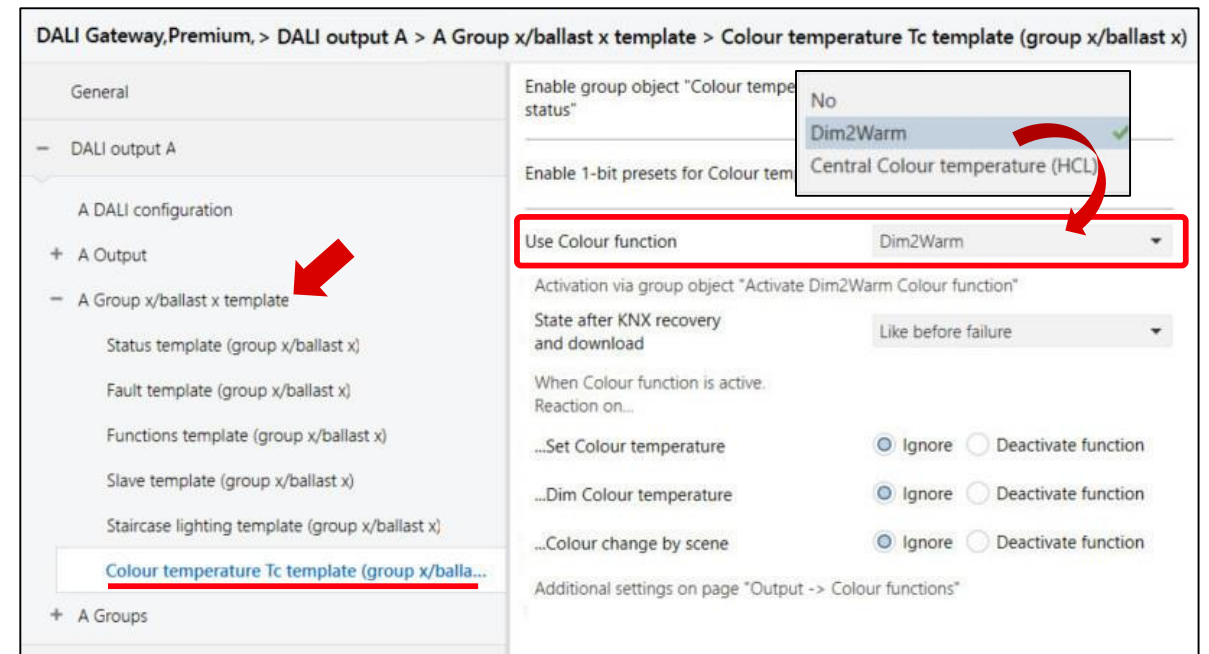
Use colour function (per group/ballast)

The settings can be made per ballast/group or in the template

This parameter determines whether a colour function is used

Only the Dim2Warm or HCL colour function can be used per group/ballast

- No
 - No colour function is used
- Dim2Warm
 - The Dim2Warm colour function is used
 - All Dim2Warm settings are active
- Central colour temperature (HCL)
 - The central colour temperature (HCL) colour function is used
 - All HCL settings are active



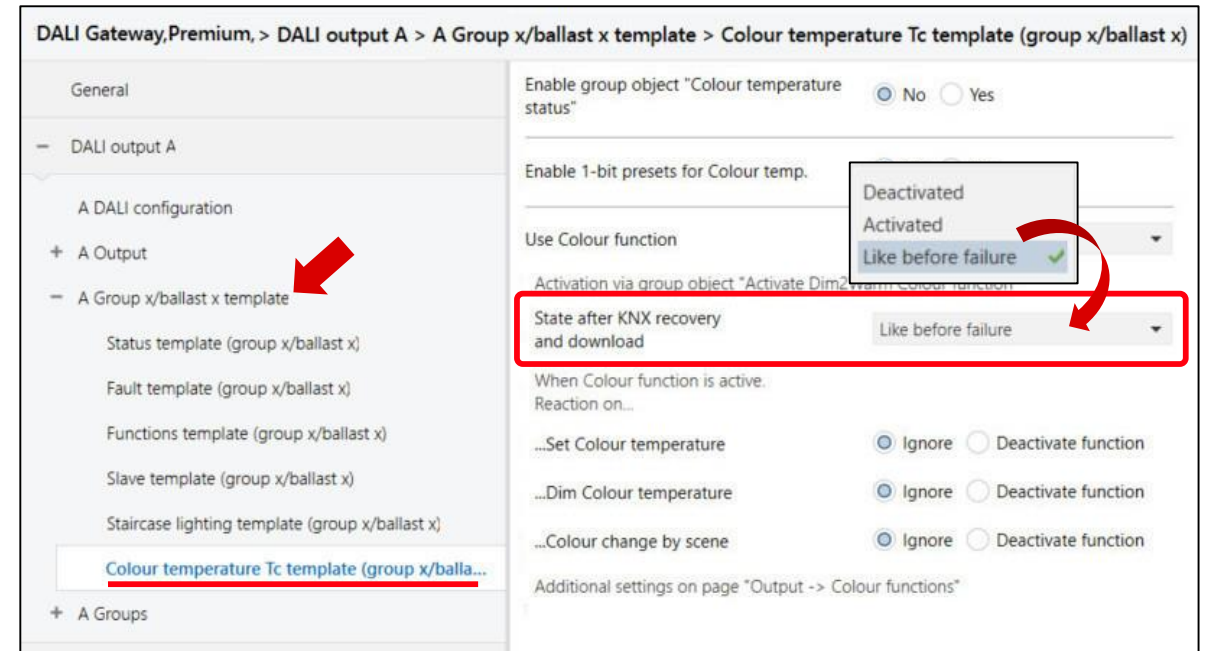
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

State after KNX recovery and download (per group/ballast)

This parameter defines the state of the Colour function after KNX bus voltage recovery or a download

- Deactivated
 - The Colour function is deactivated after KNX bus voltage recovery
 - The group/ballast reacts like a normal group/ballast without an additional function
- Activated
 - The Colour function is activated after KNX bus voltage recovery or a download
- Like before failure
 - The Colour function retains the operating state (activated or deactivated) that it had before the KNX bus voltage recovery or download



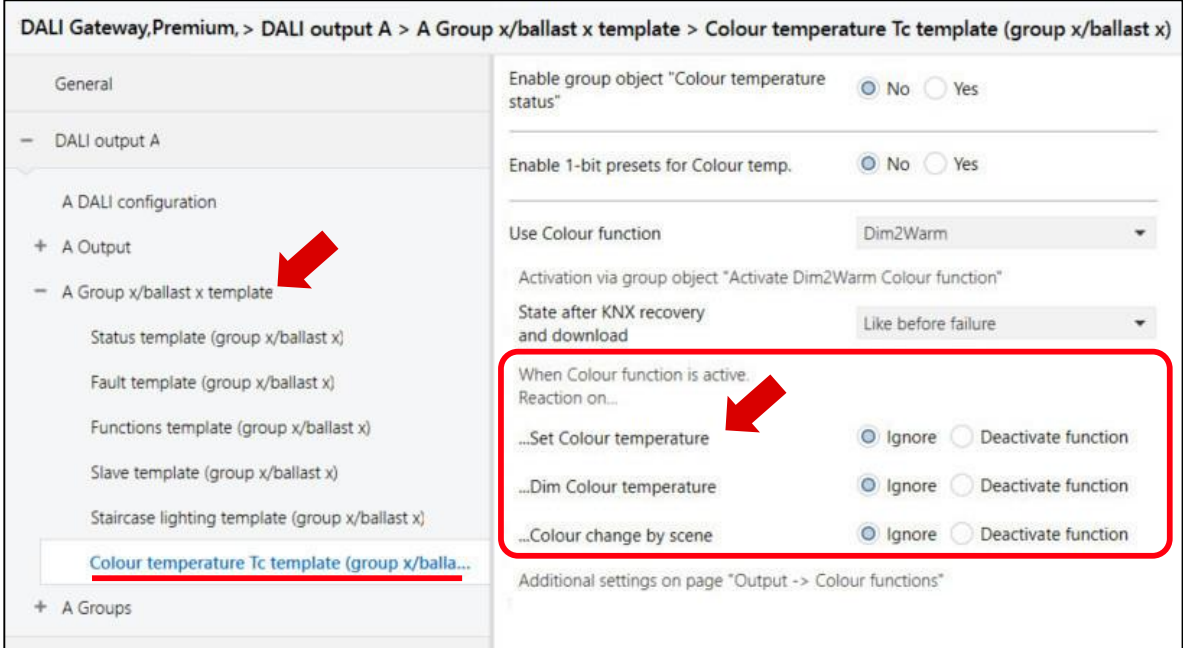
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Active Colour function: Reaction on “Set colour temperature”

This parameter describes how the group/ballast responds if a colour temperature is set while the colour function Dim2Warm is active

- Ignore
 - The colour temperature setting is ignored
 - The colour function remains active
- Deactivate function
 - Setting a colour temperature deactivates the colour function and the group/ballast adopts the set colour temperature



DALI Gateway, Premium, > DALI output A > A Group x/ballast x template > Colour temperature Tc template (group x/ballast x)

General

Enable group object "Colour temperature status" No Yes

Enable 1-bit presets for Colour temp. No Yes

Use Colour function Dim2Warm

Activation via group object "Activate Dim2Warm Colour function"

State after KNX recovery and download Like before failure

When Colour function is active. Reaction on...

...Set Colour temperature Ignore Deactivate function

...Dim Colour temperature Ignore Deactivate function

...Colour change by scene Ignore Deactivate function

Additional settings on page "Output -> Colour functions"

Nu	Group Address	Name	Object Function	Length	Data Type
86	1/4/86	Output A - group 1	Set Colour temperature (K)	2 bytes	absolute colour temperature (K)

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Active Colour function: Reaction on “Dim colour temperature”

This parameter describes how the group/ballast responds if the colour temperature is dimmed while the colour function Dim2Warm is active

- Ignore
 - The Colour function remains active and the colour temperature dimming is ignored
- Deactivate function
 - Dimming a colour temperature deactivates the colour function and the group/ballast adopts the dimmed colour temperature

DALI Gateway, Premium, > DALI output A > A Group x/ballast x template > Colour temperature Tc template (group x/ballast x)

General

Enable group object "Colour temperature status" No Yes

Enable 1-bit presets for Colour temp. No Yes

Use Colour function Dim2Warm

Activation via group object "Activate Dim2Warm Colour function"

State after KNX recovery and download Like before failure

When Colour function is active.
Reaction on...

...Set Colour temperature Ignore Deactivate function

...Dim Colour temperature Ignore Deactivate function

...Colour change by scene Ignore Deactivate function

Additional settings on page "Output -> Colour functions"

Nu	Group Address	Name	Object Function	Length	Data Type
87	1/4/87	Output A - group 1	Dim Colour temperature	4 bit	dimming control

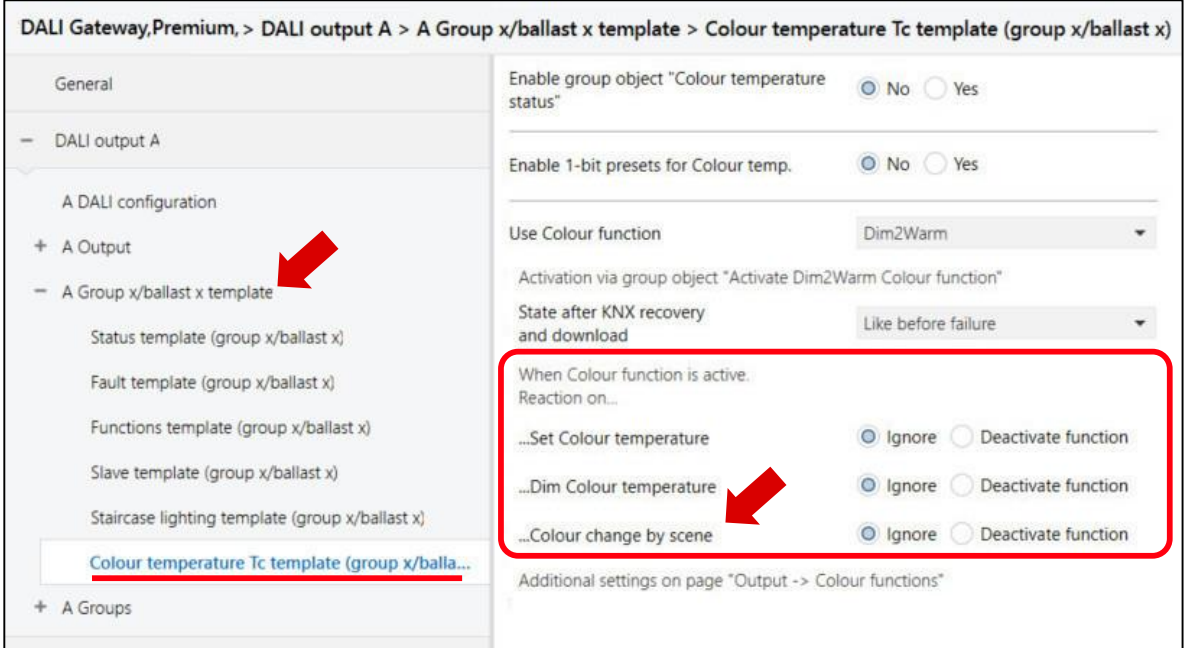
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Active Colour function: Reaction on “Colour change by scene”

This parameter defines how the group/ballast responds if a colour is recalled by a scene retrieval while the colour function Dim2Warm is active

- Ignore
 - The Colour function remains active and the scene retrieval colour change is ignored
- Deactivate function
 - The Colour function is deactivated as soon as a colour change is recalled by a scene retrieval
 - The group/ballast adopts the colour temperature of the scene



DALI Gateway, Premium, > DALI output A > A Group x/ballast x template > Colour temperature Tc template (group x/ballast x)

General

Enable group object "Colour temperature status" No Yes

Enable 1-bit presets for Colour temp. No Yes

Use Colour function Dim2Warm

Activation via group object "Activate Dim2Warm Colour function"

State after KNX recovery and download Like before failure

When Colour function is active.
Reaction on...

...Set Colour temperature Ignore Deactivate function

...Dim Colour temperature Ignore Deactivate function

...Colour change by scene Ignore Deactivate function

Additional settings on page "Output -> Colour functions"

Nu	Group Address	Name	Object Function	Length	Data Type
35	1/4/35	Output A	KNX scene 1..64	1 byte	scene control

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Group object “Output – Activate Dim2Warm colour function”

This parameter enables the “*Output – Activate Dim2Warm colour function*” group object, which activates/deactivates the Dim2Warm colour function

- No
 - The “*Output – Activate Dim2Warm colour function*” group object is not enabled
 - The Dim2Warm function is activated/deactivated for each parameterized group/ballast
- Yes
 - The “*Output – Activate Dim2Warm colour function*” group object is enabled
 - This group object also controls all groups/ballasts per output for which the Dim2Warm function is parametrized, i.e. the function can be activated/deactivated centrally

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

General: Colour function Dim2Warm

DALI output A: 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.

A DALI configuration

A Output: **Enable group object "Output - Activate Dim2Warm Colour function"** No Yes

Status

Fault

Functions

Colour functions

A Group x/ballast x template

A Groups

DALI output B

Limit proportional range: No Yes

Limit Colour temperature range: No Yes

Enable group object "Output - Set Colour temperature (K)": No Yes

Transition time: 2 s

Setting across all channels for all Colour status objects in groups and ballasts

Send group object value: After change or on request

No	Group Address	Name	Object Function	Length	Data Type
65	1/4/65	Output A	Activate Dim2Warm Colour function	1 bit	start/stop

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Activation/deactivation of the Dim2Warm colour function

The Dim2Warm colour function is activated and deactivated via a group object

- Individually for each group
- Individually for each ballast
- Centrally for all group/ballasts per output for which the Dim2Warm function is parametrized

Telegram value:

- 1 = Activates the Dim2Warm colour function
- 0 = Deactivates the Dim2Warm colour function

Furthermore, the state after KNX recovery and download can be set (deactivated, activated or like before failure)

Nui	Group Address	Name	Object Function	Length	Data Type
89	1/4/89	Output A - group 1	Activate Dim2Warm Colour function	1 bit	start/stop
359	1/4/248	Output A - ballast 3	Activate Dim2Warm Colour function	1 bit	start/stop
65	1/4/65	Output A	Activate Dim2Warm Colour function	1 bit	start/stop

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

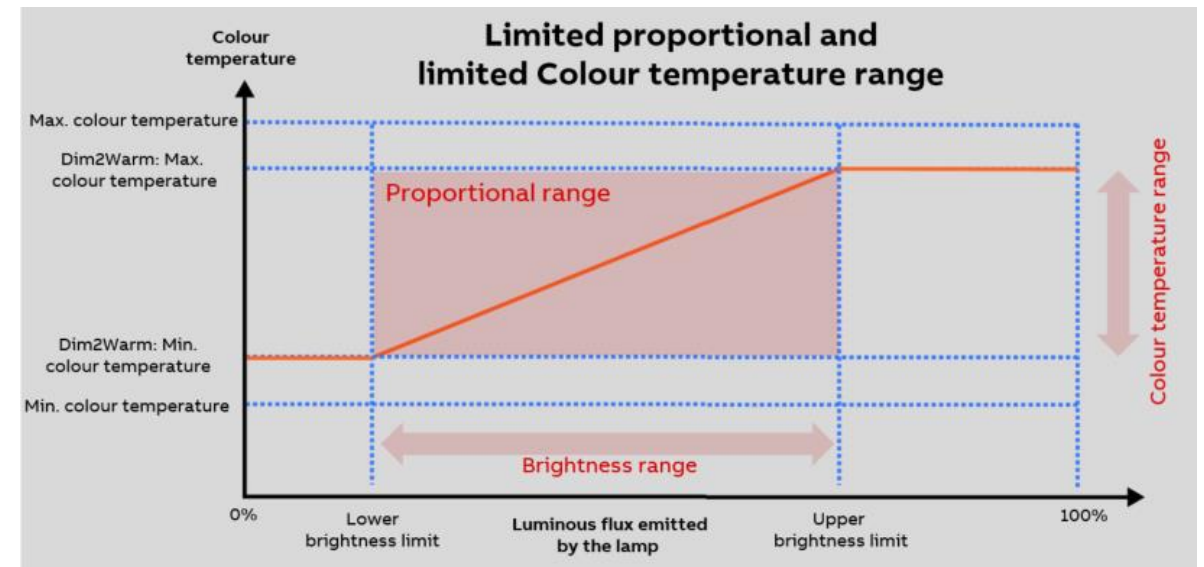
Limitation of proportional and/or colour temperature range

The proportional range is the range with a linear relationship between colour temperature and brightness and refers to an output

- No limitation of the proportional range
- There are two different factors that can limit this range
 - Reduction of the brightness range by setting an upper and lower brightness limit (limited proportional range)
 - Adjusting the colour temperature range by setting a minimum and maximum colour temperature value

The proportional area always stays within the parametrized limits (limited or not limited)

When the Dim2Warm function is active and a group/ballast is actuated with a brightness value outside the limits, its colour temperature remains at the value of the exceeded limits (Dim2Warm min or max colour temperature)



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Limitation of proportional and/or colour temperature range

The proportional range is the range with a linear relationship between colour temperature and brightness and refers to an output

- No limitation of the proportional range
- Reduction of the brightness range by setting an upper and lower brightness limit (min/max level)
→ limited proportional range
- Adjusting the colour temperature range by setting a minimum and maximum colour temperature value (min/max colour temperature)

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

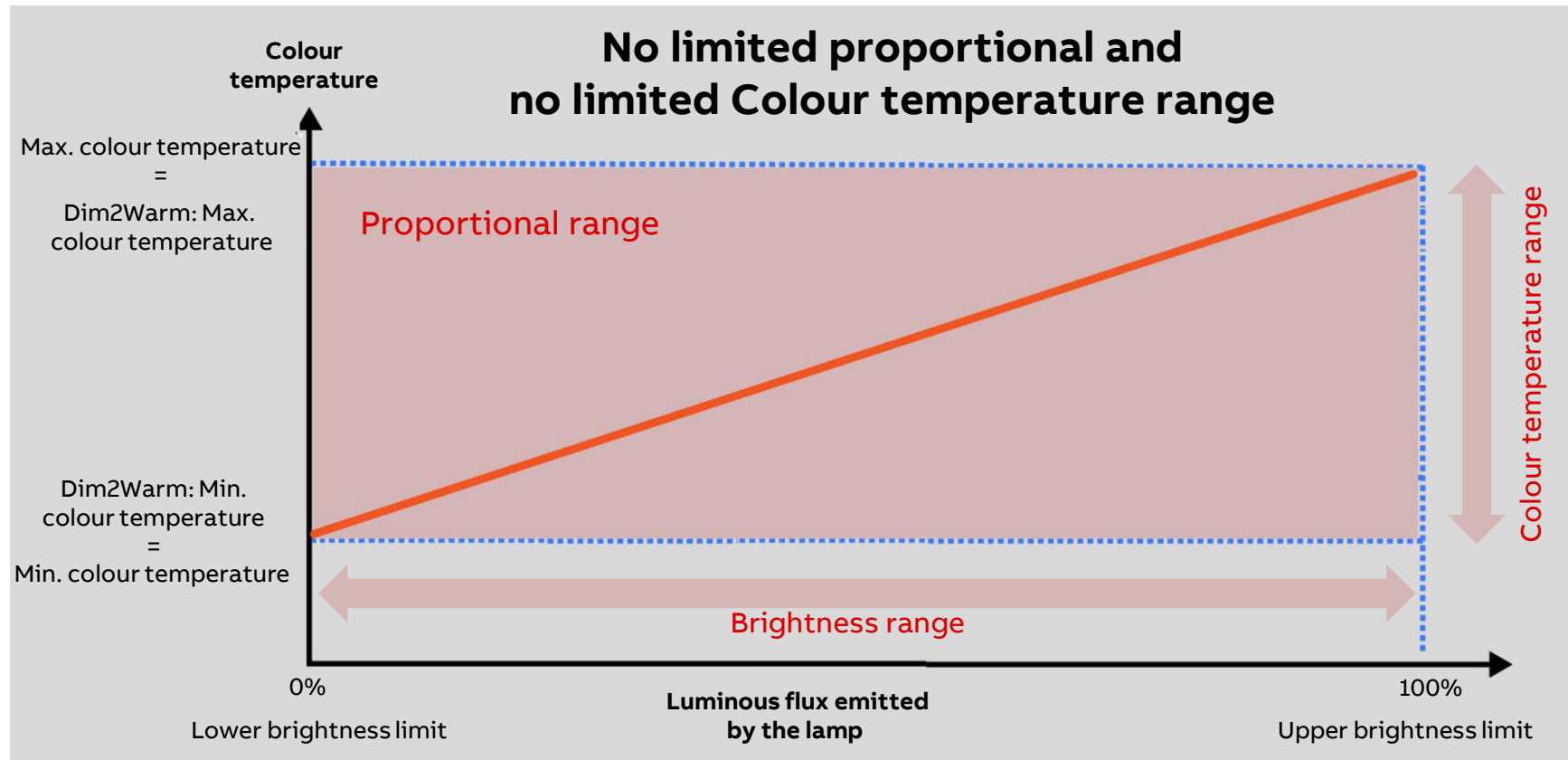
Limit Colour temperature range No Yes

ETS Parameter:

A Output → Colour functions „Dim2Warm“

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Limitation of proportional and/or colour temperature range

The proportional range is the range with a linear relationship between colour temperature and brightness and refers to an output

- No limitation of the proportional range
- There are two different factors that can limit this range
 - Reduction of the brightness range by setting an upper and lower brightness limit (min/max level)
→ limited proportional range
 - Adjusting the colour temperature range by setting a minimum and maximum colour temperature value (min/max colour temperature)

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

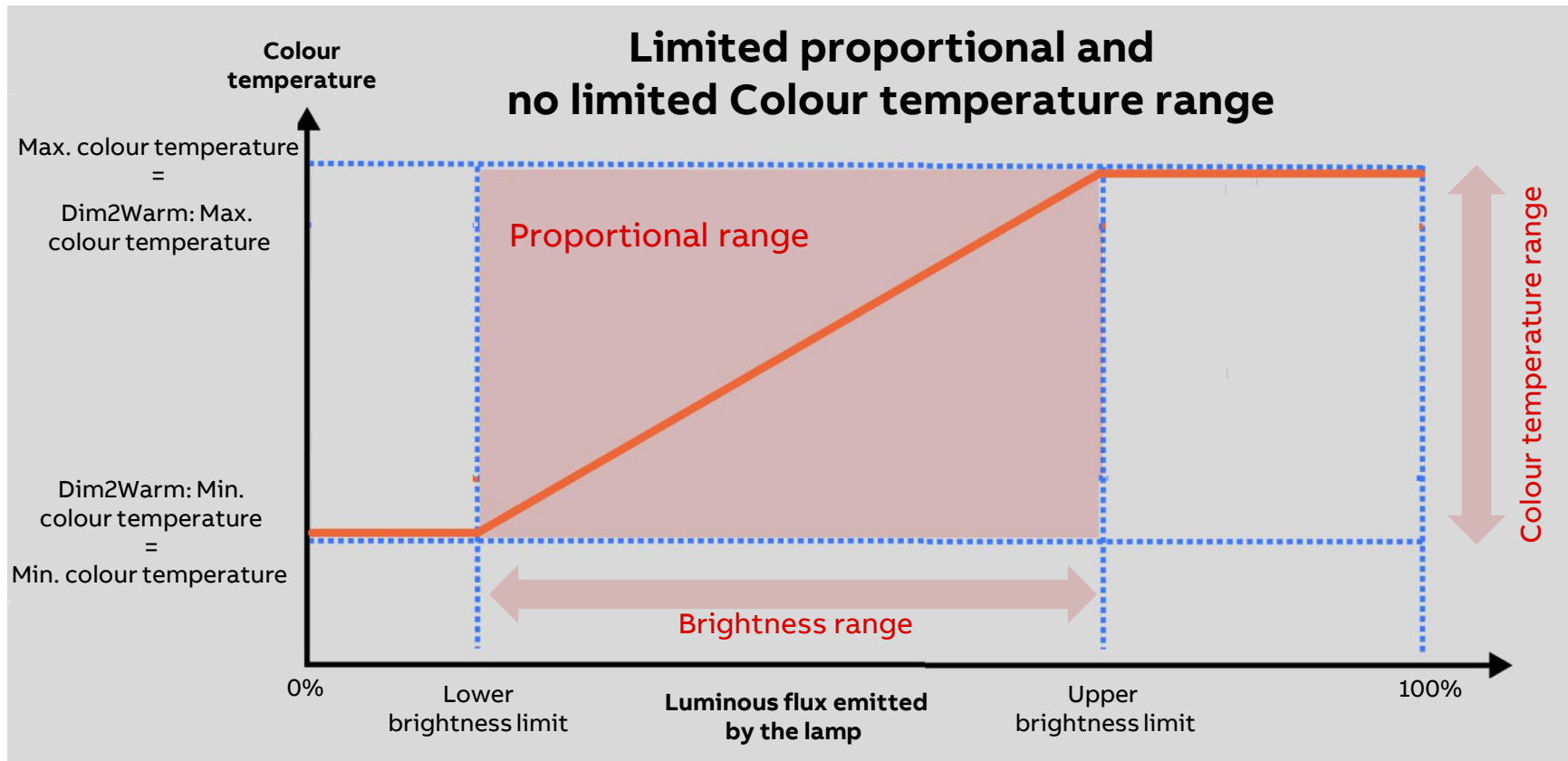
Lower brightness limit 20% (51) ▼

Upper brightness limit 80% (204) ▼

Limit Colour temperature range No Yes

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Limitation of proportional and/or colour temperature range

The proportional range is the range with a linear relationship between colour temperature and brightness and refers to an output

- No limitation of the proportional range
- There are two different factors that can limit this range
 - Reduction of the brightness range by setting an upper and lower brightness limit (min/max level)
→ limited proportional range
 - Adjusting the colour temperature range by setting a minimum and maximum colour temperature value (min/max colour temperature)

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

Limit Colour temperature range No Yes

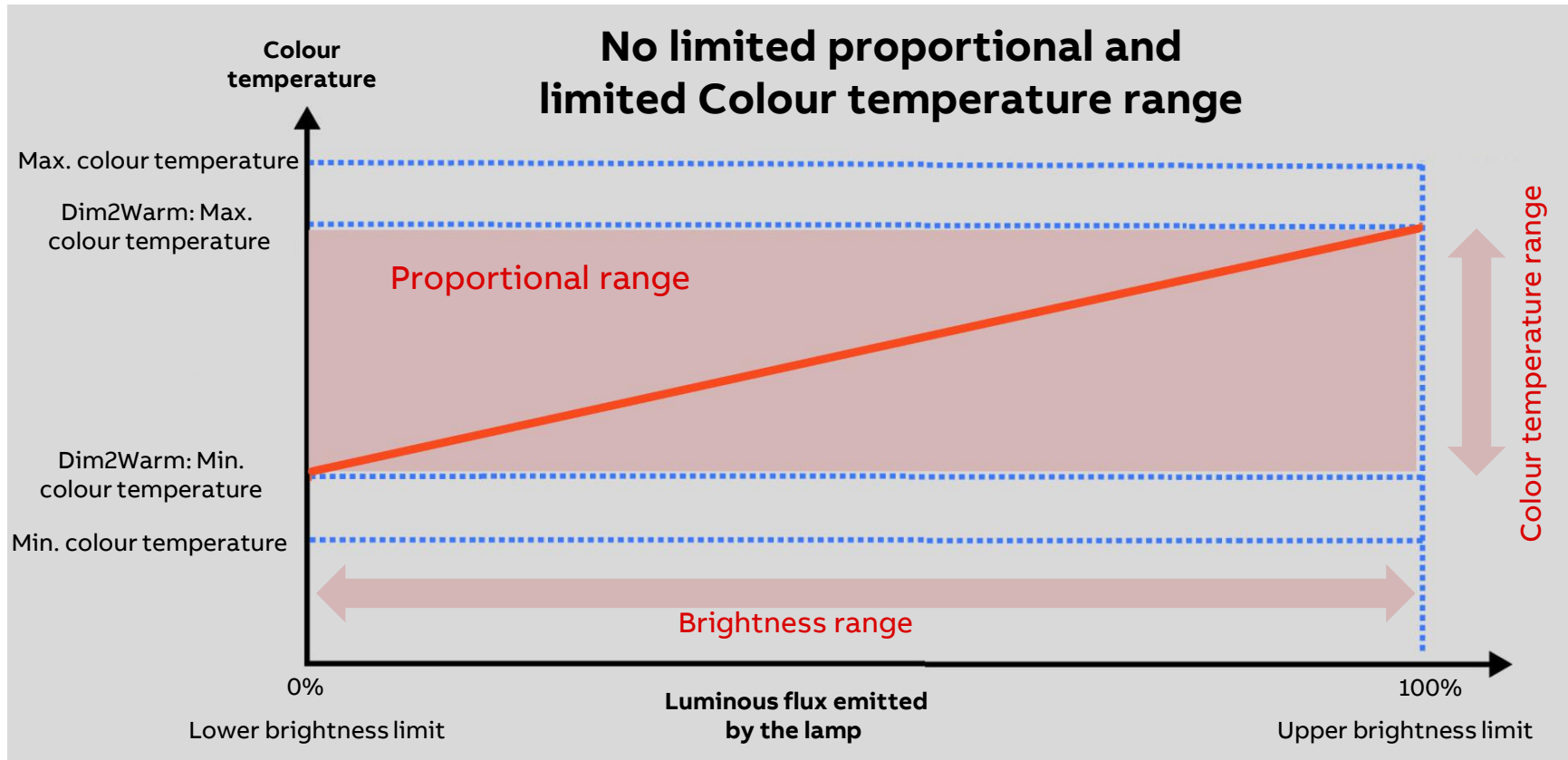
A limited Colour temperature range is used when the "Dim2Warm" Colour function is activated.

Minimum Colour temperature K

Maximum Colour temperature K

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Limitation of proportional and/or colour temperature range

The proportional range is the range with a linear relationship between colour temperature and brightness and refers to an output

- No limitation of the proportional range
- There are two different factors that can limit this range
 - Reduction of the brightness range by setting an upper and lower brightness limit (min/max level)
→ limited proportional range
 - Adjusting the colour temperature range by setting a minimum and maximum colour temperature value (min/max colour temperature)

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

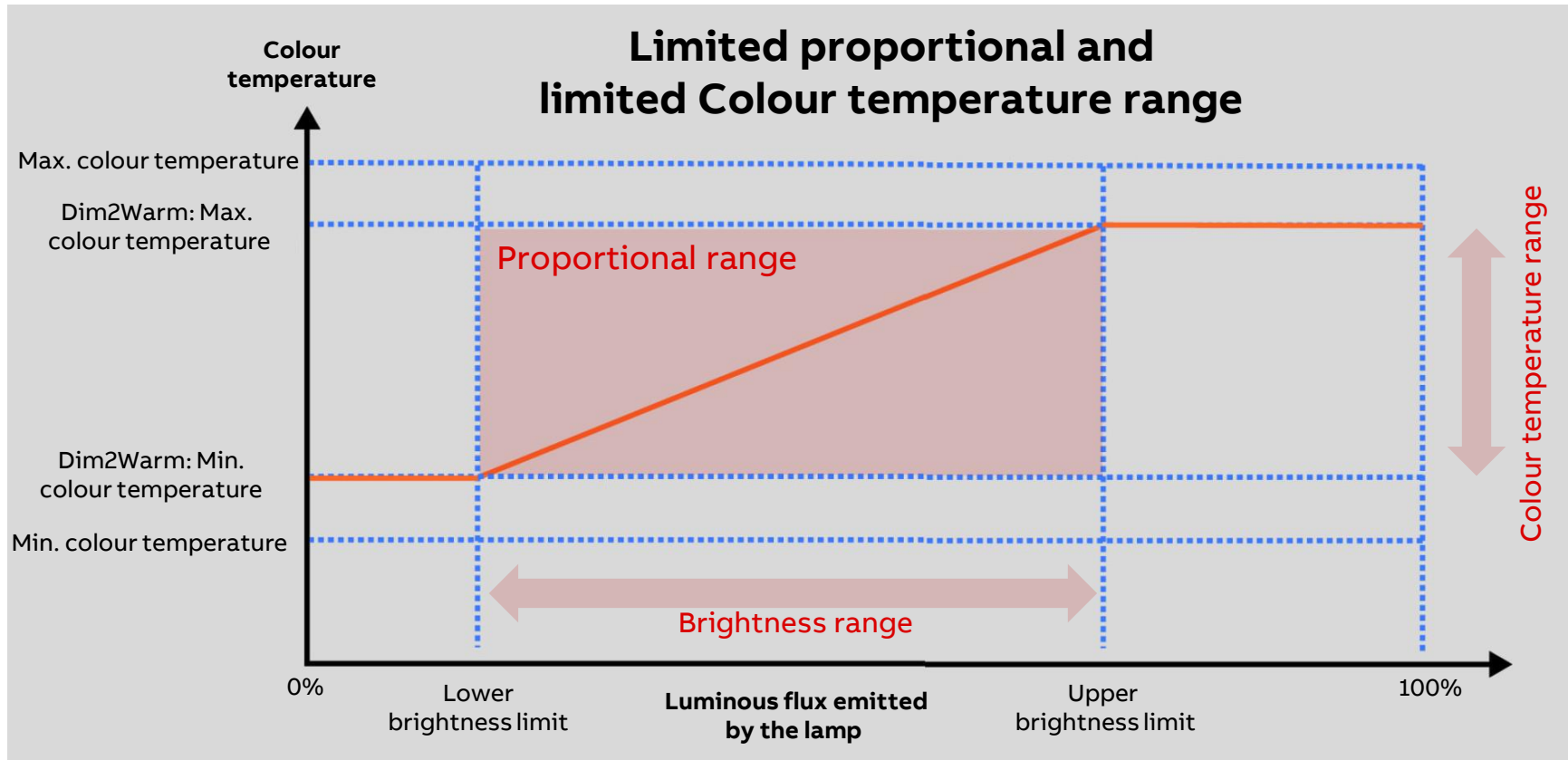
A limited Colour temperature range is used when the "Dim2Warm" Colour function is activated.

Minimum Colour temperature 2700 K

Maximum Colour temperature 4000 K

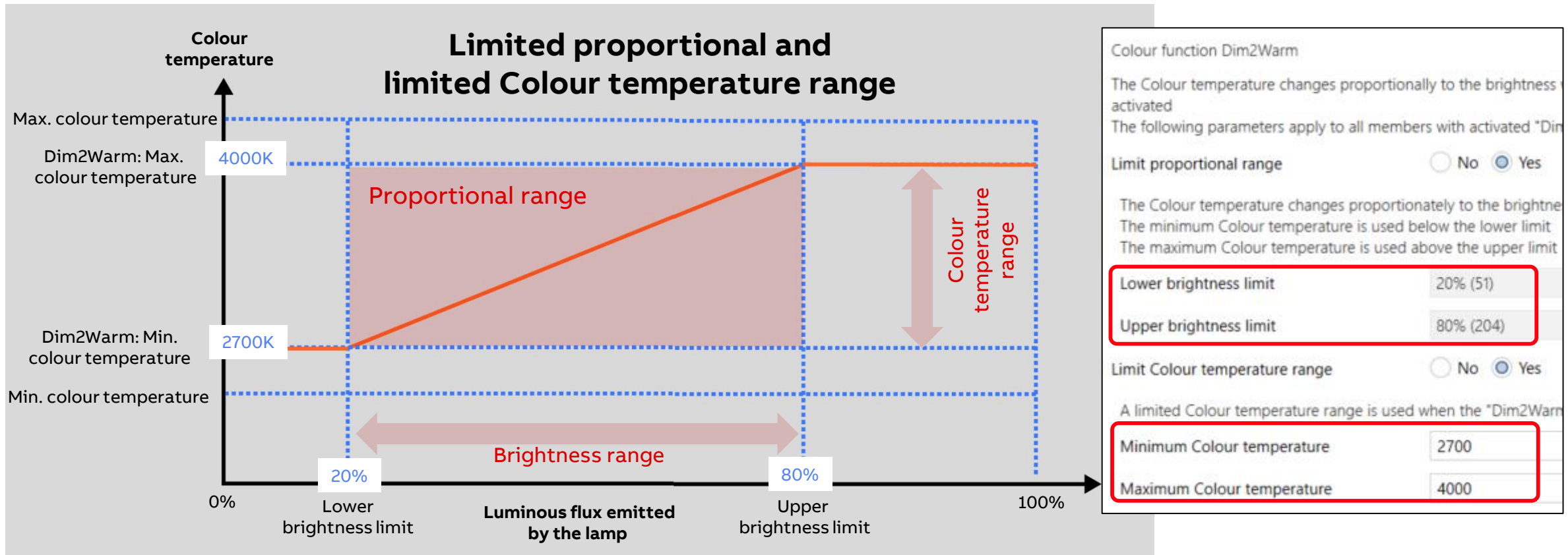
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

DALI logarithmic dimming curve

The DALI dimming curve is adjusted to the sensitivity of the human eye

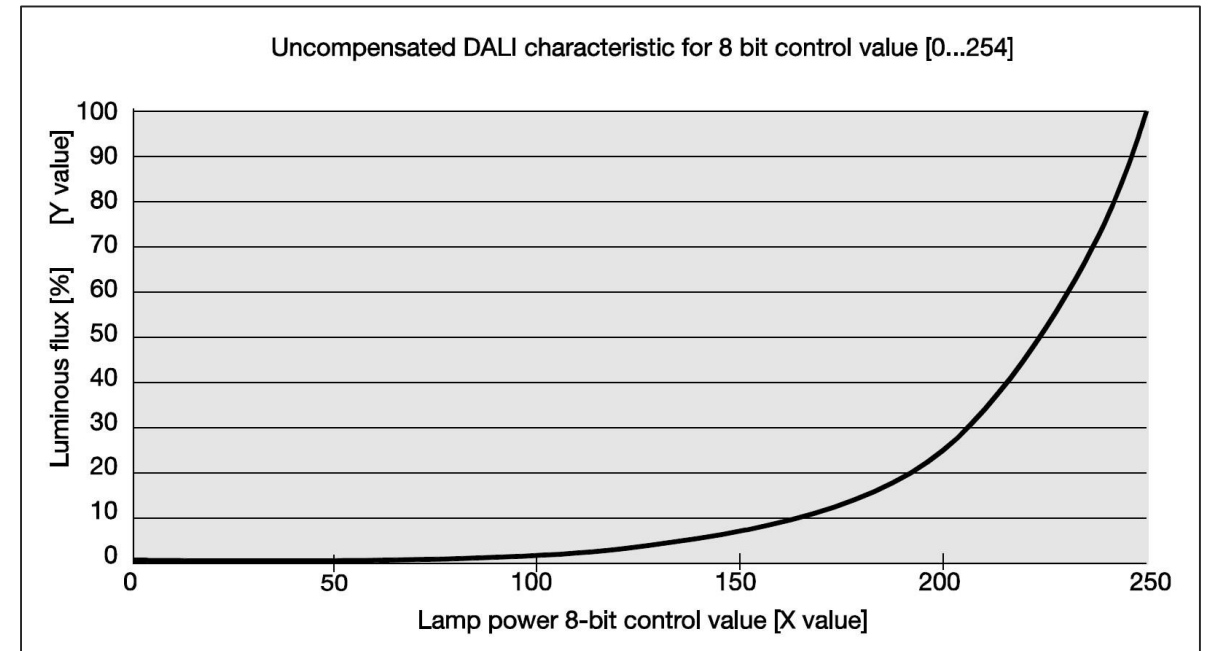
This results in a logarithmic characteristic curve for the luminous flux that is perceived by the human eye as a linear brightness sequence

Luminous flux describes the lighting power emitted from a light source in all directions (lumens lm)

Luminous flux under DALI has been defined in compliance with the DALI standard (EN 60 929 or IEC 62 386-102)

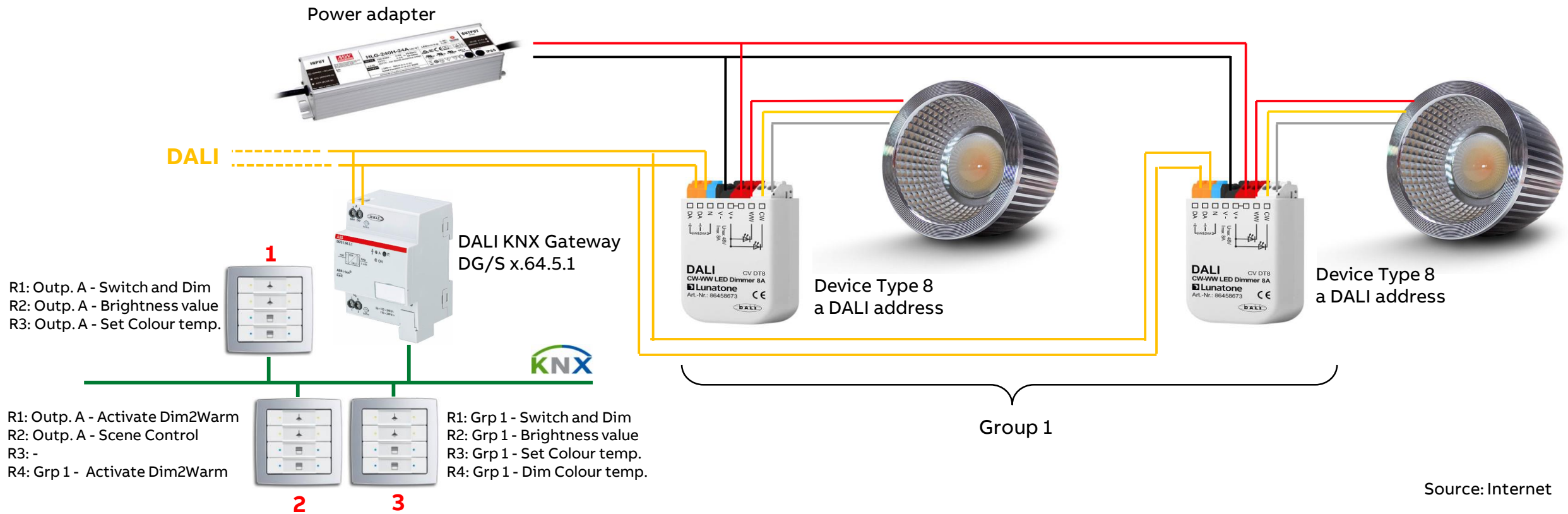
If a DALI (logarithmic) dimming curve is selected in the gateway, the KNX value relates to the 8-bit lamp power control value, the X value

If a KNX (linear) dimming curve is selected in the gateway, the KNX value relates directly to the luminous flux, the Y value.



