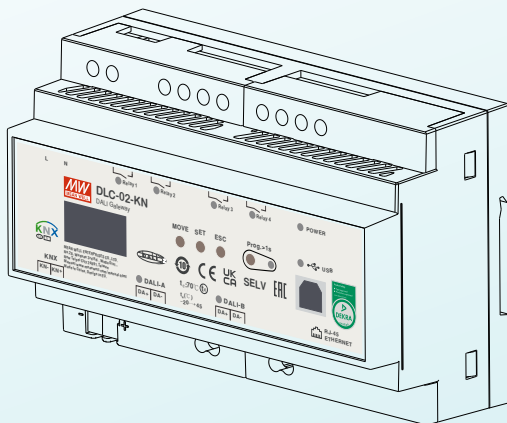# DLC-02-KN
Installation manual

KNX DALI Gateway

DLC-02-KN is a KNX to DALI gateway, used to connect a digital DALI lighting system to the KNX installation. Room-based lighting control is conveniently incorporated into the higher-level KNX system building management system. The device transforms switch and dim commands from the connected KNX system into DALI telegrams and status information from the DALI bus into KNX telegrams.

Contents

1.Safety Guidelines

- Risk of fatal injury from electrical current, all work carried out on the unit may only be performed by skilled electricians. Observe the regulations valid in the country of use, as well as the valid KNX guidelines.

- Risk of electrical shock and energy hazard, all failure should be examined by a qualified technician. Please do not remove the case form the unit by yourself.

- Please do not install the unit in places with high moisture, high ambient temperature or under direct sunlight.

2.Overview

2.1 Overview Device

The manual refers to the following devices:
- DLC-02-KN: INPUT: 100 – 305Vac
- Model Encoding

DLC - 02 - KN

KNX to DALI gateway

Number of output channels

Series name
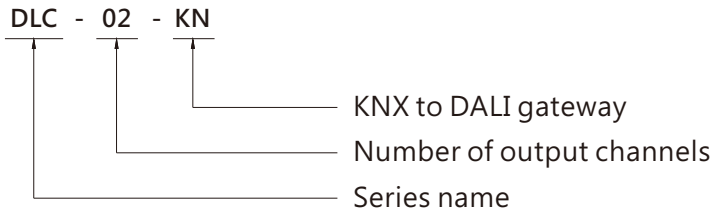
2.2 Information at the ETS-Software

Selection at the product database:
Manufacturer: MEANWELL Enterprise Co. Ltd.
Product family: Lighting
Product type: Gateway
Product name: DLC-02-KN
Order number: DLC-02-KN

2.3 Features

- Two independent DALI Bus channels with built-in DALI power supply (up to 250mA per bus)
- Connect up to 2 X 64 DALI ECGs
- Max 16 scenes and group setting per channel
- OLED display, LED indicators and button for local operation
- Built-in with 250V/5A X 4 relay
- Easy installation and configuration via OLED interface and Web browser
- Multiple control effect based on the time event and input devices
- Support DALI-2 devices with part 202/207/208/209(DT1/DT6/DT7/DT8)
- Support for ETS5 or ETS6

Note: DLC-02-KN does not support DALI input device

2.4 Displays and operating elements

For detailed operation instructions of the OLED display, please refer to Chapter 7.
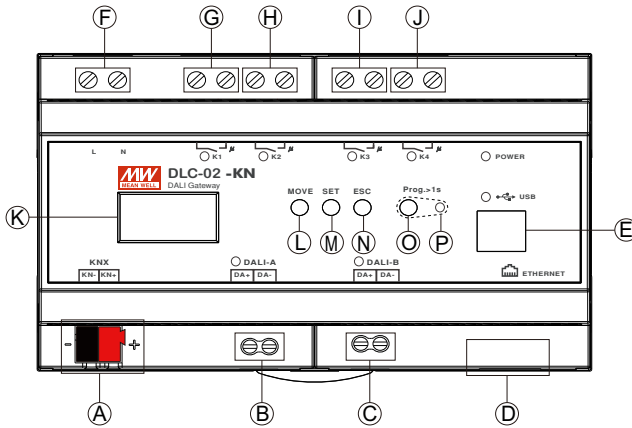
Ⓐ : KNX bus terminal

Ⓑ : DALI terminal A

Ⓒ : DALI terminal B

Ⓓ : Ethernet connection (RJ-45 socket)

Ⓔ : USB connection(Type B)

Ⓕ : Mains connection

Ⓖ : Connections for the relay output K1

Ⓗ : Connections for the relay output K2

Ⓘ : Connections for the relay output K3

Ⓙ : Connections for the relay output K4

Ⓚ : Display

Ⓛ : Move button for the display

Ⓜ : Set button for the display

Ⓝ : Exit button for the display

Ⓞ : Programming button

Ⓟ : Programming LED

2.5 Status LEDs

LED Indicator	Status
POWER	🟢 Normal working
	⭕ NOT connected to AC
K1, K2, K3, K4	🟢 Relay ON (short)
	⭕ Relay OFF (open)
DALI-A, DALI-B	🟢 Bus voltage normal
	⭕ NO bus voltage provided
USB	🟢 USB connected
	⭕ NO USB detected
Programming LED	🔴 Programming mode
	⭕ NOT in programming mode

2.6 Mechanical specification
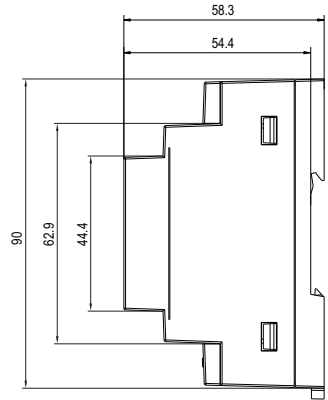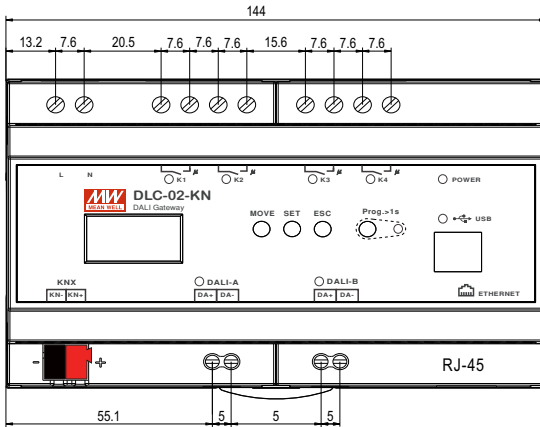
3.Installation

3.1 Concept of Commissioning

1

Wiring of the DALI segments (or devices to the relays)

↓

Connect the gateway to KNX bus

↓

ALL devices with mains connected

2

Load ETS database and install DAC app

↓

ETS-DCA DALI commissioning and group assignment

↓

Configure ETS parameters and objects

↓

ETS Download of the application
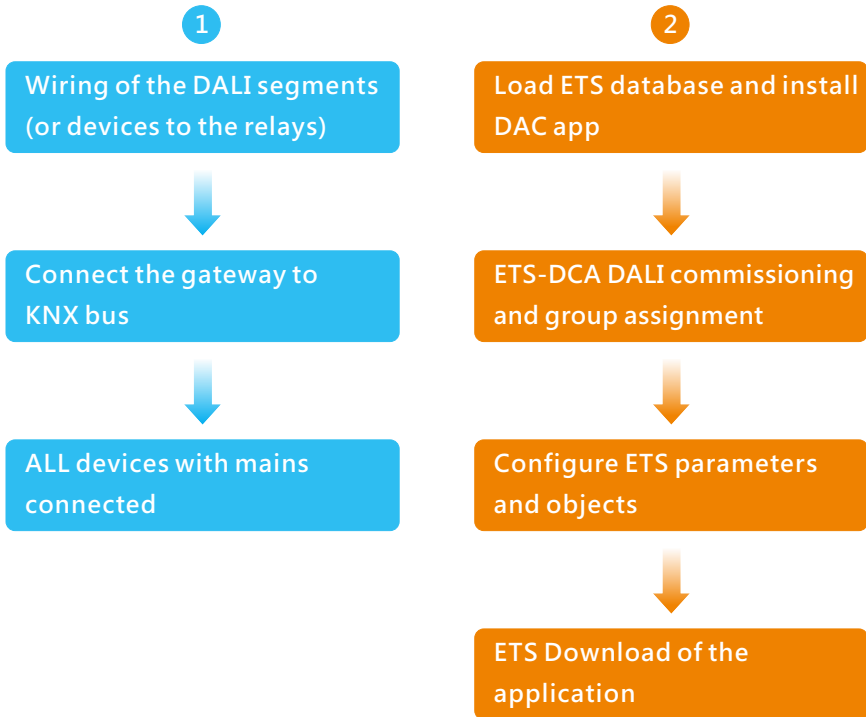
After the wiring of the DALI segments according to instructions in the following sections, software start-up can begin. To do this, the product database is loaded and the corresponding ETS App is installed in the ETS, see 3.5 ETS App (DCA).

Note: KNX ETS license is required to enable the DCA page of DLC-02-KN in ETS. If you need an ETS license, please contact KNX.
https://my.knx.org/

3.2 Mounting

Mount as shown in figure only, with DALI terminals down or else sufficient cooling will not be possible.

Admissible DIN-rail:TS35/7.5 or TS35/15

For rail fastening:
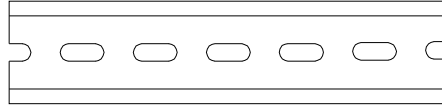
(a) Tilt the unit slightly rearwards.

(b) Fit the unit over top hat rail.

(c) Slide it downward until it hits the stop.

(d) Press against the bottom for locking.

(e) Shake the unit slightly to check the locking action.
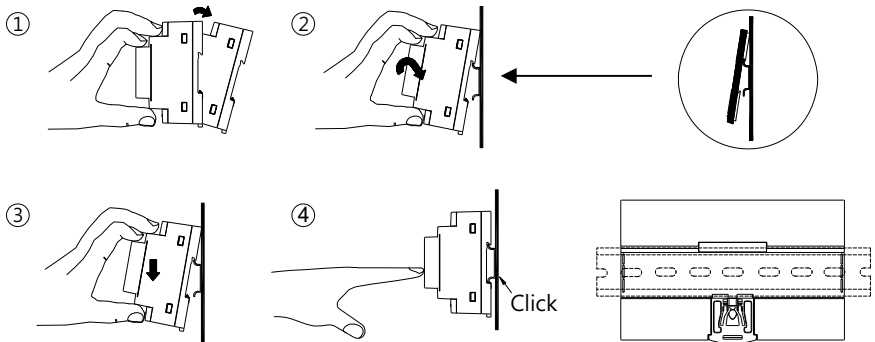
3.3 Electrical Configuration

DALI end
- The maximum number of ECGs connected is 64 per bus.
- The maximum length is 300m (with a cable cross-section of 1.5 mm²)

KNX end
- The maximum number of bus devices connected is 256.
- The maximum length of a line segment is 350 m, measured along the line between the power supply and the furthest bus device.
- The maximum distance between two bus devices cannot exceed 700 m.
- The maximum length of a bus line is 1000 m, keeping into account all segments

Web browser end
- The maximum length is 100m.
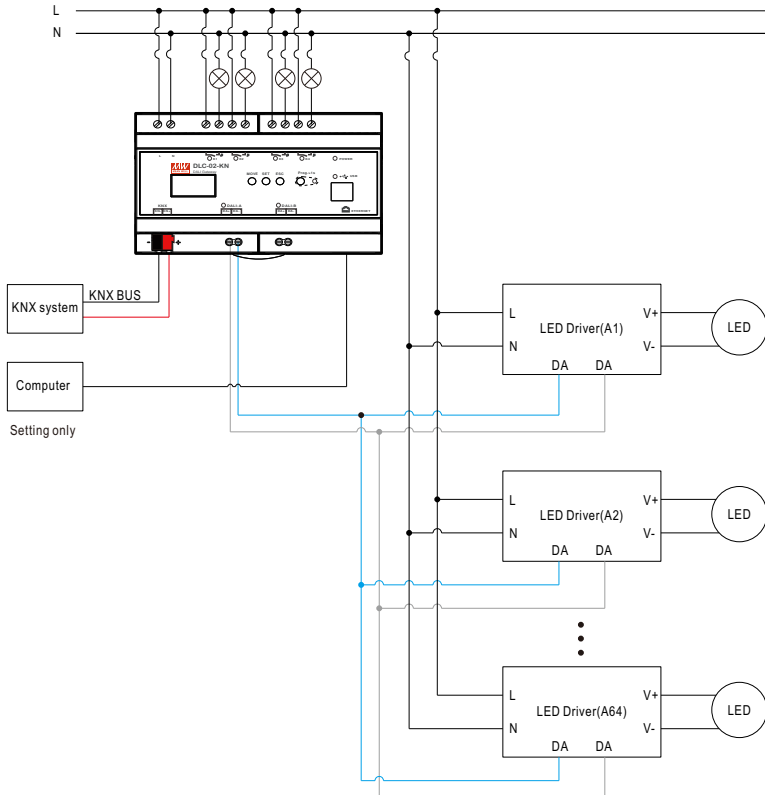
3.4 Wiring

- Use wires with an adequate cross-section.
- Use suitable mounting tools to do the wiring.

Type	AC and relay terminals L,N,K1,K2,K3,K4	DALI terminals (DALI-A, DALI-B)	KNX bus terminal (KNX)
Solid wire	0.5 ~ 4.0mm	0.5 ~ 1.45mm	0.6~0.8Φ
Stranded wire	0.5 ~ 2.5mm²	0.5 ~ 1.5mm²	− − − − − −
American wire gauge	12 ~ 26AWG	16 ~ 26AWG	20 ~ 22AWG
Wire stripping length	7 ~ 8mm (0.276" ~ 0.315")	7 ~ 8mm (0.276" ~ 0.315")	5mm (0.196")
Screwdriver	3mm Slotted	3mm Slotted	− − − − − −
Recommended tightening torque	5 kgf-cm (4.4 lb-in)	5 kgf-cm (4.4 lb-in)	− − − − − −

3.5 ETS App (DCA)

The application for the gateway is based on the standard interface for the configuration of communication objects and parameters as well as a special surface for configuring the DALI bus systems. This special interface is designed as a DCA (Device Control App) for the ETS. All required program data is automatically created when the App is imported.

DCA App installation steps are as follows:

(1)Click the "Settings" button in the upper right corner of ETS, select "ETS Apps", and then select "+Install App".
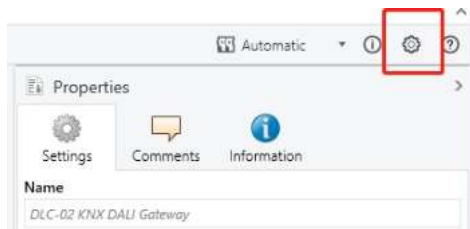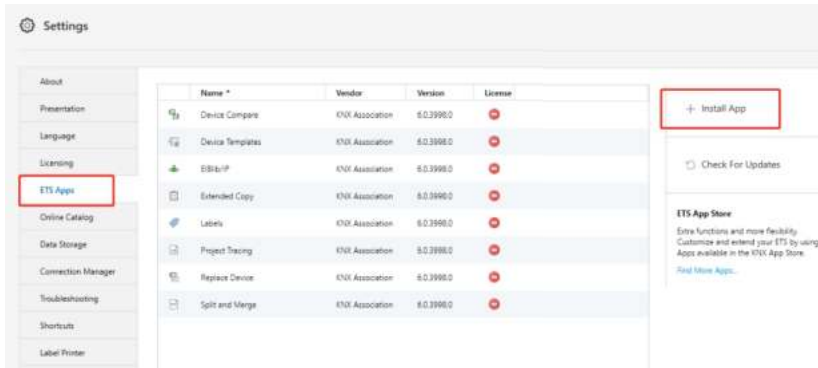
Note: 1. To install DCA App, ETS license is required.