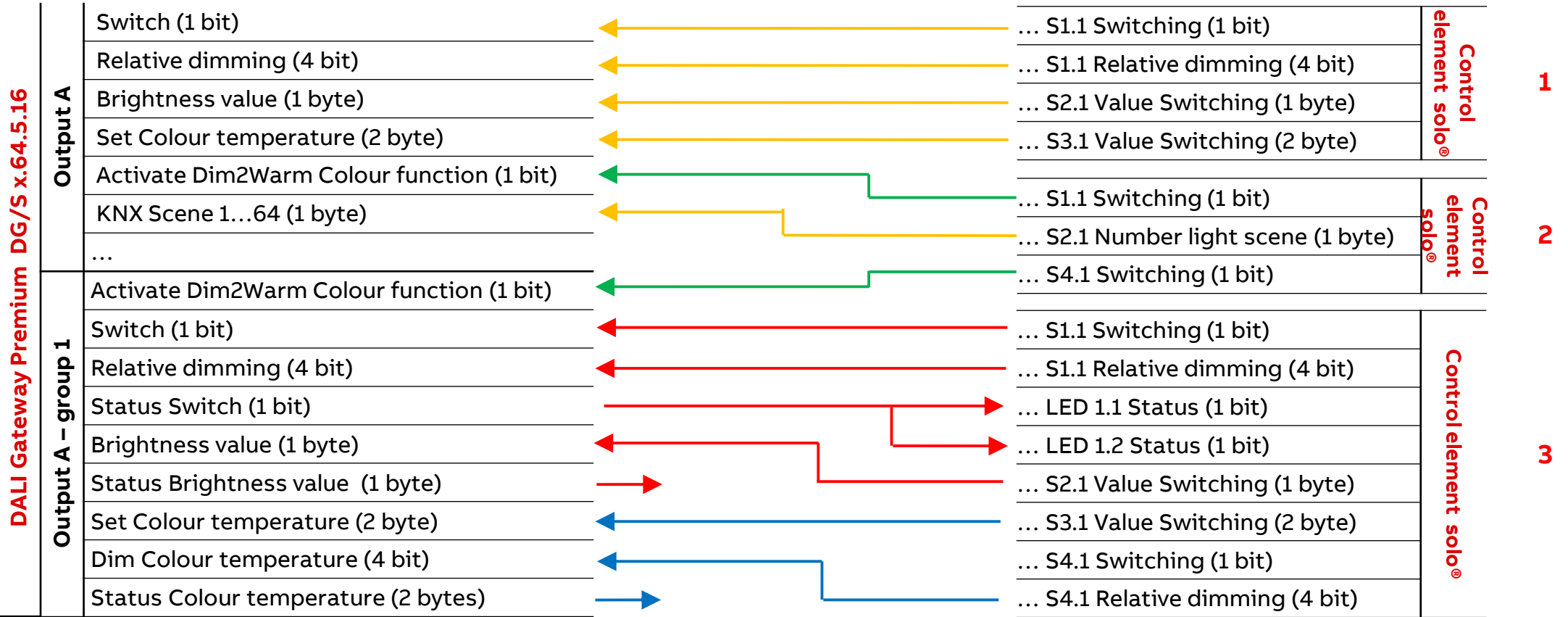
KNX DALI Gateway Premium DG/S x.64.5.1

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



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm” – Example: Assignment of Group Addresses



KNX DALI Gateway Premium DG/S x.64.5.1

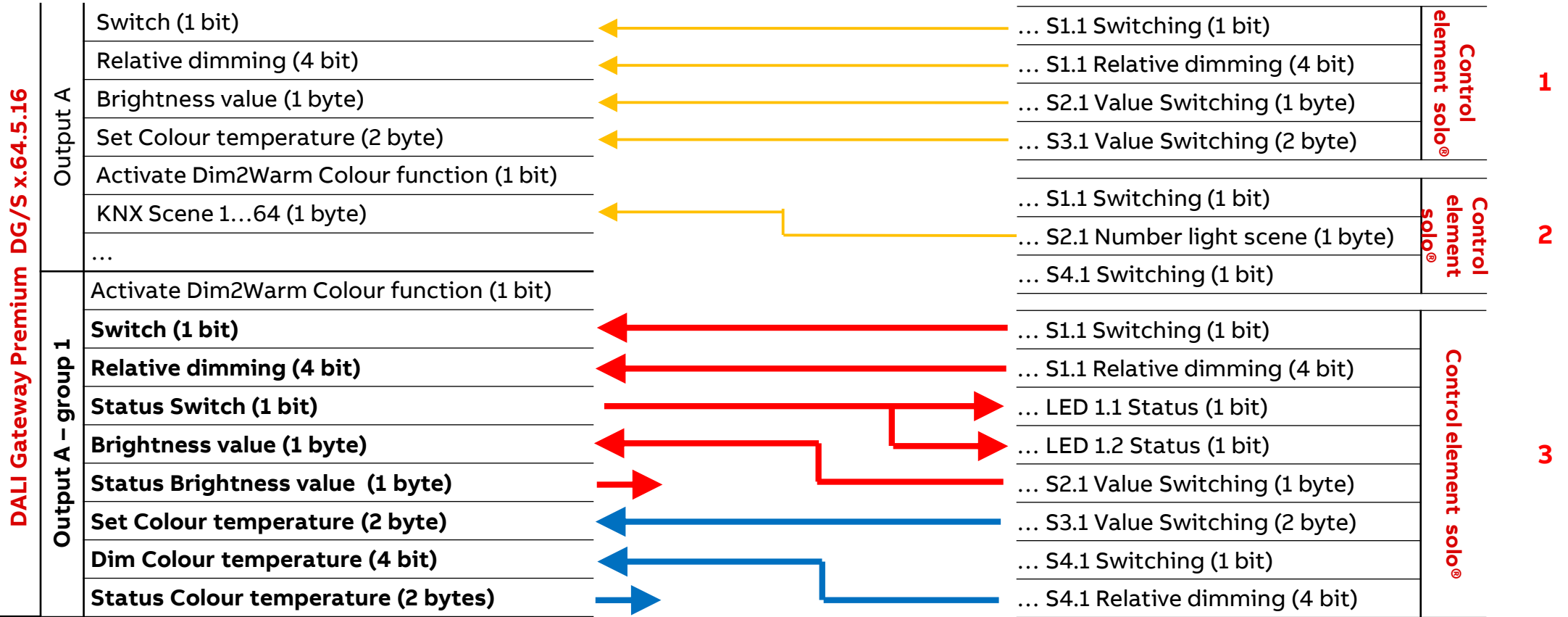
Colour function “Dim2Warm” – Example: Assignment of Group Addresses



DALI Gateway Premium DG/S x.64.5.16	Output A	Switch (1 bit)	←	... S1.1 Switching (1 bit)	Control element solo®	1
		Relative dimming (4 bit)	←	... S1.1 Relative dimming (4 bit)		
		Brightness value (1 byte)	←	... S2.1 Value Switching (1 byte)		
		Set Colour temperature (2 byte)	←	... S3.1 Value Switching (2 byte)		
		Activate Dim2Warm Colour function (1 bit)		... S1.1 Switching (1 bit)	Control element solo®	2
		KNX Scene 1...64 (1 byte)	←	... S2.1 Number light scene (1 byte)		
 S4.1 Switching (1 bit)			
	Output A – group 1	Activate Dim2Warm Colour function (1 bit)		...	Control element solo®	3
		Switch (1 bit)		... S1.1 Switching (1 bit)		
		Relative dimming (4 bit)		... S1.1 Relative dimming (4 bit)		
		Status Switch (1 bit)		... LED 1.1 Status (1 bit)		
		Brightness value (1 byte)		... LED 1.2 Status (1 bit)		
		Status Brightness value (1 byte)		... S2.1 Value Switching (1 byte)		
		Set Colour temperature (2 byte)		... S3.1 Value Switching (2 byte)		
Dim Colour temperature (4 bit)			... S4.1 Switching (1 bit)			
Status Colour temperature (2 bytes)			... S4.1 Relative dimming (4 bit)			

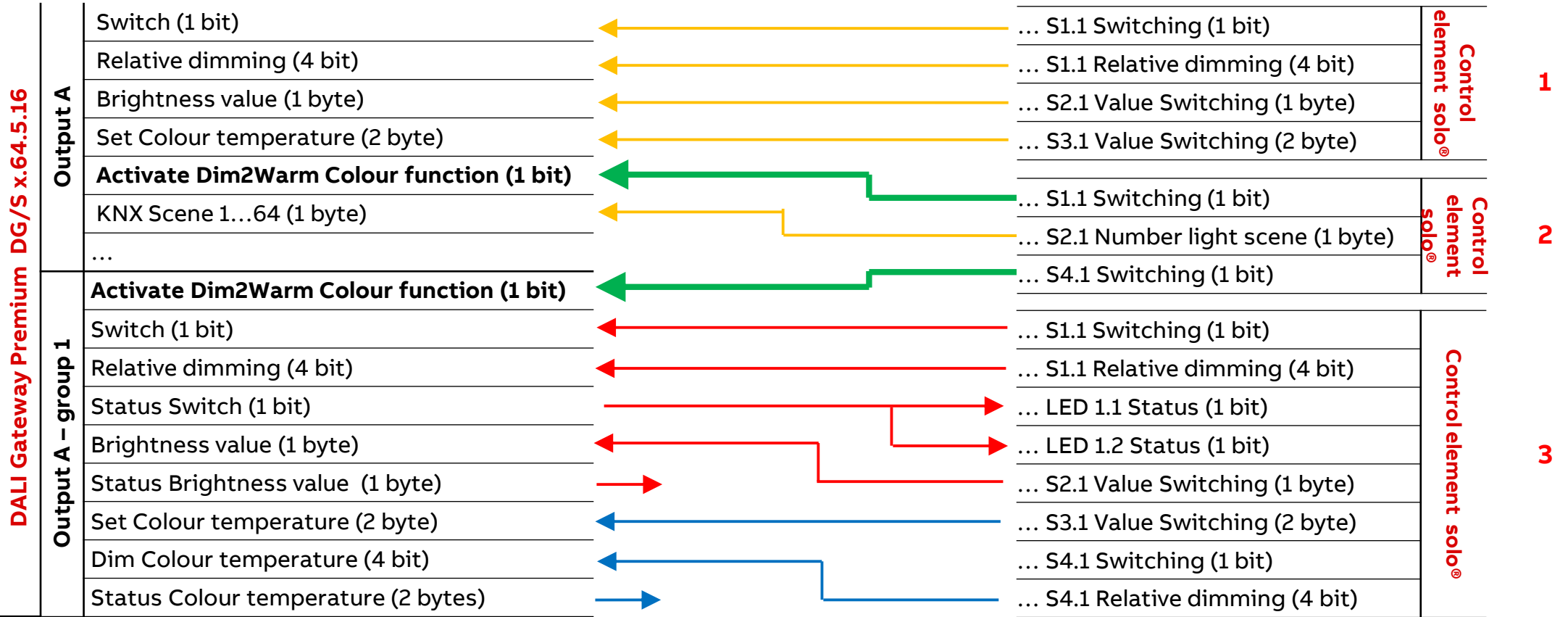
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm” – Example: Assignment of Group Addresses



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm” – Example: Assignment of Group Addresses



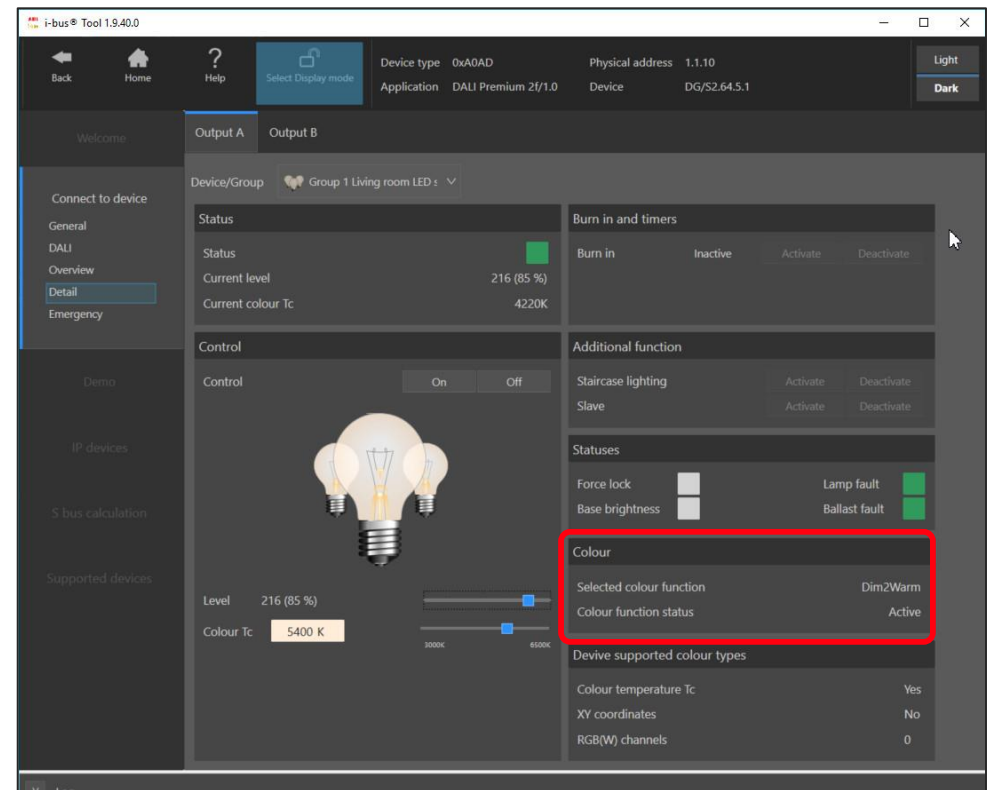
KNX DALI Gateway Premium DG/S x.64.5.1

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



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Dim2Warm”

Summary

- When dimming LEDs the colour temperature does not change
- The “Dim2Warm” Colour function copies the colour temperature behavior of a light bulb or halogen lamp in case of dimming LEDs
- Especially in residential lighting solutions this feature is preferred, as it is known and accepted from traditional light bulbs lamps
- 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/ballast or central
- The Colour function Dim2Warm or HCL can be used for a group/ballast
- Ballasts of device Type 8 and tunable white LEDs are required



Disclaimer

The information in this document is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this document.

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

© Copyright [2020] ABB. All rights reserved.

ABB

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

KNX DALI Gateway Premium DG/S x.64.5.1

Overview

KNX DALI Gateway Premium DG/S x.64.5.1

Hardware

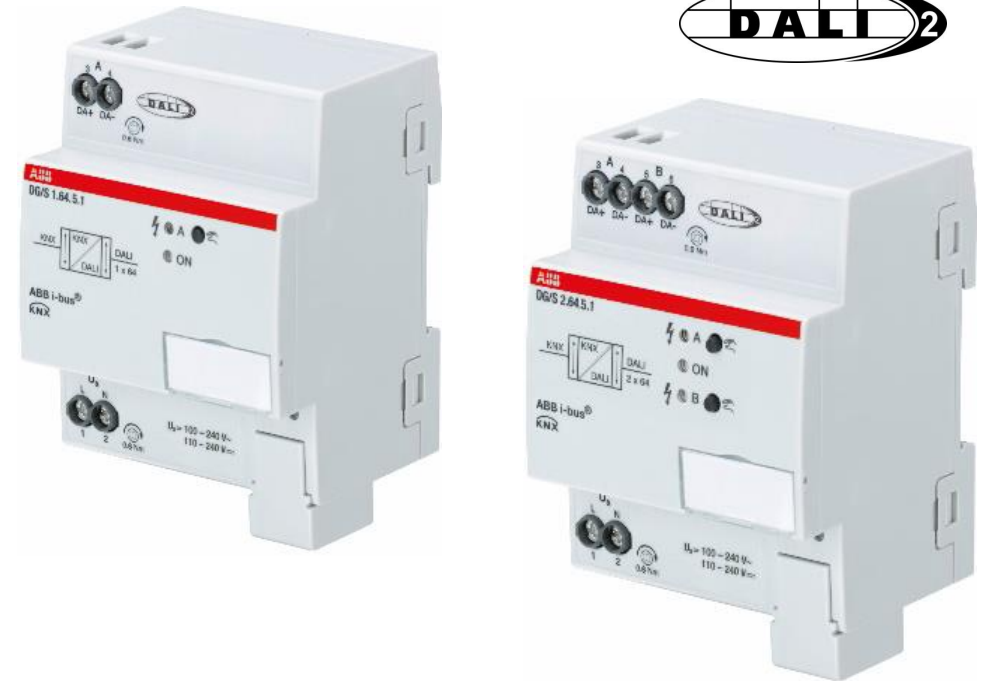
- DG/S 1.64.5.1 (one channel, 64 ballasts)
- DG/S 2.64.5.1 (two independent channels, 2 x 64 ballasts)

The following ballast can be operated on the gateway

- Normal DALI ballasts (device type 0)
- DALI single battery emergency lighting converter (device type 1)
- Colour-controlled DALI ballast (device type 8)

– Functions

- Flexible combination of DALI groups or single control
- ABB i-bus® Tool support
- Templates
- Tunable white
- Dim2Warm
- **Human Centric Lighting**
- Standby Shutdown
- ...



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

What is Human Centric Lighting ?

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

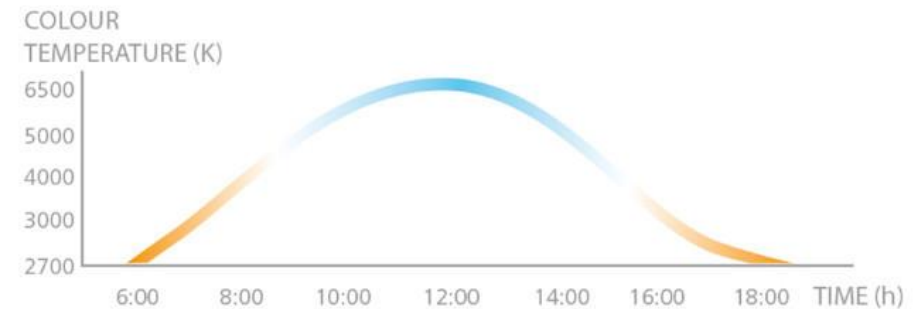
Every artificial light source should therefore match the properties of sunlight as closely as possible

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

KNX DALI Gateway Premium DG/S x.64.5.1

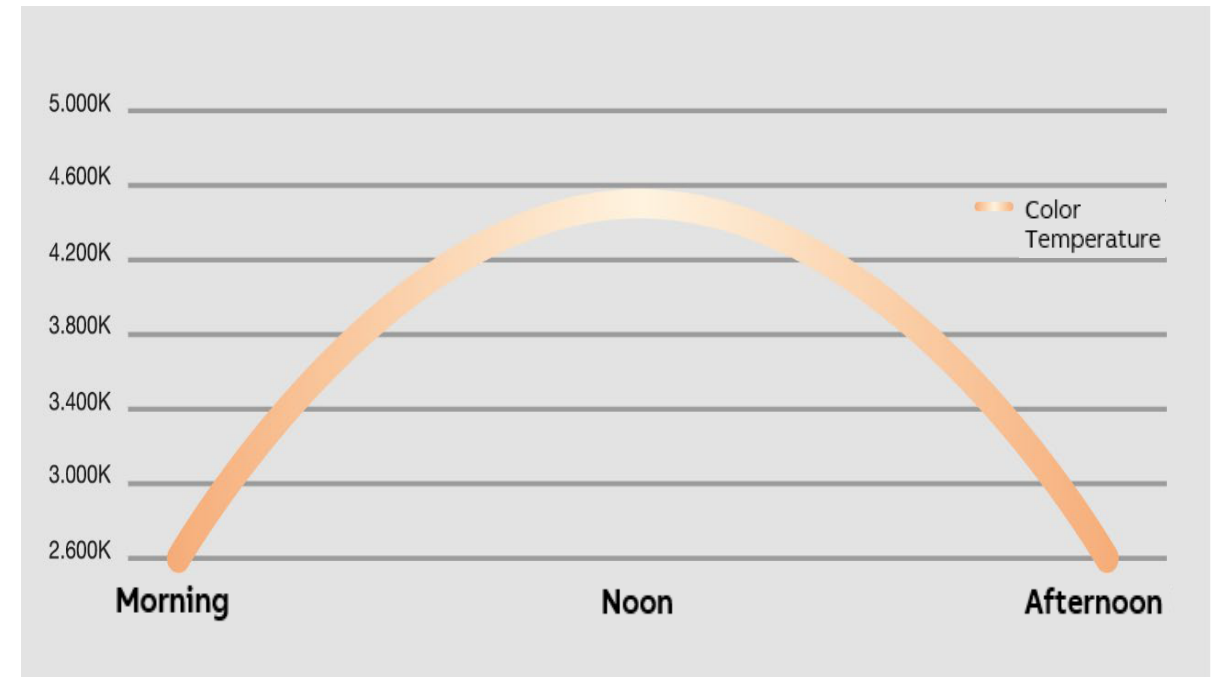
Colour function “Human Centric Lighting HCL”

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, automated 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.



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

HCL solutions in educational institutions

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

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

HCL in offices

People spend most of their time awake in closed rooms

For this reason, office space is an excellent place for introducing Human Centric Lighting solutions

Such solutions can improve the energy and motivation of employees

- Exposure to more intense light can increase the feeling of alertness and vitality of the employee during the day and at night
- Intense, blue-enriched light can affect the individual's ability to maintain constant attention and cognitive performance during the day and at night
- Exposure to light during the day that affects the circadian rhythm can have a positive effect on the sleep of the worker the following night



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

HCL in healthcare facilities

In hospitals and nursing homes, residents often suffer from a lack of daylight due to their illness or restricted mobility

The long stay in closed rooms can interrupt the sleep patterns

Patients with dementia or other cognitive disorders in particular are sensitive to the loss of daylight

- Avoid mood swings and depression
- The emotional and physical well-being improves due to the more relaxing nights
- Reduce the need for sedatives
- The lack of daylight is compensated, which counteracts insomnia
- Improved employee well-being



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

HCL in industry

Lighting Installations with high illuminance and "tunable white" can have a positive effect on production output and reduce fatigue, errors and accidents

These effects are even greater with repetitive work tasks

Higher illuminance in combination with the correct light colour spectrum and careful timing of the different light settings can lead to increased alertness and attention among industrial workers

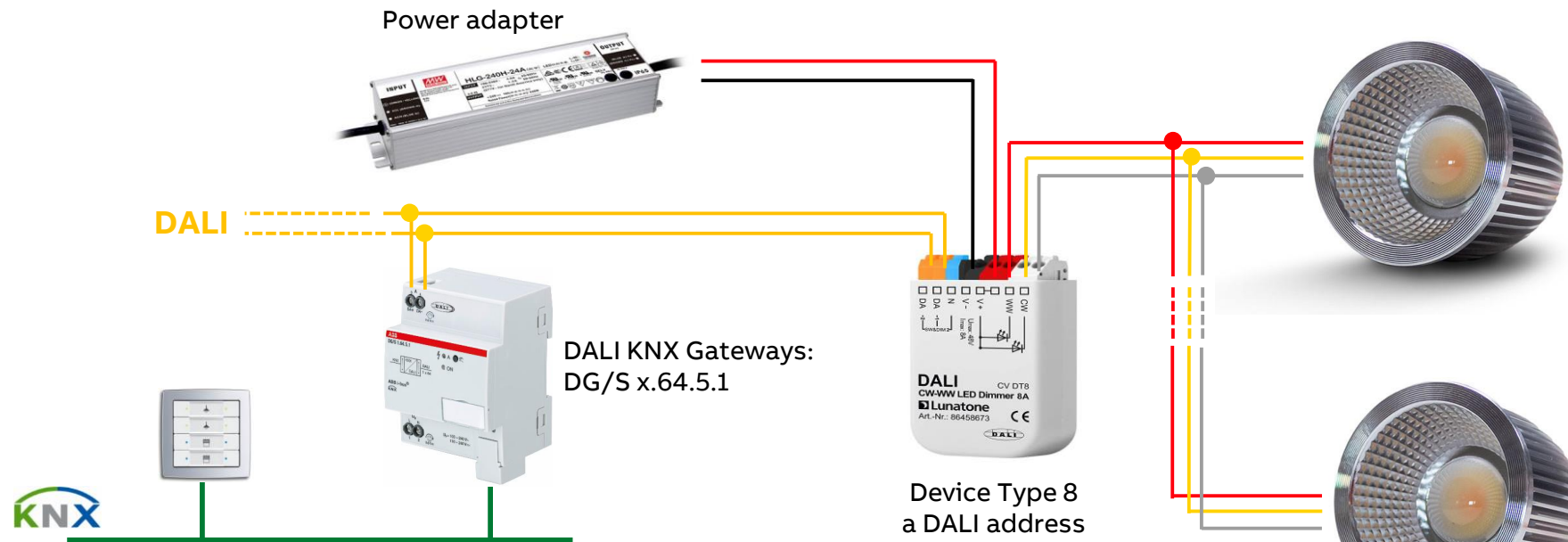
The result is less fatigue, which in turn reduces the risk of mistakes

For shift workers, the light can be used to shift the phases of the daily rhythm and to adapt more easily to the night work



KNX DALI Gateway Premium DG/S x.64.5.1

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



Source: Internet

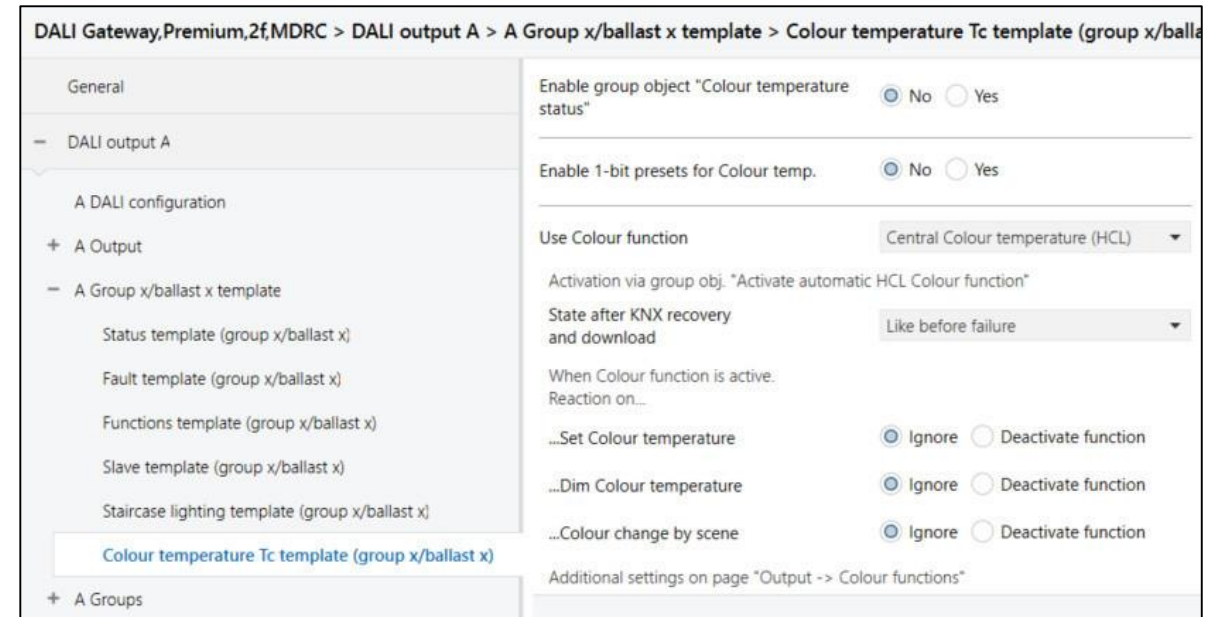


KNX DALI Gateway Premium DG/S x.64.5.1

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)



KNX DALI Gateway Premium DG/S x.64.5.1

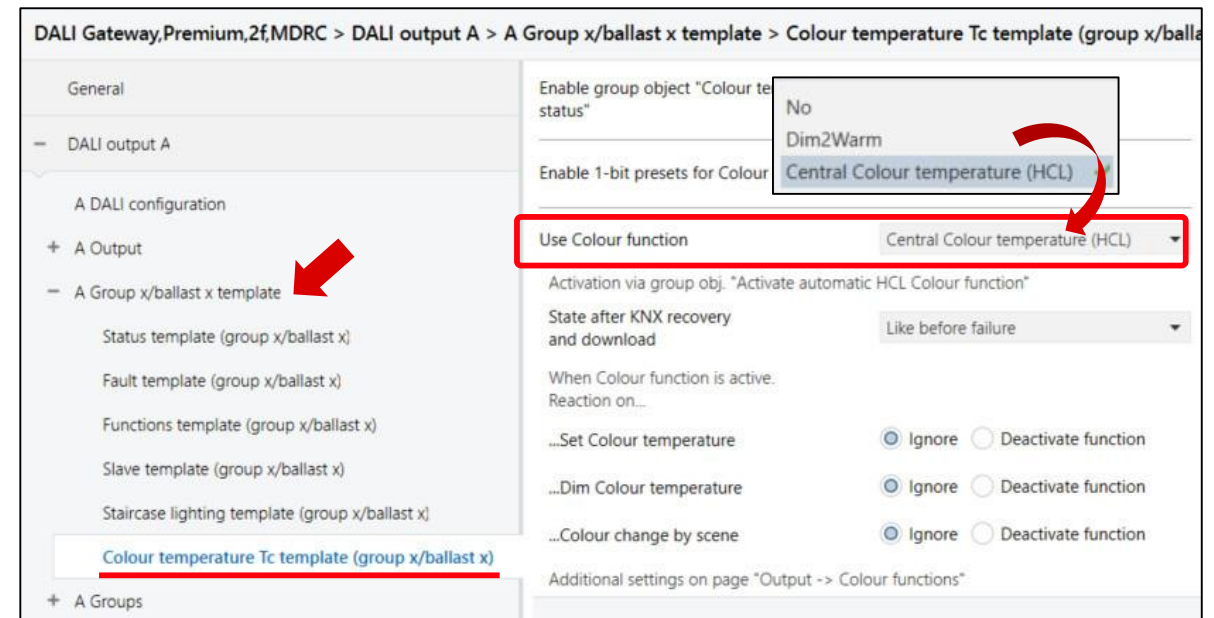
Colour function “Human Centric Lighting HCL”

Use colour function (per group/ballast)

This parameter determines whether a colour function is used
HCL only controls the colour temperature and has no influence on the brightness (dimming, value)

Only the Dim2Warm or HCL colour function can be used per group/ballast

- No
 - No colour function is used
- Dim2Warm
 - The Dim2Warm colour function is used
 - All Dim2Warm settings are active
- Central colour temperature (HCL)
 - The central colour temperature (HCL) colour function is used
 - All HCL settings are active



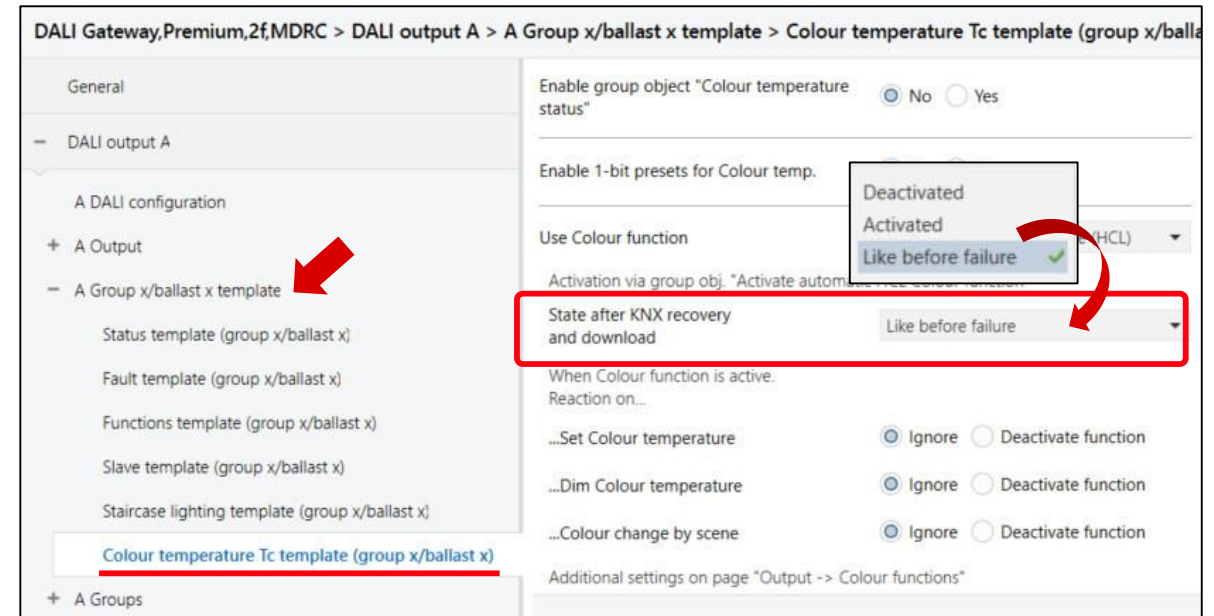
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

State after KNX recovery and download (per group/ballast)

This parameter defines the state of the Colour function after KNX bus voltage recovery or a download

- Deactivated
 - The Colour function is deactivated after KNX bus voltage recovery
 - The group/ballast reacts like a normal group/ballast without an additional function
- Activated
 - The Colour function is activated after KNX bus voltage recovery or a download
- Like before failure
 - The Colour function retains the operating state (activated or deactivated) that it had before the KNX bus voltage recovery or download



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

Active Colour function: Reaction on “Set colour temperature”

This parameter describes how the group/ballast responds if a colour temperature is set while the colour function Human Centric Lighting HCL is active

- Ignore
 - The colour temperature setting is ignored
 - The colour function remains active
- Deactivate function
 - Setting a colour temperature deactivates the colour function and the group/ballast adopts the set colour temperature

The screenshot shows the configuration page for '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 by a red arrow. The main content area shows various settings, including 'Enable group object "Colour temperature status"', 'Enable 1-bit presets for Colour temp.', 'Use Colour function' (set to 'Central Colour temperature (HCL)'), and 'State after KNX recovery and download' (set to 'Like before failure'). A red box highlights the 'When Colour function is active: Reaction on...' section, which contains three options: '...Set Colour temperature' (selected 'Ignore'), '...Dim Colour temperature' (selected 'Ignore'), and '...Colour change by scene' (selected 'Ignore'). A red arrow points to the '...Set Colour temperature' option.

Nu	Group Address	Name	Object Function	Length	Data Type
86	1/4/86	Output A - group 1	Set Colour temperature (K)	2 bytes	absolute colour temperature (K)

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

Active Colour function: Reaction on “Dim colour temperature”

This parameter describes how the group/ballast responds if the colour temperature is dimmed while the colour function Human Centric Lighting HCL is active

- Ignore
 - The Colour function remains active and the colour temperature dimming is ignored
- Deactivate function
 - Dimming a colour temperature deactivates the colour function and the group/ballast adopts the dimmed colour temperature

DALI Gateway, Premium, 2f, MDRC > DALI output A > A Group x/ballast x template > Colour temperature Tc template (group x/ballast x)

General

Enable group object "Colour temperature status" No Yes

Enable 1-bit presets for Colour temp. No Yes

Use Colour function Central Colour temperature (HCL) ▾

Activation via group obj. "Activate automatic HCL Colour function"

State after KNX recovery and download Like before failure ▾

When Colour function is active. Reaction on...

...Set Colour temperature Ignore Deactivate function

...Dim Colour temperature Ignore Deactivate function

...Colour change by scene Ignore Deactivate function

Additional settings on page "Output -> Colour functions"

№	Group Address	Name	Object Function	Length	Data Type
87	1/4/87	Output A - group 1	Dim Colour temperature	4 bit	dimming control

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

Active Colour function: Reaction on “Colour change by scene”

This parameter defines how the group/ballast responds if a colour is recalled by a scene retrieval while the colour function Human Centric Lighting HCL is active

- Ignore
 - The Colour function remains active and the scene retrieval colour change is ignored
- Deactivate function
 - The Colour function is deactivated as soon as a colour change is recalled by a scene retrieval
 - The group/ballast adopts the colour temperature of the scene

DALI Gateway, Premium, 2f, MDRC > DALI output A > A Group x/ballast x template > Colour temperature Tc template (group x/ballast x)

General

Enable group object "Colour temperature status" No Yes

Enable 1-bit presets for Colour temp. No Yes

Use Colour function Central Colour temperature (HCL) ▾

Activation via group obj. "Activate automatic HCL Colour function"

State after KNX recovery and download Like before failure ▾

When Colour function is active. Reaction on...

...Set Colour temperature Ignore Deactivate function

...Dim Colour temperature Ignore Deactivate function

...Colour change by scene Ignore Deactivate function

Additional settings on page "Output -> Colour functions"

Nu	Group Address	Name	Object Function	Length	Data Type
35	1/4/35	Output A	KNX scene 1..64	1 byte	scene control

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

Group object “Output – Activate automatic HCL colour fct.”

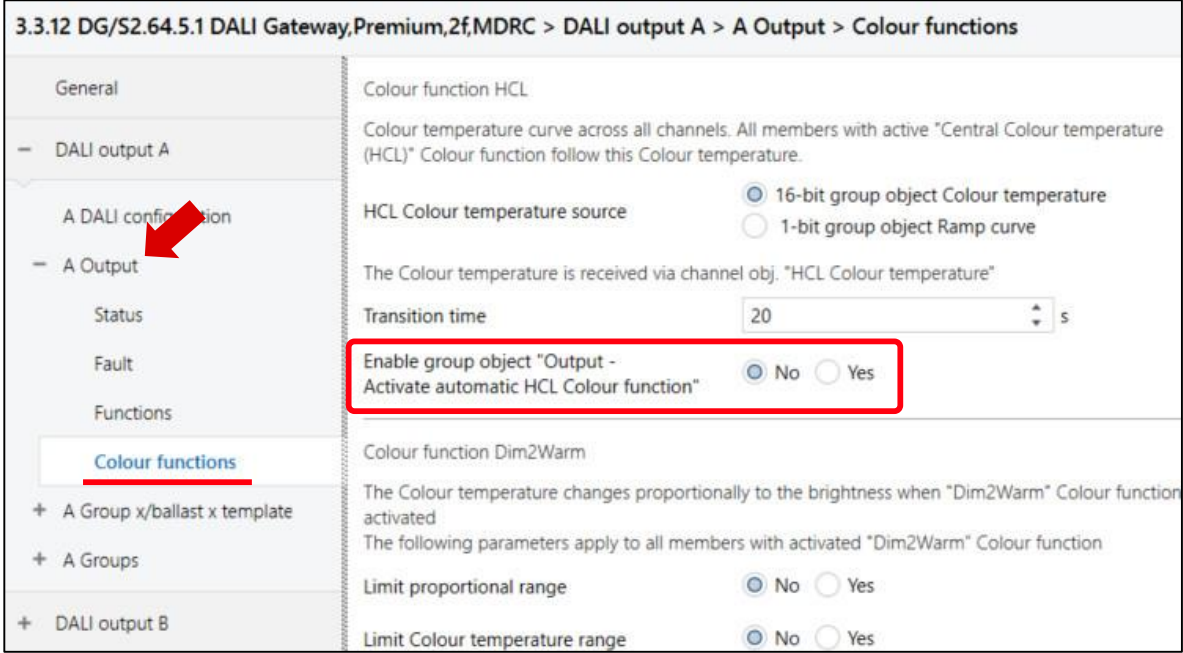
This parameter enables the “*Output – Activate automatic HCL colour function*” group object, which automatically activates and deactivates the HCL function for the whole output

– No

- The “*Output – Activate automatic HCL colour function*” group object is not enabled
- The Human Centric Lighting HCL function is activated/deactivated for each parameterized group/ballast

– Yes

- The “*Output – Activate automatic HCL colour function*” group object is enabled and can automatically activate/deactivate the parametrized HCL colour function on all ballasts/groups on the output



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

General

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 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 activated

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

Limit proportional range No Yes

Limit Colour temperature range No Yes

Nur	Group Address	Name	Object Function	Length	Data Type
64	1/4/64	Output A	Activate automatic HCL Colour function	1 bit	start/stop

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

Activation/deactivation of the HCL colour function

The Human Centric Lighting HCL colour function is activated and deactivated via a group object

- Individually for each group
- Individually for each ballast
- Centrally for all group/ballasts per output for which the HCL function is parametrized

Telegram value:

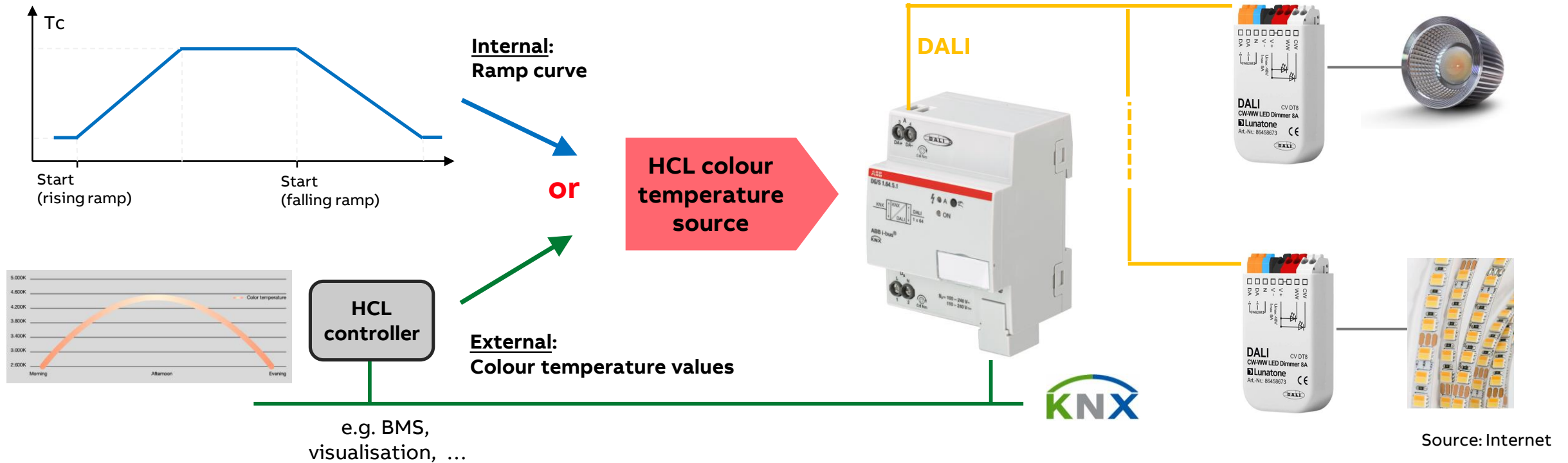
- 1 = Activates the HCL colour function
- 0 = Deactivates the HCL colour function

Furthermore, the state after KNX recovery and download can be set (deactivated, activated or like before failure)

Nui	Group Address	Name	Object Function	Length	Data Type
89	1/4/89	Output A - group 1	Activate automatic HCL Colour function	1 bit	start/stop
359	1/4/248	Output A - ballast 3	Activate automatic HCL Colour function	1 bit	start/stop
64	1/4/64	Output A	Activate automatic HCL Colour function	1 bit	start/stop

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

Colour function HCL colour temperature source

This parameter specifies the HCL colour temperature source

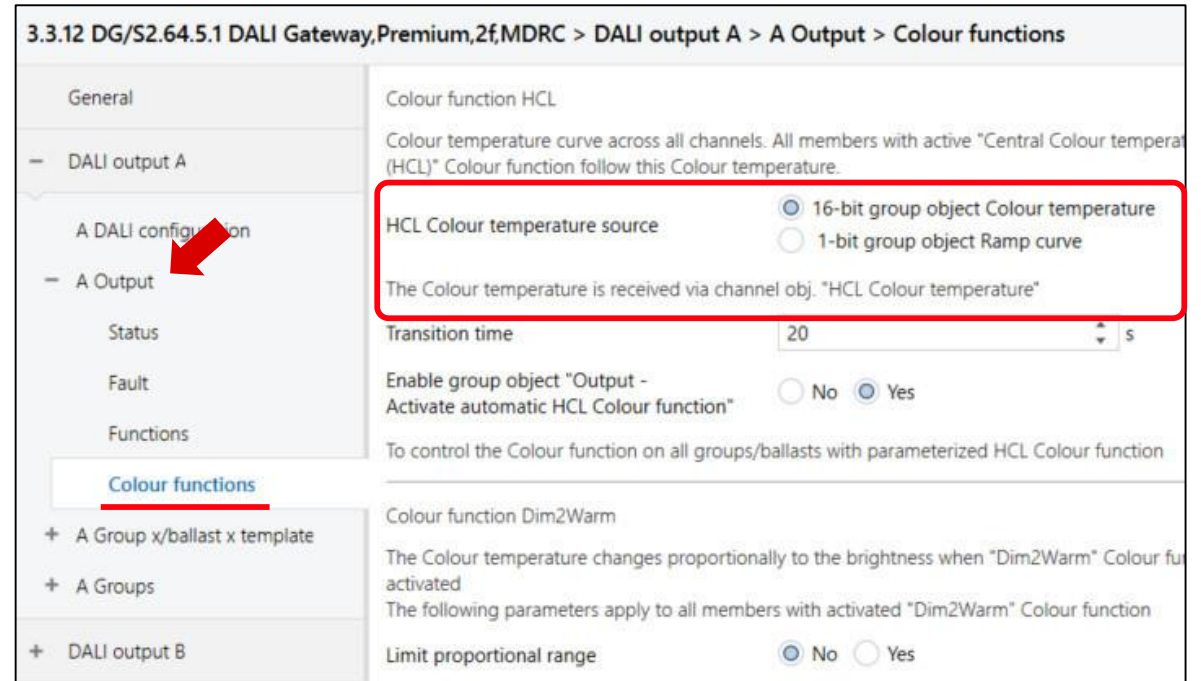
The colour temperature curve applies to the channel

→ All groups/ballast with active “Central Colour temperature (HCL)” Colour function follow this colour temperature

HCL colour temperature source:

- 16-bit group object “HCL Colour temperature” → external
 - A visualization, BMS, ... calculates and provides cyclically colour temperature values
- 1-bit group object Ramp curve → internal
 - Start a parametrizable colour temperature ramp curve (rising and falling ramp)

Each source option has different HCL characteristics



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

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: HCL Colour temperature source 16-bit group object Colour temperature 1-bit group object Ramp curve

– A Output: The Colour temperature is received via channel obj. “HCL Colour temperature”

Status: Transition time: 20 s

Fault: Enable group object “Output - Activate automatic HCL Colour function” No Yes

Functions: To control the Colour function on all groups/ballasts with parameterized HCL Colour function

Colour functions

+ A Group x/ballast x template: Colour function Dim2Warm

+ A Groups: The Colour temperature changes proportionally to the brightness when “Dim2Warm” Colour function activated

+ DALI output B: The following parameters apply to all members with activated “Dim2Warm” Colour function

Limit proportional range: No Yes

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

Colour function HCL colour temperature source

This parameter specifies the HCL colour temperature source

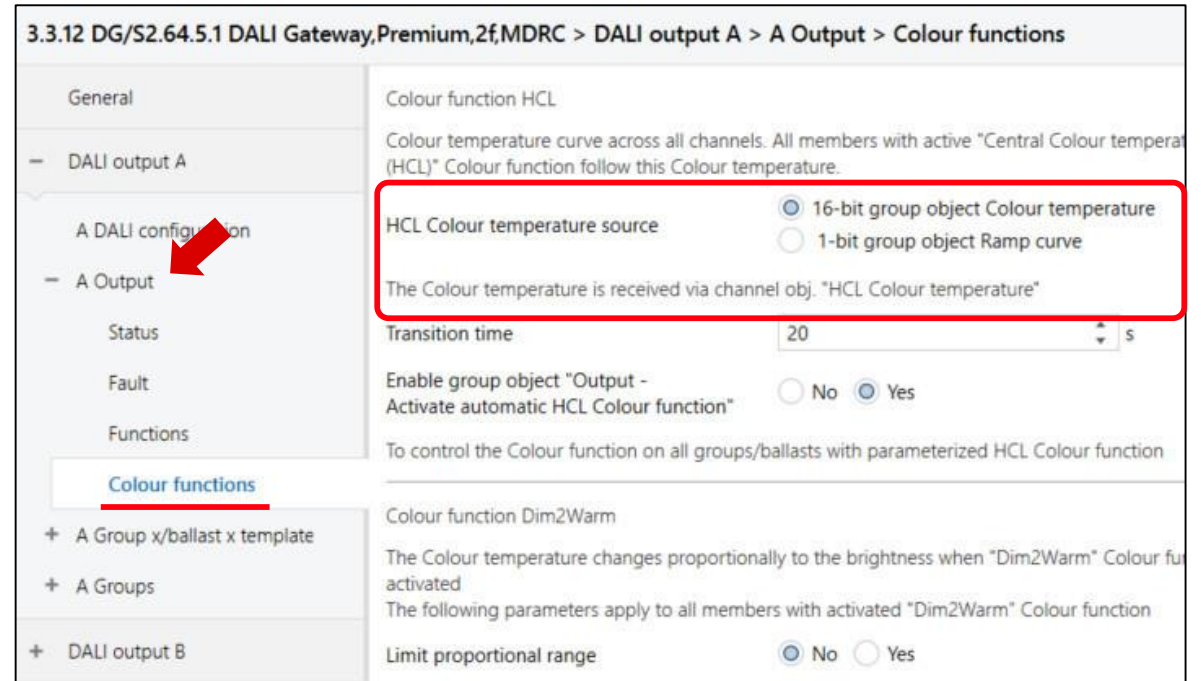
The colour temperature curve applies to the channel

→ All groups/ballast with active “Central Colour temperature (HCL)” Colour function follow this colour temperature

HCL colour temperature source:

- 16-bit group object “HCL Colour temperature” → external
 - A visualization, BMS, ... calculates and provides cyclically colour temperature values
- 1-bit group object Ramp curve → internal
 - Start a parametrizable colour temperature ramp curve (rising and falling ramp)

Each source option has different HCL characteristics



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

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: HCL Colour temperature source 16-bit group object Colour temperature 1-bit group object Ramp curve

– A Output: The Colour temperature is received via channel obj. “HCL Colour temperature”

Status: Transition time: 20 s

Fault: Enable group object “Output - Activate automatic HCL Colour function” No Yes

Functions: To control the Colour function on all groups/ballasts with parameterized HCL Colour function

Colour functions

+ A Group x/ballast x template: Colour function Dim2Warm

+ A Groups: The Colour temperature changes proportionally to the brightness when “Dim2Warm” Colour function activated

+ DALI output B: The following parameters apply to all members with activated “Dim2Warm” Colour function

Limit proportional range: No Yes

KNX DALI Gateway Premium DG/S x.64.5.1

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

HCL colour temp. source: “16-bit group object CT (ext.)”

A visualization, BMS, ... calculates and provides cyclically colour temperature values

→ Individual and different curves are possible

The 16-bit group object is the source for the HCL characteristic

This group object receives a colour temperature value that is used to control HCL

The DALI gateway dims all included ballasts/groups to the colour temperature value

The more often the group object sends new values, the more accurately the lighting mimics the passage of the day

If a group/ballast is switched on while HCL is activated the last received colour temperature value is dimmed within 5 seconds

The screenshot shows the configuration page for '3.3.12 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Output > Colour functions'. The 'HCL Colour temperature source' is set to '16-bit group object Colour temperature'. A red arrow points to 'A Output' in the left sidebar, and red boxes highlight the 'HCL Colour temperature source' and the selected radio button.

Nur	Group Address	Name	Object Function	Length	Data Type
63	1/4/63	Output A	HCL Colour temperature	2 bytes	absolute colour temperature (K)

KNX DALI Gateway Premium DG/S x.64.5.1

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

Transition time

This parameter defines the time it takes for the HCL curve to adopt the new colour temperature values

– 0...20...65,535 sec

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

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 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

To control the Colour function on all groups/ballasts with parameterized HCL Colour function

Colour functions

+ A Group x/ballast x template
Colour function Dim2Warm
The Colour temperature changes proportionally to the brightness when "Dim2Warm" Colour function activated
The following parameters apply to all members with activated "Dim2Warm" Colour function

+ A Groups
Limit proportional range No Yes

+ DALI output B

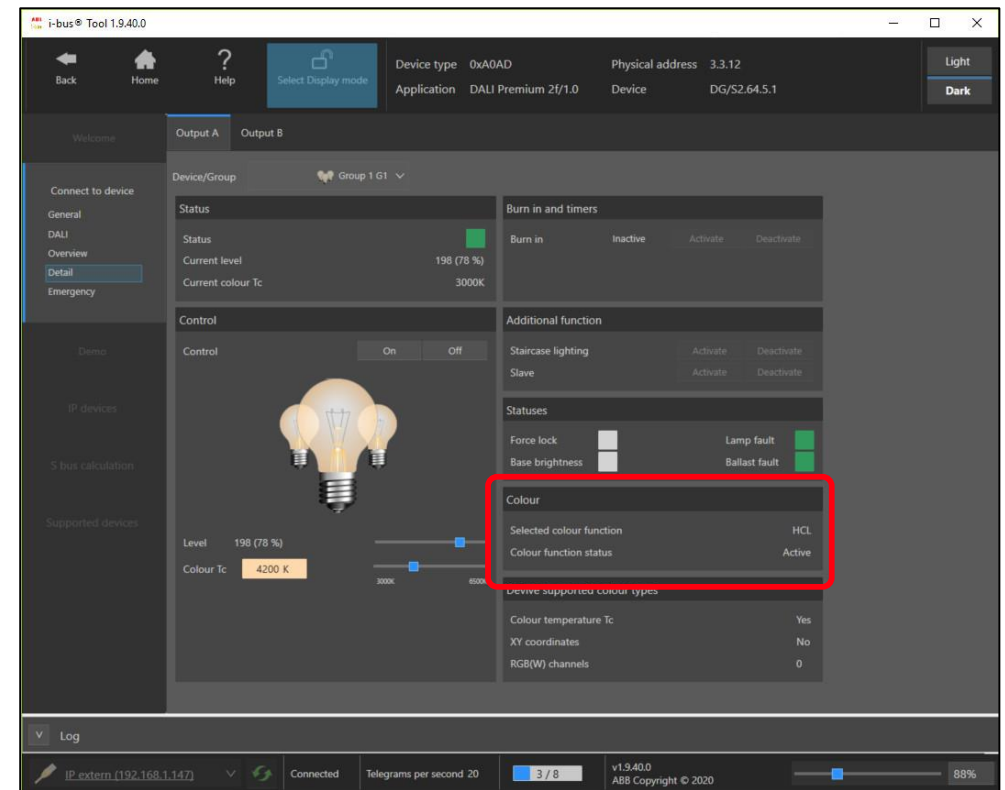
KNX DALI Gateway Premium DG/S x.64.5.1

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

ABB i-bus® Tool

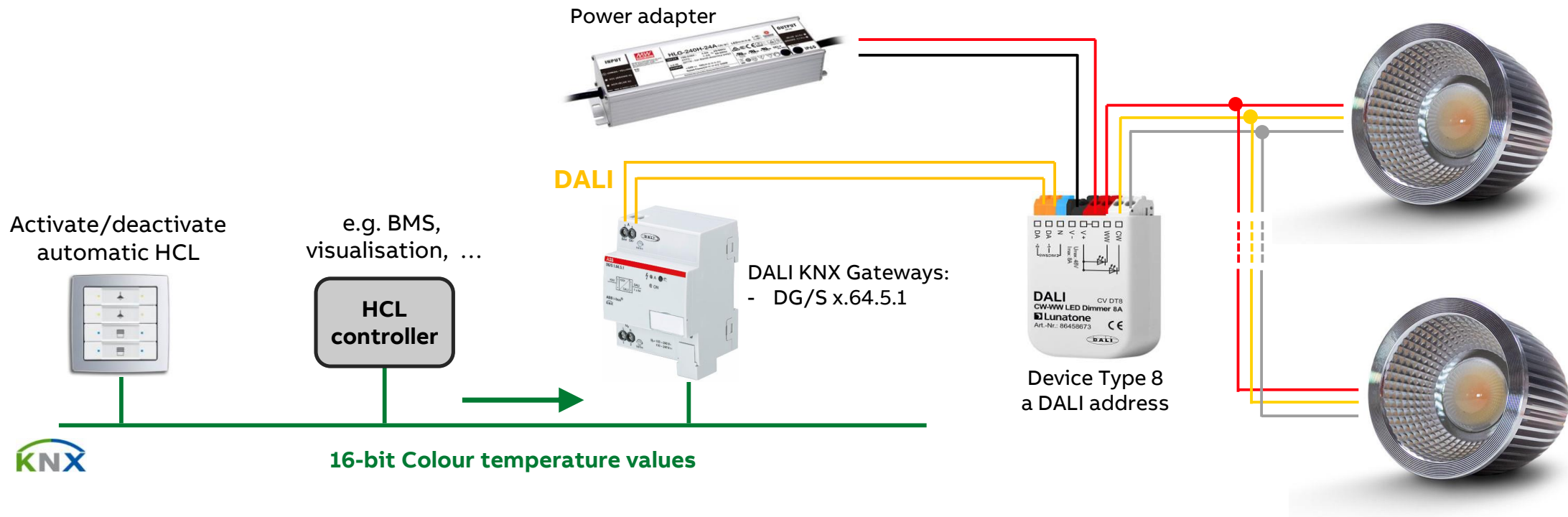
The selected and the state of the Colour function “Human Centric Lighting HCL” is displayed

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



KNX DALI Gateway Premium DG/S x.64.5.1

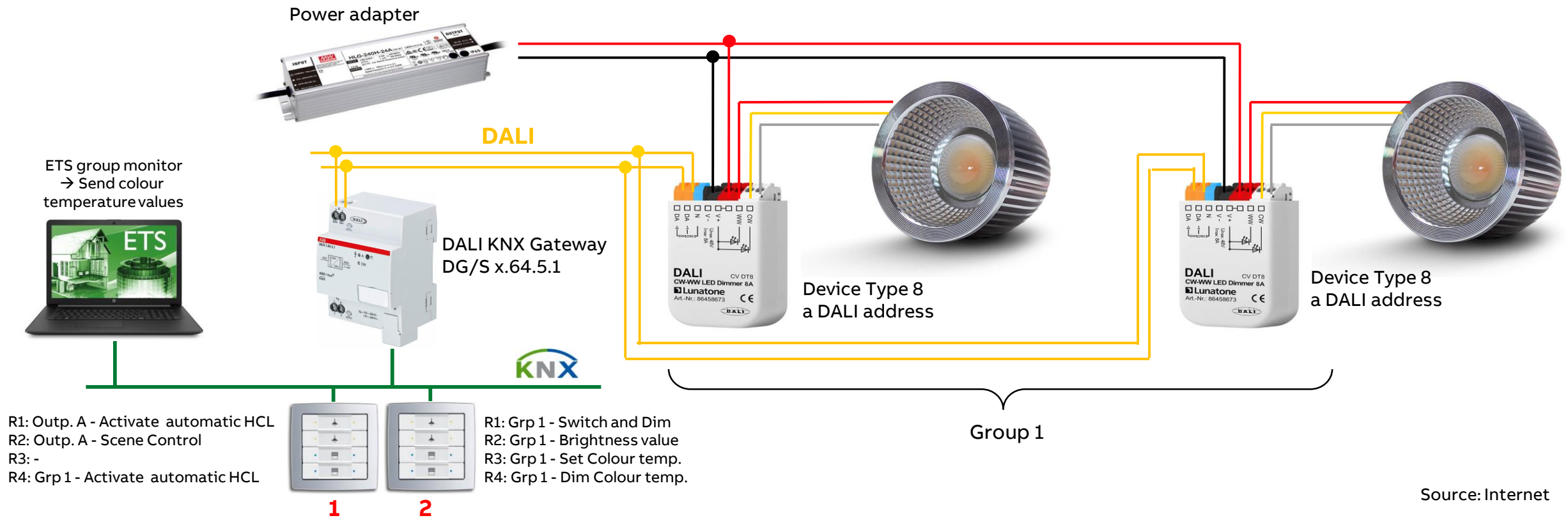
Colour function “Human Centric Lighting HCL” – Colour temperature source: “16-bit group object (external)”



Source: Internet

KNX DALI Gateway Premium DG/S x.64.5.1

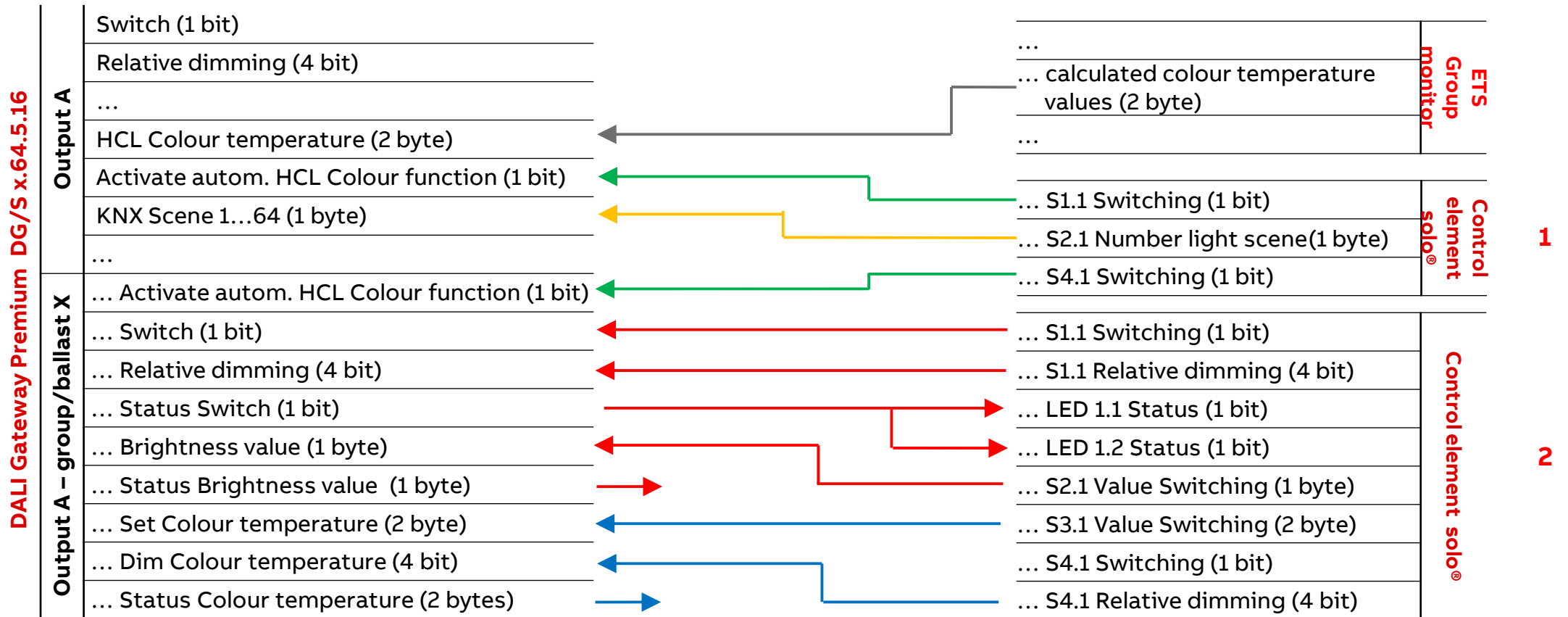
Colour function “Human Centric Lighting HCL” – Colour temperature source: “16-bit group object (external)”



Source: Internet

KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temperature source: “16-bit group object (external)”
 Example: Assignment of Group Addresses



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temperature source: “16-bit group object (external)”
 Example: Assignment of Group Addresses

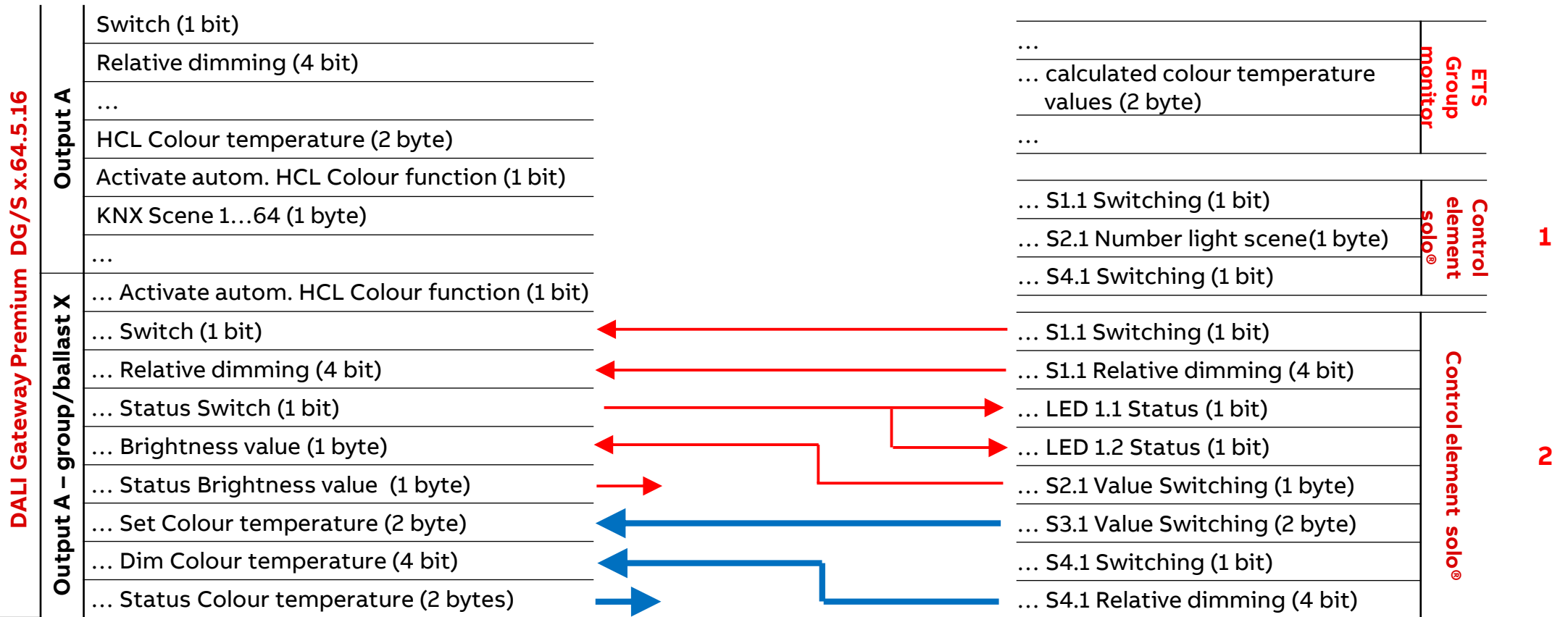


DALI Gateway Premium DG/S x.64.5.16

Output A	Switch (1 bit)	...	ETS Group monitor				
	Relative dimming (4 bit)	... calculated colour temperature values (2 byte)					
					
	HCL Colour temperature (2 byte)	...					
	Activate autom. HCL Colour function (1 bit)	...					
	KNX Scene 1...64 (1 byte)	... S1.1 Switching (1 bit)			Control element solo®	1	
 S2.1 Number light scene(1 byte)					
		... S4.1 Switching (1 bit)					
	Output A – group/ballast X	... Activate autom. HCL Colour function (1 bit)			...	Control element solo®	2
		... Switch (1 bit)			... S1.1 Switching (1 bit)		
... Relative dimming (4 bit)		... S1.1 Relative dimming (4 bit)					
... Status Switch (1 bit)		... LED 1.1 Status (1 bit)					
... Brightness value (1 byte)		... LED 1.2 Status (1 bit)					
... Status Brightness value (1 byte)		... S2.1 Value Switching (1 byte)					
... Set Colour temperature (2 byte)		... S3.1 Value Switching (2 byte)					
... Dim Colour temperature (4 bit)		... S4.1 Switching (1 bit)					
... Status Colour temperature (2 bytes)		... S4.1 Relative dimming (4 bit)					

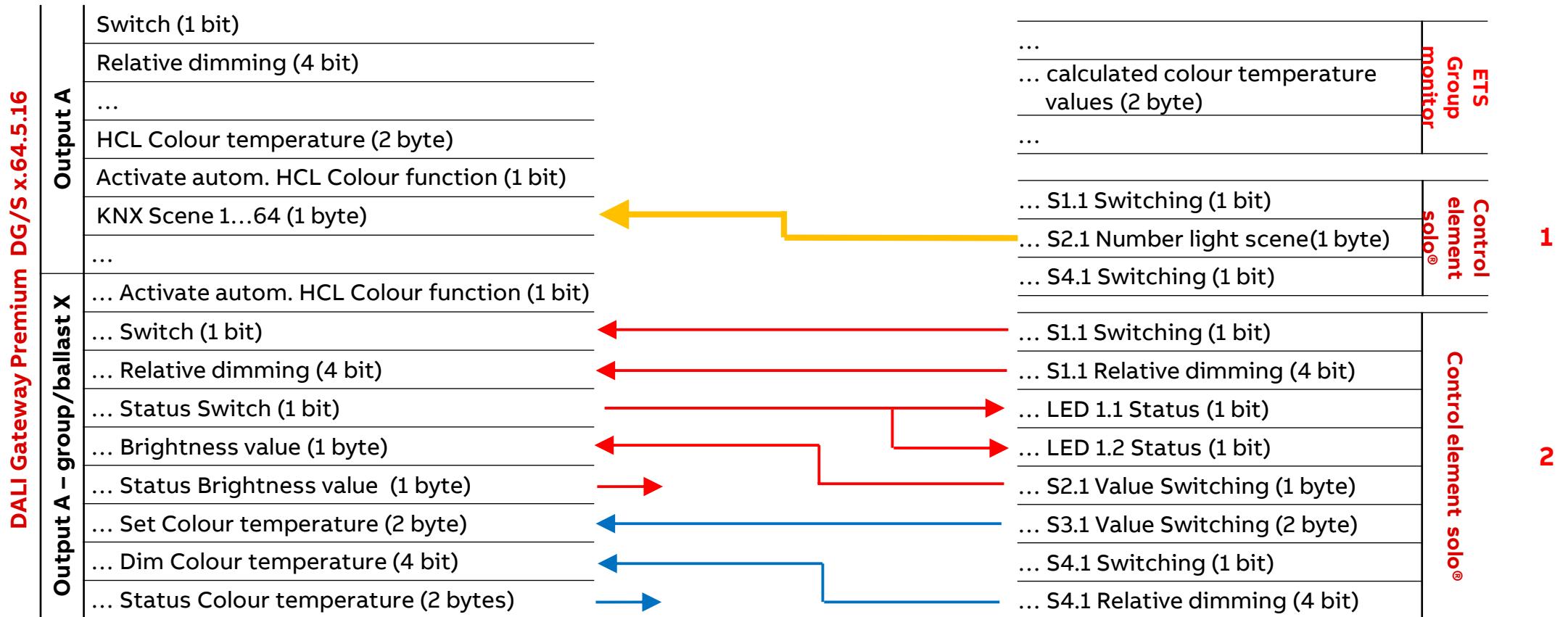
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temperature source: “16-bit group object (external)”
 Example: Assignment of Group Addresses



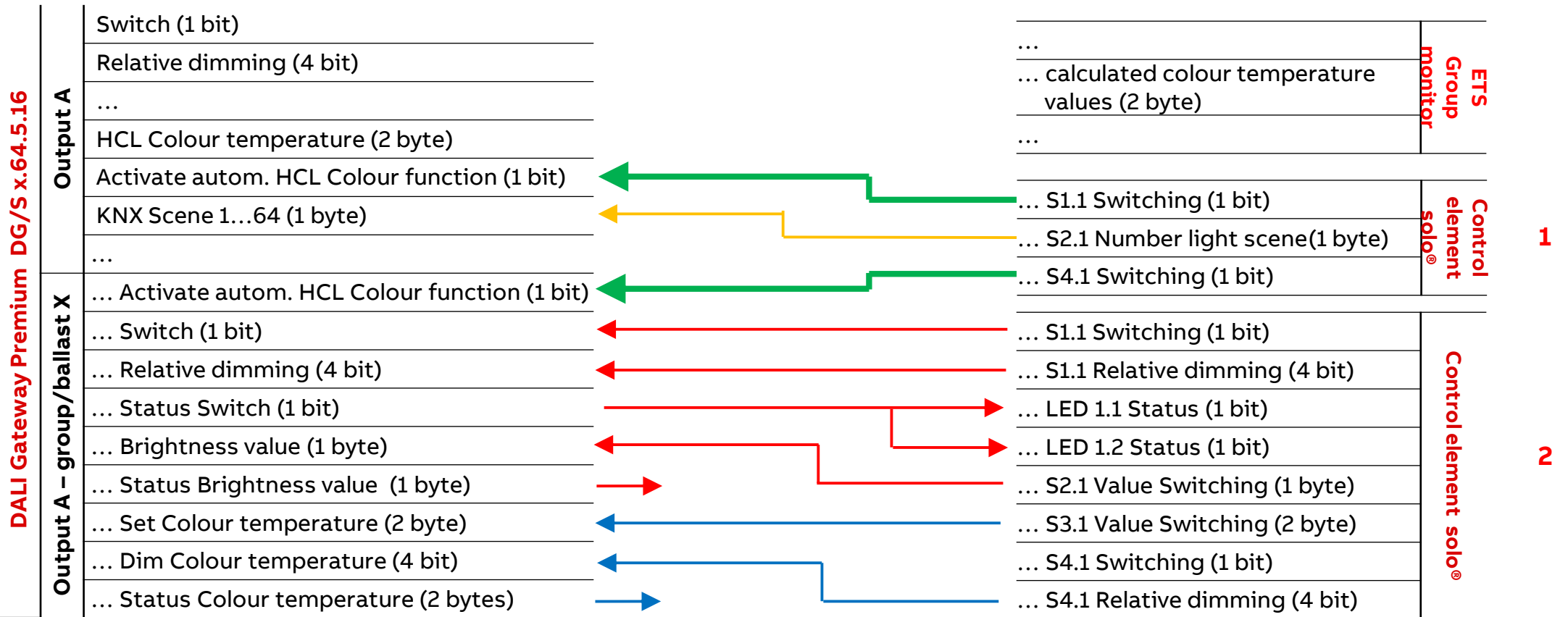
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temperature source: “16-bit group object (external)”
 Example: Assignment of Group Addresses



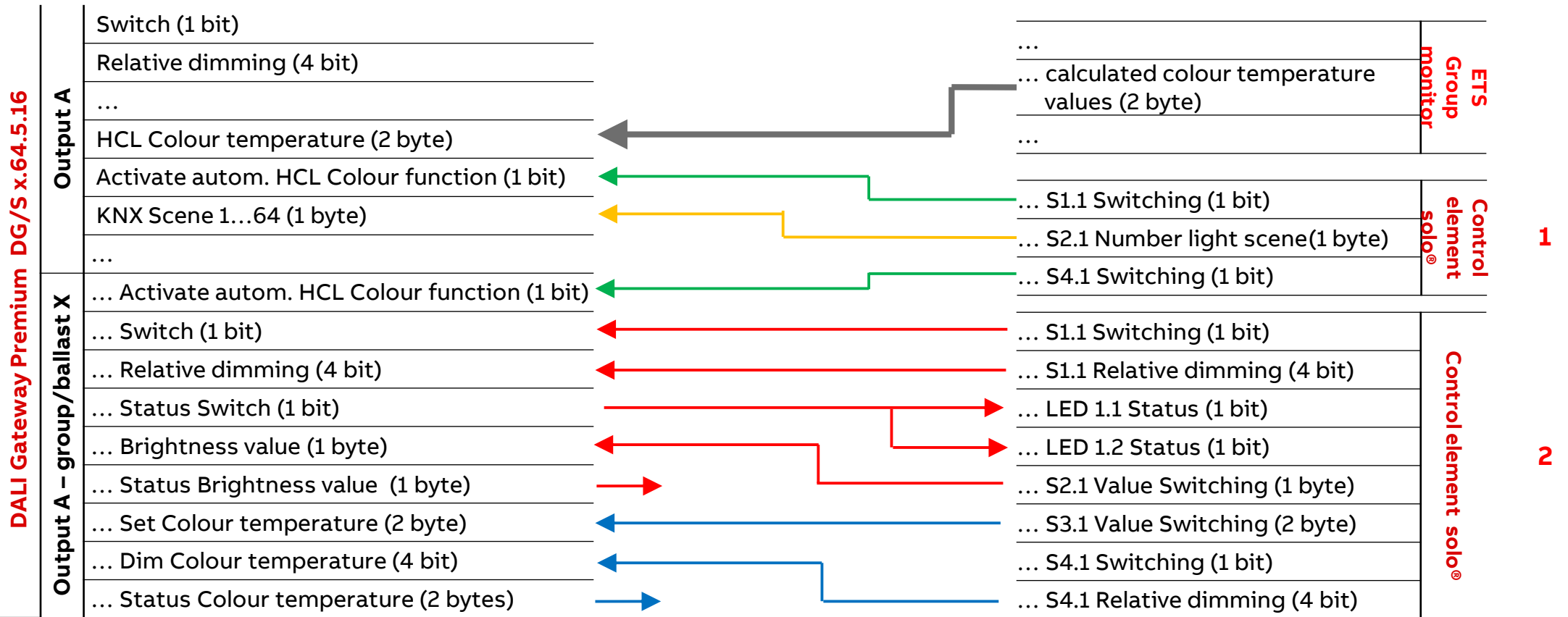
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temperature source: “16-bit group object (external)”
 Example: Assignment of Group Addresses



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temperature source: “16-bit group object (external)”
 Example: Assignment of Group Addresses



KNX DALI Gateway Premium DG/S x.64.5.1

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

Colour function HCL colour temperature source

This parameter specifies the HCL colour temperature source

The colour temperature curve applies to the channel

→ All groups/ballast with active “Central Colour temperature (HCL)” Colour function follow this colour temperature

HCL colour temperature source:

- 16-bit group object “*HCL Colour temperature*” → external
 - A visualization, BMS, ... calculates and provides cyclically colour temperature values
- 1-bit group object Ramp curve → internal
 - Start a parametrizable colour temperature ramp curve (rising and falling ramp)

Each source option has different HCL characteristics

The screenshot shows the configuration page for '3.3.12 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Output > Colour functions'. The 'Colour functions' section is highlighted in the left sidebar. The main content area shows the 'Colour function HCL' settings. A red box highlights the 'HCL Colour temperature source' section, which includes two radio button options: '16-bit group object Colour temperature' (unselected) and '1-bit group object Ramp curve' (selected). Below this, a text box states: 'The Colour temperature follows a trapezoidal ramp curve. Rising and falling ramps are started via the channel object "HCL ramp up/down"'. Further down, there are input fields for 'Initial Colour temperature' (2700 K), 'Final Colour temperature' (6000 K), and 'Transition time' (7200 s) for both 'Rising ramp' and 'Falling ramp'. At the bottom, there is a checkbox for 'Enable group object "Output - Activate automatic HCL Colour function"' which is checked.