2. If importing a knxproj file is required, please make sure that your ETS version is the same as the one exported the file. It is always best to update to the latest ETS version from the KNX Association for both of the ETS software to prevent compatibility issues between different versions.

(2)A file box will appear, select the ".ETS APP" file and import it.

Note: This ETS App file can be downloaded from the official MeanWell website or the link below:

https://building.meanwell.com/Upload/PDF/KNX_Application%20Database.pdf

Or download the ETS App file via MyKNX Shop for free.

https://my.knx.org/en/shop/ets-apps
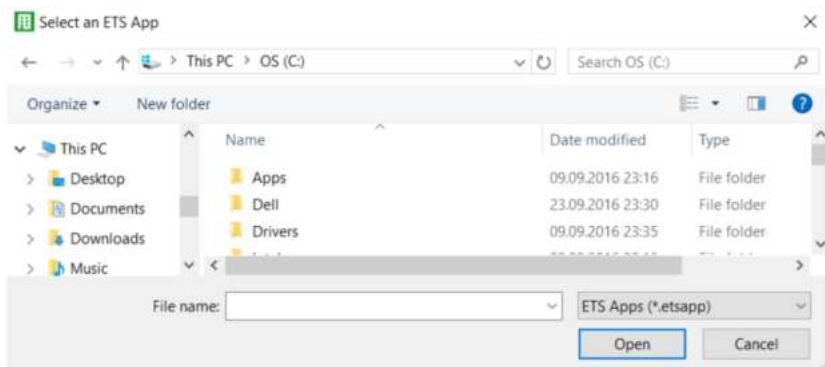
(3)After importing, the app will be displayed in the list of all ETS apps.

Note: Please always download the latest version of ETS App for a better experience.

(4)After restarting the ETS software, when selecting a product, an additional DCA tab will be displayed.
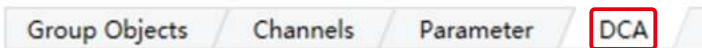
3.6 Parameter Configuration

The parameters and the corresponding group addresses can then be configured as with any other KNX product. The DALI specific configuration is performed in the DCA tab.

The actual DALI commissioning is only possible online, that means a connection to the device is necessary. In this step, all connected ECGs are searched and found and can then be assigned to a certain group.

After this assignment has been carried out, this special DALI configuration must be loaded into the device. The "Download" button is available in the DCA tab, see 4. DALI Commissioning.

In the last step, the parameters and the links to the group addresses should be loaded into the device using normal ETS download. The device is now ready for operation.

4.DALI Commissioning

Following the physical installation and wiring of the DALI ECGs and lights and the electronic commissioning, the connected ECGs need to be learnt-in.

Before opening DCA for scanning, you need to give the KNX address first. After assigning the address and downloading the database to DLC-02-KN, the first DALI scan can be started, otherwise the error message as shown in the figure below will appear.
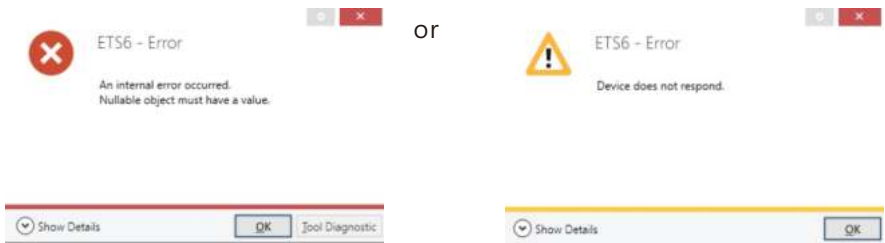
After downloading the database, please open the DCA communication interface

(1)Use the "Scan" button to start searching devices and addressing.

During the process, all ECGs are automatically recognized and each ECG is assigned a short address from 0~63. Depending on the size of the connected DALI segments, the process may take a few minutes.
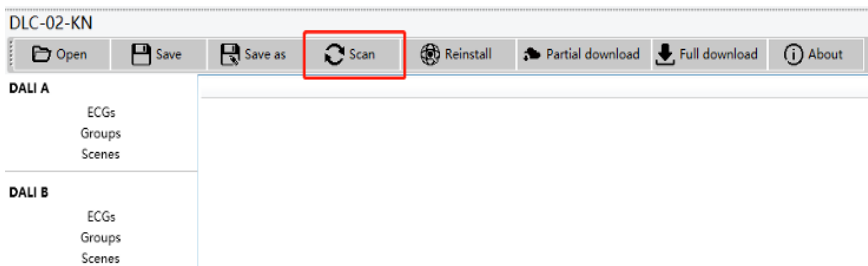
Note: During the first time installation, "Scan" and "Reinstall" make a no difference in searching devices and addressing. After an installation, the "Scan" button carries out a search for previously addressed and unaddressed devices. Addressing for previously addressed devices will remain unchanged. The next available address is then assigned to devices which have been recently added, whereas "Reinstall" removes all addresses and then re-addresses them.

(2)Once the scan is complete, select an ECG and press the right mouse button, and a drop-down menu will appear from which you can select the desired function, such as turning ECG on or off, short address setting, group assigning, and scene editing.
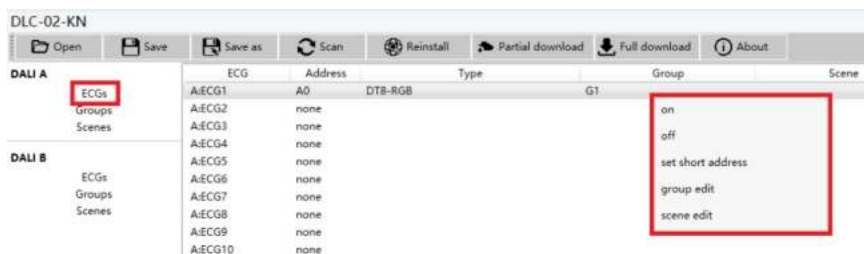
Command 1: ECG-on
Turn on the ECG.

Command 2: ECG-off
Turn off the ECG.

Command 3: ECG-set short address
Reset the short address of the ECG, but the new short address must be unoccupied.
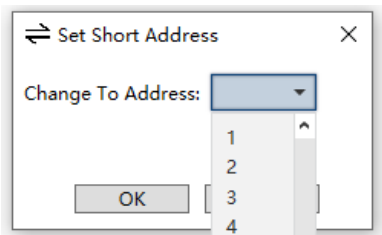
Command 4: ECG-group edit
An ECG can only be assigned to one group.
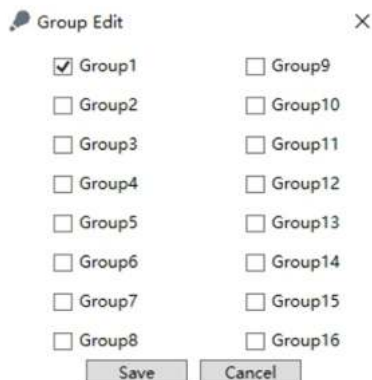
Command 5: ECG-scene edit
There are 16 scenes available, and the brightness and colour of the lamps can be set. Activate the scene by checking it.

Note: ① Please select the "Colour control type" of the ECG through the "Parameters" interface of ETS before editing the scene.
② When an ECG is grouped, its scene will be edited by the group.
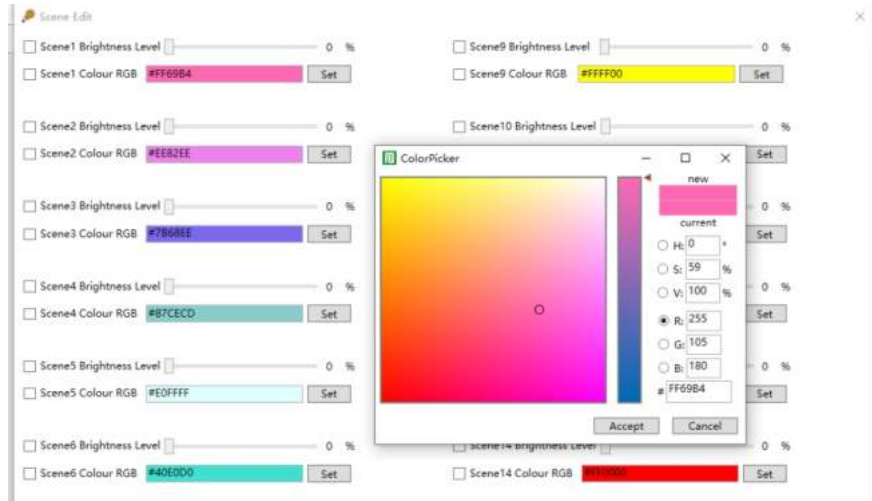
Other DALI parameters, such as system power-on behavior, system failure behavior, maximum/minimum brightness, fade rate and fade time, can be set through ETS or display or web browser.

(3)Group information can be seen in the Groups menu. When you select a Group and press the right mouse button, a drop-down menu will appear, you can edit the scene, and you can send broadcast commands to turn lamps on or off.
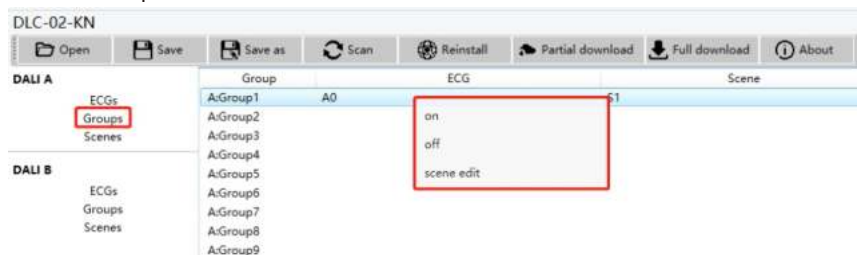
Command 1: Groups-on
Turn on all lamps in this group.

Command 2: Groups-off
Turn off all lamps in this group.

Command 3: Groups-scene edit
Assign scenes to this group
Note: Please select the "Colour control type" of the Group through the "Parameters" interface of ETS before editing the scene.
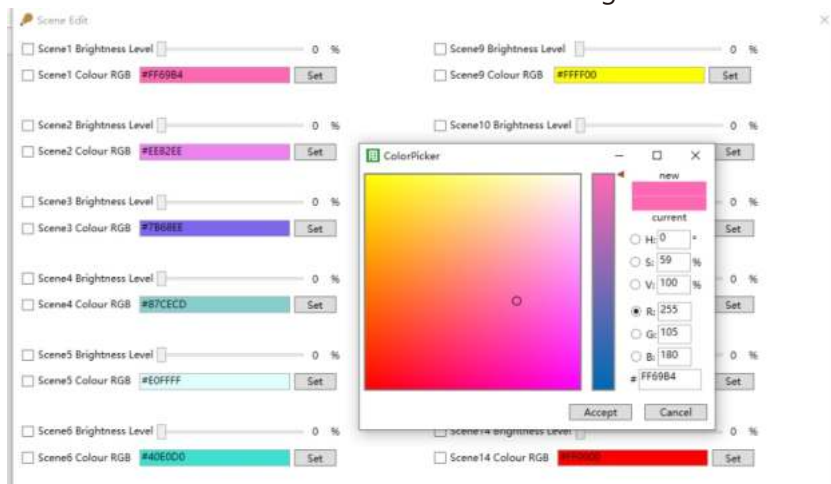
(4)In the Scenes menu, select a Scene and click the right mouse button, a drop-down menu will appear, select "trigger" to test the scene.
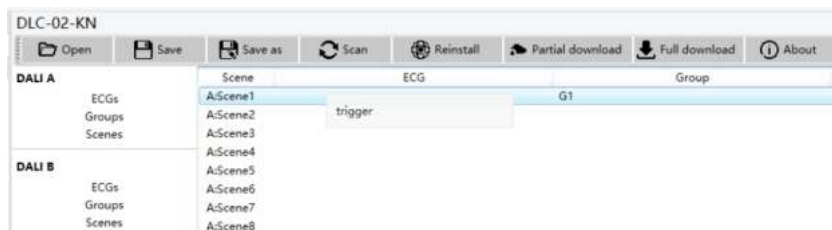
(5)Please remember that at this point all operations that have been performed are only displayed in the workspace. They are not immediately loaded into the DALI gateway. To start the process of downloading the settings into the gateway and ECGs, you must press the "Partial download" or "Full download" button.

Partial download: Only download the data of the changed ECG and Group to the gateway.
Full download: Download the data of all ECG and Group to the gateway.
Note: Please be aware that the download on the "commissioning interface" only programs the DALI configuration data to the gateway and ECGs. The ETS application with parameter settings and group addresses still needs to be downloaded to the device. This is done, as usual, via the normal download process in the ETS.

5.Communication Objects

Communication objects available for communication of the device via the KNX are shown in the table below. The objects are, in parts, displayed or hidden, depending on how the parameters are set.

5.1 Summary and Usage

Num	Object name	Length	DPT	Flag	Function	Description
1	[Dali A] Broadcast Switch	1 bit	Switch (DPT 1.001)	CW	On/Off	DALI Bus A - Broadcast Switch. This object is used to switch all connected lamps simultaneously on or off.
2	[Dali A] Broadcast Absolute Dimming	1 byte	percentage (DPT 5.001)	CW	Absolute Dimming	DALI Bus A - Broadcast Absolute Dimming. This object is used to simultaneously set all connected lamps to a certain brightness.
3	[Dali A] Broadcast Colour Temperature	2 byte	absolute colour emperature(K) (DPT 7.600)	CW	Colour Temperature Setting	DALI Bus A - Broadcast Colour Temperature. This object is used to simultaneously set all connected colour temperature lamps to a certain colour temperature.
4	[Dali A] Broadcast Colour RGB	3 bytes	RGB value 3x (DPT232.600)	CW	Colour RGB Setting	DALI Bus A - Broadcast Colour RGB. This object is used to simultaneously set all connected RGB lamps to a certain colour.
	[Dali A] Broadcast Colour RGBW	6 bytes	RGBW value 4x (DPT251.600)	CW	Colour RGBW Setting	DALI Bus A - Broadcast Colour RGBW. This object is used to simultaneously set all connected RGBW lamps to a certain colour.

5

Num	Object name	Length	DPT	Flag	Function	Description
4	[Dali A] Broadcast Colour xy-coordinate	6 bytes	colour xy-coordinate (DPT242.600)	CW	Colour xy-coordinate Setting	DALI Bus A - Broadcast Colour xy-coordinate. This object is used to simultaneously set all connected xy-coordinate lamps to a certain colour.
5	[Dali A] Scene Number	1 byte	scene number	CW	Scene No.	DALI Bus A – Scene Number. This object can be used for calling scenes. Configure the scene on the DCA interface. Configuration steps: Select ECG or Group->Right mouse button and select "scene edit"->After editing, click "save"->Click "download" to download the parameters.
6	[Dali A] Activate Panic Mode	1 bit	start/stop (DPT 1.010)	CW	Activate/ Stop	DALI Bus A – Panic mode. Activates or deactivates the panic mode via the bus. This object is only valid when the parameter "Panic mode" of the ECG or Group is checked. Note: Priority: Panic mode>Lock>Night mode.