KNX DALI Gateway Premium DG/S x.64.5.1

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

HCL colour temp. source: “1-bit group object Ramp curve (int.)”

The HCL ramp curve can easily mimic the passage of the day using colour temperature

A 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

The screenshot shows the configuration page for '3.3.12 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Output > Colour functions'. The left sidebar has a red arrow pointing to 'A Output' under 'A DALI configuration'. The main content area is titled 'Colour function HCL' and includes a description: 'Colour temperature curve across all channels. All members with active "Central Colour temperature (HCL)" Colour function follow this Colour temperature.' Below this, the 'HCL Colour temperature source' is set to '1-bit group object Ramp curve' (selected with a radio button). A red box highlights this section and the text below it: 'The Colour temperature follows a trapezoidal ramp curve. Rising and falling ramps are started via the channel object "HCL ramp up/down"'. Further down, there are settings for 'Rising ramp' and 'Falling ramp', each with 'Initial Colour temperature', 'Final Colour temperature', and 'Transition time' fields. The 'Rising ramp' values are 2700 K, 6000 K, and 7200 s. The 'Falling ramp' values are 6000 K, 2700 K, and 7200 s. At the bottom, there is a checkbox for 'Enable group object "Output - Activate automatic HCL Colour function"' which is checked.

KNX DALI Gateway Premium DG/S x.64.5.1

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

HCL colour temp. source: “1-bit group object Ramp curve (int.)”

Rising ramp

- Initial colour temperature at the start of the ramp up: 1,000...2,700...20,000 K
- Final colour temperature at the end of the ramp up: 1,000...6,000...20,000 K
- The transition time defines the ramp-up time, i.e. how long it takes for the ramp to go from beginning to end

Falling ramp

- Initial colour temperature at the start of the ramp down: 1,000...6,000...20,000 K
- Final colour temperature at the end of the ramp down: 1,000 to 20,000 K
- The transition time defines the ramp-down time, i.e. how long it takes for the ramp to go from beginning to end

The screenshot shows the configuration page for the DALI Gateway Premium DG/S2.64.5.1, specifically for DALI output A. The page is titled "3.3.12 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Output > Colour functions". The left sidebar contains a navigation menu with options like "General", "DALI output A", "A DALI configuration", "A Output", "Status", "Fault", "Functions", "Colour functions", "A Group x/ballast x template", "A Groups", "A Ballasts", "A Scenes", and "Scene 1". The "Colour functions" option is selected and highlighted in blue. The main content area is titled "Colour function HCL" and contains the following settings:

- 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
- Rising ramp:** The Colour temperature follows a trapezoidal ramp curve. Rising and falling ramps are started via the channel object "HCL ramp up/down".
 - 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":** No, Yes

KNX DALI Gateway Premium DG/S x.64.5.1

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

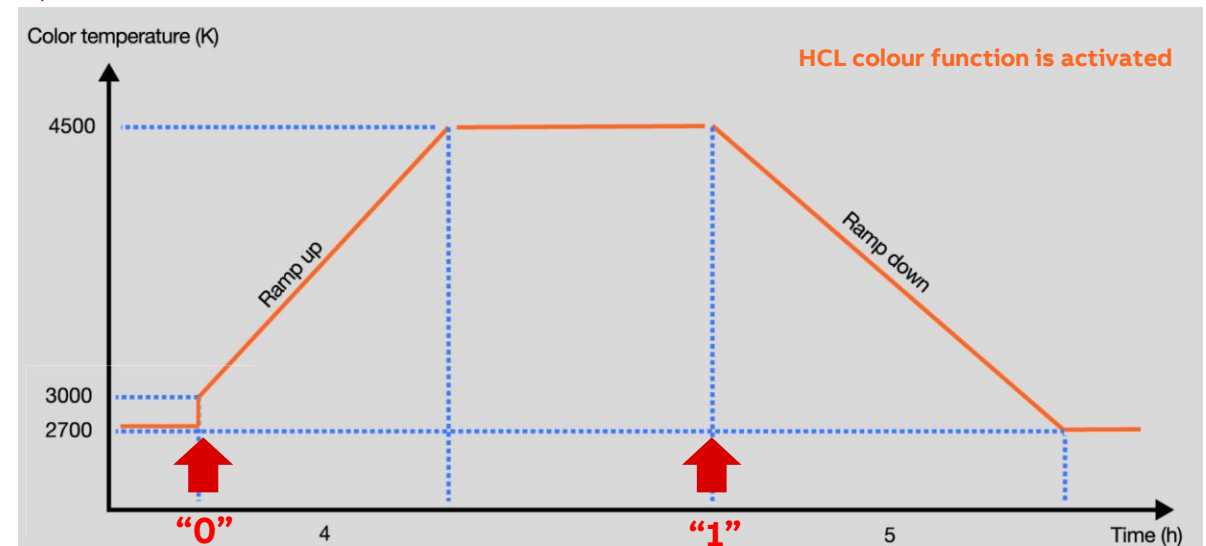
HCL colour temp. source: “1-bit group object Ramp curve (int.)”

The ramp up is triggered by a 1-bit group object, “HCL ramp up/down” (value “0”)

- The ramp up starts at a colour temperature of 3,000 K
- After 4 hours, it reaches the setpoint value of 4,500 K (final colour temperature)

The colour temperature value then stays at the setpoint until the “HCL ramp up/down” group object triggers the ramp down (value “1”)

- This starts at 4,500 K and after 5 hours, reaches 2,700 K



Nur	Group Address	Name	Object Function	Length	Data Type
63	1/4/63	Output A	HCL ramp up/down	1 bit	up/down

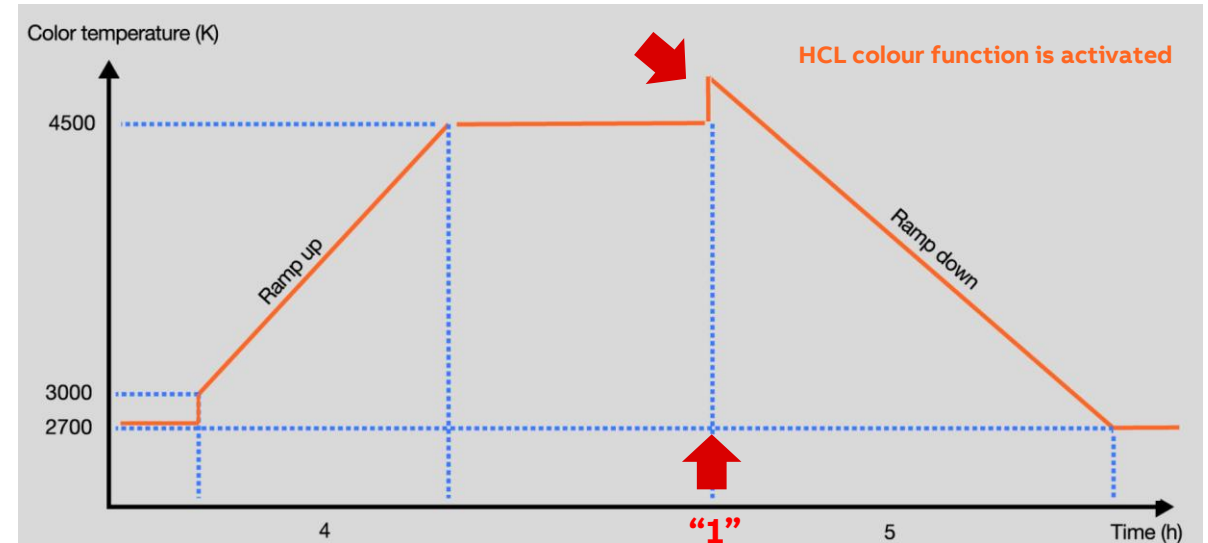
KNX DALI Gateway Premium DG/S x.64.5.1

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

HCL colour temp. source: “1-bit group object Ramp curve (int.)”

It is also possible to set the start of the falling edge to a different colour temperature value to the one previously set for the end of the ramp up

When the “HCL ramp up/down” group object triggers the ramp down, it takes a fixed time of 5 seconds to dim the group/ballast to the colour temperature value set for the start of the ramp down



Nur	Group Address	Name	Object Function	Length	Data Type
63	1/4/63	Output A	HCL ramp up/down	1 bit	up/down

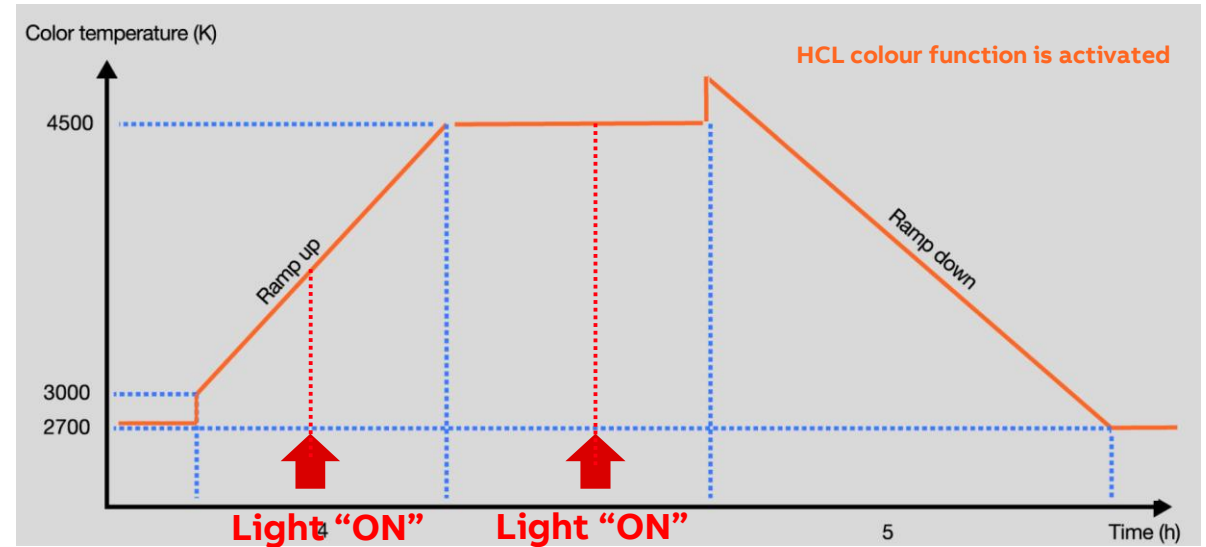
KNX DALI Gateway Premium DG/S x.64.5.1

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

HCL colour temp. source: “1-bit group object Ramp curve (int.)”

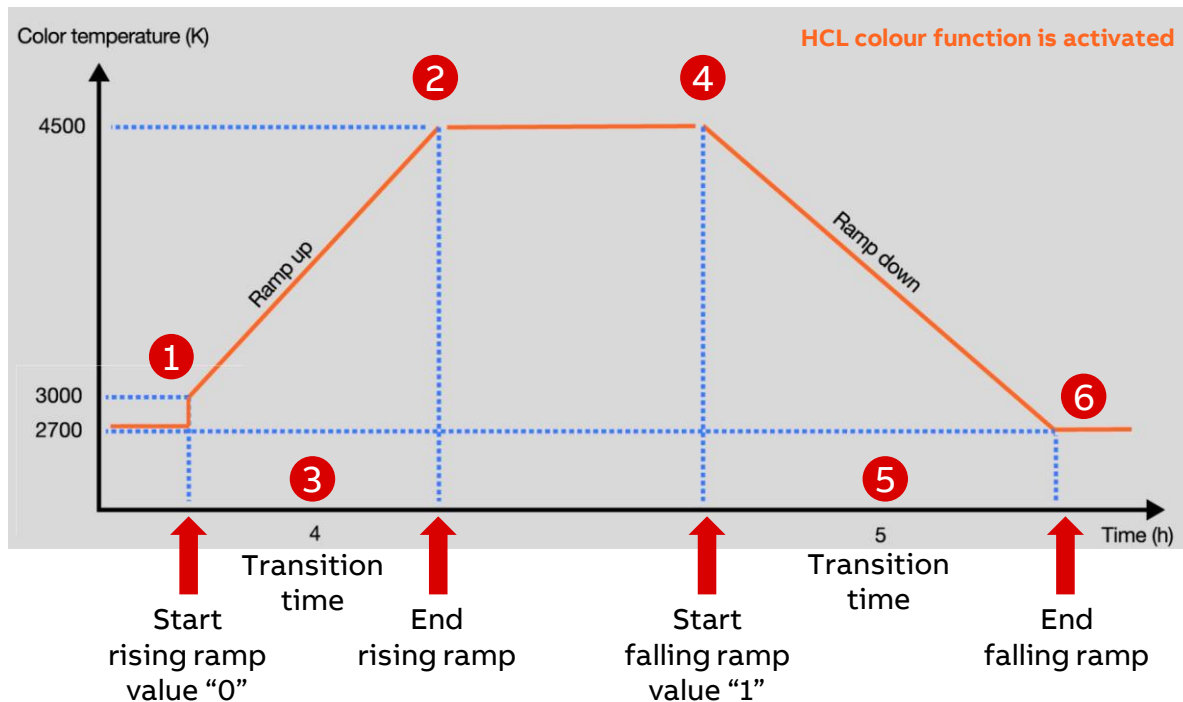
If a group/ballast is switched on while an HCL is activated and the ramp

- is running, it will be dimmed to the current colour temperature within 5 seconds
- has expired, the final colour temperature is dimmed within 5 seconds



KNX DALI Gateway Premium DG/S x.64.5.1

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



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

General

The Colour temperature follows a trapezoidal ramp curve
Rising and falling ramps are started via the channel object “HCL ramp up/down”

- DALI output A

Rising ramp

Initial Colour temperature 1 3000 K

Final Colour temperature 2 4500 K

Transition time 3 14400 s

A DALI configuration

Falling ramp

Initial Colour temperature 4 4500 K

Final Colour temperature 5 2700 K

Transition time 6 18000 s

- A Output

Status

Fault

Functions

Colour functions

Nur	Group Address	Name	Object Function	Length	Data Type
63	1/4/63	Output A	HCL ramp up/down	1 bit	up/down

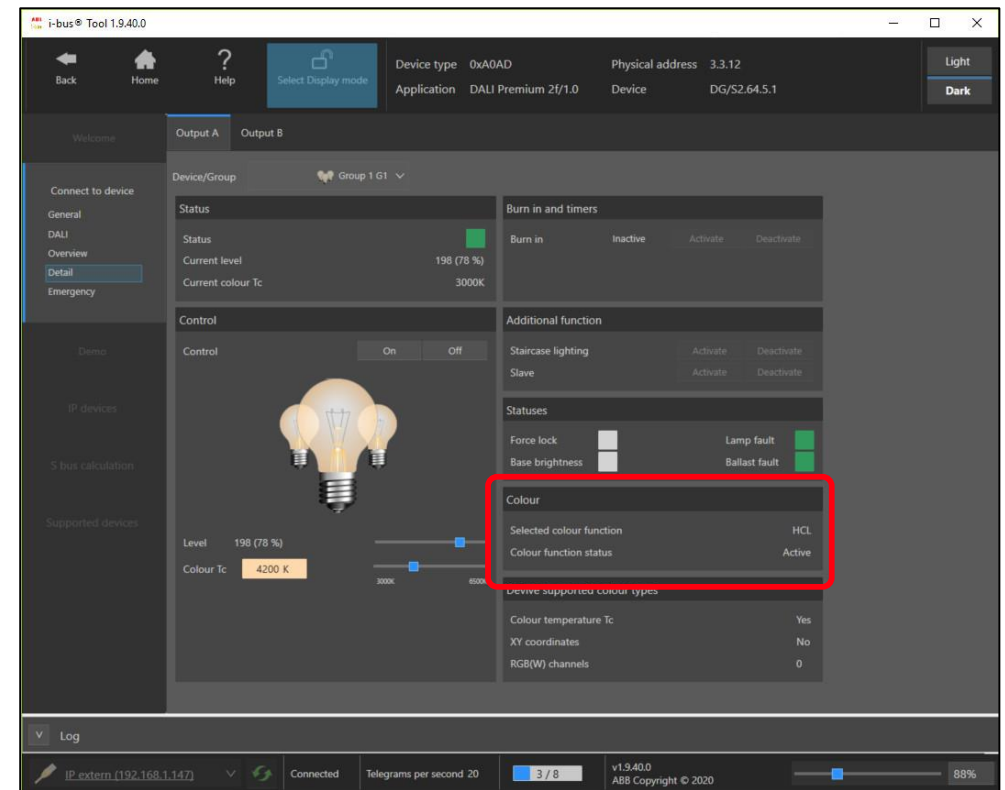
KNX DALI Gateway Premium DG/S x.64.5.1

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

ABB i-bus® Tool

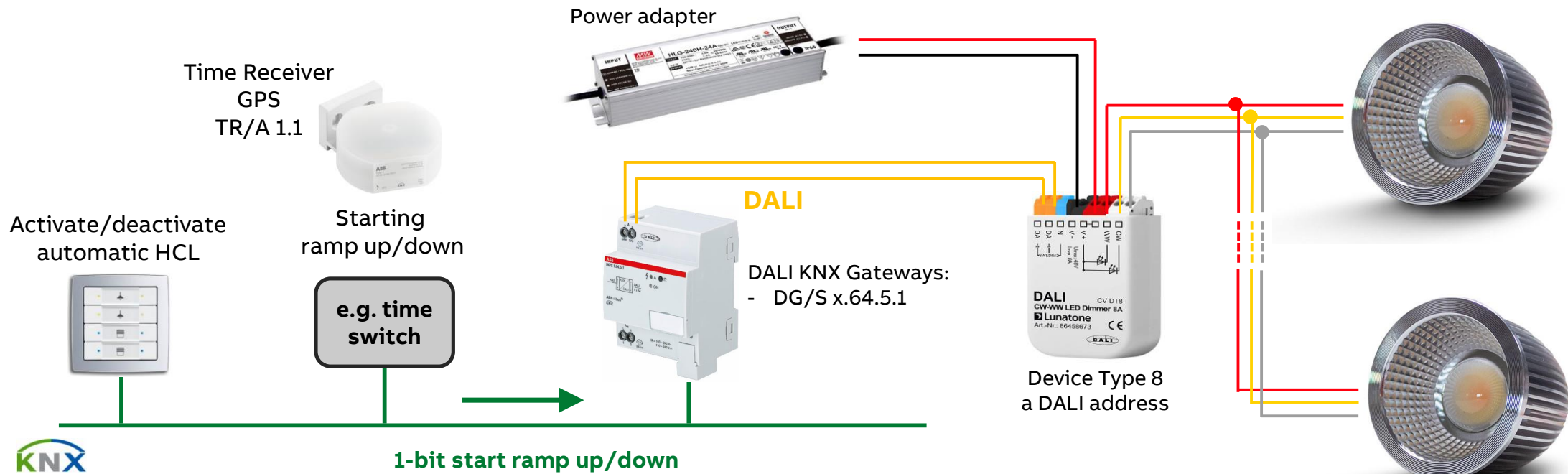
The selected and the state of the Colour function “Human Centric Lighting HCL” is displayed

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



KNX DALI Gateway Premium DG/S x.64.5.1

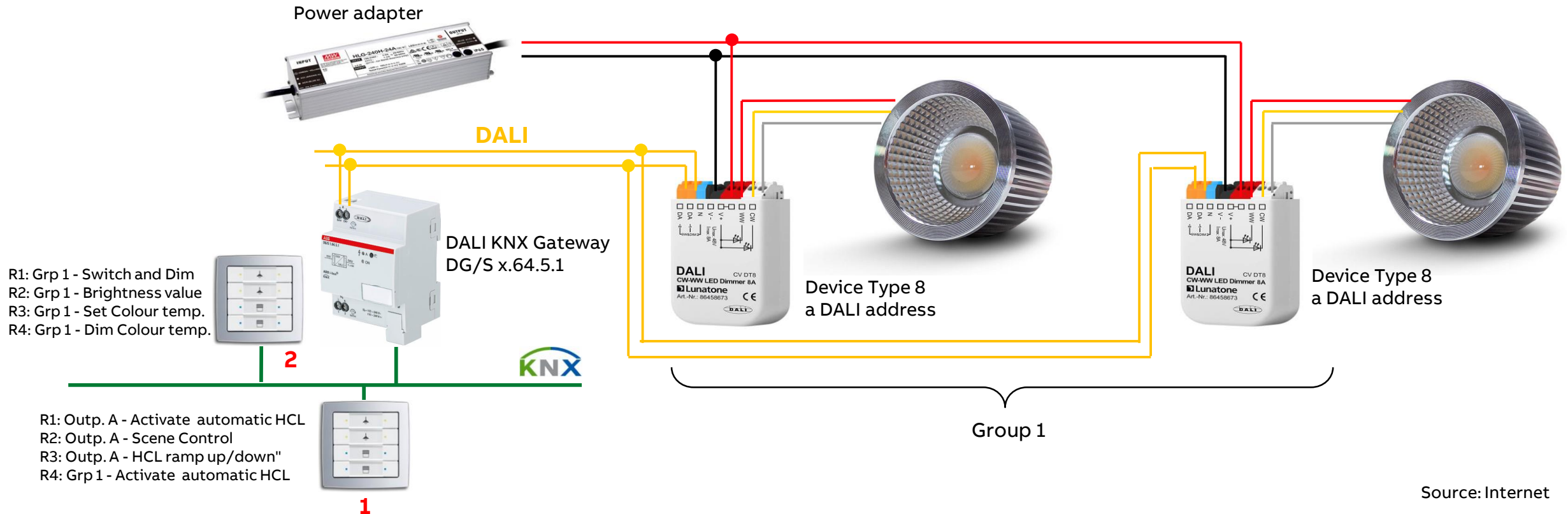
Colour function “Human Centric Lighting HCL” – Colour temp. source: “1-bit group object Ramp curve (int.)”



Source: Internet

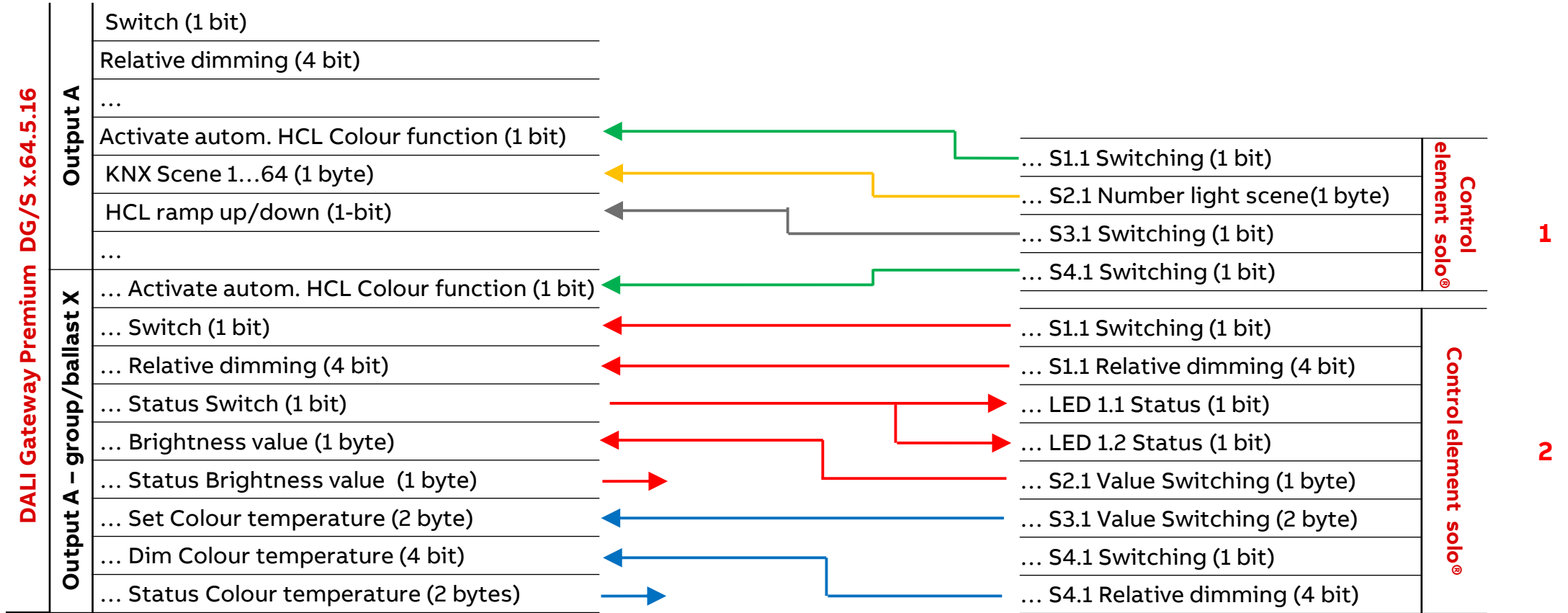
KNX DALI Gateway Premium DG/S x.64.5.1

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



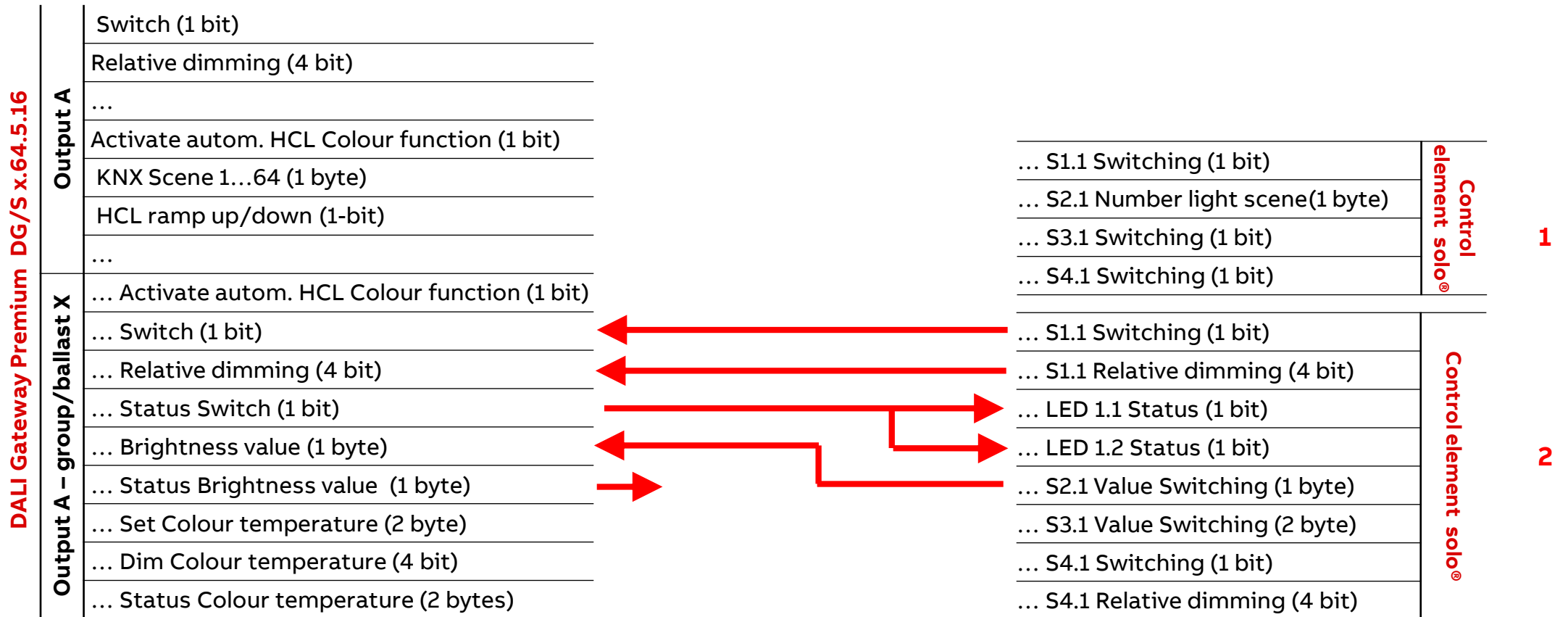
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temp. source: “1-bit group object Ramp curve (int.)”
 Example: Assignment of Group Addresses



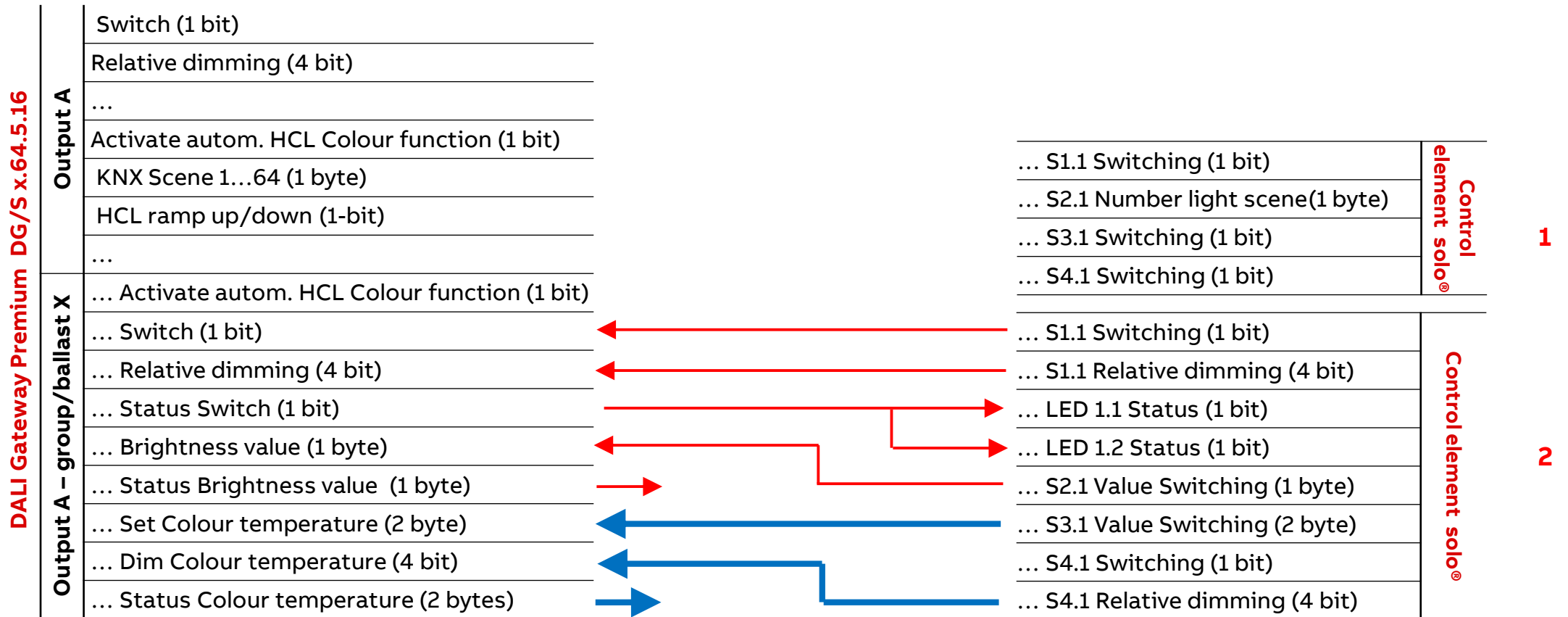
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temp. source: “1-bit group object Ramp curve (int.)”
 Example: Assignment of Group Addresses



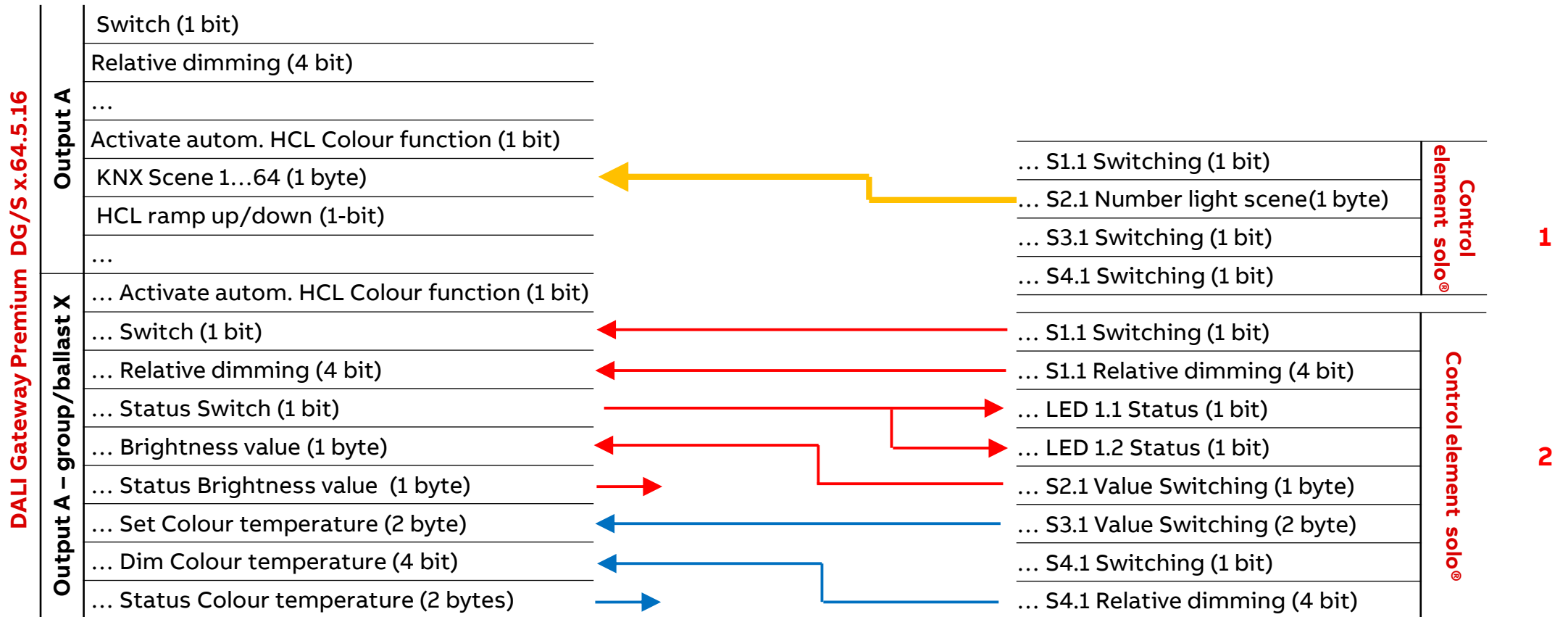
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temp. source: “1-bit group object Ramp curve (int.)”
 Example: Assignment of Group Addresses



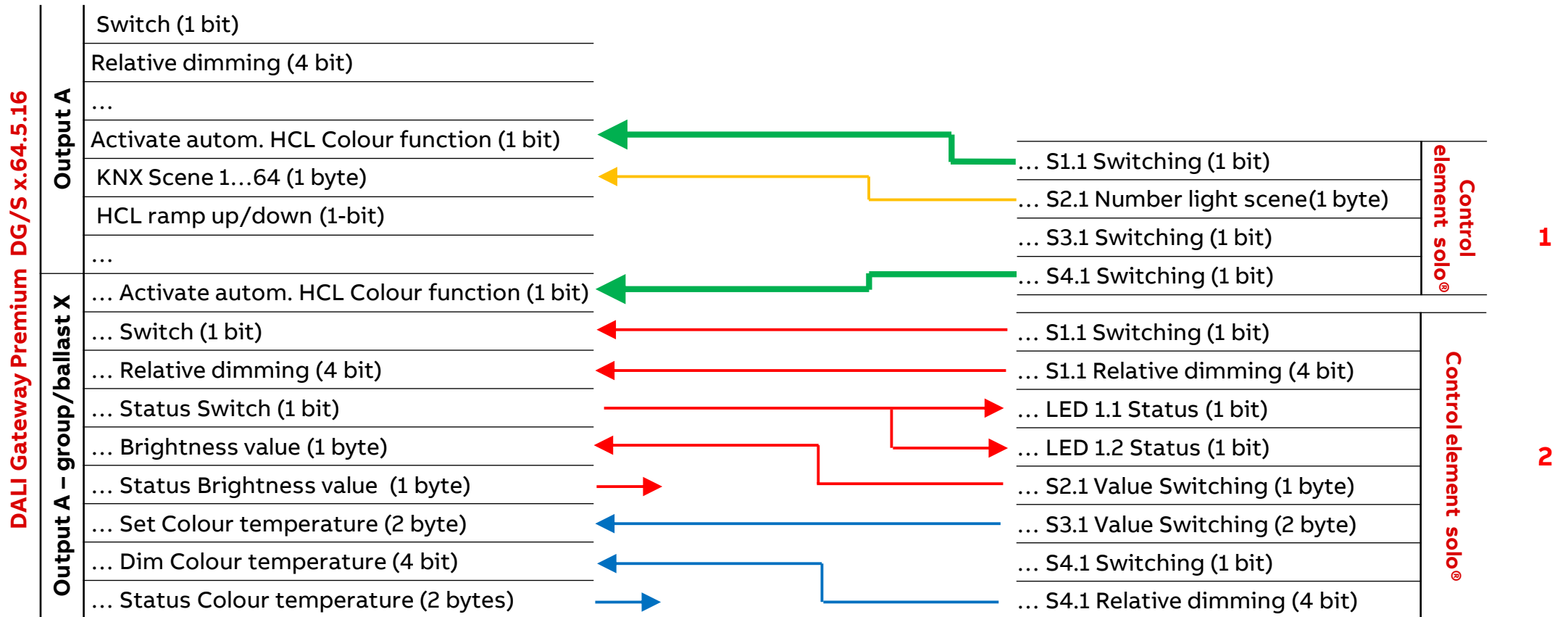
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temp. source: “1-bit group object Ramp curve (int.)”
 Example: Assignment of Group Addresses



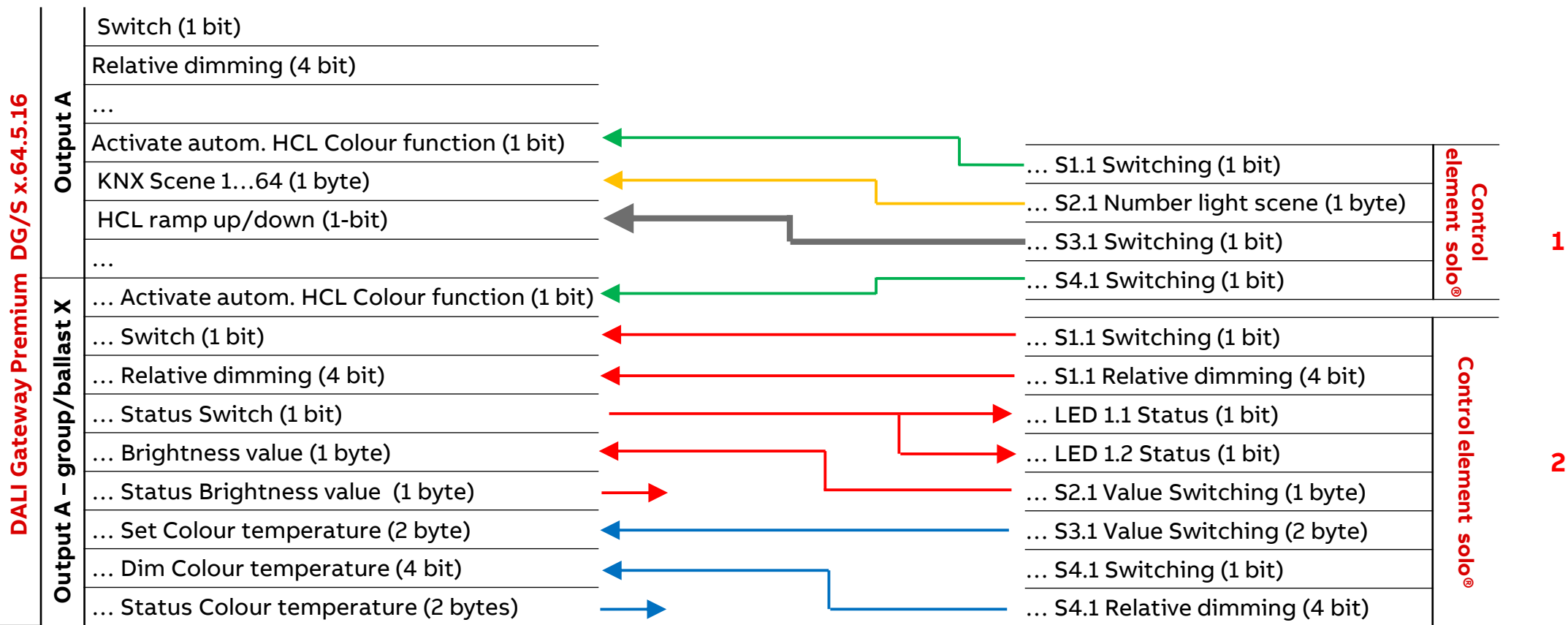
KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temp. source: “1-bit group object Ramp curve (int.)”
 Example: Assignment of Group Addresses



KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL” – Colour temp. source: “1-bit group object Ramp curve (int.)”
 Example: Assignment of Group Addresses

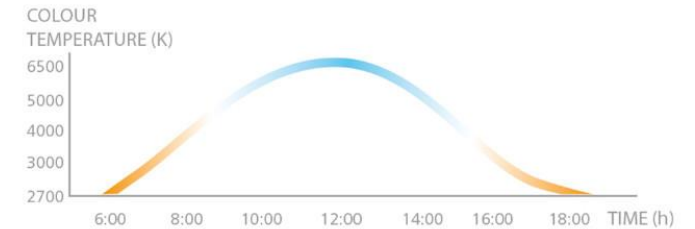


KNX DALI Gateway Premium DG/S x.64.5.1

Colour function “Human Centric Lighting HCL”

Summary

- Human Centric Lighting can adapt people's daily rhythms to one another and increase their motivation, well-being and productivity
- Human Centric Lighting (HCL) simulates the daylight in a building
- HCL only controls the colour temperature and has no influence on the brightness (dimming, value)
- HCL colour temperature source:
 - External: A visualization, BMS, ... calculates and provides cyclically colour temperature values
 - Internal: Start a parametrizable colour temperature ramp curve (rising and falling ramp)
- HCL can be activated on a group/ballast or central
- The Colour function HCL or Dim2Warm can be used for a group/ballast
- Ballasts of device type 8 and tunable white LEDs are required



Source: Internet

Disclaimer

The information in this document is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this document.

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

© Copyright [2020] ABB. All rights reserved.

ABB

KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off”

KNX DALI Gateway Premium DG/S x.64.5.1

Overview

KNX DALI Gateway Premium DG/S x.64.5.1

Hardware

- DG/S 1.64.5.1 (one channel, 64 ballasts)
- DG/S 2.64.5.1 (two independent channels, 2 x 64 ballasts)

The following ballast can be operated on the gateway

- Normal DALI ballasts (device type 0)
- DALI single battery emergency lighting converter (device type 1)
- Colour-controlled DALI ballast (device type 8)

– Functions

- Flexible combination of DALI groups or single control
- ABB i-bus® Tool support
- Templates
- Tunable white
- Dim2Warm
- Human Centric Lighting
- **Standby switch-off**
- ...



KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off”

What is the “Standby switch-off” function?

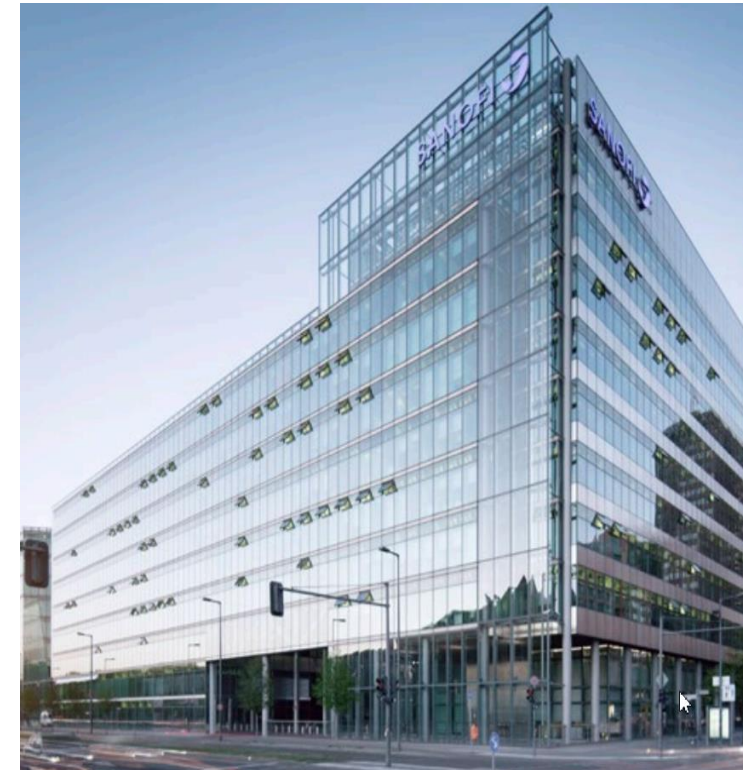
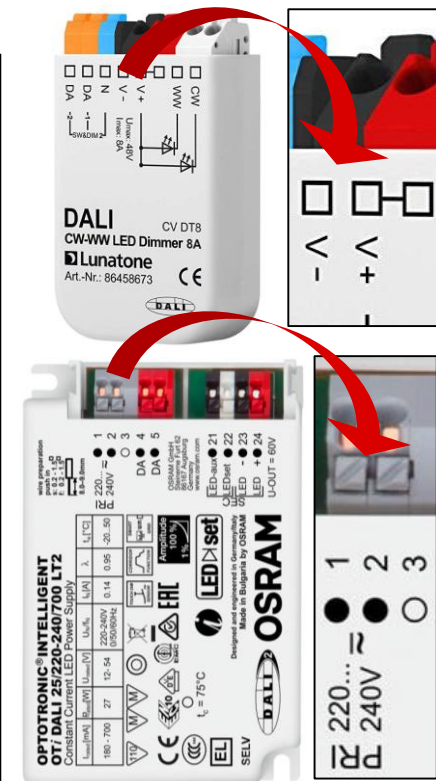
All ballasts are permanently connected to the supply voltage

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

KNX DALI Gateway Premium DG/S x.64.5.1

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

KNX DALI Gateway Premium DG/S x.64.5.1

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

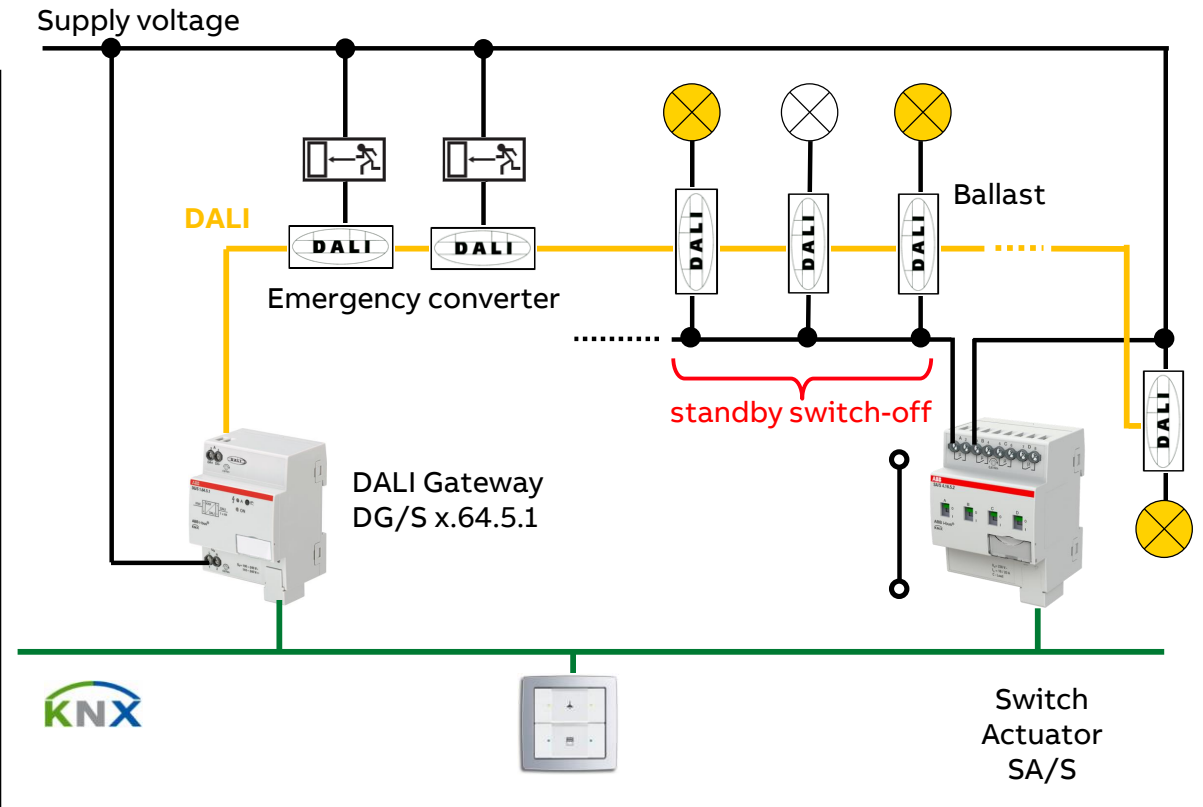
KNX DALI Gateway Premium DG/S x.64.5.1

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



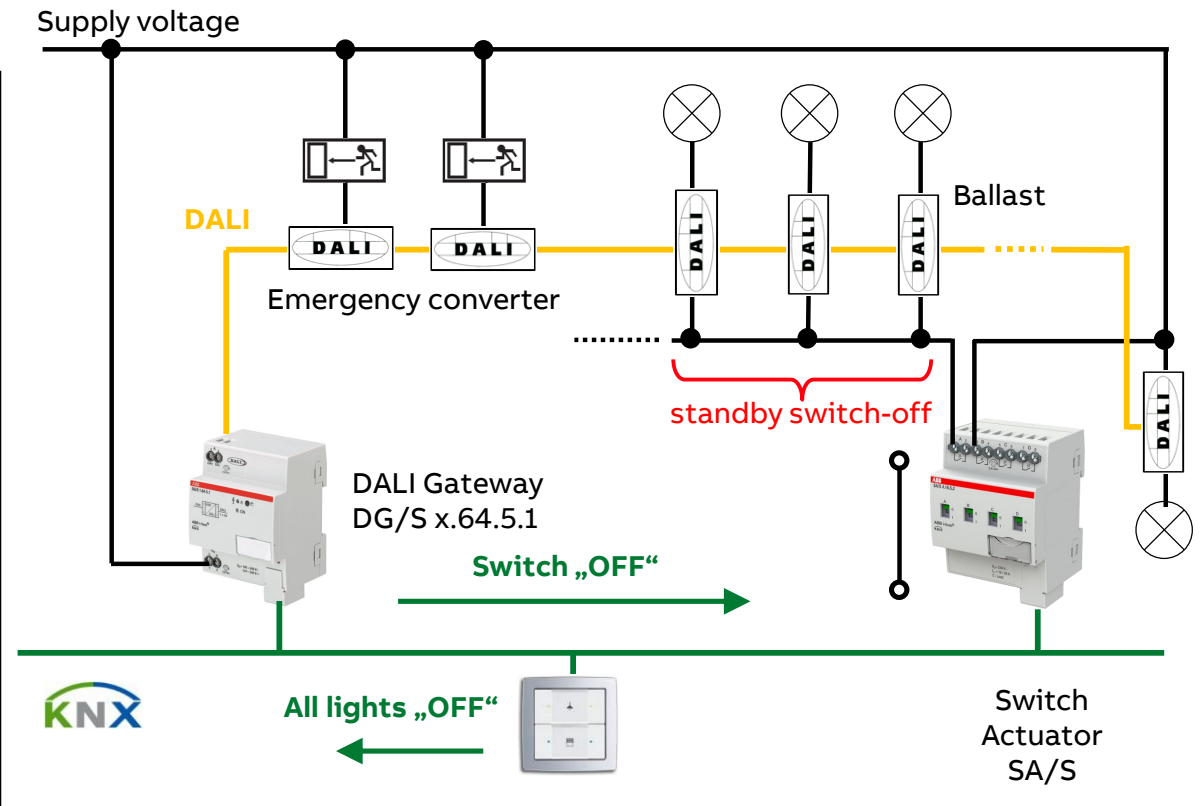
KNX DALI Gateway Premium DG/S x.64.5.1

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

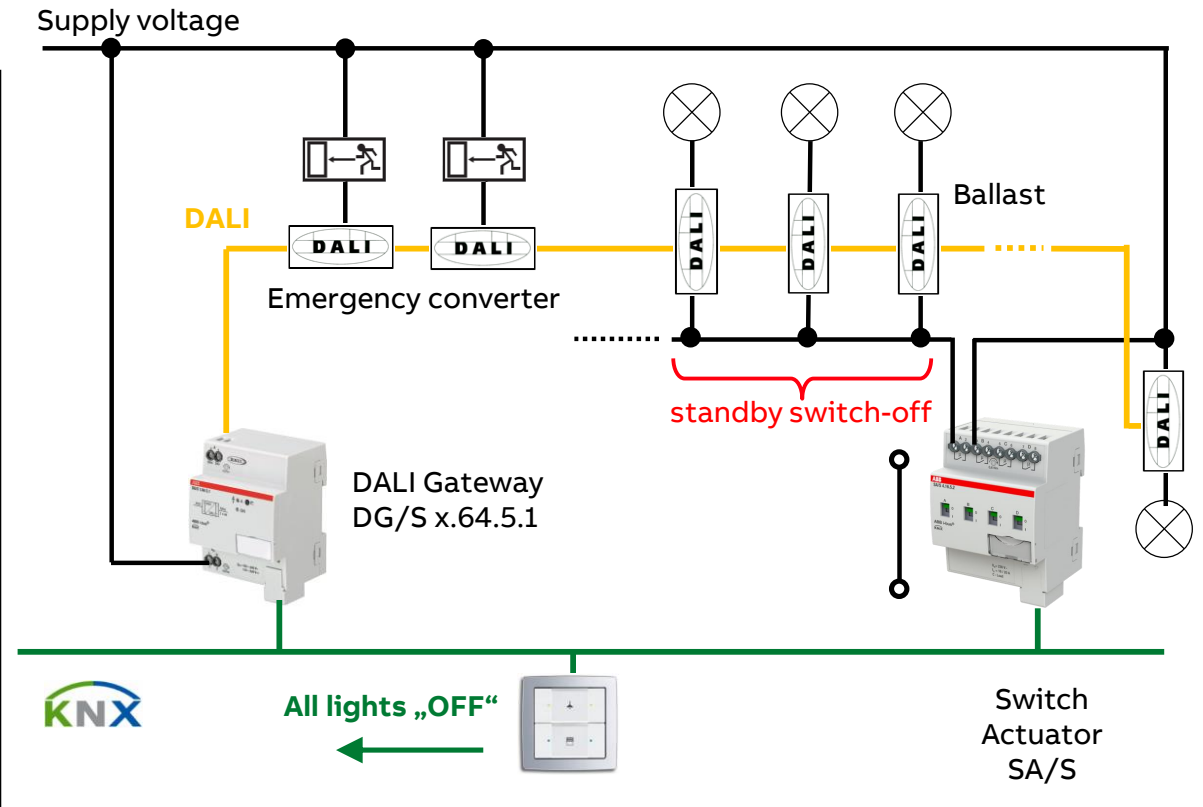


KNX DALI Gateway Premium DG/S x.64.5.1

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



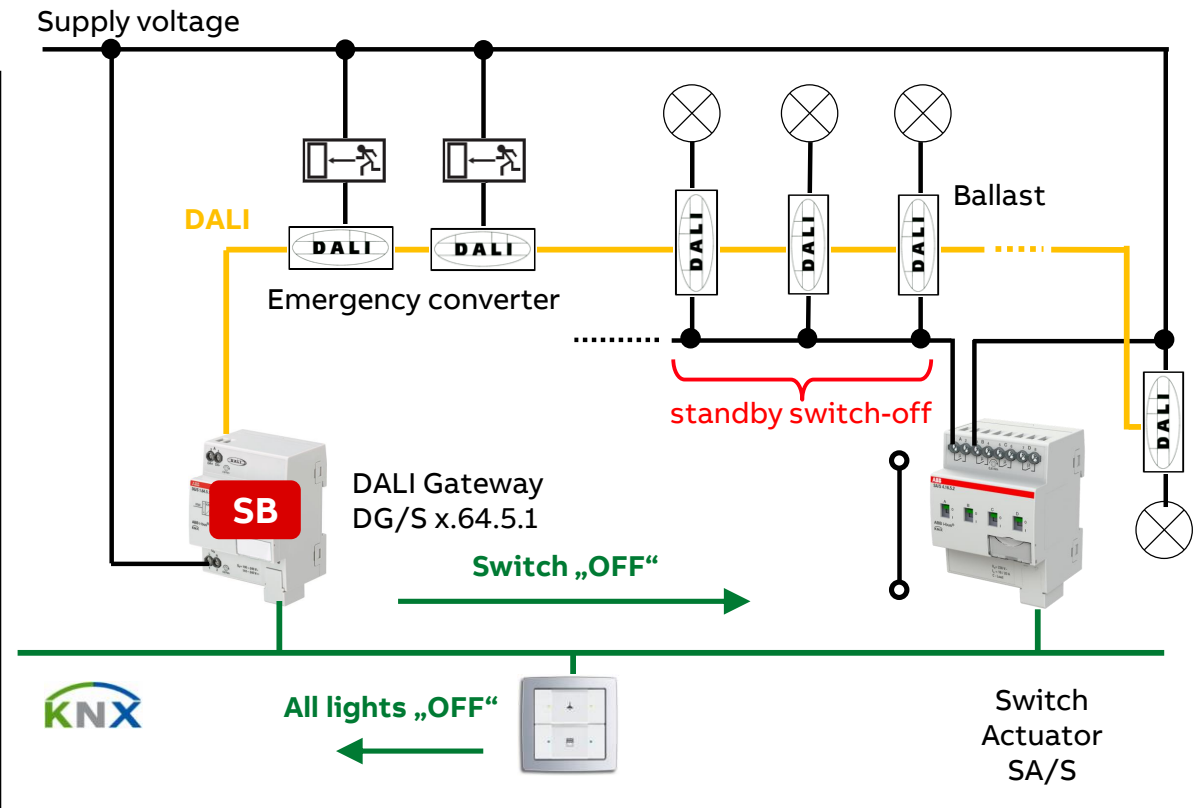
KNX DALI Gateway Premium DG/S x.64.5.1

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



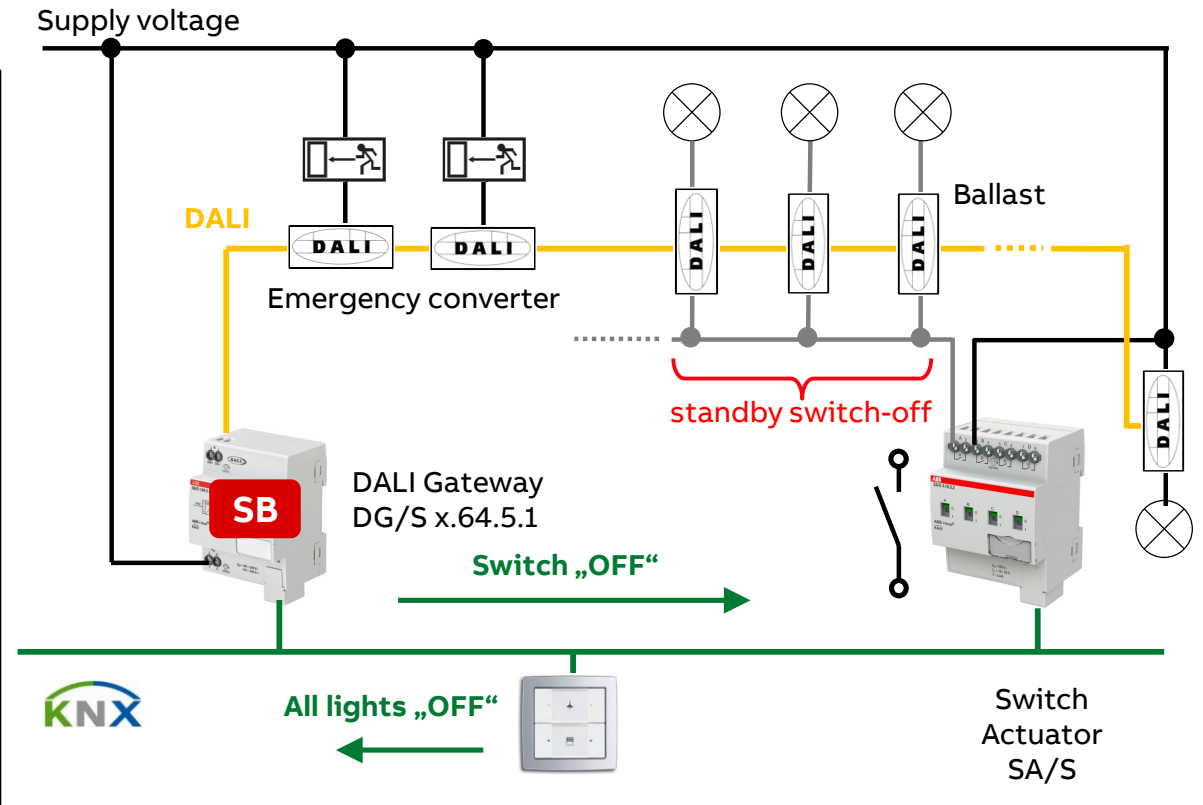
KNX DALI Gateway Premium DG/S x.64.5.1

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



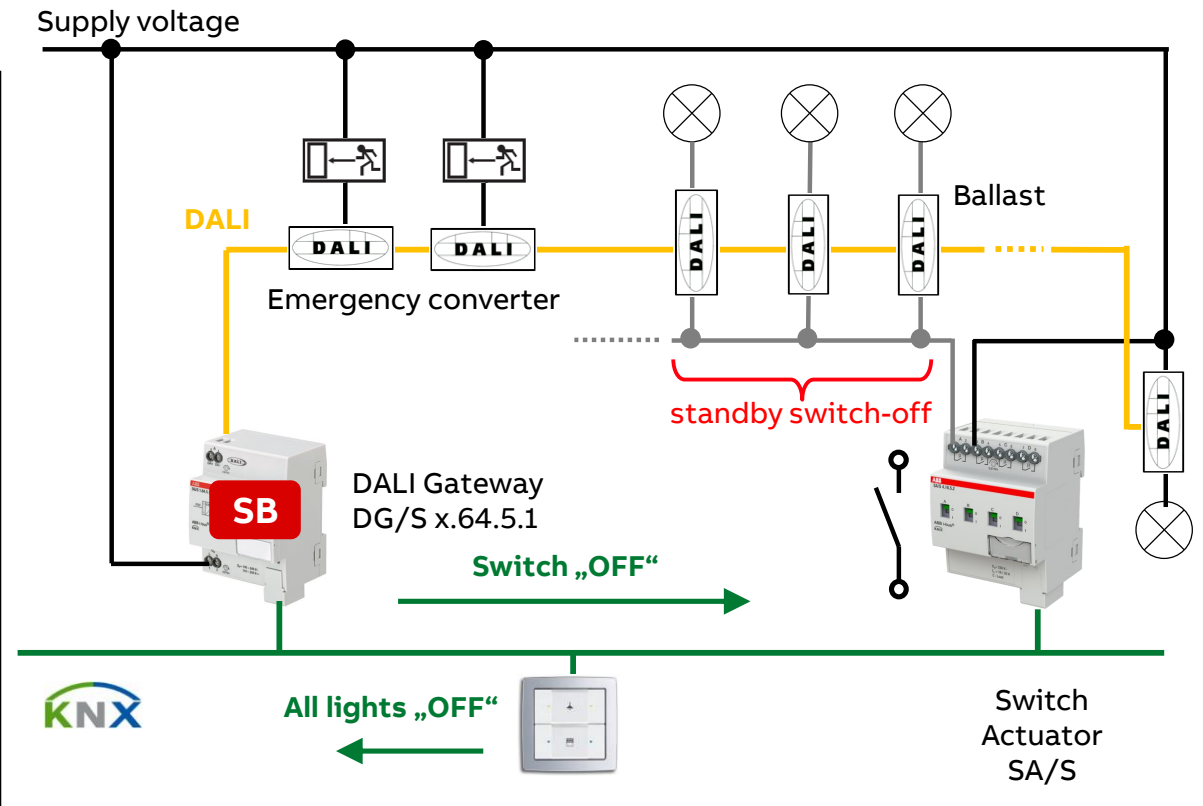
KNX DALI Gateway Premium DG/S x.64.5.1

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



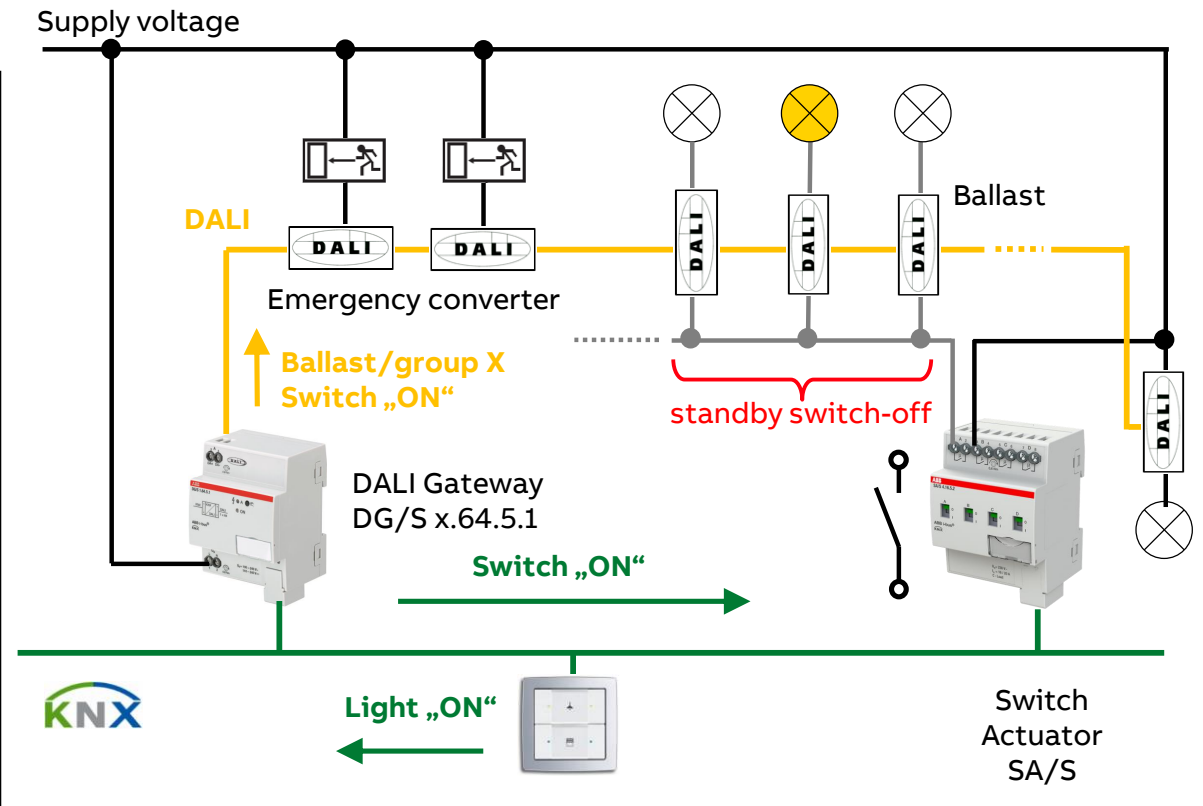
KNX DALI Gateway Premium DG/S x.64.5.1

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

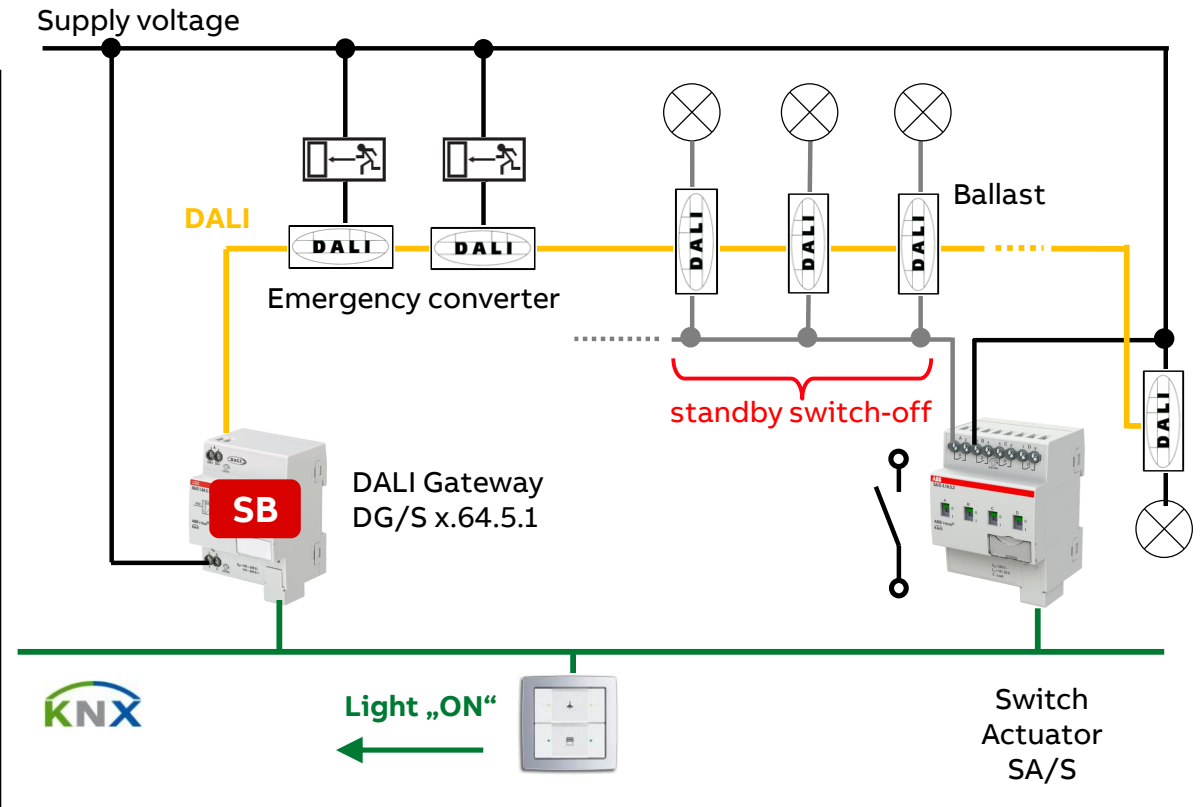


KNX DALI Gateway Premium DG/S x.64.5.1

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



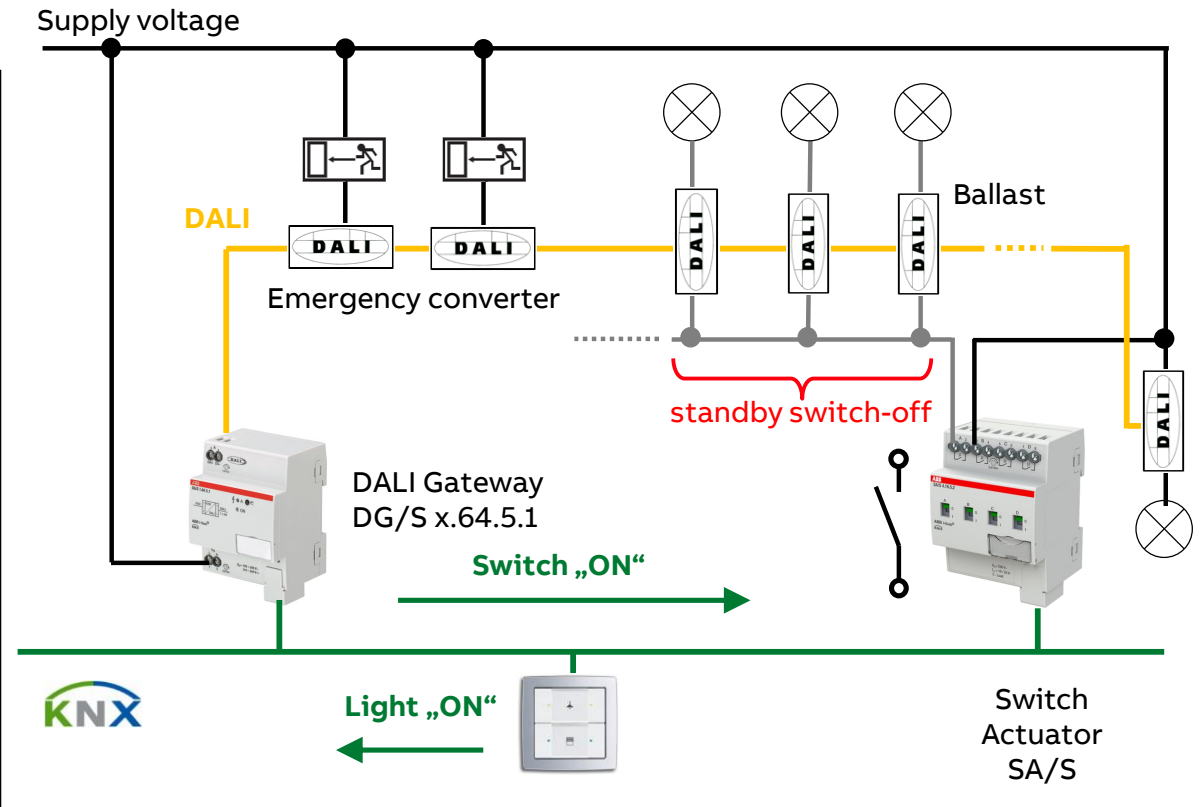
KNX DALI Gateway Premium DG/S x.64.5.1

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



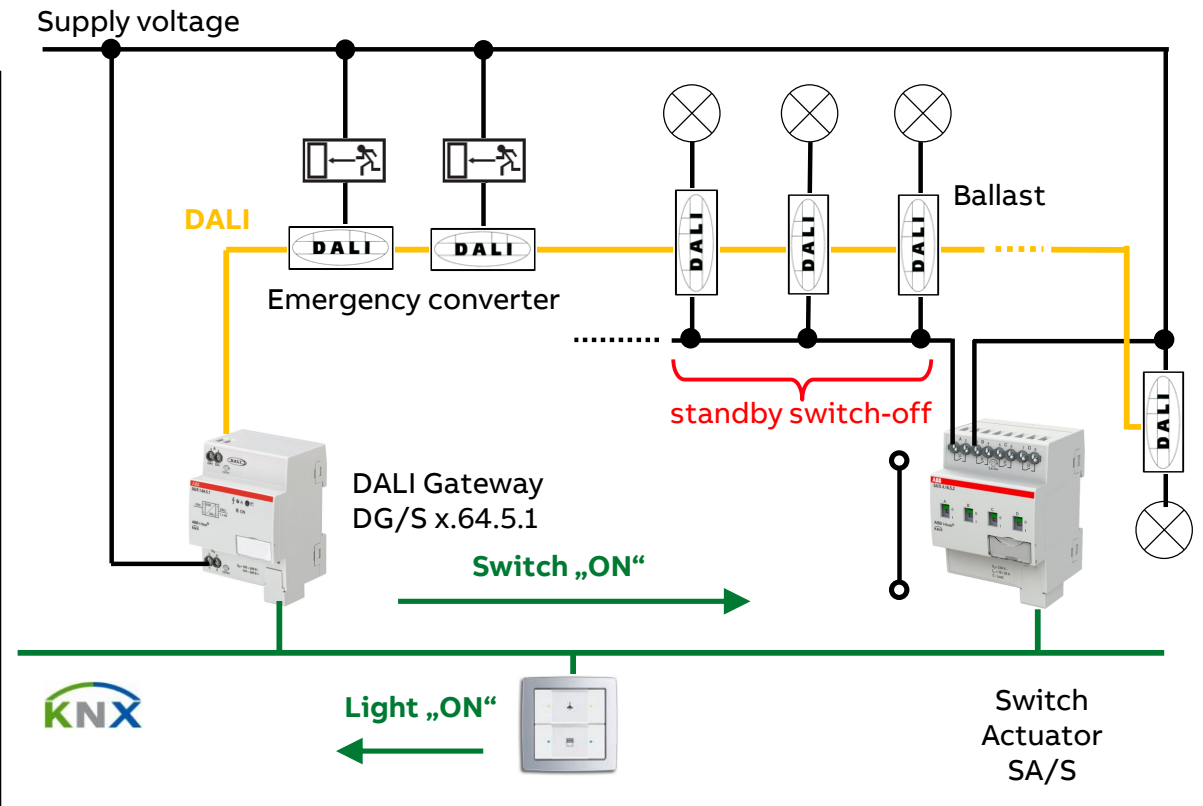
KNX DALI Gateway Premium DG/S x.64.5.1

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



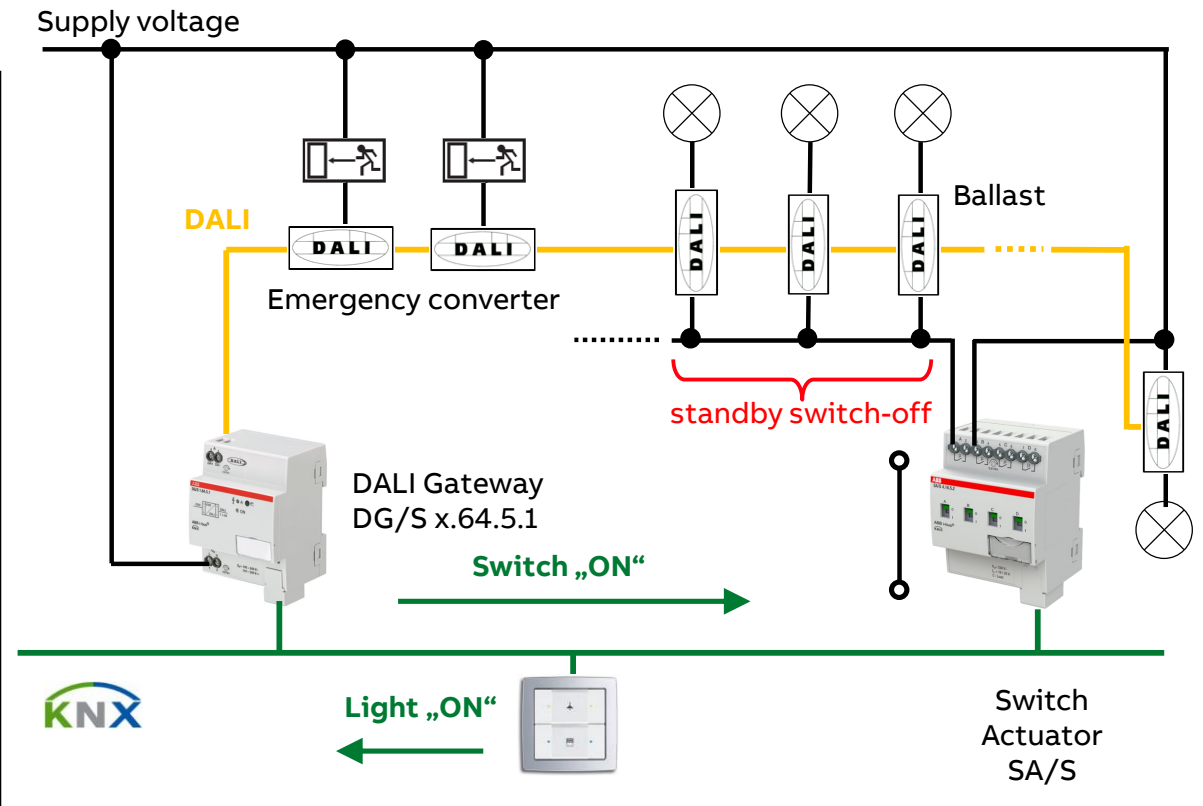
KNX DALI Gateway Premium DG/S x.64.5.1

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



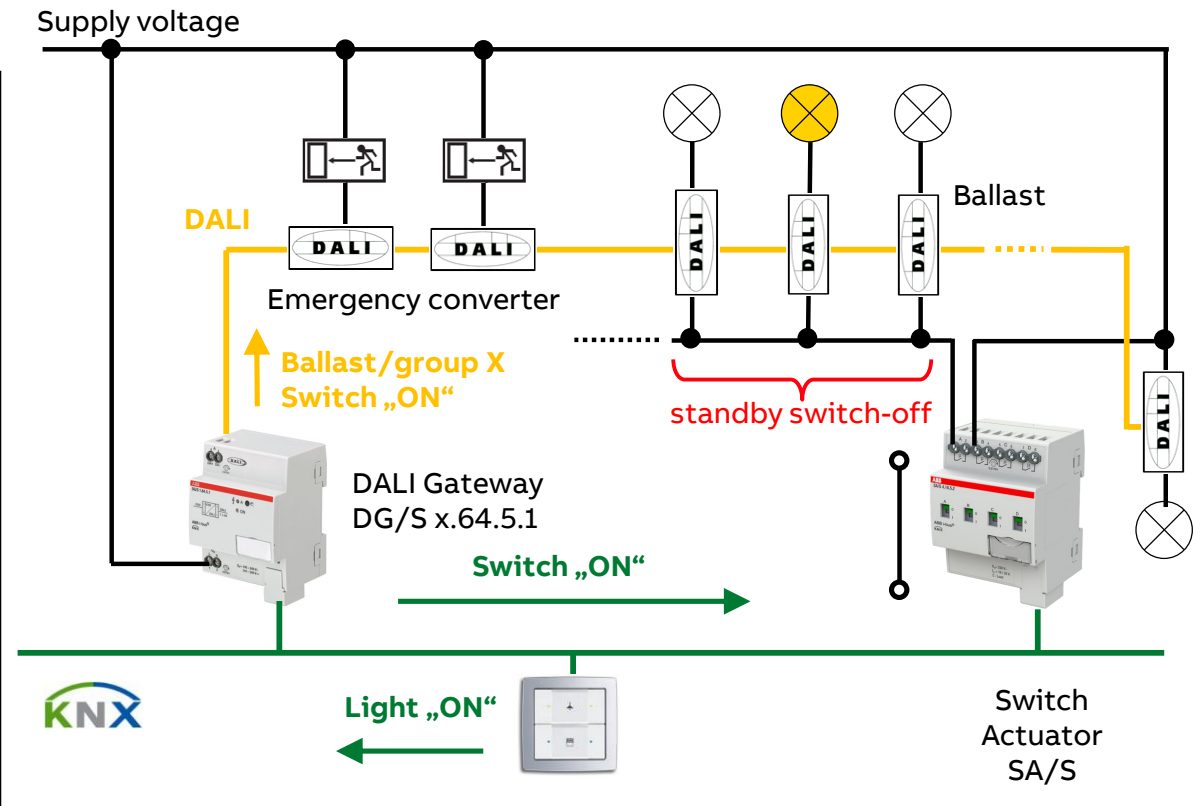
KNX DALI Gateway Premium DG/S x.64.5.1

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



KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off”