Num	Object name	Length	DPT	Flag	Function	Description
7	[Dali A] Activate Night Mode	1 bit	start/stop (DPT 1.010)	CW	Activate/ Stop	DALI Bus A –Night mode. Activates or deactivates the night mode via the bus. This object is only valid when the parameter "Night mode" of the ECG or Group is checked. Note: Priority: Panic mode>Lock>Night mode.
8	[Dali A] Activate Test Mode	1 bit	start/stop (DPT 1.010)	CW	Activate/ Stop	DALI Bus A –Test mode. Activates or deactivates the test mode via the bus. This object is only valid when the parameter "ECG Type" choose "Self Contained Battery Lamp".
9	[Dali A] Dali Power Failure	1 bit	alarm (DPT 1.005)	CRT	0 = No Error; 1 = Error	Reports the presence of DALI bus voltage abnormal in the connected DALI segment. When voltage of the bus A is abnormal, the object sends '1', otherwise it sends '0'.
10	[Dali A] Dali Short Circuit	1 bit	alarm (DPT 1.005)	CRT	0 = No Error; 1 =Error	Reports the presence of a DALI short-circuit in the connected DALI segment. When bus A is short-circuit, the object sends '1', otherwise it sends '0'.

5

Num	Object name	Length	DPT	Flag	Function	Description
11	[Dali A] ECG Presence	1 bit	alarm (DPT 1.005)	CRT	0 = No Error; 1 = Error	Reports the presence of a ECG disconnect in the connected DALI segment. When at least one ECG on bus A is disconnected, the object sends '1', otherwise it sends '0'.
12	[Dali A] ECG Diagnostics	1 byte	diagnostics value (DPT 238.600)	CRT	ECG Diagnostics	This object is used to send the error status of lamp or ECG errors in the DALI bus A when the system is started or when a change has taken place. Bit 0 - 5 refer to the number of the ECG, range from 0 - 63. Bit 6 represents a lamp error. Bit 7 an ECG error, 0 = no error, 1 = error.
13	[Dali A] On/Off (Status Group1-Group16)	4 bytes	bit-combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for groups 1 - 16. Bit 0 -15 refer to Group 1 to Group 16. For example: Grp.16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 Bit 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 Group 3 on: 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0

Num	Object name	Length	DPT	Flag	Function	Description
14	[Dali A] On/Off (Status ECG1-ECG16)	4 bytes	bit-combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for ECG 1 - 16. Bit 0 -15 refer to ECG 1 to ECG 16. For example: ECG 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 Bit 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 ECG 3 on: 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
15	[Dali A] On/Off (Status ECG17-ECG32)	4 bytes	bit-combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for ECG 17 - 32. Bit 0 -15 refer to ECG 17 to ECG 32.
16	[Dali A] On/Off (Status ECG33-ECG48)	4 bytes	bit-combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for ECG 33 - 48. Bit 0 -15 refer to ECG 33 to ECG 48.
17	[Dali A] On/Off (Status ECG49-ECG64)	4 bytes	bit-combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for ECG 49 - 64. Bit 0 -15 refer to ECG 49 to ECG 64.
18	[Dali B] Broadcast Switch	1 bit	switch (DPT 1.001)	CW	On/Off	DALI Bus B - Broadcast Switch. This object is used to switch all connected lamps simultaneously on or off.

5

Num	Object name	Length	DPT	Flag	Function	Description
19	[Dali B] Broadcast Absolute Dimming	1 byte	percentage (DPT 5.001)	CW	Absolute Dimming	DALI Bus B - Broadcast Absolute Dimming. This object is used to simultaneously set all connected lamps to a certain brightness.
20	[Dali B] Broadcast Colour Temperature	2 byte	absolute colour temperature(K) (DPT 7.600)	CW	Colour Temperature Setting	DALI Bus B - Broadcast Colour Temperature. This object is used to simultaneously set all connected colour temperature lamps to a certain colour temperature.
21	[Dali B] Broadcast Colour RGB	3 bytes	RGB value 3x (DPT232.600)	CW	Colour RGB Setting	DALI Bus B - Broadcast Colour RGB. This object is used to simultaneously set all connected RGB lamps to a certain colour.
	[Dali B] Broadcast Colour RGBW	6 bytes	RGBW value 4x (DPT251.600)	CW	Colour RGBW Setting	DALI Bus B - Broadcast Colour RGBW. This object is used to simultaneously set all connected RGBW lamps to a certain colour.
	[Dali B] Broadcast Colour xy-coordinate	6 bytes	colour xy-coordinate (DPT242.600)	CW	Colour xy-coordinate Setting	DALI Bus B - Broadcast Colour xy-coordinate. This object is used to simultaneously set all connected xy-coordinate lamps to a certain colour.

5

Num	Object name	Length	DPT	Flag	Function	Description
22	[Dali B] Scene Number	1 byte	scene number (DPT 18.001)	CW	Scene No.	DALI Bus B – Scene Number. This object can be used for calling scenes. Configure the scene on the DCA interface. Configuration steps: Select ECG or Group->Right mouse button and select "scene edit"->After editing, click "save"->Click "download" to download the parameters.
23	[Dali B] Activate Panic Mode	1 bit	start/stop (DPT 1.010)	CW	Activate/ Stop	DALI Bus B – Panic mode. Activates or deactivates the panic mode via the bus. This object is only valid when the parameter "Panic mode" of the ECG or Group is checked. Note: Priority: Panic mode>Lock>Night mode.
24	[Dali B] Activate Night Mode	1 bit	start/stop (DPT 1.010)	CW	Activate/ Stop	DALI Bus B –Night mode. Activates or deactivates the night mode via the bus. This object is only valid when the parameter "Night mode" of the ECG or Group is checked. Note: Priority: Panic mode>Lock>Night mode.

5

Num	Object name	Length	DPT	Flag	Function	Description
25	[Dali B] Activate Test Mode	1 bit	start/stop (DPT 1.010)	CW	Activate/ Stop	DALI Bus B –Test mode. Activates or deactivates the test mode via the bus. This object is only valid when the parameter "ECG Type" choose "Self Contained Battery Lamp".
26	[Dali B] Dali Power Failure	1bit	alarm (DPT 1.005)	CRT	0 = No Error;1 = Error	Reports the presence of DALI bus voltage abnormal in the connected DALI segment. When voltage of the bus B is abnormal, the object sends '1', otherwise it sends '0'.
27	[Dali B] Dali Short Circuit	1bit	alarm (DPT 1.005)	CRT	0 = No Error;1 = Error	Reports the presence of a DALI short-circuit in the connected DALI segment. When bus B is short-circuit, the object sends '1', otherwise it sends '0'.
28	[Dali B] ECG Presence	1bit	alarm (DPT 1.005)	CRT	0 = No Error;1 = Error	Reports the presence of a ECG disconnect in the connected DALI segment. When at least one ECG on bus B is disconnected, the object sends '1', otherwise it sends '0'.

5

Num	Object name	Length	DPT	Flag	Function	Description
29	[Dali B] ECG Diagnostics	1byte	diagnostics value (DPT 238.600)	CRT	ECG Diagnostics	This object is used to send the error status of lamp or ECG errors in the DALI bus B when the system is started or when a change has taken place. Bit 0 - 5 refer to the number of the ECG, range from 0 - 63. Bit 6 represents a lamp error. Bit 7 an ECG error, 0 = no error, 1 = error.
30	[Dali B] On/Off (Status Group1- Group16)	4bytes	bit-combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for groups 1 - 16. Bit 0 -15 refer to Group 1 to Group 16. For example: Grp.16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 Bit 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 Group 3 on: 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
31	[Dali B] On/Off (Status ECG1- ECG16)	4bytes	bit-combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for ECG 1 - 16. Bit 0 -15 refer to ECG 1 to ECG 16. For example: ECG 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 Bit 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0 ECG 3 on: 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0
32	[Dali B] On/Off (Status ECG17- ECG32)	4bytes	bit -combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for ECG 17 - 32. Bit 0 -15 refer to ECG 17 to ECG 32.

5

Num	Object name	Length	DPT	Flag	Function	Description
33	[Dali B] On/Off (Status ECG33-ECG48)	4bytes	bit-combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for ECG 33 - 48. Bit 0 -15 refer to ECG 33 to ECG 48.
34	[Dali B] On/Off (Status ECG49-ECG64)	4bytes	bit-combined info on/off (DPT 27.001)	CRT	Status	Sends the on/off status for ECG 49 - 64. Bit 0 -15 refer to ECG 49 to ECG 64.
35	[Central Function] Operation	1bit	state (DPT 1.011)	CRT	Operation	When active, this object is use to send status of the device to the system at regular intervals which is set by the parameter "Send operation cyclic".
36	[Central Function] All Relays On/Off	1bit	switch (DPT 1.001)	CW	0 = Off; 1 = On	This object is use to switch all of the selected relays on/off. Note: The object is valid only when the following requirements are met. ①The parameter "All Relays On/Off" and "Relay n (n=1~4) control" in "General setting" are checked。 ②When "Relay n (n=1~4) control" is checked, there is a submenu called "Relays" in which the parameter "Central function" shall be checked.

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Num	Object name	Length	DPT	Flag	Function	Description
37	[Central Function] All Relays On/Off (Status)	1bit	switch (DPT 1.001)	CRT	0 = Off; 1 = On	Sends the on/off status for the relays. 1: all of the selected relays are off 0: one of the selected relays is on.
38	[Central Function] RTC	3bytes	time of day (DPT 10.001)	CR	Time	This object is used to set the time of DLC-02-KN, as well as read the time from DLC-02-KN.
39	[Central Function] RTC	3bytes	date (DPT 11.001)	CR	Data	This object is used to set the date of DLC-02-KN, as well as read the date from DLC-02-KN.
40	[Central Function] Standby Switch-off	1 bit	switch (DPT 1.001)	CRT	Standby Switch-off	This object sends "0" when the standby condition is satisfied, and "1" when the standby condition is released. Note: For details on "Standby Switch-off", please refer to Section 6.1.1.7.
41	[Central Function] Enable /Disable Standby Switch-off	1 bit	enable (DPT 1.003)	CW	0 = Disable; 1 = Enable	Enable or disable "Standby switch-off" function. When "Standby switch-off" is not enabled, object 40 [Central Function] Standby Switch-off will send "1".

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Num	Object name	Length	DPT	Flag	Function	Description
42	[Central Function] AC Failure (Status)	1 bit	alarm (DPT 1.005)	CRT	0 = No Error; 1 = Error	When the AC power of DLC-02-KN is disconnected, the object sends "1", and when the AC power supply of DLC-02-KN is normal, it sends "0".
43	[A:ECG 1] On/Off	1bit	switch (DPT 1.001)	CW	0 = Off; 1 = On	Use this object to switch the ECG on or off. The dimming value is set by the parameters "Switch-On value" and "Switch-off value".
44	[A:ECG 1] Relative Dimming	4bit	dimming control (DPT 3.007)	CW	4-Bit Dimming Control	This object is used for the relative dimming of the ECG.
45	[A:ECG 1] Absolute Dimming	1byte	percentage (DPT 5.001)	CW	1-Byte Dimming Control	This object is used for the absolute dimming of the ECG.

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Num	Object name	Length	DPT	Flag	Function	Description
46	[A:ECG 1] On/Off (Status)	1bit	switch (DPT1.001)	CRT	0 = Off; 1 = On	Sends the on/off status of the ECG. 1.The parameter "Send On/Off Status" chooses "no send, passive stage object".→ update status but no send telegram. 2.The parameter "Send On/Off Status" chooses "at change". → send telegram in every on/off change. 3.The parameter "Send On/Off Status" chooses "always at input of telegram". → send telegram in every on/off command. 4. The parameter "Send Status cyclic" is at a certain time value. → send telegram at regular intervals. Note: When dimming value > 0, the current state is On, and when dimming value = 0, the current state is Off.

Num	Object name	Length	DPT	Flag	Function	Description
47	[A:ECG 1] Dimming Value(Status)	1byte	percentage (DPT5.001)	CRT	0 - 100%	Sends the dimming value of the ECG. 1.The parameter ″Send dimming value status″ chooses ″no send, passive stage object″. → update value status but no send telegram. 2.The parameter ″Send dimming value status″ chooses "at change". → send telegram in every dimming value change. 3.The parameter ″Send dimming value status″ chooses ″always at input of telegram". → send telegram in every dimming command. 4. The parameter "Send Status cyclic" is at a certain time value. → send telegram at regular intervals.
48	[A:ECG 1] Lock	1bit,	enable (DPT1.003)	CW	0=Unlock; 1=Lock	This object is used to lock/unlock the ECG. Priority: Panic mode>Lock>Night mode.
49	[A:ECG 1] Auto Off	1bit	enable (DPT1.003)	CW	0=Disable; 1=Enable	This object is used to enable/disable the Auto Off function of the ECG.

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Num	Object name	Length	DPT	Flag	Function	Description
50	[A:ECG 1] Operation Hours Reset	1bit	reset (DPT1.015)	CW	1 = Reset	Resets the operating hours counter of the ECG.
51	[A:ECG 1] Operation Hours Value	4bytes	time lag(s) (DPT 13.100)	CRT	4-Bytes Value in Second	The operating hours of the ECG in seconds are sent via this object. When the parameter "Select data type" is set to "4 Byte value in second(DTP 13.100)", the unit of operation time value is seconds.
51	[A:ECG 1] Operation Hours Value	2bytes	time (h) (DPT7.007)	CRT	2-Bytes Value in Hours	The operating hours of the ECG in hours are sent via this object. When the parameter "Select data type" is set to "2 Byte value in hour (DTP 7.007)", the unit of operation time value is hour.
52	[A:ECG 1] Operation Hours Exeeded	1bit	alarm (DPT1.005)	CRT	0 = No Exeeded; 1 = Exeeded	When the operation hours' counter exceeds the threshold set by the parameter "Operation hours limit", the object will send '1' and the operation hours' counter is reset to 0.

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Num	Object name	Length	DPT	Flag	Function	Description
53	[A:ECG 1] Failure (Status)	1bit	alarm (DPT1.005)	CRT	0 = No Error;1 = Error	Detects whether the ECG is disconnected, short circuit or open circuit. As long as one of these situations occurs, the object will report "1", otherwise it will report "0".
54	[A:ECG 1] Converter Test Control	1byte	converter test control (DPT20.611)	CW	Control Test Command	This object is used to start duration test of the converter, function tests and battery status queries. Furthermore, it allows to stop running test and to reset test flags. These object follows the following coding: Bit 0: Reserved. Bit 1: Start function test. Bit 2: Start duration test. Bit 3: Start partial duration test. Bit 4: Stop test. Bit 5: Reset function test done flag. Bit 6: Reset duration test done flag . Bit 7 – 255: Reserved.

Num	Object name	Length	DPT	Flag	Function	Description
55	[A:ECG 1] Converter Status	2bytes	Dali converter status (DPT244.600)	CRT	Status of a Converter	Converter Mode. This object is used to send the status of a converter with the following coding: Bit 0: Unknown. Bit 1: Normal mode active. Bit 2: Inhibit mode active: for 15 minutes the converter will not switch the emergency lighting on when a power failure occurring. Bit 3: Hardwired inhibit mode active: digital input that the converter can have to activate the inhibit mode. Bit 4: Rest mode active: forced off emergency lighting during emergency mode. Bit 5: Emergency mode active. Bit 6: Extended emergency mode active. Bit 7: FT in progress. Bit 8: DT in progress. Bit 9: PDT in progress. Bit 10 - 15: Reserved.

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Num	Object name	Length	DPT	Flag	Function	Description
56	[A:ECG 1] Converter Test Result	6bytes	Dali converter test result (DPT244.600)	CRT	Result of a Test	This object is used to send the result of the last converter test with the following coding: **LTRF, LTRD, LTRP**: Last Test Result Functional / Duration / Partial duration: Indicates the test result of each type: Bit 0: Unknown. Bit 1: Passed in time. Bit 2: Passed max delay exceeded. Bit 3: Failed, test executed in time. Bit 4: Failed, max delay exceeded. Bit 5: Test manually stopped. Bit 6 - 15: Reserved. **SF, SD, SP**: Start method of last Functional / Duration / Partial test. Indicates the method by which the last test started. Updated when a test is finish. Bit 0: Unknown. Bit 1: Started automatically. Bit 2: Started by Gateway. Bit 3: Reserved.

Num	Object name	Length	DPT	Flag	Function	Description
						LDTR: Last Duration Test Result. Contains the battery discharge time as the result of the last successful duration test indicated in minutes. **LPDTR**: Last Partial Duration Test Result. Provides the remaining battery charge level after the last partial duration test. 0: Deep discharge point. Bit 1 - 253: Battery level. Bit 254: Fully charged. Bit 255: Unknown.
When "Colour Control Type" is selected as "Colour Temperature":						
57	[A:ECG 1] Relative Colour Temperature	4 bit	dimming control (DPT 3.007)	CW	4-Bit Colour Temperature Control	Relative colour temperature adjustment.
58	[A:ECG 1] Colour Temperature	2 bytes	absolute colour temperature(K) (DPT7.600)	CW	2-Bytes Colour Temperature Control	Absolute colour temperature adjustment.
59	[A:ECG 1] Colour Temperature Value (Status)	2 bytes	absolute colour temperature(K) (DPT7.600)	CRT	1000-10000K	Feedback the colour temperature value of the ECG.

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Num	Object name	Length	DPT	Flag	Function	Description
When "Colour Control Type" is selected as "Colour RGB":						
58	[A:ECG 1] Colour RGB	3 bytes	RGB value 3x (DPT232.600)	CW	3-Bytes Colour RGB Control	Set the RGB value of the ECG.
59	[A:ECG 1] Colour RGB Value (Status)	3 bytes	RGB value 3x (DPT232.600)	CRT	3-Bytes Colour RGB Value	Feedback the RGB value of the ECG.
When "Colour Control Type" is selected as "Colour RGBW":						
58	[A:ECG 1] Colour RGBW	6 bytes	RGBW value 4x (DPT251.600)	CW	6-Bytes Colour RGBW Control	Set the RGBW value of the ECG.
59	[A:ECG 1] Colour RGBW Value (Status)	6 bytes	RGBW value 4x (DPT251.600)	CRT	6-Bytes Colour RGBW Value	Feedback the RGBW value of the ECG.
When "Colour Control Type" is selected as "Colour xy-coordinate":						
58	[A:ECG 1] Colour xy-coordinate	6 bytes	colour xy-coordinate (DPT242.600)	CW	6-Bytes Colour xy-coordinate Control	Set the xy-coordinate value of the ECG.
59	[A:ECG 1] Colour xy-coordinate Value (Status)	6 bytes	colour xy-coordinate 4x (DPT242.600)	CRT	6-Bytes Colour xy-coordinate Value	Feedback the xy-coordinate value of the ECG.
Please refer to the above ECG 1 for the objects description of the ECG 2 to ECG 64 channels in the DALI A bus.						

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Num	Object name	Length	DPT	Flag	Function	Description
1131	[A:Group1] On/Off	1bit	Switch (DPT1.001)	CW	0 = Off; 1 = On	Use this object to switch the Group on or off. The dimming value is set by the parameters "Switch-On value" and "Switch-off value".
1132	[A:Group1] Relative Dimming	4bit	4 bit Dimming control (DPT 3.007)	CW	4-Bit Dimming Control	This object is used for the relative dimming of the Group.
1133	[A:Group1] Absolute Dimming	1byte	Percentage (DPT5.001)	CW	1-Byte Dimming Control	This object is used for the absolute dimming of the Group.
1134	[A:Group1] On/Off(Status)	1bit	Switch (DPT1.001)	CRT	0 = Off; 1 = On	Sends the on/off status of the Group. 1.The parameter "Send On/Off Status" chooses "no send, passive stage object".→ update status but no send telegram. 2.The parameter "Send On/Off Status" chooses "at change". → send telegram in every on/off change. 3.The parameter "Send On/Off Status" chooses "always at input of telegram". → send telegram in every on/off command. 4. The parameter "Send Status cyclic" is at a certain time value. → send telegram at regular intervals. Note: When dimming value>0, the current state is On, and when dimming value=0, the current state is Off.

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Num	Object name	Length	DPT	Flag	Function	Description
1135	[A:Group1] Dimming Value (Status)	1byte	Percentage (DPT5.001)	CRT	0 - 100%	Sends the dimming value of the Group. 1.The parameter "Send dimming value status" chooses "no send, passive stage object". → update value status but no send telegram. 2.The parameter "Send dimming value status" chooses "at change". → send telegram in every dimming value change. 3.The parameter "Send dimming value status" chooses "always at input of telegram". → send telegram in every dimming command. 4. The parameter "Send Status cyclic" is at a certain time value. → send telegram at regular intervals.
1136	[A:Group1] Lock	1bit	Enable (DPT1.003)	CW	0 = Unlock; 1 = Lock	This object is used to lock/unlock the Group. This object only appears when the parameter "Lock object polarity" chooses "0 = unlock; 1 = lock" .
1136	[A:Group1] Lock	1bit	Enable (DPT1.003)	CW	0 =Lock; 1 = Unlock	This object is used to lock/unlock the Group. This object only appears when the parameter "Lock object polarity" chooses "0 = lock; 1 = unlock" .

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Num	Object name	Length	DPT	Flag	Function	Description
1137	[A:Group1] Auto Off	1bit	Enable (DPT1.003)	CW	0 = Disable; 1 = Enable	This object is used to enable/disable the Auto Off function of the Group. This object only appears when the parameter "Auto-off disable/enable object" chooses "0 = disable; 1 = enable".
1137	[A:Group1] Auto Off	1bit	Enable (DPT1.003)	CW	0 =Enable; 1 =Disable	This object is used to enable/disable the Auto Off function of the Group. This object only appears when the parameter "Auto-off disable/enable object" chooses "0 = enable; 1 = disable".
1138	[A:Group1] Operation Hours Reset	1bit	Reset (DPT1.015)	CW	1 = Reset	Resets the operating hours counter of the Group.
1139	[A:Group1] Operation Hours Value	4bytes	Time lag(s) (DPT13.100)	CRT	4-Bytes Value in Second	The operating hours of the Group in seconds are sent via this object. When the parameter "Select data type" is set to "4 Byte value in second(DTP 13.100)", the unit of operation time value is seconds.
1139	[A:Group1] Operation Hours Value	2bytes	Time (h) (DPT7.007)	CRT	2-Bytes Value in Hours	The operating hours of the Group in hours are sent via this object. When the parameter "Select data type" is set to "2 Byte value in hour (DTP 7.007)", the unit of operation time value is hour.

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Num	Object name	Length	DPT	Flag	Function	Description
1140	[A:Group1] Operation Hours Exeeded	1bit	Alarm (DPT1.005)	CRT	0 = No Exeeded; 1 = Exeeded	When the operation hours' counter exceeds the threshold set by the parameter "Operation hours limit", the object will send '1' and the operation hours' counter is reset to 0.
1141	[A:Group1] Failure (Status)	1bit	Alarm (DPT1.005)	CRT	0 = No Error; 1 = Error	Detects whether the Group is disconnected, short circuit or open circuit. As long as one of these situations occurs, the object will report "1", otherwise it will report "0".
When "Colour Control Type" is selected as "Colour Temperature":						
1142	[A:Group1] Relative Colour Temperature	4bit	dimming control (DPT 3.007)	CW	4-Bit Colour Temperature Control	Relative colour temperature adjustment.
1143	[A:Group1] Colour Temperature	2bytes	absolute colour temperature(K) (DPT7.600)	CW	2-Bytes Colour Temperature Control	Absolute colour temperature adjustment.
1144	[A:Group1] Colour Temperature Value(Status)	2bytes	absolute colour temperature(K) (DPT7.600)	CRT	1000-10000K	Feedback the colour temperature value of the Group.
When "Colour Control Type" is selected as "Colour RGB":						
1143	[A:Group1] Colour RGB	3bytes	RGB value 3x (DPT232.600)	CW	3-Bytes Colour RGB Control	Set the RGB value of the Group.
1144	[A:Group1] Colour RGB Value(Status)	3bytes	RGB value 3x (DPT232.600)	CRT	3-Bytes Colour RGB Value	Feedback the RGB value of the Group.

Num	Object name	Length	DPT	Flag	Function	Description
When "Colour Control Type" is selected as "Colour RGBW":						
1143	[A:Group1] Colour RGBW	6bytes	RGBW value 4x (DPT251.600)	CW	6-Bytes Colour RGBW Control	Set the RGBW value of the Group.
1144	[A:Group1] Colour RGBW Value(Status)	6bytes	RGBW value 4x (DPT251.600)	CRT	6-Bytes Colour RGBW Value	Feedback the RGBW value of the Group.
When "Colour Control Type" is selected as "Colour xy-coordinate":						
1143	[A:Group1] Colour xy-coordinate	6bytes	colour xy-coordinate (DPT242.600)	CW	6-Bytes Colour xy-coordinate Control	Set the xy-coordinate value of the Group.
1144	[A:Group1] Colour xy-coordinate Value(Status)	6bytes	colour xy-coordinate 4x (DPT242.600)	CRT	6-Bytes Colour xy-coordinate Value	Feedback the xy-coordinate value of the Group.
Please refer to the above Group 1 for the objects description of the Group 2 to Group 16 channels in the DALI bus A.						
Objects of ECGs and Groups in DALI Bus B segment, please refer to descriptions of those objects in DALI Bus A.						
2667	[Relay 1] On/Off	1bit	Switch (DPT1.001)	CW	0 = Off; 1 = On	This object is used to switch the relay on or off.
2668	[Relay 1] Lock	1bit	Enable (DPT1.003)	CW	0 = Unlock; 1 = Lock	This object is used to lock/unlock the relay.
2669	[Relay 1] On/Off (Status)	1bit	Switch (DPT1.001)	CRT	0 = On; 1 = Off	This object is used to send the status of the relay.
2670	[Relay 1] On/Off (Inverted Status)	1bit	Switch (DPT1.001)	CRT	0 = On; 1 = Off	This object is used to send the inverted status of the relay. Note: This object is only valid when the parameter "Additional inverted state" is checked.

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Num	Object name	Length	DPT	Flag	Function	Description
2671	[Relay 1] Forced Control	2bit	Switch control (DPT2.001)	CW	2-Bit Forced Control	Forced control function: 00 and 01:Deactivates Forced control. 10: Sets to Forced control active with relay Off (open). 11: Sets to Forced control active with relay On (short). Note: Priority: Lock > Priority/Force control.
2671	[Relay 1] Priority	1bit	switch (DPT1.001)	CW	1-Bit Priority ON	Activates or deactivates forced On function. Relay On (short) when activated. Note: Priority: Lock > Priority/Force control.
2671	[Relay 1] Priority	1bit	switch (DPT1.001)	CW	1-Bit Priority OFF	Activates or deactivates forced Off function. Relay Off (open) when activated. Note: Priority: Lock > Priority/Force control.
Please refer to the above Relay 1 for the objects description of the Relay 2 to Relay 4.						
2703	[Timer 1] Object-1 Switch	1bit	switch (DPT 1.001)	CRT	0 = Off; 1 = On	This object is used to send on/off signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Switch (DPT1.001)" .
	[Timer 1] Object-1 Percentage	1byte	percentage (DPT 5.001)	CRT	0-100%	This object is used to send dimming signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Percentage (DPT5.001)" .

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Num	Object name	Length	DPT	Flag	Function	Description
2703	[Timer 1] Object-1 Colour Temperature	2bytes	absolute colour temperature(K) (DPT 7.600)	CRT	1000-10000K	This object is used to send colour temperature signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Colour Temperature (DPT7.600)".
	[Timer 1] Object-1 Colour RGB	3bytes	RGB value 3x (DPT 232.600)	CRT	3-Bytes Colour RGB value	This object is used to send RGB signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Colour RGB (DPT232.600)".
	[Timer 1] Object-1 Colour RGBW	6bytes	RGBW value 4x (DPT 251.600)	CRT	6-Bytes Colour RGBW value	This object is used to send RGBW signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Colour RGBW (DPT251.600)".
	[Timer 1] Object-1 Colour xy-coordinate	6bytes	colour xy-coordinate (DPT 242.600)	CRT	6-Bytes Colour xy-coordinate value	This object is used to send xy-coordinate signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Colour xy-coordinate (DPT242.600)".
	[Timer 1] Object-1 Scene Number	1byte	scene number (DPT 5.001)	CRT	1-64	This object is used to trigger scene of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Scene Number(DPT17.001)".

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Num	Object name	Length	DPT	Flag	Function	Description
2704	[Timer 1] Object-2 Switch	1bit	switch (DPT 1.001)	CRT	0 = Off; 1 = On	This object is used to send on/off signals of the timer when it is triggered. This object only available when the parameter "Object-2 Type" chooses "Switch (DPT1.001)" .
	[Timer 1] Object-2 Percentage	1byte	percentage (DPT 5.001)	CRT	0-100%	This object is used to send dimming signals of the timer when it is triggered. This object only available when the parameter "Object-2 Type" chooses "Percentage (DPT5.001)" .
	[Timer 1] Object-2 Colour Temperature	2bytes	absolute colour temperature(K) (DPT 7.600)	CRT	1000-10000K	This object is used to send colour temperature signals of the timer when it is triggered. This object only available when the parameter "Object-2 Type" chooses "Colour Temperature (DPT7.600)" .
	[Timer 1] Object-2 Colour RGB	3bytes	RGB value 3x (DPT 232.600)	CRT	3-Bytes Colour RGB value	This object is used to send RGB signals of the timer when it is triggered. This object only available when the parameter "Object-2 Type" chooses "Colour RGB (DPT232.600)".

Num	Object name	Length	DPT	Flag	Function	Description
2704	[Timer 1] Object-2 Colour RGBW	6bytes	RGBW value 4x (DPT 251.600)	CRT	6-Bytes Colour RGBW value	This object is used to send RGBW signals of the timer when it is triggered. This object only available when the parameter "Object-2 Type" chooses "Colour RGBW (DPT251.600)".
	[Timer 1] Object-2 Colour xy-coordinate	6bytes	colour xy-coordinate (DPT 242.600)	CRT	6-Bytes Colour xy-coordinate value	This object is used to send xy-coordinate signals of the timer when it is triggered. This object only available when the parameter "Object-2 Type" chooses "Colour xy-coordinate (DPT242.600)".
	[Timer 1] Object-2 Scene Number	1byte	scene number (DPT 5.001)	CRT	1-64	This object is used to trigger scene of the timer when it is triggered. This object only available when the parameter "Object-2 Type" chooses "Scene Number (DPT17.001)".