Commissioning of a “Standby switch-off” function

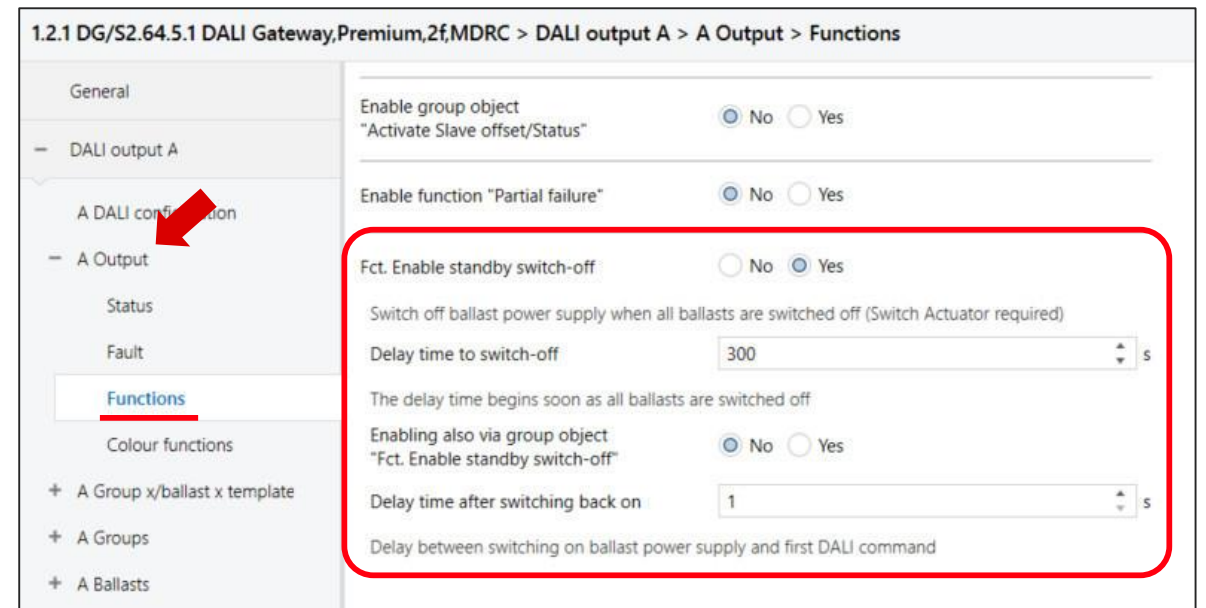
Set ETS parameter: DALI Output A → Output → Functions

- 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)



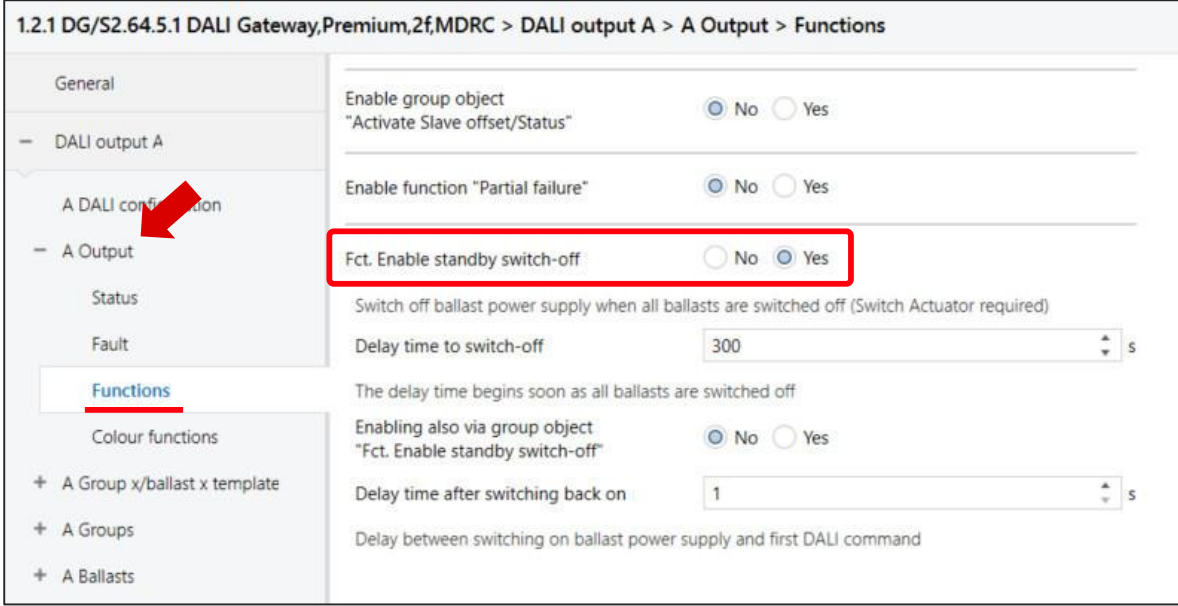
KNX DALI Gateway Premium DG/S x.64.5.1

Function "Standby switch-off"

Enable standby switch-off

This parameter determines whether standby switch-off is enabled
Standby switch-off is when the ballast supply voltage switches off if all connected ballasts on an DALI output are in standby

- No
 - The Standby switch-off function is not enabled
- Yes
 - The Standby switch-off function is enabled
 - If all the ballasts on an DALI Output are switched off, the ballast supply voltage can be switched off too
 - However, this requires the "*Standby switch-off*" group object to be linked with a Switch Actuator SA/S channel



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

General

DALI output A

A DALI configuration

A Output

Status

Fault

Functions

Colour functions

+ A Group x/ballast x template

+ A Groups

+ A Ballasts

Enable group object "Activate Slave offset/Status" No Yes

Enable function "Partial failure" No Yes

Fct. Enable standby switch-off No Yes

Switch off ballast power supply when all ballasts are switched off (Switch Actuator required)

Delay time to switch-off 300 s

The delay time begins soon as all ballasts are switched off

Enabling also via group object "Fct. Enable standby switch-off" No Yes

Delay time after switching back on 1 s

Delay between switching on ballast power supply and first DALI command

Nui	Group Address	Name	Object Function	Length	Data Type
66	1/4/66	Output A	Standby switch-off	1 bit	switch

KNX DALI Gateway Premium DG/S x.64.5.1

Function "Standby switch-off"

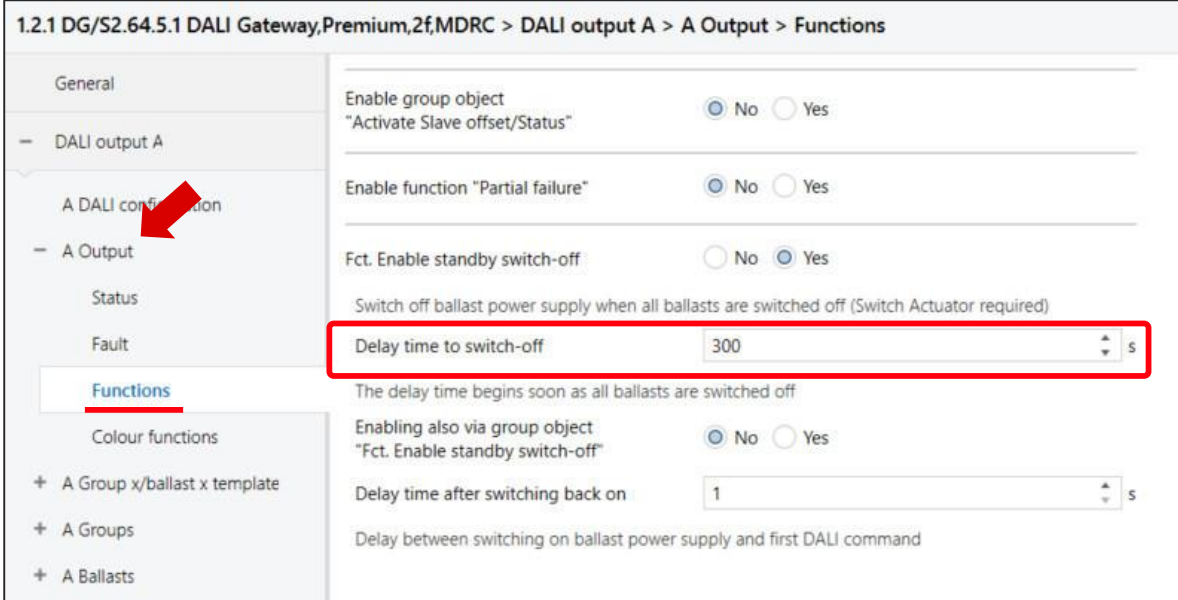
Delay time to switch-off

This parameter can be used to set a ballast supply voltage standby switch-off delay time before the "*Standby switch-off*" group object is sent on KNX and switches off all the ballasts on DALI output A/B

– 1...300...65,535sec.

Note

- Each time the supply voltage is switched off, the current values (brightness, colour temperature, ...) are saved to the ballast's flash memory
- Note that the lifetime of the ballast memory and associated storage space reduces each time
- We therefore recommend switching off no more than once a day



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

General

Enable group object "Activate Slave offset/Status" No Yes

Enable function "Partial failure" No Yes

Fct. Enable standby switch-off No Yes

Switch off ballast power supply when all ballasts are switched off (Switch Actuator required)

Delay time to switch-off 300 s

The delay time begins soon as all ballasts are switched off

Enabling also via group object "Fct. Enable standby switch-off" No Yes

Delay time after switching back on 1 s

Delay between switching on ballast power supply and first DALI command

Colour functions

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

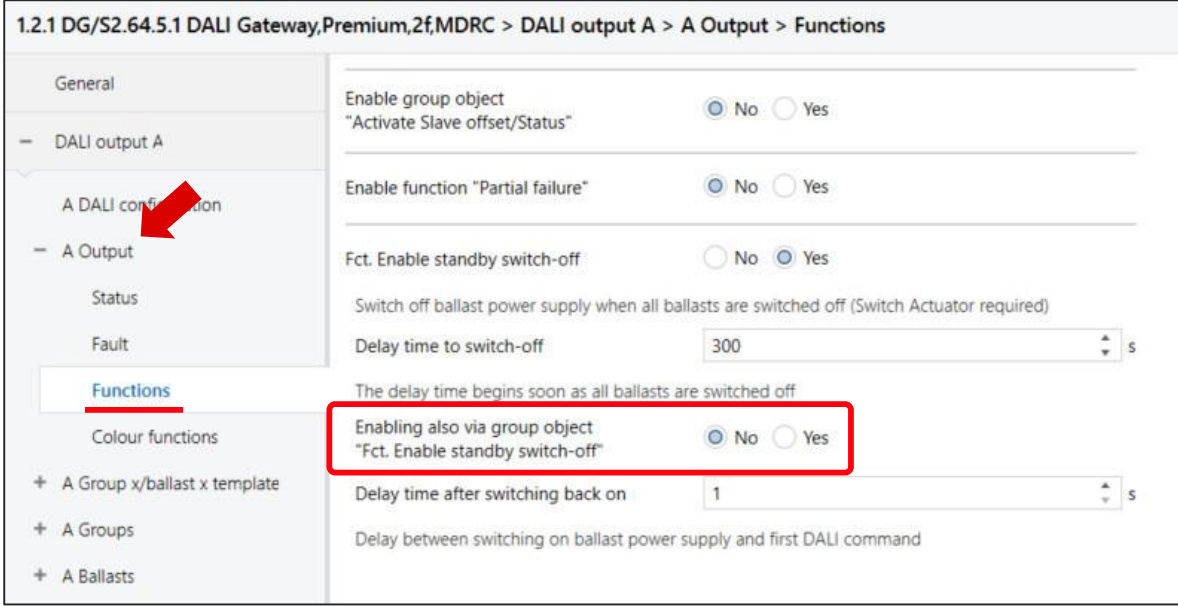
KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off”

Enabling via group object “Fct. Enable standby switch-off”

This parameter allows you to enable ballast supply voltage switch-off using the “*Enable Standby switch-off*” group object

- No
 - The standby switch-off function cannot be enabled or blocked
- Yes
 - Standby switch-off function using the “*Function Enable standby switch-off*” group object is enabled
 - This group object can be used to enable or block the standby switch-off function
 - Telegram value:
 - 1 = Enables the standby switch-off function
 - 0 = Blocks the standby switch-off function



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

General

Enable group object "Activate Slave offset/Status" No Yes

Enable function "Partial failure" No Yes

Fct. Enable standby switch-off No Yes

Switch off ballast power supply when all ballasts are switched off (Switch Actuator required)

Delay time to switch-off 300 s

The delay time begins soon as all ballasts are switched off

Enabling also via group object "Fct. Enable standby switch-off" No Yes

Delay time after switching back on 1 s

Delay between switching on ballast power supply and first DALI command

Nur	Group Address	Name	Object Function	Length	Data Type
67	1/4/67	Output A	Fct. Enable standby switch-off	1 bit	enable

KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off”

Delay time after switching back on

This parameter sets a delay time before the ballast supply voltage is switched back on by a Switch Actuator SA/S

The delay time delays transmission of the first DALI commands after the ballast supply voltage is switched on (thus taking account of ballast start up behavior)

– 1...10sec.

When using power supplies, a time longer than one second may have to be set (stabilization of the output voltage)

Note:

– According to the DALI standard – depending on the type – a DALI device must be ready to receive a command between 100msec. and 1,200msec. after supply voltage recovery

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

General

Enable group object "Activate Slave offset/Status" No Yes

Enable function "Partial failure" No Yes

Fct. Enable standby switch-off No Yes

Switch off ballast power supply when all ballasts are switched off (Switch Actuator required)

Delay time to switch-off 300 s

The delay time begins soon as all ballasts are switched off

Enabling also via group object "Fct. Enable standby switch-off" No Yes

Delay time after switching back on 1 s

Delay between switching on ballast power supply and first DALI command

Colour functions

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

KNX DALI Gateway Premium DG/S x.64.5.1

Function "Standby switch-off"

Brightness on ballast voltage recovery (DALI power-on level)

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
 - The DALI device (ballast) is switched on using the last (previous) set brightness value used before ballast supply voltage failure
 - This function must be supported by the DALI devices
 - Since the end of 2009, this property has been defined in the standard for DALI devices
 - Please contact the ballast manufacturer in case of doubt
 - The DALI Gateway writes the "MASK" command for the DALI power-on level in the ballast
 - This parameter changes the factory setting of the ballast

1.2.11 DG/S2.64.5.1 DALI Gateway, DALI output A > A Group x/ballast x template > Fault template (gr

General	Parameter template for pages "Group/ballast x fault"
- DALI output A	Brightness on ballast voltage recovery (DALI power-on level) Last value before failure
+ A Output	Brightness on KNX or DALI voltage failure (DALI system failure level) No change
- A Group x/ballast x template	Brightness on ballast recovery in operation Momentary KNX target state
Status template (group x/...	Brightness on KNX bus voltage recovery and download Last value before failure

Set DALI default parameters

Fade time:	0.7 s [1]	
Fade rate:	45 Steps/s [7]	
Minimum	0.1 % [1]	Physical lower limit: 0.1 % [1]
Maximum level:	100 % [254]	
Power On Level:	<input type="checkbox"/> MASK [255]	
System Failure	<input type="checkbox"/> MASK [255]	

KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off” – diagnosis with “DALI masterCONFIGURATOR” software (TRIDONIC)

The DALI Gateway writes the “MASK” command for the DALI power-on level in the ballast

Power On Level: MASK [255]

Power On Level: MASK [255]

KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off”

DALI software “masterCONFIGURATOR” (TRIDONIC)

The masterCONFIGURATOR software is a configuration and parameterization program for DALI devices

www.tridonic.com

The “DALI USB” interface module is required for communication with the DALI and the ballasts (TRIDONIC article number 24138923)

Note:

- The “masterCONFIGURATOR” software should only be used for testing or diagnosis (e.g. reading out power-on level)
- All other settings (parameterizing, settings, addressing, grouping,, ...) are made via the ETS and the ABB i-busTool!



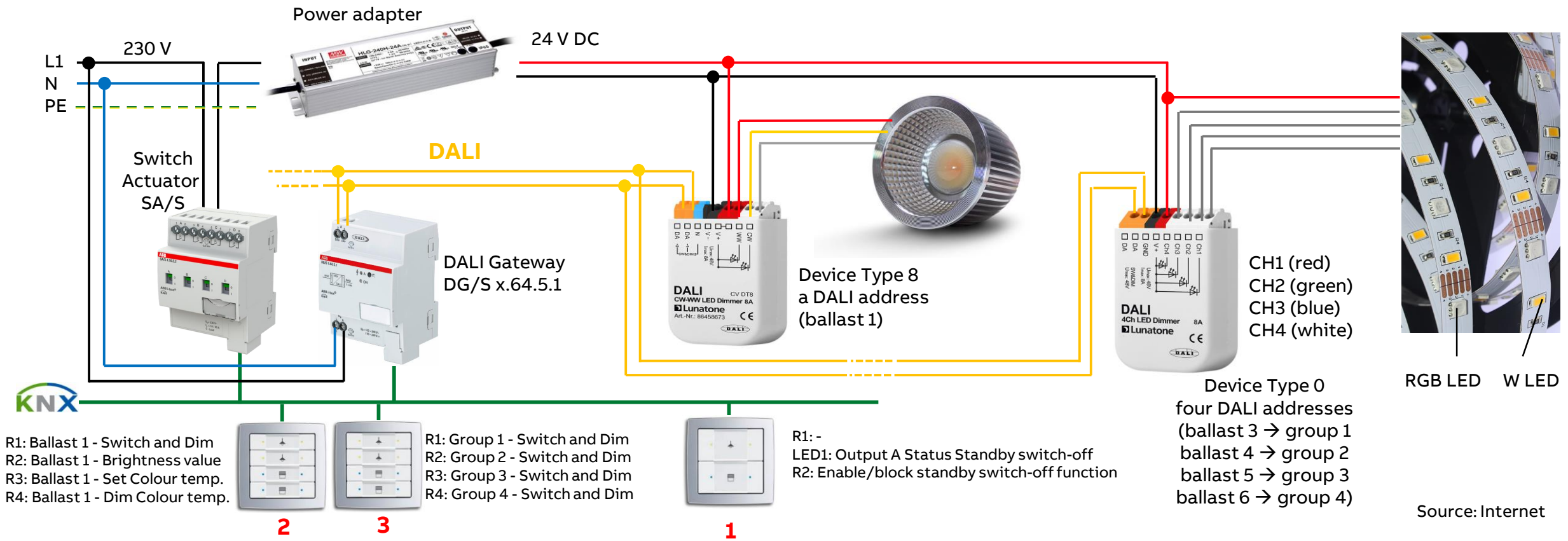
KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off” – ABB i-bus® Tool

The screenshot shows the ABB i-bus Tool 1.9.40.0 interface. The top bar displays 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 containing a grid of DALI devices (1-64). The right panel shows configuration options for 'Standby switch-off', with 'Standby shutdown active' set to 'Yes'. A tooltip is visible over the 'Standby shutdown active' status, showing the text 'Standby shutdown active' and a 'Yes' button.

KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off” – Example



KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off” – Example: Assignment of Group Addresses



DALI Gateway Premium DG/S x.64.5.16	Output A	Switch (1 bit)	←
		Relative dimming (4 bit)	←
		Brightness value (1 byte)	←
		Standby switch-off	
		Fct. Enable standby switch-off	
		...	
	Output A – group/ballast X	Grp./Ballast	
		Ballast 1 Switch (1 bit)	
		Ballast 1 Relative dimming (4 bit)	
		Ballast 1 Brightness value (1 byte)	
		Ballast 1 Set Colour temperature (2 byte)	
		Ballast 1 Dim Colour temperature (4 bit)	
		Grp./Ballast	
		Grp. 1 Switch (1 bit)	
		Grp. 1 Relative dimming (4 bit)	

... Output A Switch	Switch Actuator SA/S	1	
... Output B Switch			
... Output X Switch			
... LED 1.x Status (1 bit)	Control element solo®		
... S2.1 Switching (1 bit)			
... LED 2.x Status (1 bit)			
... S1.1 Switching (1 bit)	Control element solo®		2
... S1.1 Relative dimming (4 bit)			
... S2.1 Value Switching (1 byte)			
... S3.1 Value Switching (2 byte)			
... S4.1 Relative dimming (4 bit)			
... S1.1 Switching (1 bit)	C.E. solo®	3	
... S1.1 Relative dimming (4 bit)			

KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off” – Example: Assignment of Group Addresses



DALI Gateway Premium DG/S x.64.5.16	Output A	Switch (1 bit)	←	... Output A Switch	Switch Actuator SA/S	1	
		Relative dimming (4 bit)	←	... Output B Switch			
		Brightness value (1 byte)	←	... Output X Switch			
		Standby switch-off		... LED 1.x Status (1 bit)	Control element solo®		
		Fct. Enable standby switch-off		... S2.1 Switching (1 bit)			
	 LED 2.x Status (1 bit)			
	Output A – group/ballast X	Grp./Ballast					Control element solo®
		Ballast 1 Switch (1 bit)	←	... S1.1 Switching (1 bit)			
		Ballast 1 Relative dimming (4 bit)	←	... S1.1 Relative dimming (4 bit)			
		Ballast 1 Brightness value (1 byte)	←	... S2.1 Value Switching (1 byte)			
		Ballast 1 Set Colour temperature (2 byte)	←	... S3.1 Value Switching (2 byte)			
		Ballast 1 Dim Colour temperature (4 bit)	←	... S4.1 Relative dimming (4 bit)			
		Grp./Ballast					C.E. solo®
		Grp. 1 Switch (1 bit)		... S1.1 Switching (1 bit)			
Grp. 1 Relative dimming (4 bit)		... S1.1 Relative dimming (4 bit)					

KNX DALI Gateway Premium DG/S x.64.5.1

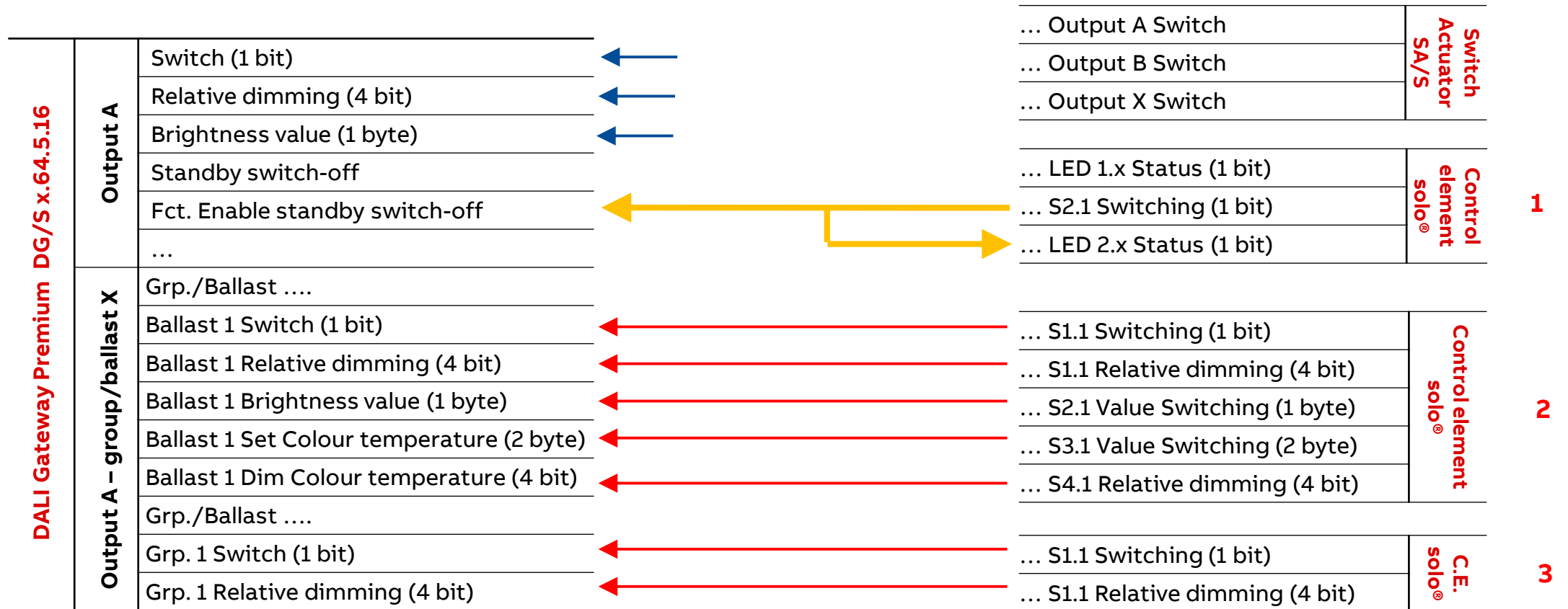
Function “Standby switch-off” – Example: Assignment of Group Addresses



DALI Gateway Premium DG/S x.64.5.16	Output A	Switch (1 bit)	←	... Output A Switch	Switch Actuator SA/S	1	
		Relative dimming (4 bit)	←	... Output B Switch			
		Brightness value (1 byte)	←	... Output X Switch			
		Standby switch-off		... LED 1.x Status (1 bit)	Control element solo®		
		Fct. Enable standby switch-off		... S2.1 Switching (1 bit)			
	 LED 2.x Status (1 bit)			
	Output A – group/ballast X	Grp./Ballast					Control element solo®
		Ballast 1 Switch (1 bit)	←	... S1.1 Switching (1 bit)			
		Ballast 1 Relative dimming (4 bit)	←	... S1.1 Relative dimming (4 bit)			
		Ballast 1 Brightness value (1 byte)	←	... S2.1 Value Switching (1 byte)			
		Ballast 1 Set Colour temperature (2 byte)	←	... S3.1 Value Switching (2 byte)			
		Ballast 1 Dim Colour temperature (4 bit)	←	... S4.1 Relative dimming (4 bit)			
		Grp./Ballast					C.E. solo®
		Grp. 1 Switch (1 bit)	←	... S1.1 Switching (1 bit)			
		Grp. 1 Relative dimming (4 bit)	←	... S1.1 Relative dimming (4 bit)			

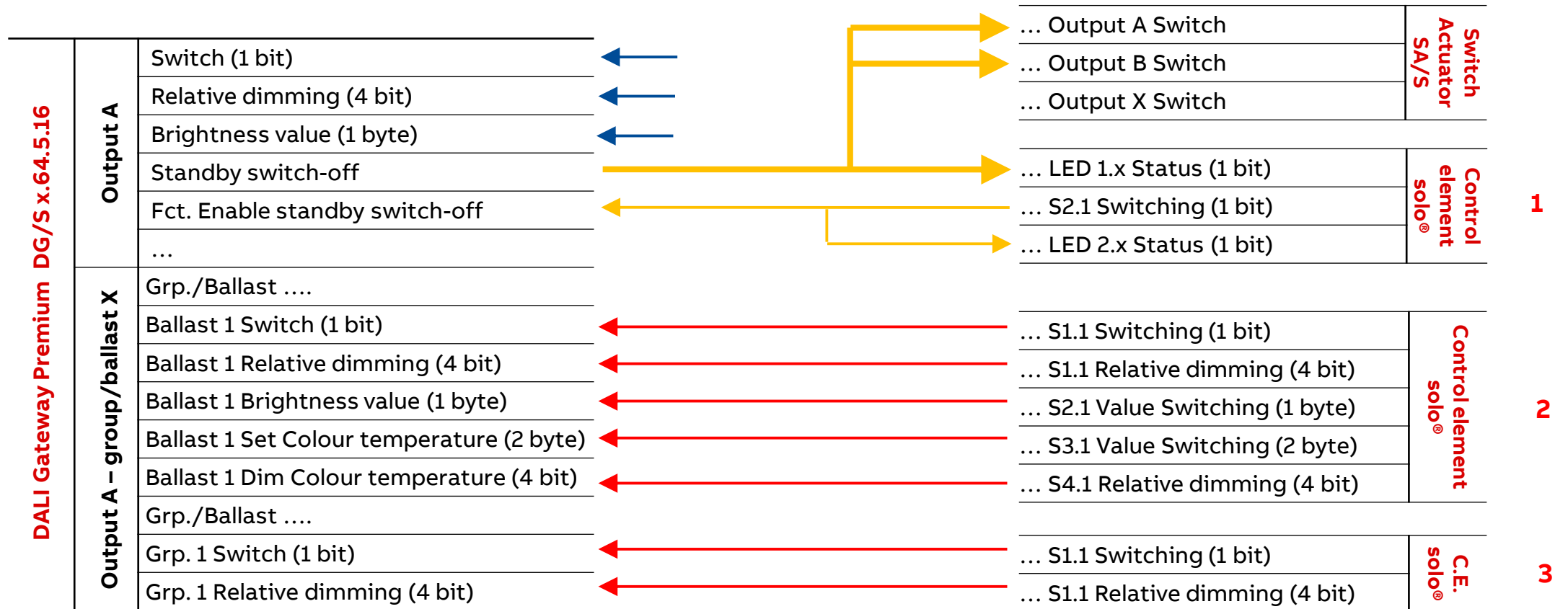
KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off” – Example: Assignment of Group Addresses



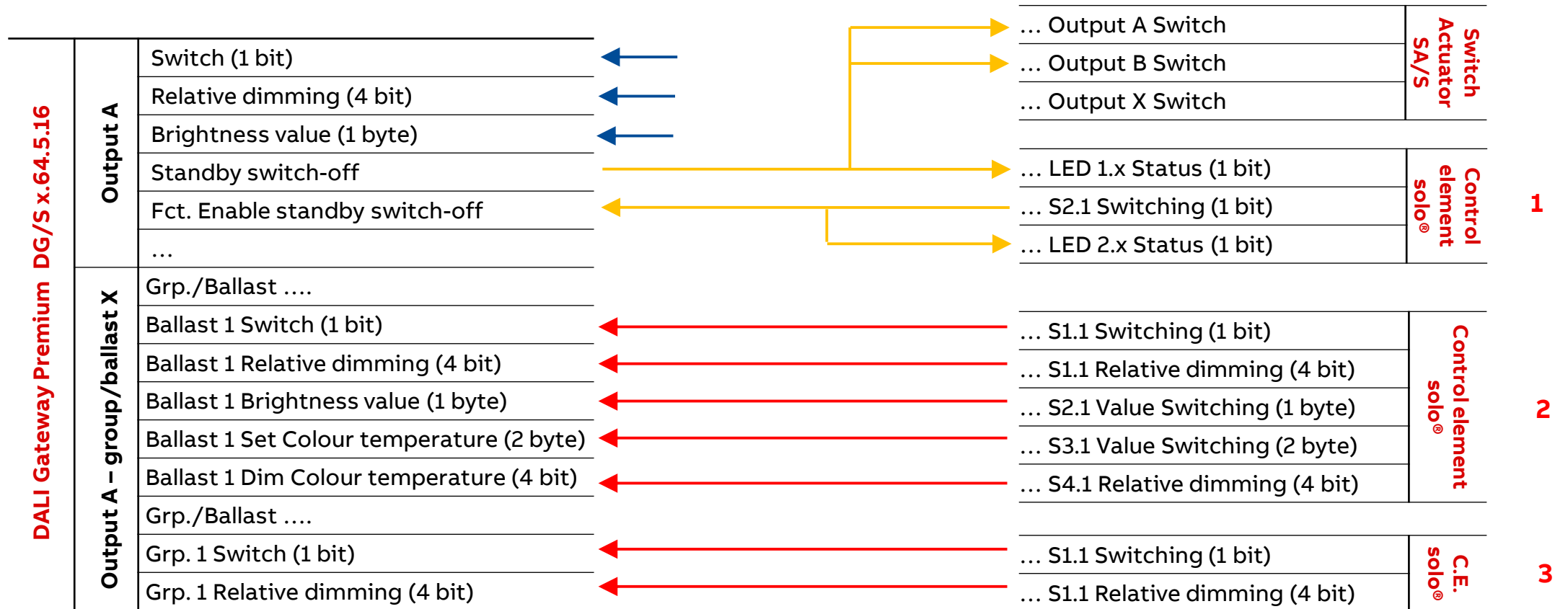
KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off” – Example: Assignment of Group Addresses



KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off” – Example: Assignment of Group Addresses

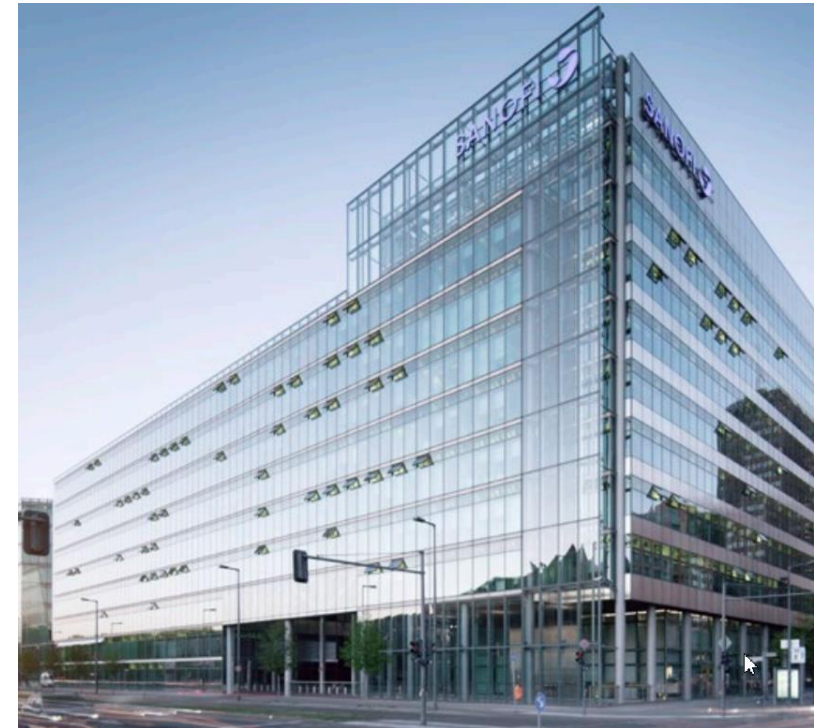


KNX DALI Gateway Premium DG/S x.64.5.1

Function “Standby switch-off”

Summary

- 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
- The supply voltage of the ballasts is switched off via a Switch Actuator SA/S
- Standby switch-off is available for each DALI output, not for every ballast or group
- The message "Ballast fault" is suppressed when the ballasts are switched off using the standby switch-off function
- When it is switched on again, the DG/S sends an “ON” command to the ballast(s) after a restart of the ballasts
- DALI Ballasts must support individual DALI power-on level
- It is recommend switching off no more than once a day (limited write cycles to the ballast's flash memory)



KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

KNX DALI Gateway Premium DG/S x.64.5.1

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



KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

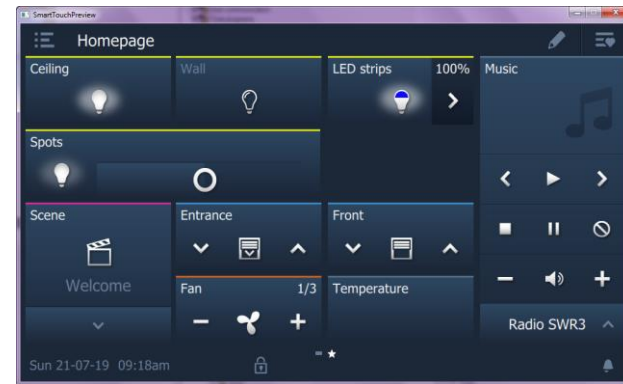
Controlling Scenes

One touch control

- Lighting
- Curtains, blinds, shutters
- HVAC
- Music
- Media technology
- ...

→ Scenes to suit your mood

→ More than central on/off



KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

Controlling Scenes – Store scenes in actuators

Advantages

- With a single scene telegram, e.g. a pushbutton, panel or a visualization, the system receives an instruction to store/call max. 64 different KNX scenes !!!
- The information (brightness value, colour temperature, transition time, ...) are not stored in the pushbutton, but rather in all actuators
- All scene devices are linked by the same group address
- It is sufficient to send a single telegram to call the scene with all outputs involved

Scenes can also be saved with information and group addresses in control elements, panels, ... → Telegram multiplier with a limited number of group addresses and higher bus load

The image shows two screenshots from a KNX configuration interface. The top screenshot is titled "1.1.23 Room 3-001 entrance are: 2-fold control element > Rocker switch 1 > Common parameter". It shows a tree view on the left with "Rocker switch 1" selected, and a "Common parameter" sub-entry. The right pane shows settings for "Application" (1-button light scene extension unit with memory...), "Duration of long operation" (05.000 ss.fff), "Storage function light scenes" (deactivated/activated radio buttons, with "activated" selected), and "Number of light scene" (8). The bottom screenshot is titled "3.5.1 DG/S2.64.5.1 DALI Gateway,Premium,2f,MDRC > DALI output A > A Scenes > Scene 1". It shows a tree view on the left with "DALI output A" selected, then "A DALI configuration", "A Scenes", and "Scene 1" selected. The right pane shows settings for "Transition time for scene" (2.0 s), "Overwrite saved scene val. on download" (No/Yes radio buttons, with "Yes" selected), "Group 1 is member of the scene" (No/Yes radio buttons, with "Yes" selected), "Change brightness" (No/Yes radio buttons, with "Yes" selected), "Brightness value" (75% (191)), "Change Colour temperature" (No/Yes radio buttons, with "Yes" selected), "Colour temperature" (3100 K), and "Group 2 is member of the scene" (No/Yes radio buttons, with "Yes" selected).