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Num	Object name	Length	DPT	Flag	Function	Description
2705	[Timer 1] Object-3 Switch	1bit	switch (DPT 1.001)	CRT	0 = Off; 1 = On	This object is used to send on/off signals of the timer when it is triggered. This object only available when the parameter "Object-3 Type" chooses "Switch (DPT1.001)".
	[Timer 1] Object-3 Percentage	1byte	percentage (DPT 5.001)	CRT	0-100%	This object is used to send dimming signals of the timer when it is triggered. This object only available when the parameter "Object-3 Type" chooses "Percentage (DPT5.001)".
	[Timer 1] Object-3 Colour Temperature	2bytes	absolute colour temperature(K) (DPT 7.600)	CRT	1000-10000K	This object is used to send colour temperature signals of the timer when it is triggered. This object only available when the parameter "Object-3 Type" chooses "Colour Temperature (DPT7.600)".
	[Timer 1] Object-3 Colour RGB	3bytes	RGB value 3x (DPT 232.600)	CRT	3-Bytes Colour RGB value	This object is used to send RGB signals of the timer when it is triggered. This object only available when the parameter "Object-3 Type" chooses "Colour RGB (DPT232.600)".

Num	Object name	Length	DPT	Flag	Function	Description
2705	[Timer 1] Object-3 Colour RGBW	6bytes	RGBW value 4x (DPT 251.600)	CRT	6-Bytes Colour RGBW value	This object is used to send RGBW signals of the timer when it is triggered. This object only available when the parameter "Object-3 Type" chooses "Colour RGBW (DPT251.600)".
	[Timer 1] Object-3 Colour xy-coordinate	6bytes	colour xy-coordinate (DPT 242.600)	CRT	6-Bytes Colour xy-coordinate value	This object is used to send xy-coordinate signals of the timer when it is triggered. This object only available when the parameter "Object-3 Type" chooses "Colour xy-coordinate (DPT242.600)".
	[Timer 1] Object-3 Scene Number	1byte	scene number (DPT 5.001)	CRT	1-64	This object is used to trigger scene of the timer when it is triggered. This object only available when the parameter "Object-3 Type" chooses "Scene Number (DPT17.001)".

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Num	Object name	Length	DPT	Flag	Function	Description
2706	[Timer 1] Object-4 Switch	1bit	switch (DPT 1.001)	CRT	0 = Off; 1 = On	This object is used to send on/off signals of the timer when it is triggered. This object only available when the parameter "Object-4 Type" chooses "Switch (DPT1.001)".
	[Timer 1] Object-4 Percentage	1byte	percentage (DPT 5.001)	CRT	0-100%	This object is used to send dimming signals of the timer when it is triggered. This object only available when the parameter "Object-4 Type" chooses "Percentage (DPT5.001)".
	[Timer 1] Object-4 Colour Temperature	2bytes	absolute colour temperature(K) (DPT 7.600)	CRT	1000-10000K	This object is used to send colour temperature signals of the timer when it is triggered. This object only available when the parameter "Object-4 Type" chooses "Colour Temperature (DPT7.600)".
	[Timer 1] Object-4 Colour RGB	3bytes	RGB value 3x (DPT 232.600)	CRT	3-Bytes Colour RGB value	This object is used to send RGB signals of the timer when it is triggered. This object only available when the parameter "Object-4 Type" chooses "Colour RGB (DPT232.600)".

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Num	Object name	Length	DPT	Flag	Function	Description
2706	[Timer 1] Object-4 Colour RGBW	6bytes	RGBW value 4x (DPT 251.600)	CRT	6-Bytes Colour RGBW value	This object is used to send RGBW signals of the timer when it is triggered. This object only available when the parameter "Object-4 Type" chooses "Colour RGBW (DPT251.600)".
	[Timer 1] Object-4 Colour xy-coordinate	6bytes	colour xy-coordinate (DPT 242.600)	CRT	6-Bytes Colour xy-coordinate value	This object is used to send xy-coordinate signals of the timer when it is triggered. This object only available when the parameter "Object-4 Type" chooses "Colour xy-coordinate (DPT242.600)".
	[Timer 1] Object-4 Scene Number	1byte	scene number (DPT 5.001)	CRT	1-64	This object is used to trigger scene of the timer when it is triggered. This object only available when the parameter "Object-4 Type" chooses "Scene Number (DPT17.001)".
Please refer to the above Timer 1 for the objects description of the Timer 2 to Timer 16.						
2687	[Effect 1] Start/Stop	1bit	start/stop (DPT1.010)	CW	0 = Stop; 1 = Start	Activate or deactivates the Effect. Note: This object is only valid when the parameter "Effect 1" is checked.
Please refer to the above Effect 1 for the objects description of the Effect 2 to Effect 16.						

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6.ETS Parameters

The ETS parameters of the device are distributed across different parameter pages. To simplify the overview, only the parameter pages of the device selected in the function tree are displayed.

6.1 General

Nine parameter pages are available under the heading "General", General setting, A : ECGs enable, A : Groups enable, A : Scenes setting; B : ECGs enable, B : Groups enable, A : Scenes setting, Effects enable and Timer enable.
The parameters are described below:

6.1.1 General setting

There are SYSTEM, KNX FAILURE, BROADCAST, RELAY CONTROL, RTC, IP Address, Standby switch-off and AC Failure Alarm in the page.

6.1.1.1 General setting : SYSTEM

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
Startup timeout	2 – 60s **[2s]**	After the KNX bus is powered on, all functions run after startup timeout finished. During the delay time, if there is Object Communication, it will be temporarily recorded and not responded. After the delay is over, perform the corresponding action.
Send "operation" cyclic (0= not active)	0 – 65535mins **[0mins]**	Sends status signals from the object Operation at intervals you desire.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
35	[Central Function] Operation	1 bit	When active, this object is use to send status of the device to the system at regular intervals which is set by the parameter "Send operation cyclic" .

6.1.1.2 General setting : KNX FAILURE

Behavior after KNX Bus power down	defined value ▼
Value	0%(OFF) ▼
Behavior after KNX Bus power up	defined value ▼
Value	100% ▼

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Behavior after KNX Bus power down	● broadcast off ● broadcast on ● **no action** ● defined value	Uses this parameter to set the behaviors of the connected ECGs /lamps in DALI Bus A and B when KNX bus voltage falls down. Actions are all off, all on, no action or all set to a certain value.
Value	0 – 100% **[0%(OFF)]**	This option is only available when "Behavior after KNX Bus power down" is selected as "defined value". Use this parameter to set a desired value.
Behavior after KNX Bus power up	● switch-off value ● switch-on value ● **no action** ● defined value ● last value	Uses this parameter to set the behaviors of the connected ECGs /lamps in DALI Bus A and B when KNX bus is on/ return. Actions are all off, all on, no action, all set to a certain value or all stay at last value.
Value	0 – 100% **[100%]**	This option is only available when "Behavior after KNX Bus power up" is selected as "defined value". Use this parameter to set a desired value.

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6.1.1.3 General setting： BROADCAST

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Dali n Broadcast n=A or B	● **Unchecked** ● Checked	Use this parameter to enable the broadcast function.
Dimming curve	● **log** ● linear	Sets the dimming curve for broadcast dimming. NOTE: This parameter only sends diming telegrams according to your setting and will not transfer the values to match the dimming curve of the ECGs/lamps. Please select the same curve as the ECGs/lamps to get the best dimming performance. [This option only exists when "Dali n Broadcast" is checked].
Broadcast Colour Temperature	● **Unchecked** ● Checked	Activate or deactivate the broadcast colour temperature control object.
Broadcast Colour	● **none** ● RGB ● RGBW ● xy-coordinate	Select the broadcast colour control type.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
1	[Dali A] Broadcast Switch	1 bit	DALI Bus A-Broadcast Switch. This object is used to switch all connected lamps simultaneously on or off.
2	[Dali A] Broadcast Absolute Dimming	1 byte	DALI Bus A-Broadcast Absolute Dimming. This object is used to simultaneously set all connected lamps to a certain brightness.
3	[Dali A] Broadcast Colour Temperature	1 byte	DALI Bus A-Broadcast Colour Temperature. This object is used to simultaneously set all connected colour temperature lamps to a certain colour temperature.
4	[Dali A] Broadcast Colour RGB	3 bytes	DALI Bus A-Broadcast Colour RGB. This object is used to simultaneously set all connected RGB lamps to a certain colour.
	[Dali A] Broadcast Colour RGBW	6 bytes	DALI Bus A-Broadcast Colour RGBW. This object is used to simultaneously set all connected RGBW lamps to a certain colour.
	[Dali A] Broadcast Colour xy-coordinate	6 bytes	DALI Bus A-Broadcast Colour xy-coordinate. This object is used to simultaneously set all connected xy-coordinate lamps to a certain colour.

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6.1.1.4 General setting：RELAY CONTROL

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Relay n control n = [1, 4]	● **Unchecked** ● Checked	Use this parameter to enable the function. For detailed information, please refer to section 6.1.1.5.1 "Relays".
All Relays On/Off	● **Unchecked** ● Checked	Use this parameter to enable the function.
Send status ★	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "All Relays On/Off " with the option you selected. Note: The state is "Open" when all the relays are open, and the state is "Close" when at least one relay is closed.
Send status cyclic (0= not active) ★	0 – 65535s **[0s]**	Sends status signals from the object "All Relays On/Off" at intervals you desire.

★: Only appears when "Checked" in "All Relays On/Off" is chosen

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
36	[Central Function] All Relays On/Off	1 bit	This object is use to switch all of the selected relays on/off. Note: The object is valid only when the following requirements are met. ①The parameter "All Relays On/Off" and "Relay n (n=1~4) control" in "General setting" are checked. ②When "Relay n (n=1~4) control" is checked, there is a submenu called "Relays" in which the parameter "Central function" shall be checked.
37	[Central Function] All Relays On/Off (Status)	1 bit	Sends the on/off status for the relays. 1: all of the selected relays are off 0: one of the selected relays is on.

6.1.1.4.1 General setting : RELAY CONTROL – Relay

Once a relay is activated, a new page of Relays will appear. At this subpage, the further parameterization can be done. The following illustration shows the setting options at the submenu for a relay.

Output mode	⦿ normally opened ◯ normally closed
On delay	0 ⬍ Seconds
Off delay	0 ⬍ Seconds
Central function	✔
Send status	at change ▾
Send status cyclic(0=not active)	0 ⬍ Seconds
Additional inverted status	☐
Behavior at locking	no change ▾
Behavior at unlocking	no change ▾
Priority/Forced control	not active ▾
Behavior after KNX Bus power up	no change ▾
Behavior after AC power on	previous status ▾

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The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Output mode	● **normally opened** ● normally closed	Defines the default behavior of the relay.
On delay	0 – 65535s **[0s]**	Adjustment of the time at which the switch-on process shall be delayed.
Off delay	0 – 65535s **[0s]**	Adjustment of the time at which the switch-off process shall be delayed.
Central function	● Unchecked ● **Checked**	Whether it is controllable via the object "[Central Function] All Relays On/Off".
Send status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Relays On/Off" with the option you selected.
Send status cyclic (0= not active)	0 – 65535s **[0s]**	Sends status signals from the object "Relays On/Off"at intervals you desire.
Additional inverted status	● **Unchecked** ● Checked	If actives, inverter signals received from the object "On/Off(Inverted Status)", that is 1→0; 0→1
Behavior at locking	● off ● on ● **no change**	Sets the action to be performed when a lock order is received. Note: Priority: Lock > Priority/Force control.
Behavior at unlocking	● off ● on ● **no change** ● previous status	Sets the action to be performed when an unlock order is received. Note: Priority: Lock > Priority/Force control.

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ETS-text	Dynamic range [default value]	Comment
Priority/ Force control	● not active ● 2Bit forced control ● 1Bit priority ON ● 1Bit priority OFF	Activates or deactivates the function. Note: Priority: Lock > Priority/Force control.
Release time for forced control (0=not active)	0~65535min [0min]	Set the delay time for releasing the forced control function. "0 min" means the function is not activated.
Behavior after forced control	● on ● off ● no change ● previous state	Set the action to be performed when exiting the forced control.
Behavior after KNX Bus power up	● off ● on ● no change	Set the action to be performed when the KNX bus is powered up.
Behavior after AC power on	● off ● on ● previous state	Set the action to be performed when the AC of the DLC-02 is powered on. Note: It is considered as "AC power on" when the AC power is turned on again after 10 seconds of power off.

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The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
2667	[Relay 1] On/Off	1 bit	This object is used to switch the relay on or off.
2668	[Relay 1] Lock	1 bit	This object is used to lock/unlock the relay.
2669	[Relay 1] On/Off (Status)	1 bit	This object is used to send the status of the relay.
2670	[Relay 1] On/Off (Inverted Status)	1 bit	This object is used to send the inverted status of the relay. Note: This object is only valid when the parameter"Additional inverted state" is checked.
2671	[Relay 1] Forced Control	2 bit	Forced control function: 00 and 01: Deactivates Forced control. 10: Sets to forced control active with relay Off (open). 11: Sets to forced control active with relay On (short). Note: Priority: Lock > Priority/Force control.
	[Relay 1] Priority	1 bit	Activates or deactivates forced On function. Relay On (short) when activated. Note: Priority: Lock > Priority/Force control.
	[Relay 1] Priority	1 bit	Activates or deactivates forced Off function. Relay Off (open) when activated. Note: Priority: Lock > Priority/Force control.

6.1.1.5 General setting : RTC

There is no "Date and Time Correction" option in the ETS page. If you need to correct the date and time of DLC-02-KN, you can do it through Object 38 and Object 39 "RTC", or you can do it through "Key" on the panel of DLC-02-KN, please refer to Chapter 7.4.1 for detail.

The DLC-02-KN has a built-in battery to power the clock. When the time and date are set, even if the DLC-02-KN is powered off, the clock will continue to operate normally.

RTC Send status cyclic	no active ▼

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
RTC Send status cyclic	not active, 10s, 20s, ...50s, 60s [not active]	Sends status signals from the objects "RTC Time"and "RTC Date" at intervals you desire.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
38	[Central Function] RTC	3 bytes	This object is used to set the time of the DLC-02-KN or read the time from the DLC-02-KN.
39	[Central Function] RTC	3 bytes	This object is used to set the date of the DLC-02-KN or read the date from the DLC-02-KN.

6.1.1.6 General setting: IP Address

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
IP Address assignment	● Static ● DHCP	●Static: Set the IP mode to static address assignment mode (manual address assignment mode). ●DHCP: Set the IP mode to automatic address assignment mode.
IP Address	IPV4	This parameter is only available when "Static" is selected for "IP Address assignment", which is used to set a static IP address.

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6.1.1.7 General setting：Standby switch-off

The "Standby switch-off" function can save energy by switching off the AC power of all DALI drivers that are in standby on the Bus A or B. This function is used in conjunction with the KNX switch actuator (KAA-8R) to automatically turn on or off the AC power of the DALI drivers.

All DALI drivers are connected to AC, and when the KNX bus is powered on, object 40 "Standby switch-off" reports "1". Determines whether all DALI drivers on bus A or B are in standby by polling. When all DALI drivers on bus A or B are in standby, the "Standby switch-off" function is triggered to turn off the AC of all DALI drivers on that bus.

After polling once, it will automatically determine whether the "Standby switch-off" condition is satisfied according to the state of the KNX object "ECG on/off".

Standby switch-off		✔
Delay time to switch-off	300	Seconds
The delay time begins soon as all drivers are switched off		
Delay time after switching back on	1	Seconds
Delay time between switching on driver power supply and first DALI command		

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Standby switch-off	● uncheck ● check	Activate or deactivate the "Standby switch-off" function.
Delay time to switch-off	10~65535s [300s]	After the delay time, the DALI driver will disconnect the AC.
Delay time after switching back on	1~10s [1s]	When the DALI driver is reconnected to AC power, the first DALI command will be received after this delay time.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
40	[Central Function] Standby Switch-off	1 bit	This object sends "0" when the standby condition is satisfied,and "1" when the standby condition is released. Note: For details on "Standby Switch-off", please refer to Section 6.1.1.7.
41	[Central Function] Enable /Disable Standby Switch-off	1 bit	Enable or disable "Standby switch-off" function. When "Standby switch-off" is not enabled, object 40 [Central Function] Standby Switch-off will send "1".

6.1.1.8 General setting：AC Failure Alarm

AC Failure Alarm ☑

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
AC Failure Alarm	● uncheck ● check	Activate or deactivate the "AC Failure Alarm" function.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
42	[Central Function] AC Failure (Status)	1 bit	When the AC power of DLC-02-KN is disconnected, the object sends "1", and when the AC power supply of DLC-02-KN is normal, it sends "0".

6.2 ECGs enable

A: ECGs enable and B: ECGs enable pages are used to display ECGs status and cannot be parameterized.

no use: There is no ECG found or connected.
out group: The ECG has been found and NOT assigned to a group.
in group: The ECG has been found and assigned to a group.

6.2.1 ECG (out group)

ECG parameters can be set and modified in this page. There are Dimming setting, Status, Function and Colour control in left submenu. Among them, "Colour control" will only appear when "ECG Device Type" is selected as "Colour Control (DT8)".

You can see an "ECG Device Type" option on the right side of the page:

DLC-02-KN can recognize DT0 ~ DT8. The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
ECG Device Type	● Fluorescent Lamp(DT0) ● Self Contained Battery Lamp (DT1) ● Discharge Lamp (DT2) ● Low Voltage Halogen Lamp (DT3) ● Incandescent Lamp(DT4) ● 0..10V Converter (DT5) ● **LED Module (DT6)** ● Relay Module (DT7) ● Colour Control (DT8)	Use this parameter to set the type of ECG used.

● Self Contained Battery Lamp（DT1）
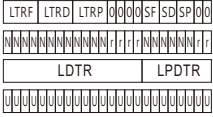
When the AC is interrupted, the battery lamp will quickly switch to the emergency mode, powered by the internal battery, and the brightness of the lamp in the emergency mode can be set to 0~100%. In addition, the DLC-02-KN can support automatic function test and automatic duration test of the battery lamp, as well as report the battery status of the lamp.

When "ECG Device Type" selects "Self Contained Battery Lamp (DT1)", the following special parameters will appear:

ETS-text	Dynamic range [default value]	Comment
Value in emergency mode	0 – 100% [50%]	Sets the brightness level of the lamp in emergency mode. Note: Priority: Emergency mode > Panic mode > Lock > Night mode.
Prolong time on recovery	0 – 20 min [0min]	Sets the time to remain in the extended emergency mode after main voltage recovery.
Function test interval	0 - 255days [2days]	Sets the periodic time for automatic execution of the test which checks the proper function of the converter.
Duration test interval	0 – 52 weeks [2weeks]	Sets the periodic time for automatic execution of the test which checks converter is working properly in case of power failure.
Test execution time	0 - 255days [7days]	Sets the maximum time after which the function test or duration test must be executed. If a test has not ended within this time the result will indicate max delay exceeded.

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The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
54	[A:ECG 1] Converter Test Control	1 byte	This object is used to start duration test of the converter, function tests and battery status queries. Furthermore, it allows to stop running test and to reset test flags. These object follows the following coding: Bit 0: Reserved. Bit 1: Start function test. Bit 2: Start duration test. Bit 3: Start partial duration test. Bit 4: Stop test. Bit 5: Reset function test done flag. Bit 6: Reset duration test done flag . Bit 7 – 255: Reserved.
55	[A:ECG 1] Converter Status	1 bit	Converter Mode. This object is used to send the status of a converter with the following coding: Bit 0: Unknown. Bit 1: Normal mode active. Bit 2: Inhibit mode active: for 15 minutes the converter will not switch the emergency lighting on when a power failure occurring. Bit 3: Hardwired inhibit mode active: digital input that the converter can have to activate the inhibit mode. Bit 4: Rest mode active: forced off emergency lighting during emergency mode. Bit 5: Emergency mode active. Bit 6: Extended emergency mode active. Bit 7: FT in progress. Bit 8: DT in progress. Bit 9: PDT in progress. Bit 10 - 15: Reserved.

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Num	Object name	Length	Description
56	[A:ECG 1] Converter Test Result	6 bytes	LTRF LTRD LTRP 0 0 0 0 SF SD SP 0 0 NNNNNNNNNNNN r r r r NNNNNNN r r LDTR LPDTR UUUUUUUUUUUUUUUUUUUUUUUU This object is used to send the result of the last converter test with the following coding: **LTRF, LTRD, LTRP:** Last Test Result Functional/ Duration / Partial duration: Indicates the test result of each type: Bit 0: Unknown. Bit 1: Passed in time. Bit 2: Passed max delay exceeded. Bit 3: Failed, test executed in time. Bit 4: Failed, max delay exceeded. Bit 5: Test manually stopped. Bit 6 - 15: Reserved. **SF, SD, SP:** Start method of last Functional /Duration/Partial test. Indicates the method by which the last test started. Updated when a test is finish. Bit 0: Unknown. Bit 1: Started automatically. Bit 2: Started by Gateway. Bit 3: Reserved. **LDTR:** Last Duration Test Result. Contains the battery discharge time as the result of the last successful duration test indicated in minutes. **LPDTR:** Last Partial Duration Test Result. Provides the remaining battery charge level after the last partial duration test. Bit 0: Deep discharge point. Bit 1 - 253: Battery level. Bit 254: Fully charged. Bit 255: Unknown.

● LED Module（DT6）

When "ECG Device Type" selects "LED Module (DT6)", the parameters will appear, and log dimming curve or linear dimming curve can be selected.

ETS-text	Dynamic range **[default value]**	Comment
Dimming curve	● **log** ● linear	Set the dimming curve of the ECG.

● Relay Module（DT7）

When "ECG Device Type" selects "Relay Module (DT7)", the following special parameters will appear:

ETS-text	Dynamic range **[default value]**	Comment
Up switch-on threshold	1-255 **[1]**	In the up state, sets the threshold for turning on the relay. "255" means invalid.
Up switch-off threshold	0-255 **[255]**	In the up state, sets the threshold for turning off the relay. "255" means invalid.
Down switch-on threshold	1-255 **[255]**	In the down state, sets the threshold for turning on the relay. "255" means invalid.
Down switch-off threshold	0-255 **[0]**	In the down state, sets the threshold for turning off the relay. "255" means invalid.

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6.2.1.1 ECG(out group)-Dimming setting

6.2.1.1.1 Dimming setting-NAME & FAILURE & POWER ON

ECG Name	ECG 1
Value on DALI System Failure	defined value ▼
Value	100% ▼
Value on ECG Power On	defined value ▼
Value	0%(OFF) ▼

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
ECG Name	-----------	You can enter a user-friendly name in the ECG. There are 30 bytes allowed for name setting.
Value on DALI System Failure	● switch-off value ● switch-on value ● **no action** ● defined value	Uses this parameter to set the behaviors of the ECG when DALI bus voltage falls down. Actions are off, on, no action or set to a certain value.
Value	0 – 100% **[100%]**	Use this parameter to set a desired value. [This option is only available when "Value on DALI System Failure" is selected as "defined value". Default: 100%.]

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ETS-text	Dynamic range **[default value]**	Comment
Value on ECG Power On	● switch-off value ● switch-on value ● **last value** ● defined value	Uses this parameter to set the behaviors of the ECG when AC power recovery. Actions are off, on, last value or set to a certain value. ● last value:Use the dimming value prior to the ECG being powered off.
Value	0 – 100% **[0%(OFF)]**	Use this parameter to set a desired value. [This option is only available when "Value on ECG Power On" is selected as "defined value". Default: 0% (OFF).]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		

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6.2.1.1.2 Dimming setting-SWITCH

Switch-on value	○ last on value ● defined value
Value	100% ▼
Switch-off value	0%(OFF) ▼
Switch-on fade time	2.0s ▼
Switch-off fade time	2.0s ▼

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Switch-On value	● last on value ● **defined value**	Use this parameter to set the switch-on value. If you select "last on value", the value is set to the dim value prior to the lamp being switched off.
Value	0.4% – 100% **[100%]**	Use this parameter to set a desired value. [This option is only available when "Switch-On value" is selected as "defined value".]
Switch-Off value	0-99% **[0%(OFF)]**	Use this parameter to set the switch-off value.
Switch-On fade time	Immediately, 0.7s, 1.0s, ...64s, 90.5s **[2s]**	Defines the time needed to achieve the required setting after switch-on.
Switch-Off fade time	Immediately, 0.7s, 1.0s, ...64s, 90.5s **[2s]**	Defines the time needed to turn off or achieve the required setting after switch-off.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
43	[A:ECG 1] On/Off	1 bit	Use this object to switch the ECG on or off. The dimming value is set by the parameters "Switch-On value" and "Switch-off value".

6.2.1.1.3 Dimming setting-DIMMING

Relative dimming fade time	4.0s ▼
Absolute dimming fade time	4.0s ▼
Allow switch off via relative dimming	☐
Minimum dimming value	0%(OFF) ▼
Maximum dimming value	100% ▼

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
Relative dimming fade time	Immediately, 0.7s, 1.0s, ...64s, 90.5s **[4s]**	Defines the time needed to achieve the required setting by relative dimming.
Absolute dimming fade time	Immediately, 0.7s, 1.0s, ...64s, 90.5s **[4s]**	Defines the time needed to achieve the required setting by absolute dimming.
Allow switch off via relative dimming	● **Unchecked** ● Checked	Allows switch off via relative dimming or not.
Minimum dimming value	0-100% **[0%(OFF)]**	Lowest, minimum allowed light value for relative and absolute dimming.
Maximum dimming value	0-100% **[100%]**	Highest, maximum allowed light value for relative and absolute dimming.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
44	[A:ECG 1] Relative Dimming	4 bit	This object is used for the relative dimming of the ECG.
45	A:ECG 1] Absolute Dimming	1 byte	This object is used for the absolute dimming of the ECG.

6.2.1.2 ECG(out group)-Status

DLC-02-KN can report on/off status and dimming value of the ECG. As shown in the figure below, in the ETS software, users can set whether to activate the report function and set the report period.

Send On/Off status	at change ▾
Send status cyclic(0=no active)	0 ⬍ Seconds
Send dimming value status	at change ▾
Send status cyclic(0=no active)	0 ⬍ Seconds

In addition, the DLC-02-KN also reports the lamp status via the object "failure(Status)". The lamp status includes whether the ECG is disconnected, short-circuited or open-circuited.
The process of DLC-02-KN reporting lamp status is as follows:
The internal program will send the "QUERYLAMP FAILURE" command every 3 seconds. Assuming that 100 ECGs are connected to the DALI A bus, ECG1 is accessed in the first 3 seconds, ECG2 is accessed in the 6th second, ECG100 is accessed in the 300th second, and a cycle is completed in 300 seconds, and then it will continue to cycle accordingly. If an ECGn is disconnected, short-circuited or open-circuited, the object "ECG failure (Status)" will report 1, otherwise it will report 0.

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Send On/Off status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "On/Off (Status)"with the option you selected
Send status cyclic (0=no active)	0 – 65535s [0s]	Sends status signals from the objects"On/Off (Status)"at intervals you desire.
Send dimming value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Dimming Value (Status)"with the option you selected.
Send status cyclic (0=no active)	0 – 65535s [0s]	Sends status signals from the objects"Dimming Value (Status)" at intervals you desire.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
46	[A:ECG 1] On/Off (Status)	1 bit	Sends the on/off status of the ECG. 1.The parameter "Send On/Off Status" chooses "no send, passive stage object". → update status but no send telegram. 2.The parameter "Send On/Off Status" chooses "at change". → send telegram in every on/off change. 3.The parameter "Send On/Off Status" chooses "always at input of telegram". →send telegram in every on/off command. 4. The parameter "Send Status cyclic" is at a certain time value. → send telegram at regular intervals. Note: When dimming value>0, the current state is On, and when dimming value=0, the current state is Off.

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Num	Object name	Length	Description
47	[A:ECG 1] Dimming Value (Status)	1 byte	Sends the dimming value of the ECG. 1.The parameter "Send dimming value status" chooses "no send, passive stage object". →update value status but no send telegram. 2.The parameter "Send dimming value status" chooses "at change". →send telegram in every dimming value change. 3.The parameter "Send dimming value status" chooses "always at input of telegram". →send telegram in every dimming command. 4. The parameter "Send Status cyclic" is at a certain time value. →send telegram at regular intervals.
53	[A:ECG 1] Failure (Status)	1 bit	Detects whether the ECG is disconnected, short-circuited or open-circuited. As long as one of these situations occurs, the object will report "1", otherwise it will report "0".

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6.2.1.3 ECG(out group)-Functions

6.2.1.3.1 Functions-LOCK

Lock object polarity	◉ 0 = unlock;1 = lock ○ 0 = lock;1 = unlock
Behavior at locking	defined value ▼
Value	100% ▼
Behavior at unlocking	defined value ▼
Value	0%(OFF) ▼

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Lock object polarity	● **0 = unlock; 1 = lock** ● 0 = lock; 1 = unlock	Sets which value will be interpreted as a lock order and which one as an unlock order. Note: Priority: Panic mode > Lock > Night Mode.
Behavior at locking	● Switch-off value ● Switch-on value ● **no action** ● defined value	Sets the action to be performed when a lock order is received. Note: Priority: Panic mode > Lock > Night Mode.
Value	0 – 100% **[100%]**	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior at locking" is chosen.]
Behavior at unlocking	● Switch-off value ● Switch-on value ● **no action** ● defined value ● last value	Sets the action to be performed when an unlock order is received. If you choose "last value", the ECG back to the previous value before the lock order.
Value	0 – 100% **[0%(OFF)]**	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior at unlocking" is chosen.]

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
48	[A:ECG 1] Lock	1 bit	This object is used to lock/unlock the ECG. Priority: Panic mode>Lock>Night mode.

6.2.1.3.2 Functions-Auto off & Night mode & Panic mode & Operation hours calculation

● Auto off

The condition for triggering the "Auto off" function is: when it is detected that the current dimming value of the lamp is greater than or equal to the set auto-off threshold, the lamp will be set to 0% (off) after a delay time.

When "Auto off" is checked, the following parameters appear:

ETS-text	Dynamic range [default value]	Comment
Auto off	● **Unchecked** ● Checked	Use this parameter to activate the mode.
Auto-off threshold value	0.4% – 100% **[100%]**	Dimming value beneath which the Auto Off will be triggered in case the ECG remains steady at that value for more than or equal to the threshold time.
Auto-off after	1 – 65535s **[10s]**	Time count before triggering the Auto Off mode.

Auto-off disable/ enable object	● **no object**
	● 0 = disable;
	   1 = enable
	● 0 = enable;
	   1 = disable
		Utilizes an object to enable/disable Auto-off mode externally or remains enabled continuously.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
49	[A:ECG 1] Auto Off	1 bit	This object is used to enable/disable the Auto Off function of the ECG.

● Night mode

When "Night mode" is checked, the following parameters appear, which can be used to set the dimming value of the ECG in night mode and when the night mode is released.

ETS-text	Dynamic range [default value]	Comment
Night mode	● **Unchecked** ● Checked	Use this parameter to activate the mode. Note: Priority: Panic mode > Lock > Night mode.
Delay time	0 – 65535mins **[10mins]**	Time count before setting to the dimming value after the mode is triggered.