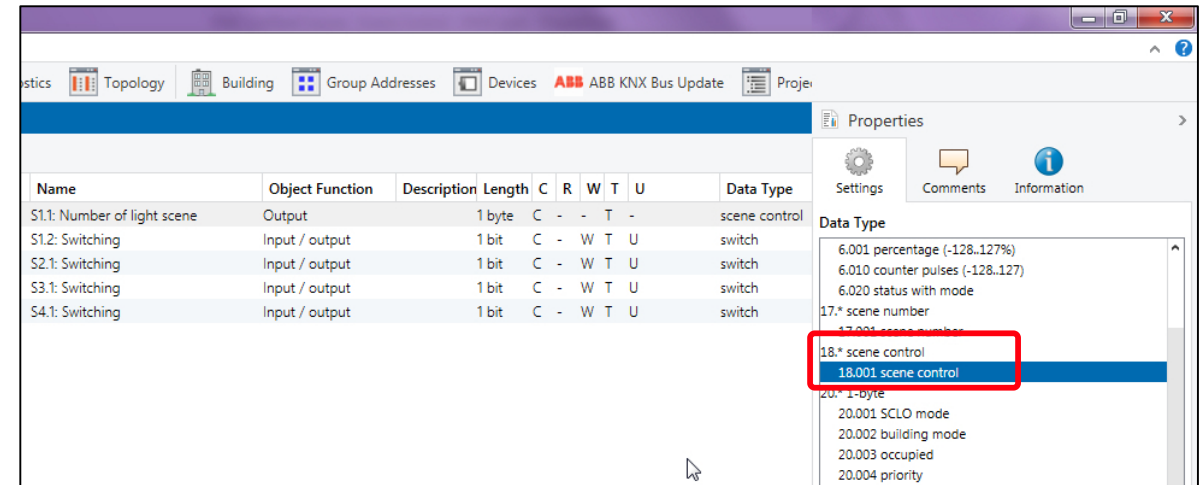
KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

Controlling Scenes – Store scenes in actuators

- 8-bit object for calling and storing up to **64 KNX scenes**
 - Datapoint Type DPT 18.001 “SceneControl” (call and store) (Datapoint Type DPT 17.001 “Scene Number: Only call a scene!”)
 - Object value contains scene number 1-64 (bit no. 1-6) and command call or store the scene (bit no. 8)
 - The KNX scenes must be assigned to the DALI scenes
- Additionally in the DALI Gateway Premium DG/S x.64.5.1 : 1-bit objects for calling a **DALI scene**
 - A group object for each scene
 - Datapoint Type DPT 1.017 “Trigger” (only call)

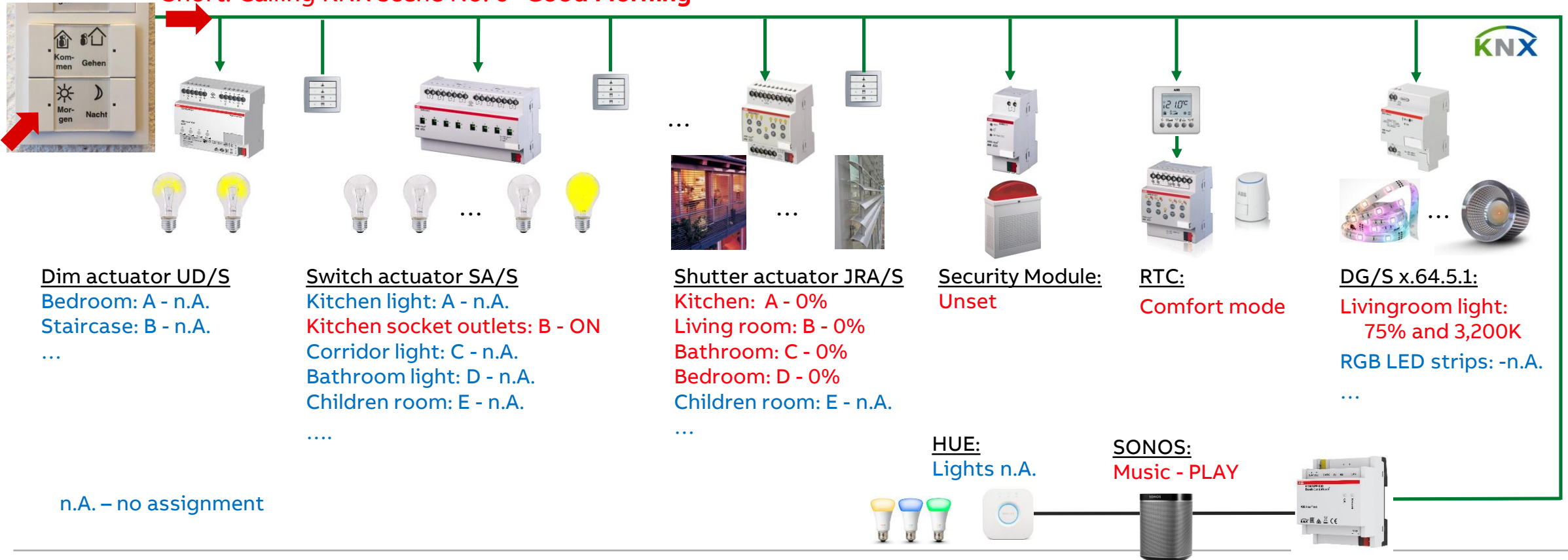
Note: DALI is limited to 16 scenes



KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

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



KNX DALI Gateway Premium DG/S x.64.5.1

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)

The screenshot shows the configuration page for '3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A DALI configuration'. The interface is divided into two main sections: 'General' and 'A DALI configuration'. In the 'General' section, 'Enable automatic DALI addressing' is set to 'No', and 'Pause between QUERY STATUS polls' is set to '2 x 100 ms'. A note states: 'Irrespectively of this, an emergency lighting converter is polled every 64 seconds.' The 'A DALI configuration' section contains several options: 'Enable DALI groups (group control)' is set to 'Yes', 'Enable DALI ballasts (individual control)' is set to 'No', 'Enable DALI emergency lighting converter (emergency lighting control)' is set to 'No', and 'Enable DALI scenes (scene control)' is set to 'Yes'. The left sidebar shows a tree view with 'DALI output A' expanded, and sub-items 'A Output', 'A Group x/ballast x template', 'A Groups', 'A Scenes', and 'DALI output B'.

KNX DALI Gateway Premium DG/S x.64.5.1

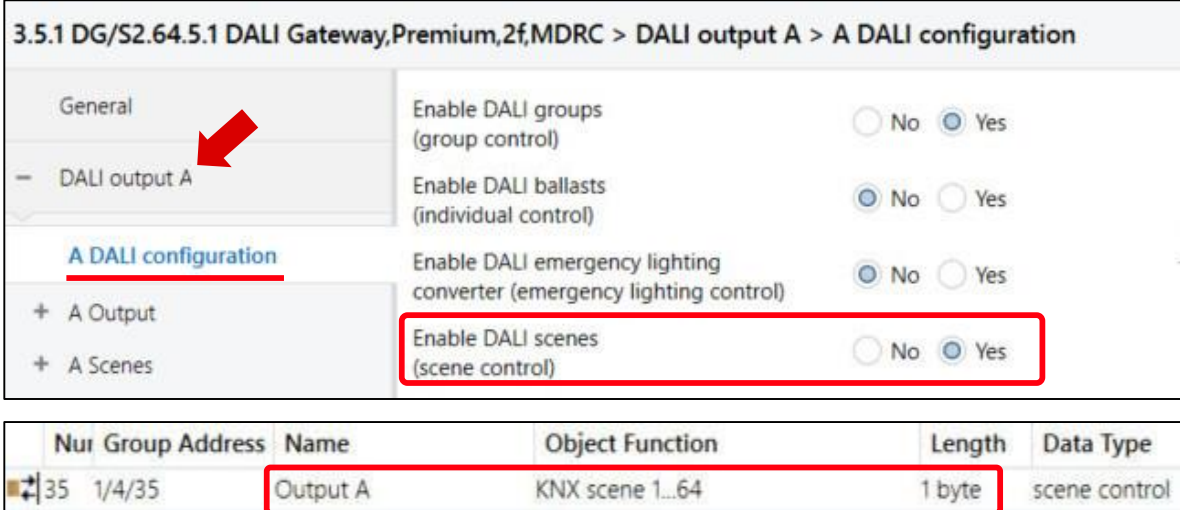
DALI light scenes with individual brightness and colour temperature level

Enable DALI scenes (scene control)

This parameter determines whether scenes are used

- No
 - The DALI output does not support the scenes function
 - No corresponding parameter windows and group objects are enabled, so the ETS parameter structure here is clear
- Yes
 - The DALI output supports control for up to DALI 16 scenes
 - The corresponding parameter window “Scenes” and the “KNX scene 1...64” group object is enabled (8-bit scene control)

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



General

Enable DALI groups (group control) No Yes

DALI output A

Enable DALI ballasts (individual control) No Yes

A DALI configuration

Enable DALI emergency lighting converter (emergency lighting control) No Yes

Enable DALI scenes (scene control) No Yes

Nur	Group Address	Name	Object Function	Length	Data Type
35	1/4/35	Output A	KNX scene 1...64	1 byte	scene control

KNX DALI Gateway Premium DG/S x.64.5.1

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

KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

Linking DALI scenes with KNX scenes

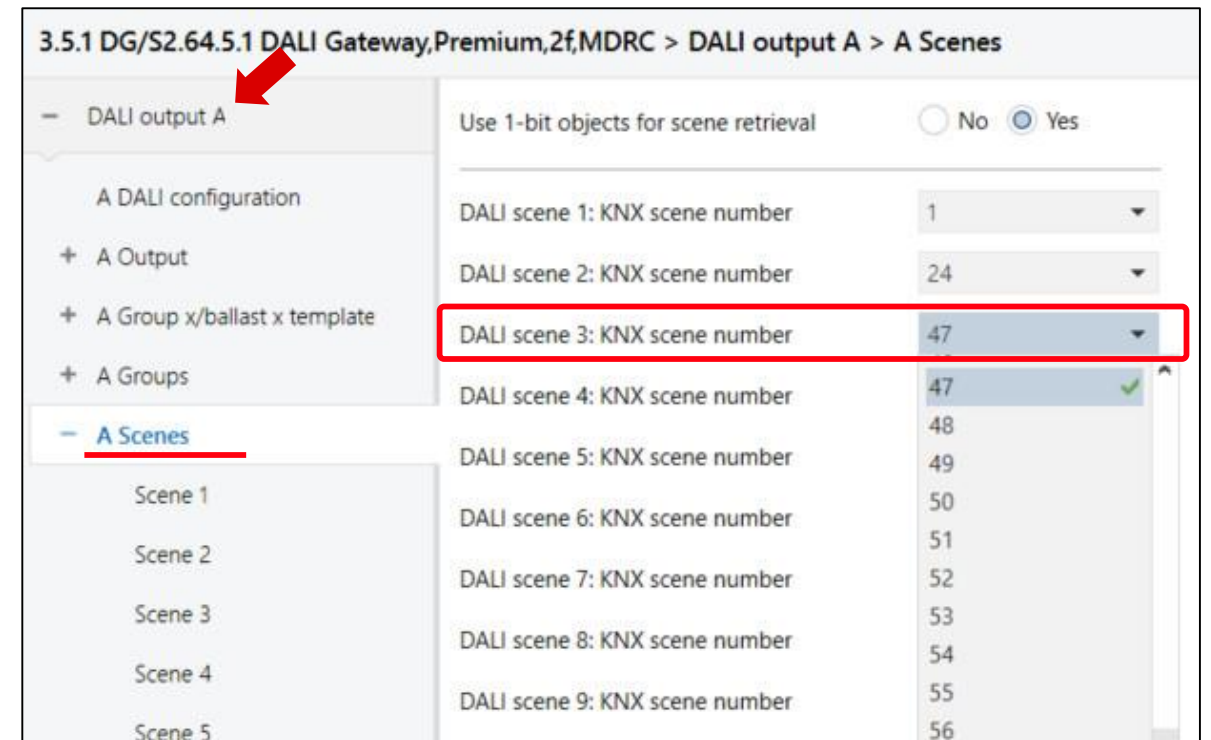
KNX supports up to 64 scenes

A DALI Gateway has 16 DALI scenes per output
→ This corresponds to the DALI scene standards

The DALI scenes (1... 16) can be assigned to the KNX scenes (1... 64)

This makes it possible to integrate any of the 64 KNX scenes into the DALI

- For example, DALI scene 3, which is parametrized in the DALI Gateway, can be assigned to KNX scene 47 and recalled or saved using KNX scene commands for scene 47



The screenshot shows the configuration page for '3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Scenes'. A red arrow points to the 'DALI output A' header. The 'A Scenes' section is expanded, showing a list of DALI scenes (1-9) and their corresponding KNX scene numbers. DALI scene 3 is highlighted with a red box and assigned to KNX scene 47. DALI scene 4 is also assigned to KNX scene 47 and has a green checkmark. The 'Use 1-bit objects for scene retrieval' option is set to 'Yes'.

DALI scene	KNX scene number
DALI scene 1	1
DALI scene 2	24
DALI scene 3	47
DALI scene 4	47
DALI scene 5	48
DALI scene 6	49
DALI scene 7	50
DALI scene 8	51
DALI scene 9	52

KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

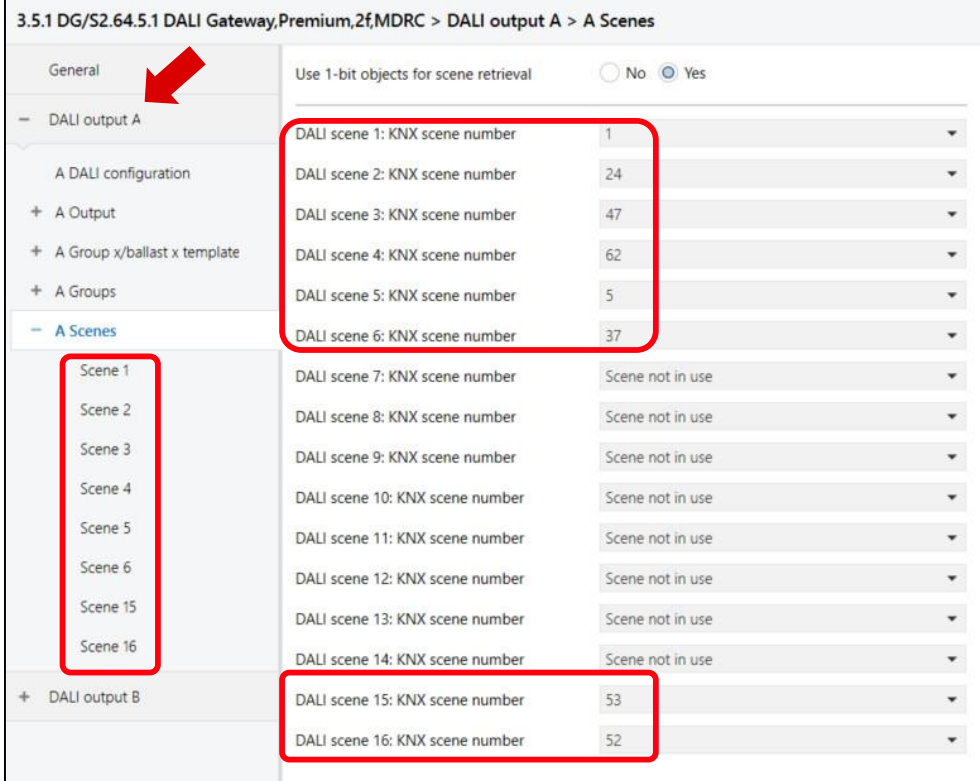
Scenes

Only DALI scenes that are assigned to KNX scenes are displayed, e.g. 1 to 6 and 15-16

The properties of the scenes and their members are parametrized in the “Scene X” window

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

A ballasts/group can be a member of several scenes



The screenshot shows the configuration page for DALI output A, titled "3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Scenes". The interface is divided into a left sidebar and a main content area. The sidebar contains a tree view with the following items: "General" (highlighted with a red arrow), "DALI output A", "A DALI configuration", "A Output", "A Group x/ballast x template", "A Groups", "A Scenes" (expanded to show "Scene 1" through "Scene 6", "Scene 15", and "Scene 16", all highlighted with a red box), and "DALI output B". The main content area shows a table of scene assignments for DALI output A. The table has two columns: "DALI scene X: KNX scene number" and a dropdown menu. The assignments are as follows:

DALI scene X: KNX scene number	Value
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
DALI scene 7: KNX scene number	Scene not in use
DALI scene 8: KNX scene number	Scene not in use
DALI scene 9: KNX scene number	Scene not in use
DALI scene 10: KNX scene number	Scene not in use
DALI scene 11: KNX scene number	Scene not in use
DALI scene 12: KNX scene number	Scene not in use
DALI scene 13: KNX scene number	Scene not in use
DALI scene 14: KNX scene number	Scene not in use
DALI scene 15: KNX scene number	53
DALI scene 16: KNX scene number	52

KNX DALI Gateway Premium DG/S x.64.5.1

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

KNX DALI Gateway Premium DG/S x.64.5.1

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"

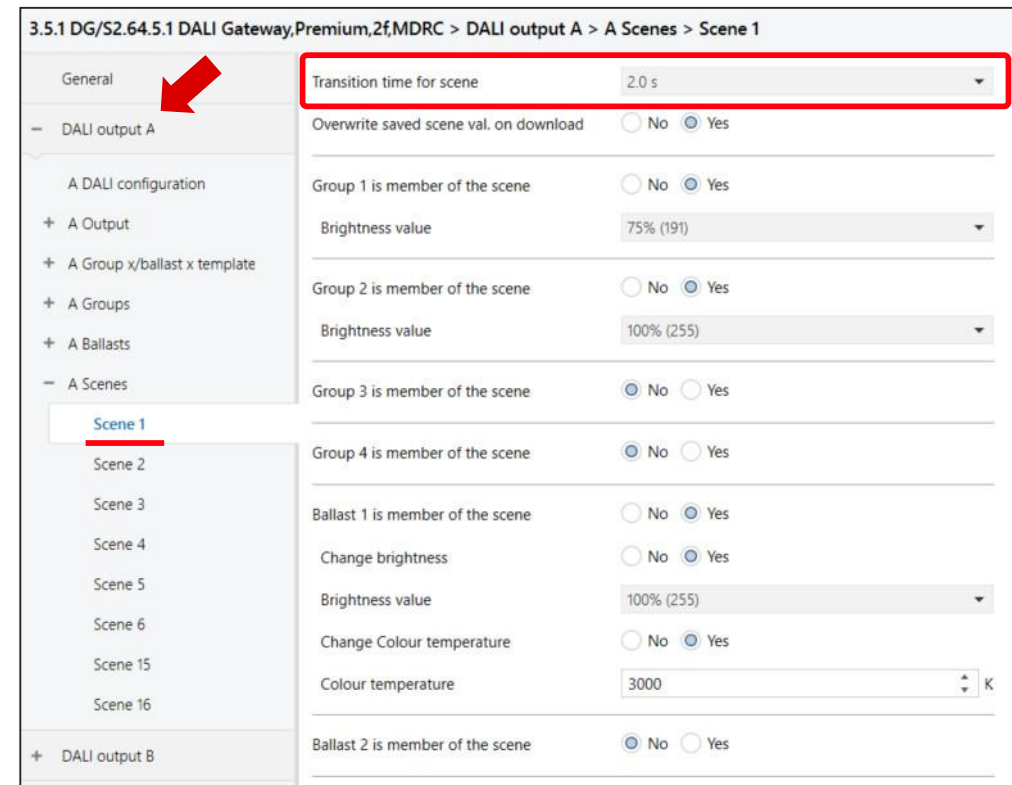
The screenshot shows the configuration interface for a DALI Gateway Premium. The title bar reads "3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Scenes > Scene 1". On the left, a navigation tree shows "DALI output A" expanded, with "A DALI configuration" containing "A Output", "A Group x/ballast x template", "A Groups", and "A Ballasts". Under "A Scenes", "Scene 1" is selected and highlighted with a red underline. A red arrow points to the "General" tab in the configuration area. The "Transition time for scene" is set to "2.0 s" and is highlighted with a red box. Below this, there are several sections for scene members, each with a "Change brightness" or "Change Colour temperature" option and a "Ballast x is member of the scene" radio button. The "Ballast 1" section shows "Change brightness" set to "100% (255)" and "Change Colour temperature" set to "3000 K".

KNX DALI Gateway Premium DG/S x.64.5.1


DALI light scenes with individual brightness and colour temperature level

Transition time for “Scene x”

- Jump to: When a scene is recalled, the scene members are switched on immediately at the set brightness value of the scene
- 0.7 s...64.0sec.: When a scene is recalled, all the lighting scene members are dimmed from their current brightness value to the set brightness value within this time
- Via group object Flexible time for dimming/fade time": When a scene is recalled, all the scene members are dimmed from their current brightness value to the parametrized brightness value using flexible dimming time which can be adjusted via KNX. The value can be changed via the Flexible dimming/fade time (...) group object.



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

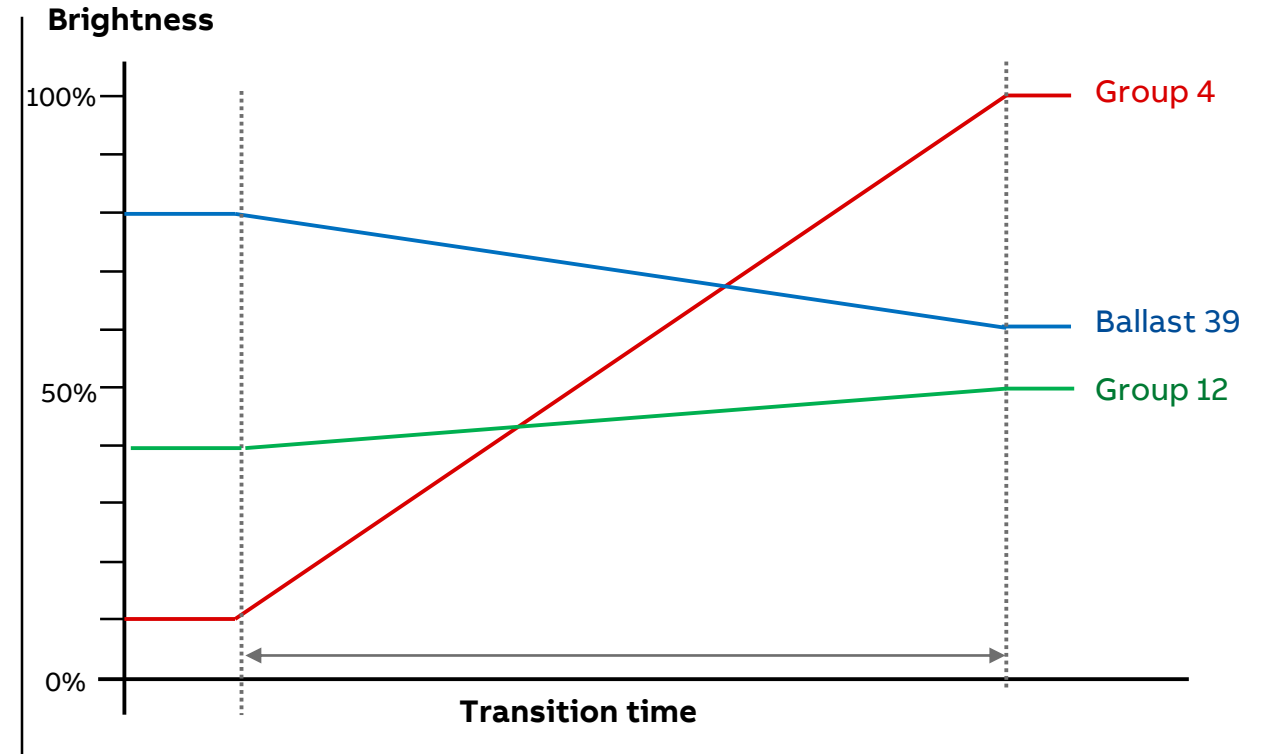
KNX DALI Gateway Premium DG/S x.64.5.1

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



KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

Overwrite scene on download

When a download occurs, the parametrized scene values are usually transferred to the gateway and overwrite customer values

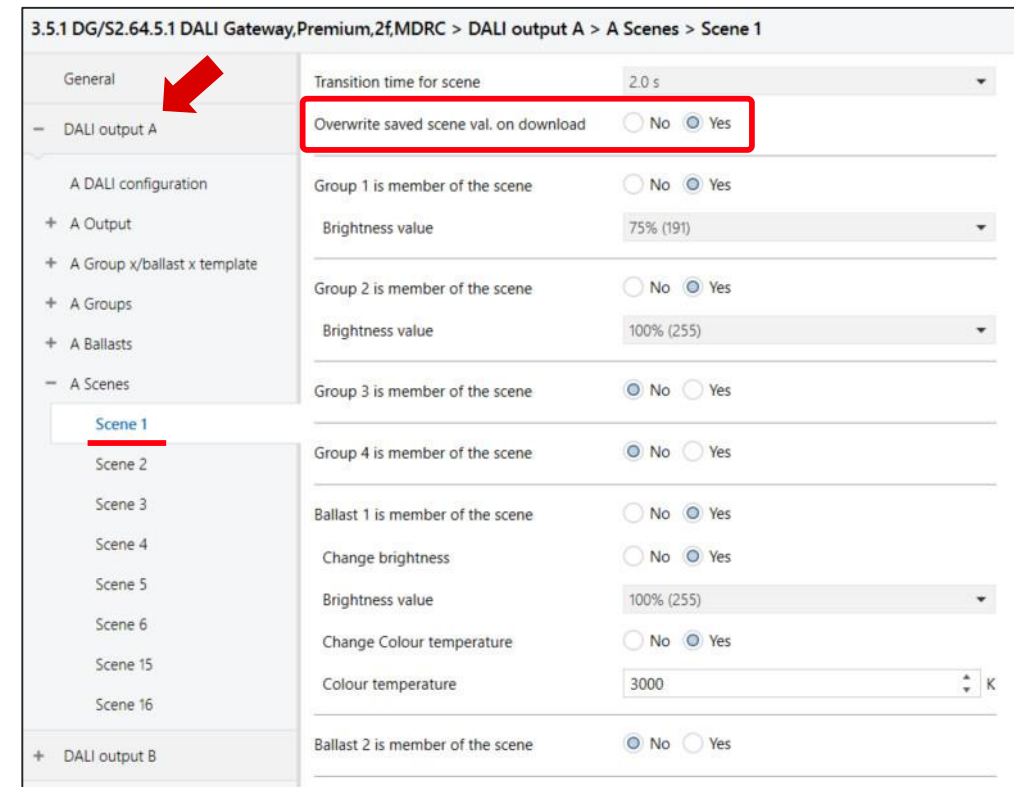
This parameter can prohibit the transfer so as to prevent manually set scene values from being overwritten

– No:

- After a download the scene values for the scene members are not overwritten with the values set in ETS
- If no scene values have been stored, the gateway sets them to the maximum brightness

– Yes

- After a download, the scene values for the scene members are overwritten with the values set in ETS



KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

Overwrite scene on download

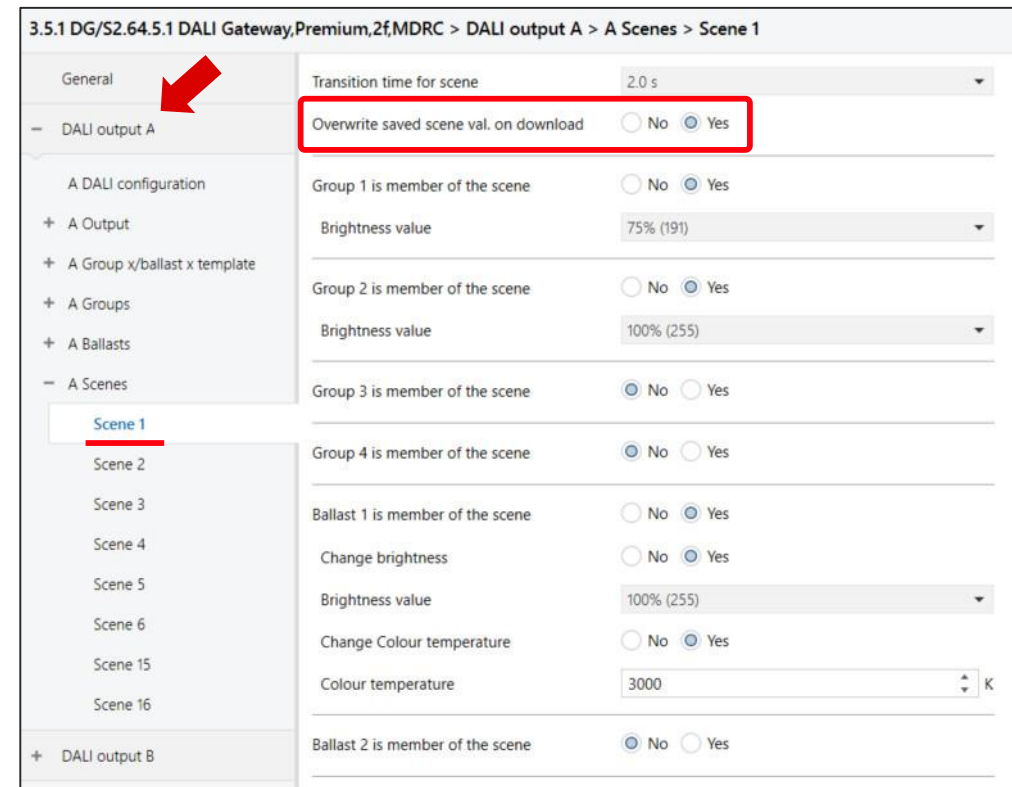
Note

When a scene is recalled or stored, only the ballasts or groups in that scene are taken into consideration

Even if the scene values are not overwritten after a download, the scene members have to be selected in order to tell the gateway which ballasts or groups are members of the scene

When a download occurs, the parametrized scene values are usually transferred to the gateway

If no change has been made in the ETS application, ETS does not transfer these values again when a partial ETS download occurs
To transfer the values to the gateway even when no parameters have been changed, run a normal download using “Download application”



KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

“Group/Ballast x” is member of the scene

This parameter defines which ballasts/groups are members of the scene

Only enabled groups and ballasts will appear

This keeps the parameter window more clearly organized

– No

- The group/ballast is not in the scene

– Yes

- The group/ballast is in the scene
- Additional parameters are shown in order to make settings for the scene member

3.5.1 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

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

KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

“Group/Ballast x” is member of the scene: Change brightness

This parameter determines whether the brightness of the group/ballast changes in the scene

– No:

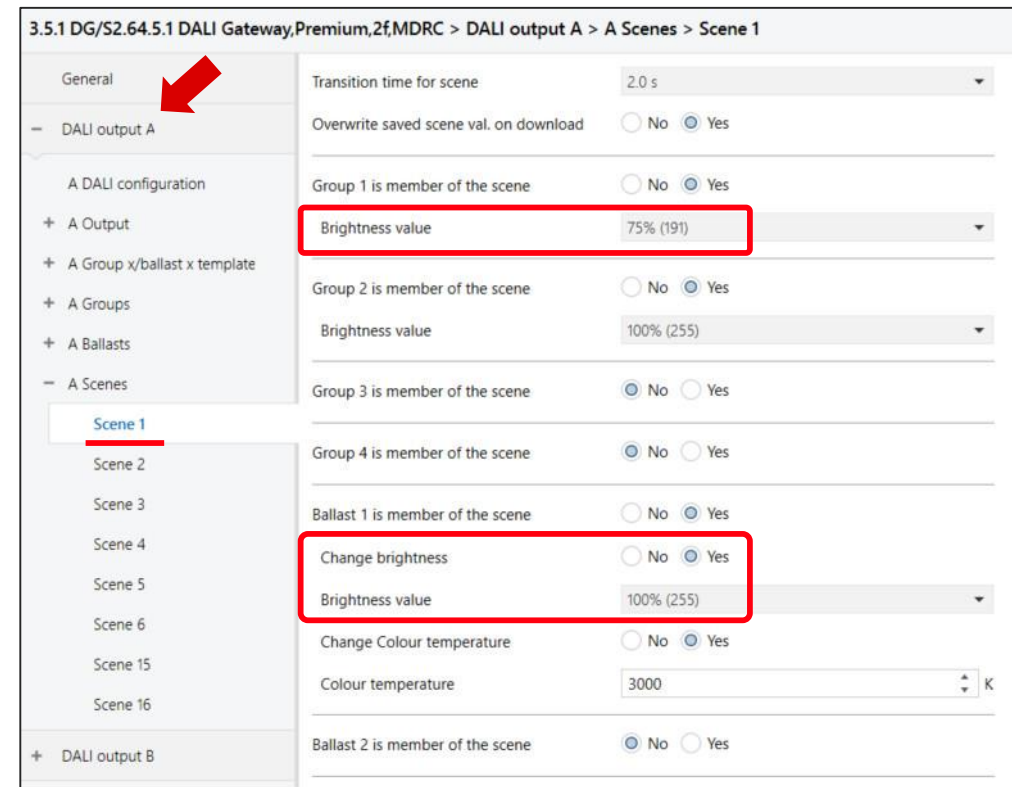
- The member's brightness does not change in the scene
- The “Brightness” and “Change colour temperature” parameters are hidden

– Yes

- The member's brightness changes when the scene is recalled
- The brightness value is set using the parameters below

Note:

If no colour control is selected for the group/ballast (e.g. group 1) in the “Colour control type” parameter in the “X groups/Group x” or “X ballasts/Ballast x2 window, the "Change brightness", "Change colour temperature" and "Colour temperature" parameters are hidden



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

KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level

“Group/Ballast x” is member of the scene: Brightness value

This parameter defines the brightness value to which scene members are set when a scene is recalled

Options:

- 100 % (255), 99 % (252), ..., 0.4 % (1), 0 % (OFF)

The ballast or group is part of the scene

During a scene recall, the scene member is set to the brightness value set here

If the set brightness value is above or below the maximum brightness or minimum dimming value of the scene member, the corresponding dimming value is stored in the scene

The screenshot shows the configuration interface for a DALI Gateway Premium. The breadcrumb path is: 3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Scenes > Scene 1. The left sidebar shows a tree view with 'Scene 1' selected. The main area displays settings for 'Scene 1'. A red arrow points to the 'General' tab. Two red boxes highlight the 'Brightness value' settings for 'Group 1' (75% (191)) and 'Ballast 1' (100% (255)).

Parameter	Value
Transition time for scene	2.0 s
Overwrite saved scene val. on download	<input type="radio"/> No <input checked="" type="radio"/> Yes
Group 1 is member of the scene	<input type="radio"/> No <input checked="" type="radio"/> Yes
Brightness value	75% (191)
Group 2 is member of the scene	<input type="radio"/> No <input checked="" type="radio"/> Yes
Brightness value	100% (255)
Group 3 is member of the scene	<input checked="" type="radio"/> No <input type="radio"/> Yes
Group 4 is member of the scene	<input checked="" type="radio"/> No <input type="radio"/> Yes
Ballast 1 is member of the scene	<input type="radio"/> No <input checked="" type="radio"/> Yes
Change brightness	<input type="radio"/> No <input checked="" type="radio"/> Yes
Brightness value	100% (255)
Change Colour temperature	<input type="radio"/> No <input checked="" type="radio"/> Yes
Colour temperature	3000 K
Ballast 2 is member of the scene	<input checked="" type="radio"/> No <input type="radio"/> Yes

KNX DALI Gateway Premium DG/S x.64.5.1

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:

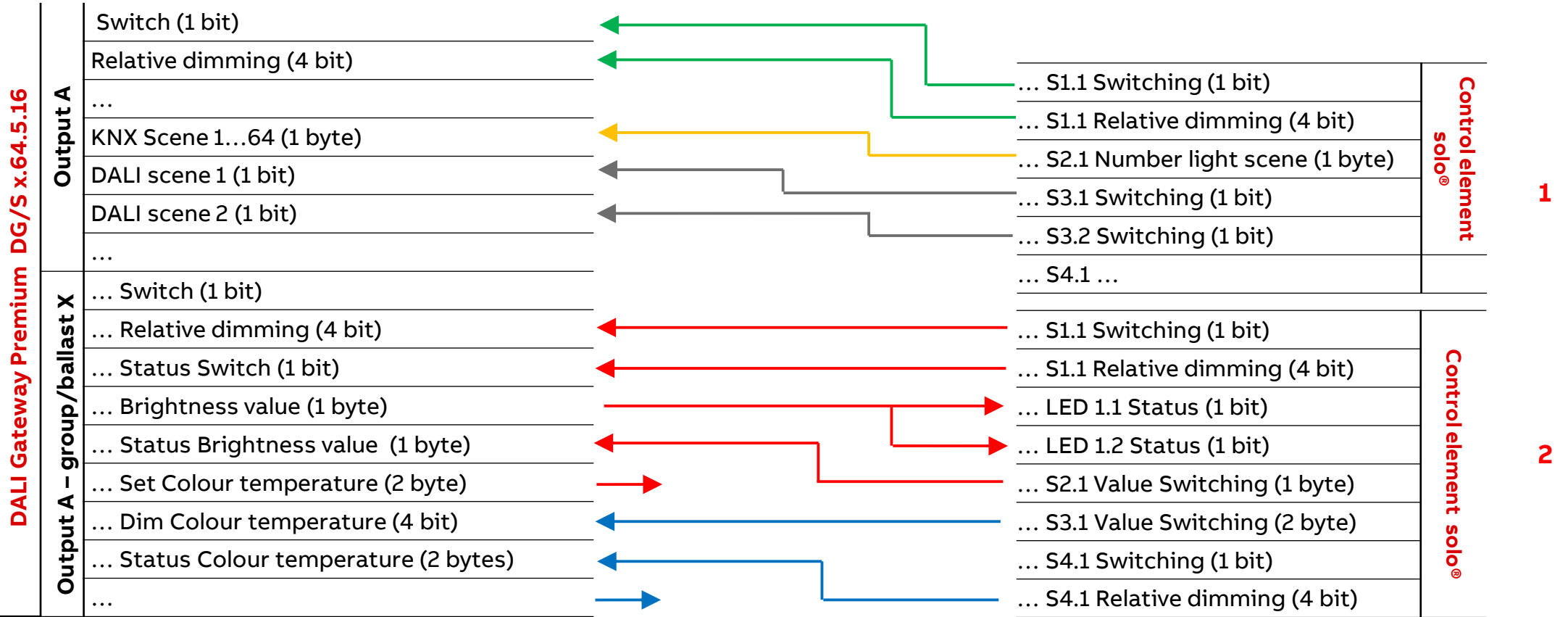
The parameter is only available if colour control is selected for the group/ballast (e.g. ballast 1) in the “Colour control type” parameter in the “X groups/Group x” or “X ballasts/Ballast x” window

The screenshot shows the configuration interface for a DALI Gateway Premium. The breadcrumb path is: 3.5.1 DG/S2.64.5.1 DALI Gateway, Premium, 2f, MDRC > DALI output A > A Scenes > Scene 1. The left sidebar shows a tree view with 'DALI output A' expanded, and 'A Scenes' selected, with 'Scene 1' highlighted. The main area shows settings for 'Scene 1'. A red arrow points to the 'General' tab. The 'Change Colour temperature' option is selected (radio button checked), and the 'Colour temperature' is set to 3000 K. A red box highlights these two settings.