ETS-text	Dynamic range **[default value]**	Comment
Behavior when enable Night mode	● **switch-off value** ● switch-on value ● no action ● defined value	Uses this parameter to set the behaviors of the ECG after the mode is triggered. Actions are off, on, no action or set to a certain value.
Value	0 – 100% **[0%(OFF)]**	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior when enable Night mode" is chosen. Default: 0% (OFF).]
Behavior when disable Night mode	● switch-off value ● switch-on value ● **no action** ● defined value ● last value	Uses this parameter to set the behaviors of the ECG after the mode is released. Actions are off, on, no action or set to a certain value. If you choose "last value", the ECG back to the previous value before triggering the night mode.
Value	0 – 100% **[0%(OFF)]**	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior when disable Night mode" is chosen. Default: 0% (OFF).]

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
7	[Dali A] Activate Night Mode	1 bit	DALI Bus A –Night mode. Activates or deactivates the night mode via the bus. This object is only valid when the parameter "Night mode" of the ECG or Group is checked. Note: Priority: Panic mode>Lock>Night mode.

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● Panic mode

When " Panic mode" is checked, the following parameters appear, which can be used to set the dimming value of the ECG in panic mode and when the panic mode is released.

ETS-text	Dynamic range [default value]	Comment
Panic mode	● no checked ● checked	Use this parameter to activate the mode. Note:1.Priority: Panic mode > Lock > Night mode. 2.When the ECG is in Panic mode, it will no longer receive commands from Broadcast and Scene objects.
Behavior when enable Panic mode	● switch-off value ● switch-on value ● no action ● defined value	Uses this parameter to set the behaviors of the ECG after the mode is triggered. Actions are off, on, no action or set to a certain value.
Value	0 - 100% [50%]	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior when enable Panic mode" is chosen. Default: 50%.]
Behavior when disable Panic mode	● switch-off value ● switch-on value ● no action ● defined value ● last value	Uses this parameter to set the behaviors of the ECG after the mode is released. Actions are off, on, no action or set to a certain value. If you choose "last value", the ECG back to the previous value before triggering the panic mode.
Value	0 - 100% [0%(OFF)]	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior when disable Panic mode" is chosen. Default: 0% (OFF).]

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
6	[Dali A] Activate Panic Mode	1 bit	DALI Bus A – Panic mode. Activates or deactivates the panic mode via the bus. This object is only valid when the parameter "Panic mode" of the ECG or Group is checked. Note: Priority: Panic mode＞Lock＞Night mode.

● Operation hours calculation

When "Operation hours calculation" is checked, the following parameters appear:

ETS-text	Dynamic range [default value]	Comment
Operation hours calculation	● Unchecked ● Checked	Determines whether an individual operating hour calculation is required for the ECG.
Select data type	● 4 Byte value in second ● 2 Byte value in hour	Sends status signals from the object in seconds or in hours.
Operation hours limit	1 – 65535hrs [10000hrs]	Sets the life span (operating hours limit) of the ECG. When the operation time is greater than the limit value, the object "Operation Hours Value" is cleared, and the object "Operation Hours Exceeded" will report an alarm.
Send status every (0＝no active)	0 – 255hrs [0hr]	Sends status signals from the object "Operation Hours Value" at intervals you desire. Note: The set value of "Send status every" needs to be less than "Operation hours limit", otherwise the object "Operation Hours Value" cannot be reported.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
50	[A:ECG 1] Operation Hours Reset	1 bit	Resets the operating hours counter of the ECG.
51	[A:ECG 1] Operation Hours Value	4 bytes	The operating hours of the ECG in seconds are sent via this object. When the parameter "Select data type" is set to "4 Byte value in second (DTP 13.100)", the unit of operation time value is seconds.
		2 bytes	The operating hours of the ECG in hours are sent via this object. When the parameter "Select data type" is set to "2 Byte value in hour (DTP 7.007)", the unit of operation time value is hour.
52	[A:ECG 1] Operation Hours Exeeded	1 bit	When the operation hours' counter exceeds the threshold set by the parameter "Operation hours limit", the object will send '1' and the operation hours' counter is reset to 0.

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6.2.1.4 ECG(out group)-Colour control

| Colour control type | Colour Temperature ▾ |

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Colour control type	● **Colour Temperature** ● RGB ● RGBW ● xy-coordinate	Set the colour type of the ECG, you can set the colour scene through the DCA app. Note: First select the colour type of the ECG in the ETS software, then configure the colour scene on the DCA interface and download the colour scene to the device. Finally, you need to download the database to DLC-02-KN, otherwise the colour scene operation will not be performed.

The detailed introduction of each colour control type will be introduced in the following chapters:

6.2.1.4.1 Colour control type- Colour Temperature

Colour control type	Colour Temperature ▾
Colour value on DALI System Failure	○ no action ◉ define colour value
Colour value	3000 ▲▼ K
Colour value on ECG Power On	○ last colour value ◉ define colour value
Colour value	3000 ▲▼ K
Switch-on behavior	○ Keep last object value ◉ Use defined value
Switch-on colour value	3000 ▲▼ K
Colour temperature object format	◉ 2-bytes Colour Temperature(DPT7.600) ○ 1-byte Percentage(DPT5.001)
Sending colour value status	at change ▾
Colour changing fading time via dimming	4.0s ▾
Colour temperature range setting by	○ Scan or Reinstall function on DCA APP ◉ defined
Minimum colour temperature	2000 ▲▼ K
Maximum colour temperature	6000 ▲▼ K

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Colour value on DALI System Failure	● no action ● define colour value	Uses this parameter to set the colour temperature when DALI bus voltage falls down. ●no action: The colour temperature remains unchanged.
Colour Value	1000 K..10000 K [3000K]	Use this parameter to set a desired colour temperature. [This option only exists when "define value" in "Colour value on DALI System Failure" is chosen.]
Colour value on ECG Power On	● last colour value ● define colour value	Uses this parameter to set the colour temperature when AC power recovery of the ECG. ●last colour value: Use the colour temperature prior to the ECG being powered off.
Colour Value	1000 K..10000 K [3000K]	Use this parameter to set a desired colour temperature. [This option only exists when "define value" in "Colour value on ECG Power On" is chosen.]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		
Switch-on behavior	● Keep last object value ● Use defined value	Use this parameter to set the switch-on colour temperature. If you select "Keep last object value", the value is set to the colour temperature prior to the lamp being switched off.
Switch-on colour value	1000 K..10000 K [3000K]	Use this parameter to set a desired colour temperature. [This option only exists when "Use defined value" in "Switch-On behavior" is chosen.]

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ETS-text	Dynamic range **[default value]**	Comment
Colour temperature object format	● **2-bytes Colour Temperature (DPT7.600)** ● 1-byte Percentage (DPT5.001)	Sets the format in which object "colour temperature" is transmitted.
Sending colour value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object"Colour Temperature Value (Status)"with the option you selected.
Colour changing fading time via dimming	● Immediately ● 0.7s ● 1.0s ● 1.4s .... ● 90.5s **[4.0s]**	Defines the time needed to achieve the required colour temperature by dimming.
Colour temperature range setting by	● **Scan or Reinstall function on DCA APP** ● defined	Choose which method to use to set the colour temperature range.
Minimum colour temperature	1000 K..10000 K **[2000K]**	Use this parameter to set the minimum colour temperature of the lamp. [This option only exists when "defined" in "Colour temperature range setting by" is chosen.]
Maximum colour temperature	1000 K..10000 K **[6000K]**	Use this parameter to set the maximum colour temperature of the lamp. [This option only exists when "defined" in "Colour temperature range setting by" is chosen.]

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The following chart shows the objects that belong to Colour Temperature:

Num	Object name	Length	Description
57	[A:ECG 1] Relative Colour Temperature	4bit	Relative colour temperature adjustment.
58	[A:ECG 1] Colour Temperature	2bytes	Absolute colour temperature adjustment.
59	[A:ECG 1] Colour Temperature Value(Status)	2bytes	Feedback the colour temperature value of the ECG.

6.2.1.4.2 Colour control type- RGB

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Colour value on DALI System Failure	● no action ● define colour value	Uses this parameter to set the colour when DALI bus voltage falls down. ●no action: The colour remains unchanged.
Colour Value	Colour selection [#FF0000]	Use this parameter to set a desired colour. [This option only exists when "define colour value" in "Colour value on DALI System Failure" is chosen.]
Colour value on ECG Power On	● last colour value ● define colour value	Uses this parameter to set the colour when AC power recovery of the ECG. ●last colour value: Use the colour prior to the ECG being powered off.
Colour Value	Colour selection [#FF0000]	Use this parameter to set a desired colour. [This option only exists when"define colour value" in "Colour value on ECG Power On" is chosen.]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		
Switch-on behavior	● Keep last object value ● Use defined value	Use this parameter to set the switch-on colour. If you select"Keep last object value", the value is set to the colour prior to the lamp being switched off.
Switch-on colour value	Colour selection [#FF0000]	Use this parameter to set a desired colour. [This option only exists when "Use defined value"in "Switch-On behavior" is chosen.]

ETS-text	Dynamic range **[default value]**	Comment
Sending colour value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Colour RGB Value (Status)"with the option you selected.
Colour changing fading time via dimming	● Immediately ● 0.7s ● 1.0s ● 1.4s .... ● 90.5s **[4.0s]**	Defines the time needed to achieve the required colour by dimming.

The following chart shows the objects that belong to RGB:

Num	Object name	Length	Description
58	[A:ECG 1] Colour RGB	3bytes	Set the RGB value of the ECG.
59	[A:ECG 1] Colour RGB Value(Status)	3bytes	Feedback the RGB value of the ECG.

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6.2.1.4.3 Colour control type- RGBW

Colour control type	RGBW ▼
Colour value on DALI System Failure	○ no action ⦿ define colour value
Colour value	#FF0000
Additional white value	0
Colour value on ECG Power On	○ last colour value ⦿ define colour value
Colour value	#FF0000
Additional white value	255
Switch-on behavior	○ Keep last object value ⦿ Use defined value
Switch-on colour value	#FF0000
Additional white value	255
Sending colour value status	at change ▼
Colour changing fading time via dimming	4.0s ▼

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Colour value on DALI System Failure	● no action ● define colour value	Uses this parameter to set the colour when DALI bus voltage falls down. ●no action: The colour remains unchanged.
Colour Value	Colour selection [#FF0000]	Use this parameter to set a desired colour. [This option only exists when"define colour value" in "Colour value on DALI System Failure" is chosen.]

ETS-text	Dynamic range [default value]	Comment
Additional white value	0..255 (Slider) [0]	Use this parameter to set a desired white value. [This option only exists when "define colour value" in "Colour value on DALI System Failure" is chosen.]
Colour value on ECG Power On	● last colour value ● define colour value	Uses this parameter to set the colour when AC power recovery of the ECG. ●last colour value: Use the colour prior to the ECG being powered off.
Colour Value	Colour selection	Use this parameter to set a desired colour. [This option only exists when "define colour value"in "Colour value on ECG Power On" is chosen.]
Additional white value	0..255 (Slider) [255]	Use this parameter to set a desired white value. [This option only exists when"define colour value" in "Colour value on ECG Power On"is chosen.]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		
Switch-on behavior	● Keep last object value ● Use defined value	Use this parameter to set the switch-on colour. If you select "Keep last object value", the value is set to the colour prior to the lamp being switched off.
Switch-on colour value	Colour selection [#FF0000]	Use this parameter to set a desired colour. [This option only exists when"Use defined value" in "Switch-On behavior" is chosen.]

ETS-text	Dynamic range **[default value]**	Comment
Additional white value	0..255 (Slider) **[255]**	Use this parameter to set a desired white value. [This option only exists when"Use defined value" in "Switch-On behavior" is chosen.]
Sending colour value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Colour RGBW Value (Status)" with the option you selected.
Colour changing fading time via dimming	● Immediately ● 0.7s ● 1.0s ● 1.4s .... ● 90.5s **[4.0s]**	Defines the time needed to achieve the required colour by dimming.

The following chart shows the objects that belong to RGB:

Num	Object name	Length	Description
58	[A:ECG 1] Colour RGBW	6bytes	Set the RGBW value of the ECG.
59	[A:ECG 1] Colour RGBW Value (Status)	6bytes	Feedback the RGBW value of the ECG.

6.2.1.4.4 Colour control type- xy-coordinate

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
Colour value on DALI System Failure	● **no action** ● define colour value	Uses this parameter to set the colour (xy-coordinate) when DALI bus voltage falls down. ●no action: The colour remains unchanged.
Colour x-value	**0,33** value between (0..1)	Use this parameter to set a desired x-value. [This option only exists when"define colour value"in "Colour value on DALI System Failure"is chosen.]
Colour y-value	**0,33** value between (0..1)	Use this parameter to set a desired y-value. [This option only exists when "define colour value"in"Colour value on DALI System Failure" is chosen.]

ETS-text	Dynamic range [default value]	Comment
Colour value on ECG Power On	● **last colour value** ● define colour value	Uses this parameter to set the colour (xy-coordinate) when AC power recovery of the ECG. ●last colour value: Use the colour prior to the ECG being powered off.
Colour x-value	**0,33** value between (0..1)	Use this parameter to set a desired x-value. [This option only exists when "define colour value"in "Colour value on ECG Power On" is chosen.]
Colour y-value	**0,33** value between (0..1)	Use this parameter to set a desired y-value. [This option only exists when "define colour value" in "Colour value on ECG Power On" is chosen.]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		
Switch-on behavior	● **Keep last object value** ● Use defined value	Use this parameter to set the switch-on colour (xy-coordinate). If you select "Keep last object value", the value is set to the colour prior to the lamp being switched off.
Switch-on colour x-value (0..1)	**0,33** value between (0..1)	Use this parameter to set a desired x-value. [This option only exists when"Use defined value" in "Switch-On behavior" is chosen.]
Switch-on colour y-value (0..1)	**0,33** value between (0..1)	Use this parameter to set a desired y-value. [This option only exists when "Use defined value" in "Switch-On behavior" is chosen.]

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ETS-text	Dynamic range **[default value]**	Comment
Sending colour value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Colour xy-coordinate Value (Status)" with the option you selected.
Colour changing fading time via dimming	● Immediately ● 0.7s ● 1.0s ● 1.4s .... ● 90.5s **[4.0s]**	Defines the time needed to achieve the required colour (xy-coordinate) by dimming.

The following chart shows the objects that belong to RGB:

Num	Object name	Length	Description
58	[A:ECG 1] Colour xy-coordinate	6bytes	Set the xy-coordinate value of the ECG.
59	[A:ECG 1] Colour xy-coordinate Value(Status)	6bytes	Feedback the xy-coordinate value of the ECG.

6.2.2 ECG (in group)

General	ECG Name	ECG 2
General setting	Switch-on value	○ last on value ◉ defined value
A:ECGs enable	Value	100%
A:Groups enable	Switch-off value	0%(OFF)
A:Scenes setting	Switch-on fade time	2.0s
B:ECGs enable	Switch-off fade time	2.0s
B:Groups enable		
B:Scenes setting	Relative dimming fade time	4.0s
Effects enable	Absolute dimming fade time	4.0s
Timers enable	Allow switch off via relative dimming	☐
A:ECGs	Minimum dimming value	0%(OFF)
+ A:ECG 1	Maximum dimming value	100%
− A:ECG 2		
Dimming setting		
Status		
Functions		
Colour control		
+ A:Group 1		

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(1) The parameter interface is basically the same as the "ECG (out group)" interface. When an ECG is grouped, the ECG will lose the right to set the two parameters "Value on DALI System Failure" and "Value on ECG Power on", which will be set by the Group (please refer to chapter 6.3.1.2).