Parameter	Value
Transition time for scene	2.0 s
Overwrite saved scene val. on download	<input type="radio"/> No <input checked="" type="radio"/> Yes
Group 1 is member of the scene	<input type="radio"/> No <input checked="" type="radio"/> Yes
Brightness value	75% (191)
Group 2 is member of the scene	<input type="radio"/> No <input checked="" type="radio"/> Yes
Brightness value	100% (255)
Group 3 is member of the scene	<input checked="" type="radio"/> No <input type="radio"/> Yes
Group 4 is member of the scene	<input checked="" type="radio"/> No <input type="radio"/> Yes
Ballast 1 is member of the scene	<input type="radio"/> No <input checked="" type="radio"/> Yes
Change brightness	<input type="radio"/> No <input checked="" type="radio"/> Yes
Brightness value	100% (255)
Change Colour temperature	<input checked="" type="radio"/> No <input type="radio"/> Yes
Colour temperature	3000 K
Ballast 2 is member of the scene	<input checked="" type="radio"/> No <input type="radio"/> Yes

KNX DALI Gateway Premium DG/S x.64.5.1

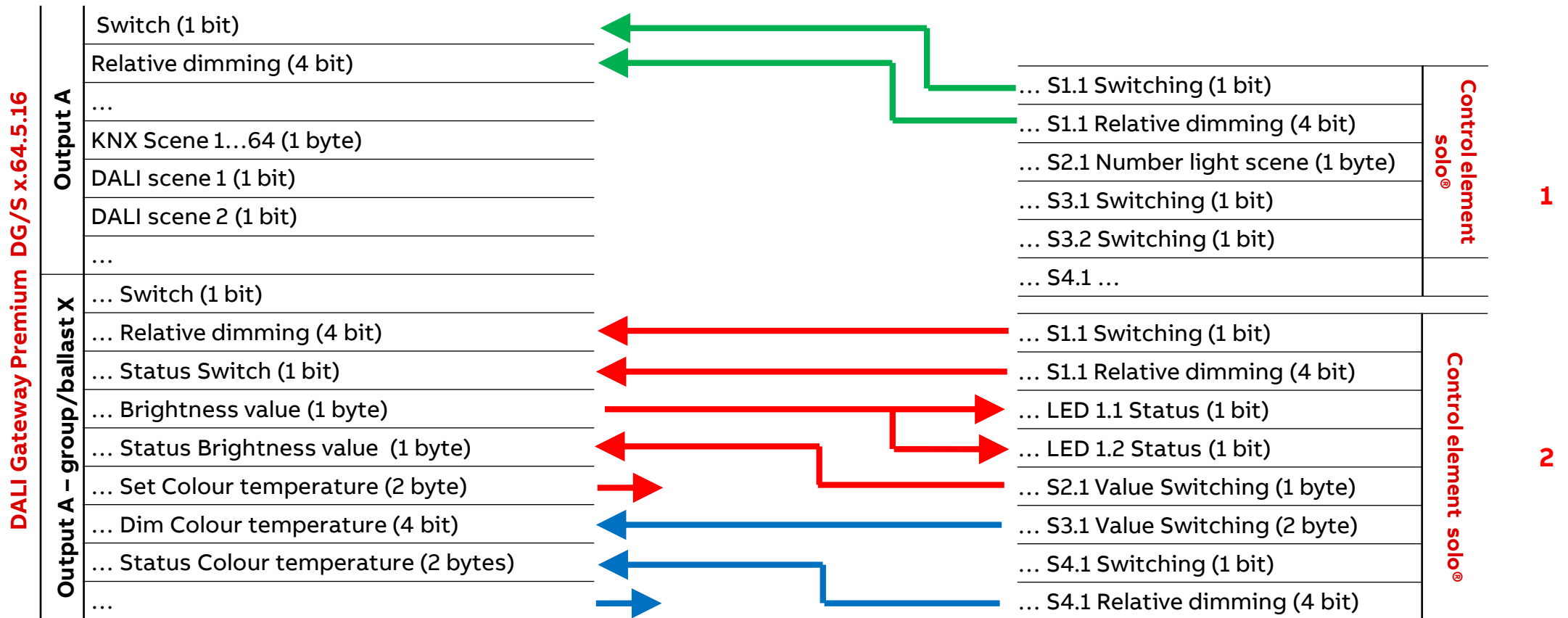
DALI light scenes with individual brightness and colour temperature level
 Example: Assignment of Group Addresses



KNX DALI Gateway Premium DG/S x.64.5.1

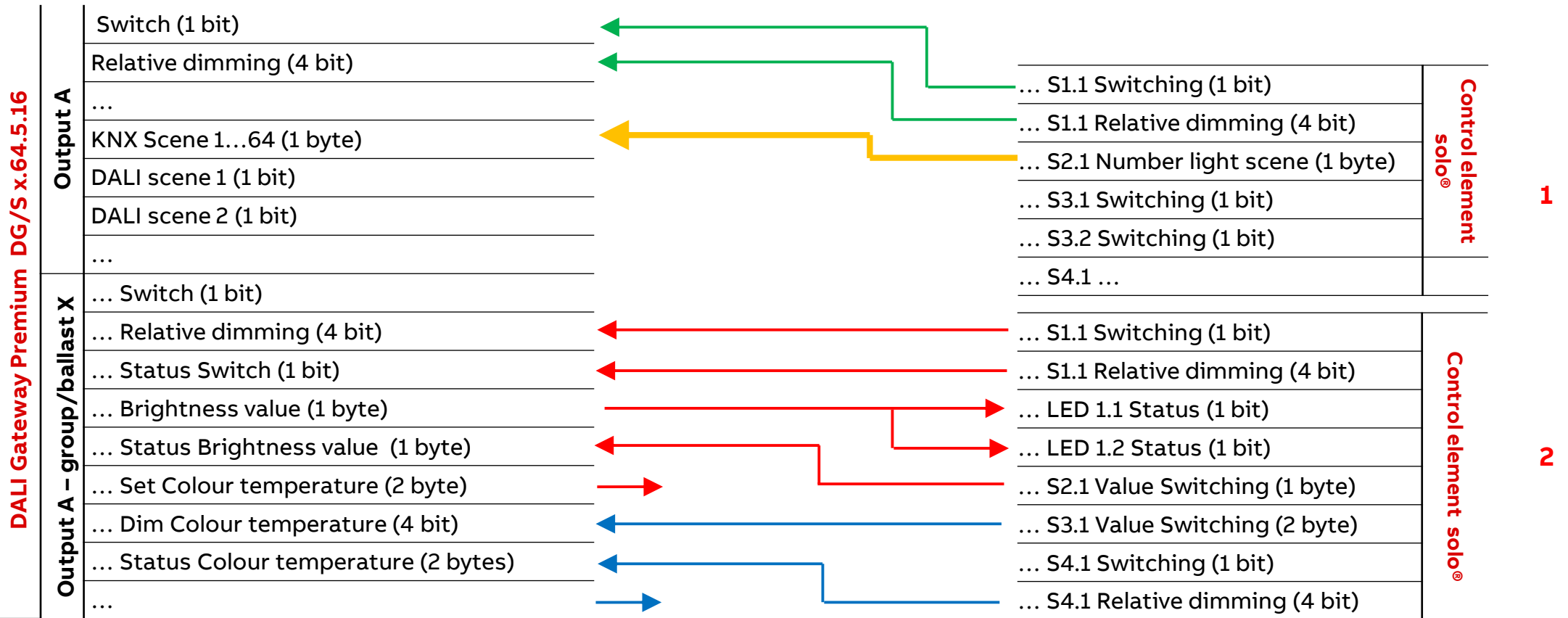
DALI light scenes with individual brightness and colour temperature level

Example: Assignment of Group Addresses



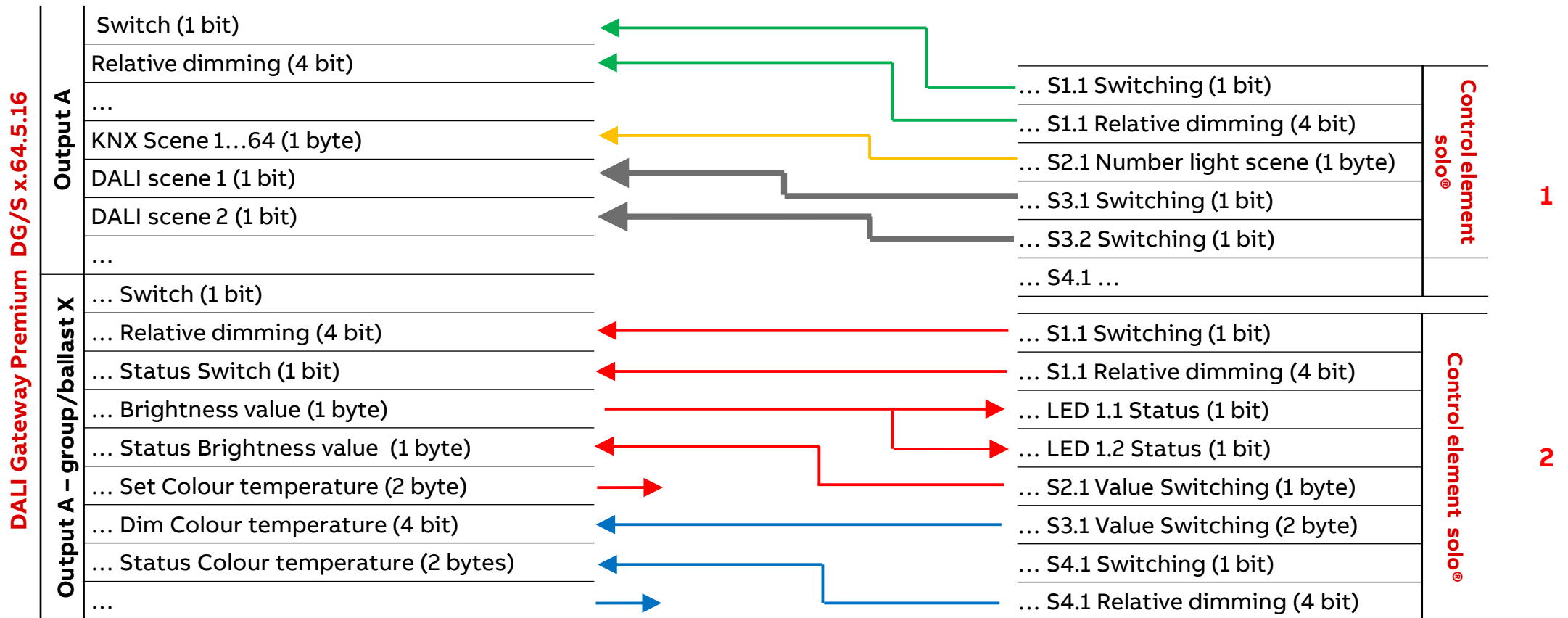
KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level
 Example: Assignment of Group Addresses



KNX DALI Gateway Premium DG/S x.64.5.1

DALI light scenes with individual brightness and colour temperature level
 Example: Assignment of Group Addresses



Disclaimer

The information in this document is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this document.

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

© Copyright [2020] ABB. All rights reserved.

ABB

KNX DALI Gateway Premium DG/S x.64.5.1

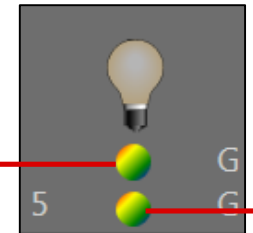
ABB i-bus® Tool

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 switch-off active yes/no
- Search ballasts function



Displayed if colour ballast detected in runtime

Displayed if colour ballast enabled in ETS

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

Device/Group: Device 29 EVG29

Status

Status	<input checked="" type="checkbox"/>
Actual value	255 (100 %)
Actual colour Tc	3000K

Control

Control:

Value: 0 (0%)

Colour Tc: 5400 K (Range: 3000K to 6000K)

Burn in and timers

Burn in	Inactive	<input type="button" value="Activate"/>	<input type="button" value="Deactivate"/>
Burn in time left	0h 0min		
Operating hours	4h	0 h	<input type="button" value="Write"/>

Additional function

Staircase lighting	<input type="button" value="Activate"/>	<input type="button" value="Deactivate"/>
Slave	<input type="button" value="Activate"/>	<input type="button" value="Deactivate"/>

Statuses

Force lock	<input type="checkbox"/>	Lamp fault	<input checked="" type="checkbox"/>
Basis brightness	<input type="checkbox"/>	Ballast fault	<input checked="" type="checkbox"/>

Colour

Selected colour function	Dim2Warm
Colour function status	Inactive

Supported colour types

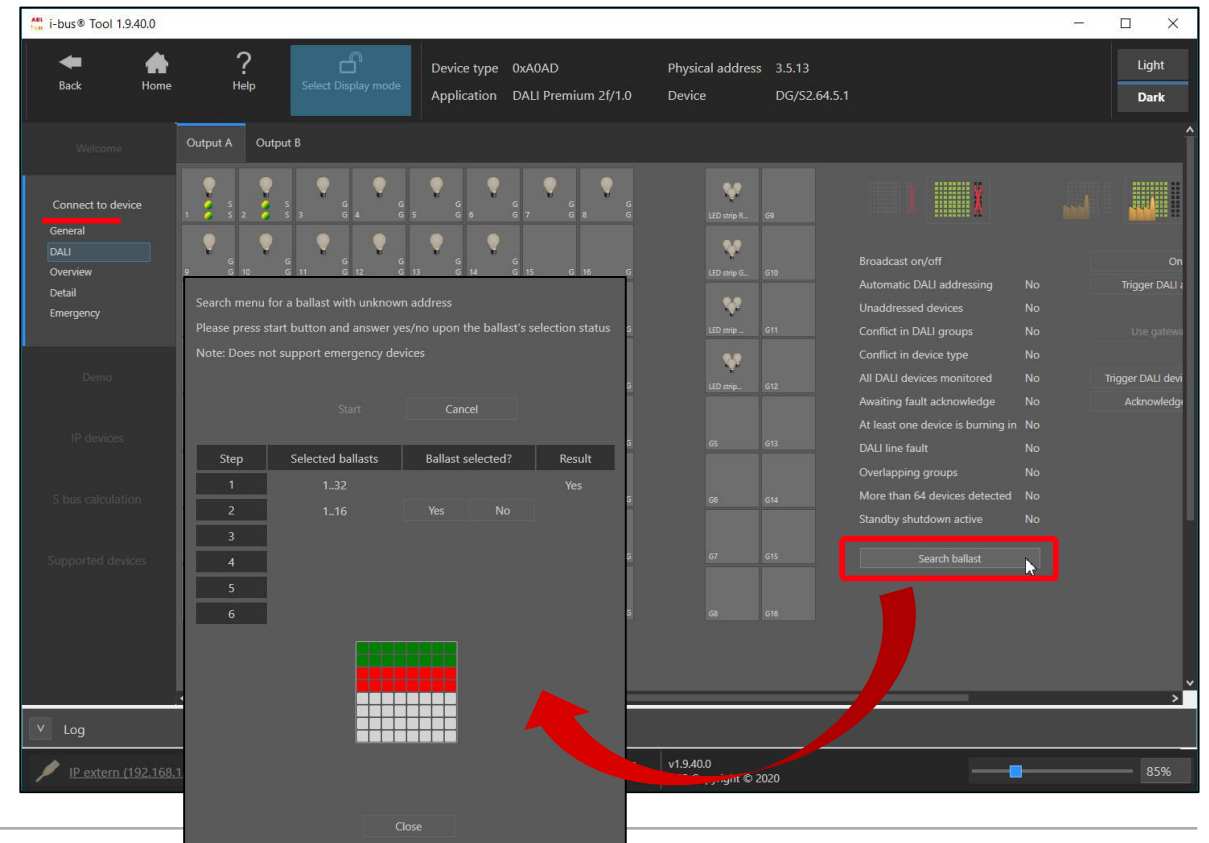
Colour temperature Tc	Yes
XY Coordinates	No
RGBW	0

KNX DALI Gateway Premium DG/S x.64.5.1

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

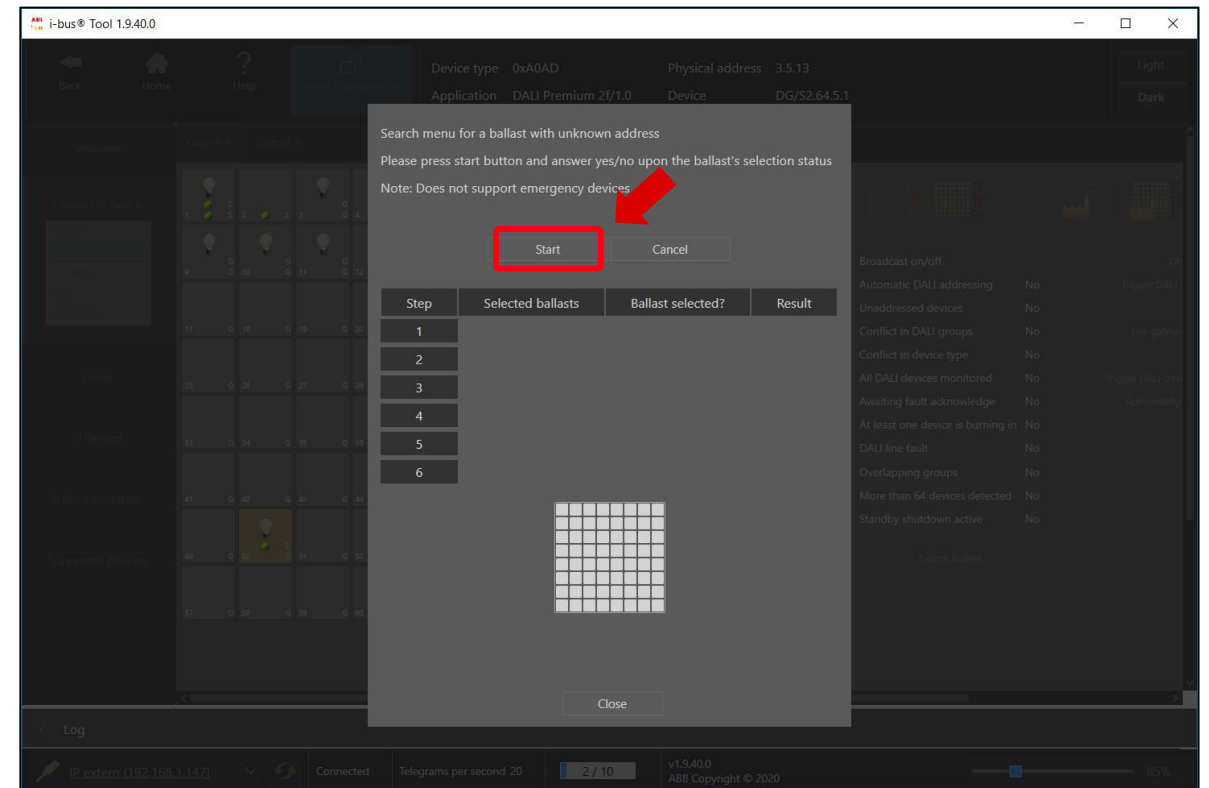


KNX DALI Gateway Premium DG/S x.64.5.1

ABB i-bus® Tool

ABB i-bus® Tool – Search Ballast Function

– Press “Start” button



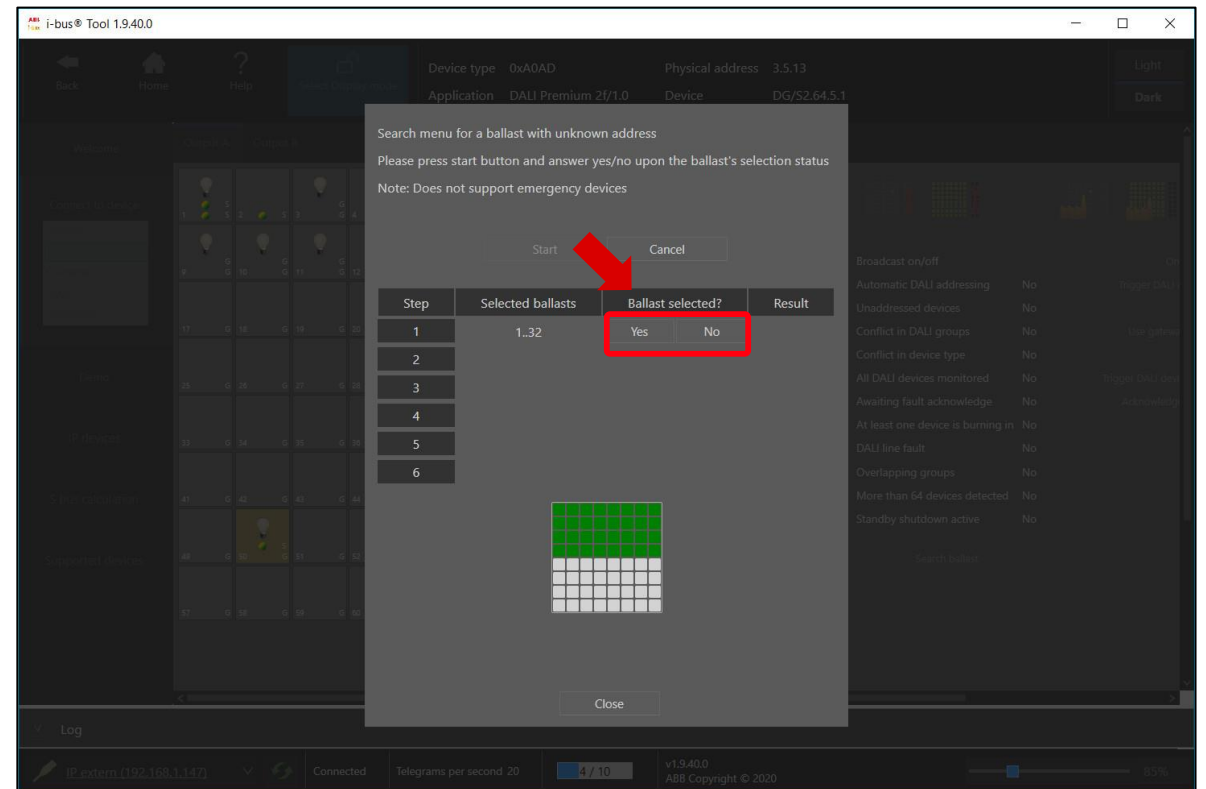
KNX DALI Gateway Premium DG/S x.64.5.1

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 → 1st click
e.g. “No” (no address between 1...32)



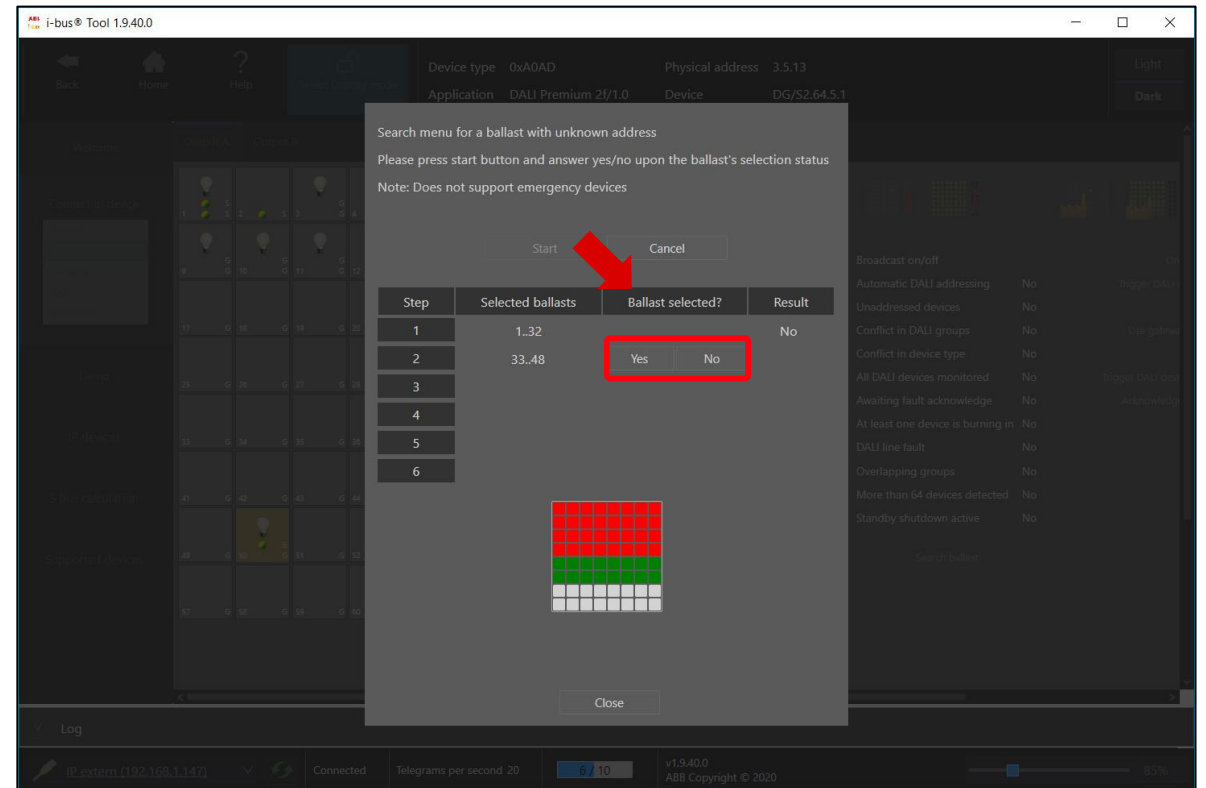
KNX DALI Gateway Premium DG/S x.64.5.1

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



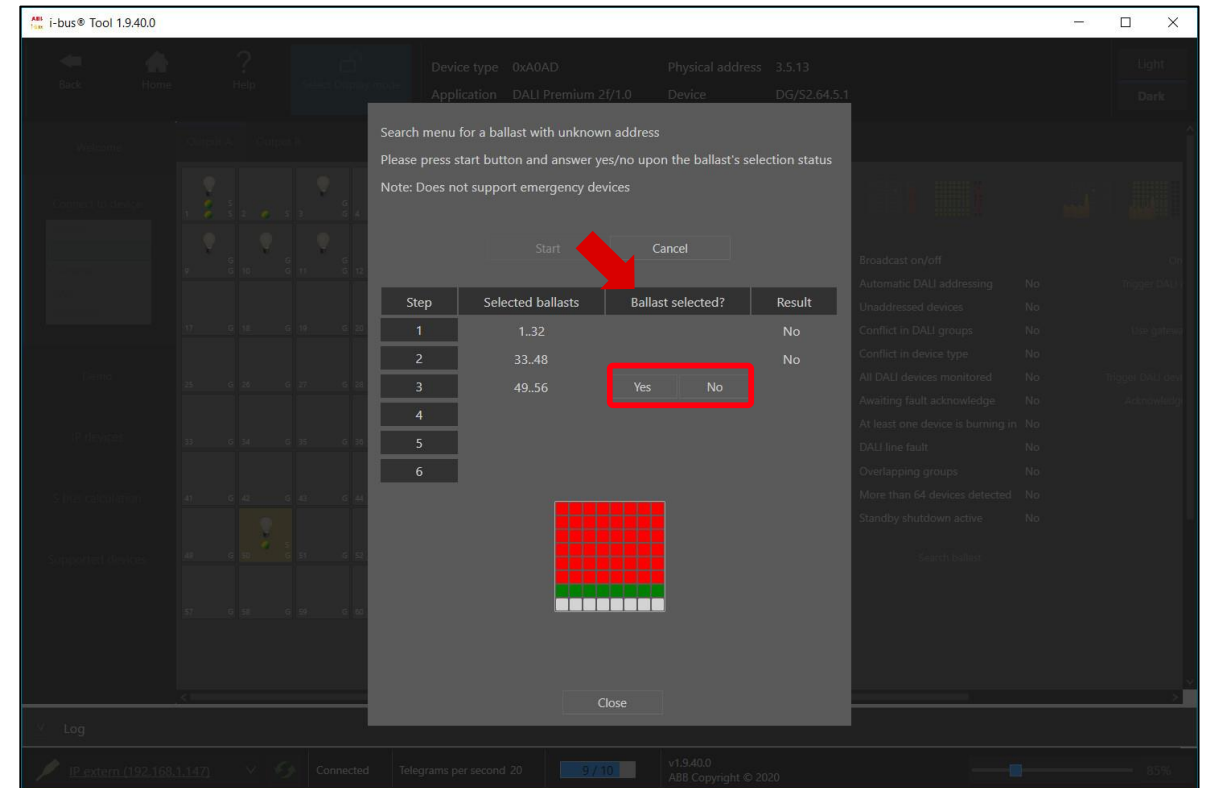
KNX DALI Gateway Premium DG/S x.64.5.1

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 → 1st click e.g. “No” (no address between 1...32)
- Press the “Yes” or “No” button → 2nd click e.g. “No” (no address between 33...48)
- Press the “Yes” or “No” button → 3rd click e.g. “YES” (no address between 49...56)



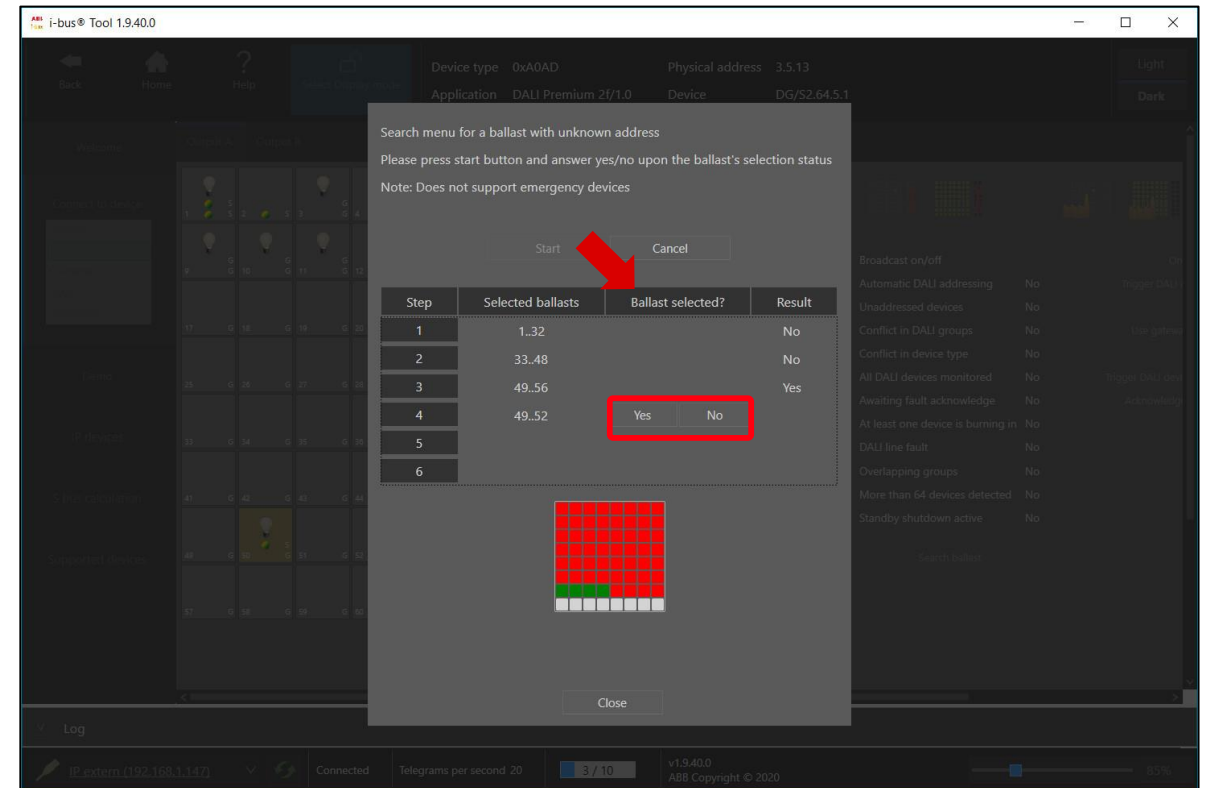
KNX DALI Gateway Premium DG/S x.64.5.1

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 → 1st click e.g. “No” (no address between 1...32)
- Press the “Yes” or “No” button → 2nd click e.g. “No” (no address between 33...48)
- Press the “Yes” or “No” button → 3rd click e.g. “YES” (no address between 49...56)
- Press the “Yes” or “No” button → 4th click e.g. “YES” (address between 49...52)



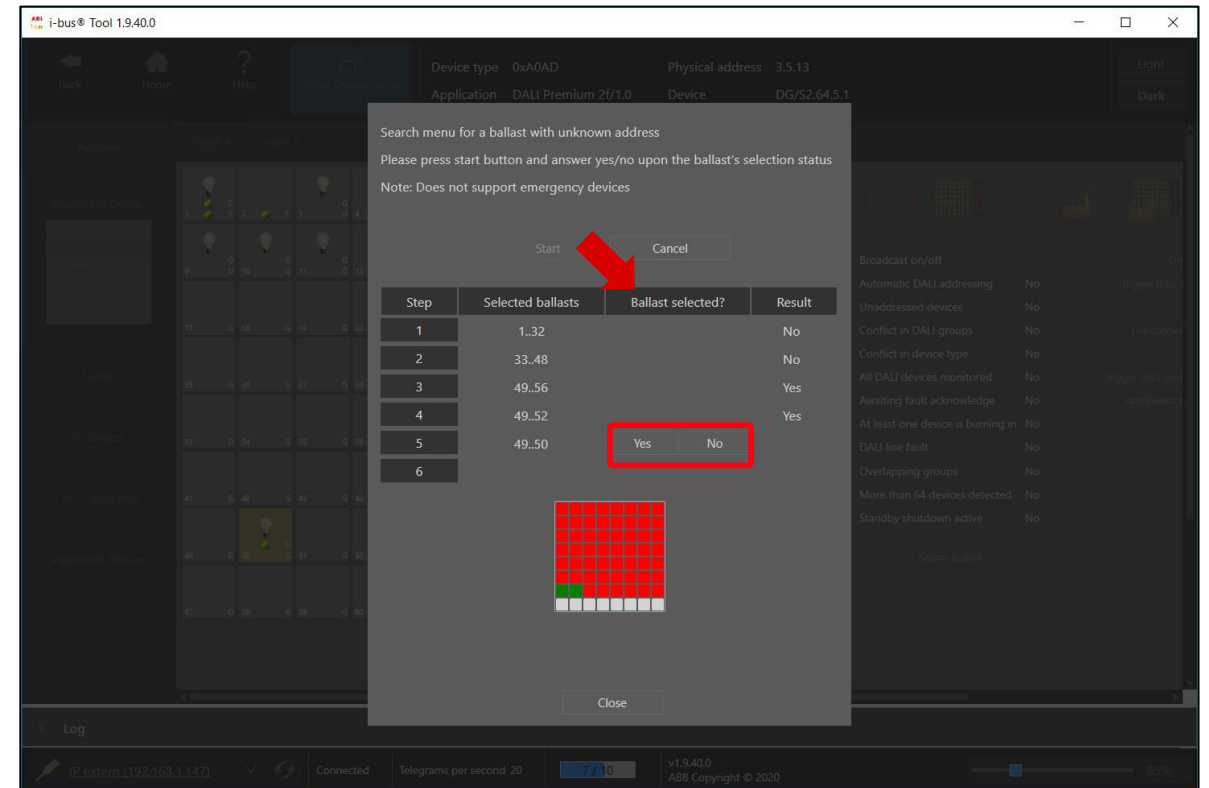
KNX DALI Gateway Premium DG/S x.64.5.1

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 → 1st click e.g. “No” (no address between 1...32)
- Press the “Yes” or “No” button → 2nd click e.g. “No” (no address between 33...48)
- Press the “Yes” or “No” button → 3rd click e.g. “YES” (no address between 49...56)
- Press the “Yes” or “No” button → 4th click e.g. “YES” (address between 49...52)
- Press the “Yes” or “No” button → 5th click e.g. “YES” (address between 49...50)



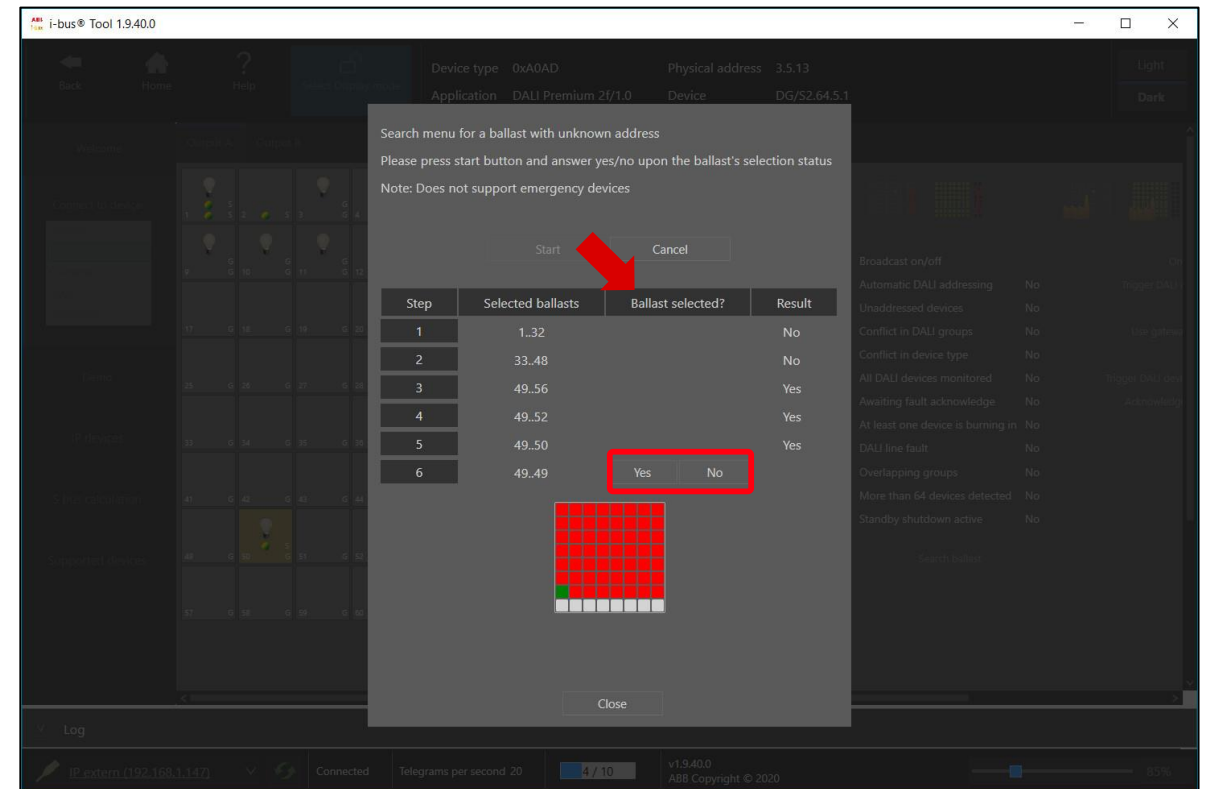
KNX DALI Gateway Premium DG/S x.64.5.1

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 → 1st click e.g. “No” (no address between 1...32)
- Press the “Yes” or “No” button → 2nd click e.g. “No” (no address between 33...48)
- Press the “Yes” or “No” button → 3rd click e.g. “YES” (no address between 49...56)
- Press the “Yes” or “No” button → 4th click e.g. “YES” (address between 49...52)
- Press the “Yes” or “No” button → 5th click e.g. “YES” (address between 49...50)
- Press the “Yes” or “No” button → 6th click e.g. “No” (address 49?)



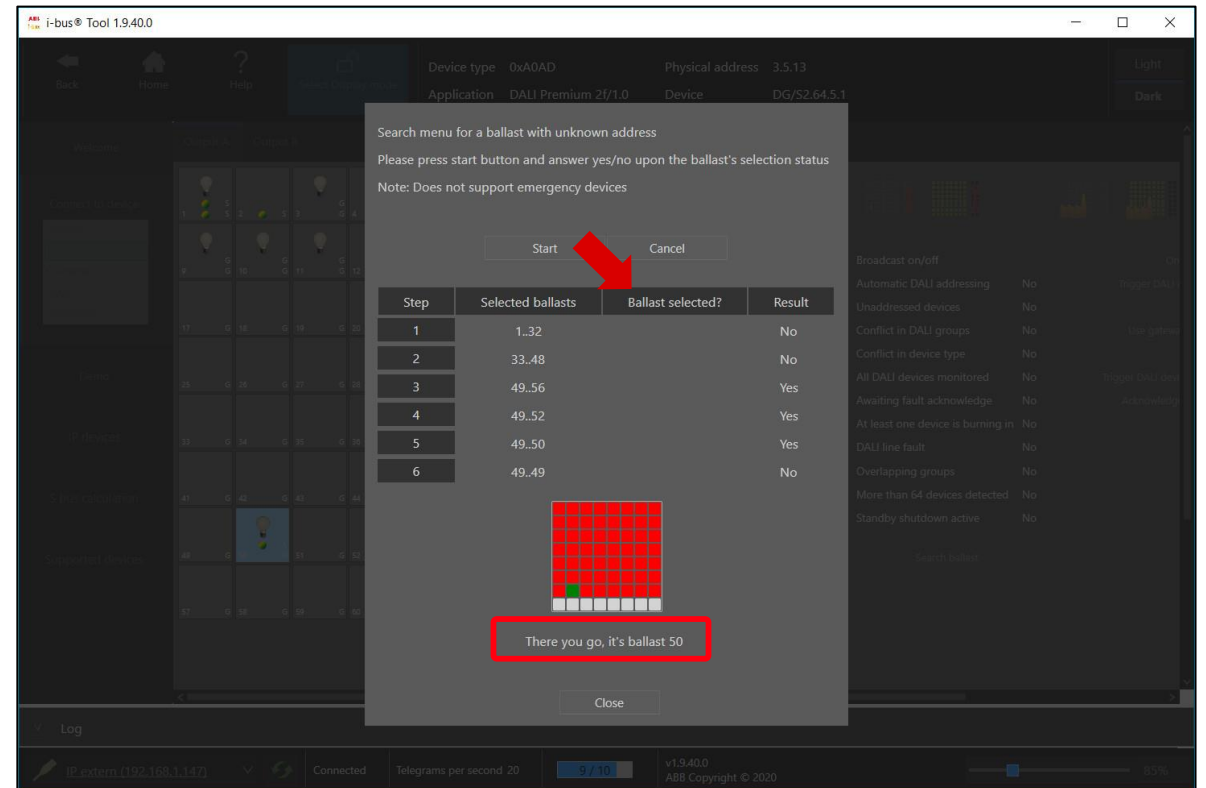
KNX DALI Gateway Premium DG/S x.64.5.1

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 → 1st click e.g. “No” (no address between 1...32)
 - Press the “Yes” or “No” button → 2nd click e.g. “No” (no address between 33...48)
 - Press the “Yes” or “No” button → 3rd click e.g. “YES” (no address between 49...56)
 - Press the “Yes” or “No” button → 4th click e.g. “YES” (address between 49...52)
 - Press the “Yes” or “No” button → 5th click e.g. “YES” (address between 49...50)
 - Press the “Yes” or “No” button → 6th click e.g. “No” (address 49?)
- Result, e.g. address 50



Disclaimer

The information in this document is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this document.

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

© Copyright [2020] ABB. All rights reserved.

ABB