(2)Attention should be paid to the ownership of the control rights of "Night mode" and "Panic mode". If the control right belongs to the Group, the ECG needs disable night mode and disable panic mode; otherwise, if the control right belongs to the ECG, the Group needs disable night mode and disable panic mode.

(3)The descriptions of other parameters "Dimming setting" & "Status" & "Functions" & "Colour control" are the same as "ECG (out group)", please refer to chapter 6.2.1.

6.3 Groups enable

You can activate the group functions on the "A: Groups enable" and "B: Groups enable" pages.

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
X:Group n X = A or B n = [1, 16]	● **Unchecked** ● Checked	Use this parameter to activate the group function.

Once a group is activated, a new page of "A: Group n" or "B: Group n" will appear. At this subpage, the further parameterization can be done. Detailed information is described in the following sections of "Dimming setting", "Status", "Function" and "Colour control".

6.3.1 Group-Dimming setting

6.3.1.1 Dimming setting-NAME

Group Name	Group 1

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
Group Name	-----	You can enter a user-friendly name in the group. There are 30 bytes allowed for name setting.

6.3.1.2 Dimming setting-FAILURE & RECOVERY

Value on DALI System Failure	defined value ▼
Value	100 ⬍ %
Value on ECG Power On	defined value ▼
Value	0 ⬍ %

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
Value on DALI System Failure	● Switch-off value ● Switch-on value ● **no action** ● defined value	Uses this parameter to set the behaviors of the connected ECGs in the group when DALI bus voltage falls down. Actions are all off, all on, no action or all set to a certain value.

ETS-text	Dynamic range [default value]	Comment
Value	0 -100% [100%]	Use this parameter to set a desired value. [This option only exists when "defined value" in "Value on DALI System Failure" is chosen.]
Value on ECG Power On	● Switch-off value ● Switch-on value ● no action ● defined value	Uses this parameter to set the behaviors of the connected ECGs in the group when AC power recovery. Actions are all off, all on, no action or all set to a certain value.
Value	0 -100% [0%]	Use this parameter to set a desired value. [This option only exists when "defined value" in "Value on ECG Power On" is chosen. Default: 0% (OFF).]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		

6.3.1.3 Dimming setting-DIMMING CURVE

Dimming curve   ◉ log ○ linear

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Dimming curve	● log ● linear	Sets the dimming curve for the group.

6.3.1.4 Dimming setting-SWITCH

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Switch-On value	● last on value ● defined value	Use this parameter to set the switch-on value. If you select "last on value", the value is set to the dim value prior to the lamp being switched off.
Value	0-100% [100%]	Use this parameter to set a desired value. [This option is only exists when "Switch-On value" is selected as "defined value".]
Switch-Off value	0-100% [0%]	Use this parameter to set the switch-off value.
Switch-On fade time	Immediately, 0.7s, 1.0s, ...64s, 90.5s [2.0s]	Defines the time needed to achieve the required setting after switch-on.
Switch-Off fade time	Immediately, 0.7s, 1.0s, ...64s, 90.5s [2.0s]	Defines the time needed to turn off or achieve the required setting after switch-off.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
1131	[A:Group1] On/Off	1 bit	Use this object to switch the Group on or off. The dimming value is set by the parameters "Switch-On value" and "Switch-off value".

6.3.1.5 Dimming setting-DIMMING

Relative dimming fade time	4.0s ▼
Absolute dimming fade time	4.0s ▼
Allow switch off via relative dimming	☐
Minimum dimming value	0 ⬍ %
Maximum dimming value	100 ⬍ %

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Relative dimming fade time	Immediately, 0.7s, 1.0s, ...64s, 90.5s [4.0s]	Defines the time needed to achieve the required setting by relative dimming.
Absolute dimming fade time	Immediately, 0.7s, 1.0s, ...64s, 90.5s [4.0s]	Defines the time needed to achieve the required setting by absolute dimming.
Allow switch off via relative dimming	● **Unchecked** ● Checked	Allows switch off via relative dimming or not.
Minimum dimming value	0-100% **[0%]**	Lowest, minimum allowed dimming value for relative and absolute dimming.
Maximum dimming value	0-100% **[100%]**	Highest, maximum allowed dimming value for relative and absolute dimming.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
1132	[A:Group1] Relative Dimming	4 bit	This object is used for the relative dimming of the Group.
1133	[A:Group1] Absolute Dimming	1 byte	This object is used for the absolute dimming of the Group.

6.3.2 Group-Status

DLC-02-KN can report on/off status and dimming value of the group. As shown in the figure below, in the ETS software, users can set whether to activate the report function and set the report period.

Send On/Off status	at change ▾
Send status cyclic(0=no active)	0 ▴▾ Seconds
Send dimming value status	at change ▾
Send status cyclic(0=no active)	0 ▴▾ Seconds

In addition, the DLC-02-KN also reports the lamp status via the object "failure (Status)". The group status includes whether the group is disconnected, short-circuited or open-circuited.
The process of DLC-02-KN reporting group status is as follows:
The internal program will send the "QUERY LAMP FAILURE" command to access each ECG in the group every 3 seconds. Suppose there are 100 ECGs in group 1 on the DALI A bus, ECG1 is accessed in the first 3 seconds, ECG2 is accessed in the 6th second, ECG100 is accessed in the 300th second, and a cycle is completed in 300 seconds, and then it will continue to cycle accordingly. As long as one of the ECGs is disconnected, short-circuited or open-circuited, the object "Group Failure (Status)" will report 1, otherwise it will report 0.

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Send On/Off status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "On/Off (Status)" with the option you selected.
Send status cyclic (0=no active)	0 – 65535s [0s]	Sends status signals from the objects "On/Off (Status)" at intervals you desire.

ETS-text	Dynamic range **[default value]**	Comment
Send dimming value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Dimming Value (Status)" with the option you selected.
Send status cyclic (0 = no active)	0 – 65535s **[0s]**	Sends status signals from the objects "Dimming Value (Status)" at intervals you desire.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
1134	[A:Group1] On/Off(Status)	1 bit	Sends the on/off status of the Group. 1.The parameter "Send On/Off Status" chooses "no send, passive stage object".→ update status but no send telegram. 2.The parameter "Send On/Off Status" chooses "at change". → send telegram in every on/off change. 3.The parameter "Send On/Off Status" chooses "always at input of telegram". → send telegram in every on/off command. 4. The parameter "Send Status cyclic" is at a certain time value. → send telegram at regular intervals. Note: When dimming value > 0, the current state is On, and when dimming value = 0, the current state is Off.

Num	Object name	Length	Description
1135	[A:Group1] Dimming Value (Status)	1 byte	Sends the dimming value of the Group. 1.The parameter "Send dimming value status" chooses "no send, passive stage object". → update value status but no send telegram. 2.The parameter "Send dimming value status" chooses "at change". → send telegram in every dimming value change. 3.The parameter "Send dimming value status" chooses "always at input of telegram". → send telegram in every dimming command. 4. The parameter "Send Status cyclic" is at a certain time value. → send telegram at regular intervals.

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6.3.3 Group-Functions
6.3.3.1 Functions-LOCK

Lock object polarity	⦿ 0 = unlock;1 = lock
	○ 0 = lock;1 = unlock
Behavior at locking	defined value ▼
Value	100 ⇕ %
Behavior at unlocking	defined value ▼
Value	0 ⇕ %

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Lock object polarity	● **0 = unlock; 1 = lock** ● 0 = lock; 1 = unlock	Sets which value will be interpreted as a lock order and which one as an unlock order. Note: Priority: Panic mode > Lock > Night Mode.
Behavior at locking	● Switch-off value ● Switch-on value ● **no action** ● defined value	Sets the action to be performed when a lock order is received. Note: Priority: Panic mode > Lock > Night Mode.
Value	0 – 100% **[100%]**	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior at locking" is chosen.]
Behavior at unlocking	● Switch-off value ● Switch-on value ● **no action** ● defined value ● last value	Sets the action to be performed when an unlock order is received. If you choose "last value" , the group back to the previous value before the lock order.
Value	0 – 100% **[0%]**	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior at unlocking" is chosen.]

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
1136	[A:Group1] Lock	1 bit	This object is used to lock/unlock the Group.

6.3.3.2 Functions-Auto off & Night mode & Panic mode & Operation hours calculation

● Auto off

The condition for triggering the "Auto off" function is: when it is detected that the current dimming value of the group is greater than or equal to the set Auto-off threshold, the brightness of the group will be set to 0% (off) after a delay time.

When "Auto off" is checked, the following parameters appear:

ETS-text	Dynamic range [default value]	Comment
Auto off	● **Unchecked** ● Checked	Use this parameter to activate the mode.
Auto-off threshold value	0.4% – 100% **[100%]**	Dimming value beneath which the Auto Off will be triggered in case the group remains steady at that value for more than or equal to the threshold time.

ETS-text	Dynamic range [default value]	Comment
Auto-off after ★	1 – 65535s [10s]	Time count before triggering the Auto Off mode.
Auto-off disable/ enable object	● no object ● 0 = disable; 1 = enable ● 0 = enable; 1 = disable	Utilizes an object to enable/disable Auto-off mode externally or remains enabled continuously.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
1137	[A:Group1] Auto Off	1 bit	This object is used to enable/disable the Auto Off function of the Group.

● Night mode

When "Night mode" is checked, the following parameters appear, which can be used to set the dimming value of the group in night mode and when the night mode is released.

ETS-text	Dynamic range [default value]	Comment
Night mode	● Unchecked ● Checked	Use this parameter to activate the mode. Note: Priority: Panic mode > Lock > Night mode.
Delay time	0 – 65535mins [10mins]	Time count before setting to the dimming value after the mode is triggered.
Behavior when enable Night mode	● switch-off value ● switch-on value ● no action ● defined value	Uses this parameter to set the behaviors of the group after the mode is triggered. Actions are off, on, no action or set to a certain value.

ETS-text	Dynamic range **[default value]**	Comment
Value	0 – 100% **[0%(OFF)]**	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior when enable Night mode" is chosen. Default: 0% (OFF).]
Behavior when disable Night mode	● switch-off value ● switch-on value ● **no action** ● defined value ● last value	Uses this parameter to set the behaviors of the group after the mode is released. Actions are off, on, no action or set to a certain value. If you choose "last value" , the group back to the previous value before triggering the night mode.
Value	0 – 100% **[0%(OFF)]**	Use this parameter to set adesired value. [This option only exists when "defined value" in "Behavior when disable Night mode" is chosen. Default: 0% (OFF).]

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The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
7	[Dali A] Activate Night Mode	1 bit	DALI Bus A –Night mode. Activates or deactivates the night mode via the bus. This object is only valid when the parameter "Night mode" of the ECG or Group is checked. Note: Priority: Panic mode > Lock > Night mode.

● Panic mode

When " Panic mode" is checked, the following parameters appear, which can be used to set the dimming value of the group in panic mode and when the panic mode is released.

ETS-text	Dynamic range [default value]	Comment
Panic mode	● no checked ● checked	Use this parameter to activate the mode. Note: 1.Priority: Panic mode > Lock > Night mode. 2.When the group is in Panic mode, it will no longer receive commands from Broadcast and Scene objects.
Behavior when enable Panic mode	● switch-off value ● switch-on value ● no action ● defined value	Uses this parameter to set the behaviors of the group after the mode is triggered. Actions are off, on, no action or set to a certain value.
Value	0 - 100% [50%]	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior when enable Panic mode" is chosen. Default: 50%.]
Behavior when disable Panic mode	● switch-off value ● switch-on value ● no action ● defined value ● last value	Uses this parameter to set the behaviors of the group after the mode is released. Actions are off, on, no action or set to a certain value or last value. If you choose "last value" , the group back to the previous value before triggering the panic mode.
Value	0 - 100% [0%(OFF)]	Use this parameter to set a desired value. [This option only exists when "defined value" in "Behavior when disable Panic mode" is chosen. Default: 0% (OFF).]

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The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
6	[Dali A] Activate Panic Mode	1 bit	DALI Bus A – Panic mode. Activates or deactivates the panic mode via the bus. This object is only valid when the parameter "Panic mode" of the ECG or Group is checked. Note: Priority: Panic mode>Lock>Night mode.

● Operation hours calculation

When "Operation hours calculation" is checked, the following parameters appear:

ETS-text	Dynamic range [default value]	Comment
Operation hours calculation	● **Unchecked** ● Checked	Determines whether an individual operating hour calculation is required for the group.
Select data type	● **4 Byte value in second** ● 2 Byte value in hour	Sends status signals from the object in seconds or in hours.
Operation hours limit	1 – 65535hrs **[10000hrs]**	Sets the life span (operating hours limit) of the group. When the operation time is greater than the limit value, the object "Operation Hours Value" is cleared, and the object "Operation Hours Exceeded" will report an alarm.

ETS-text	Dynamic range **[default value]**	Comment
Send status every (0=no active)	0 – 255hrs **[0hr]**	Sends status signals from the object "Operation Hours Value" at intervals you desire. Note: The set value of "Send status every" needs to be less than "Operation hours limit", otherwise the object "Operation Hours Value" cannot be reported.

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
1138	[A:Group1] Operation Hours Reset	1 bit	Resets the operating hours counter of the Group.
1139	[A:Group1] Operation Hours Value	4 bytes	The operating hours of the Group in seconds are sent via this object. When the parameter "Select data type" is set to "4 Byte value in second(DTP 13.100)", the unit of operation time value is seconds.
		2 bytes	The operating hours of the Group in hours are sent via this object. When the parameter "Select data type" is set to "2 Byte value in hour (DTP 7.007)", the unit of operation time value is hour.
1140	[A:Group1] Operation Hours Exeeded	4 bytes	When the operation hours' counter exceeds the threshold set by the parameter "Operation hours limit", the object will send '1' and the operation hours' counter is reset to 0.

6.3.4 Group-Colour control

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Colour control type	● **none** ● Colour Temperature ● RGB ● RGBW ● xy-coordinate	Set the colour type of the group, you can set the colour scene of the group through the DCA app.

The detailed introduction of each colour control type will be introduced in the following chapters:

6.3.4.1 Colour control type- Colour Temperature

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Colour value on DALI System Failure	● no action ● define colour value	Uses this parameter to set the colour temperature of the connected ECGs/lamps in the group when DALI bus voltage falls down. ●no action: The colour temperature remains unchanged.
Colour Value	1000 K..10000 K [3000K]	Use this parameter to set a desired colour temperature. [This option only exists when "define value" in "Colour value on DALI System Failure" is chosen.]
Colour value on ECG Power On	● last colour value ● define colour value	Uses this parameter to set the colour temperature of the connected ECGs/lamps in the group when AC power recovery. ●last colour value: Use the colour temperature prior to the ECG being powered off.
Colour Value	1000 K..10000 K [3000K]	Use this parameter to set a desired colour temperature. [This option only exists when "define value" in "Colour value on ECG Power On" is chosen.]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		
Switch-on behavior	● Keep last object value ● Use defined value	Use this parameter to set the switch-on colour temperature of the connected ECGs/lamps in the group. If you select "Keep last object value" , the value is set to the colour temperature prior to the lamp being switched off.

ETS-text	Dynamic range **[default value]**	Comment
Switch-on colour value	1000 K..10000 K **[3000K]**	Use this parameter to set a desired colour temperature. [This option only exists when "Use defined value" in "Switch-On behavior" is chosen.]
Colour temperature object format	● **2-bytes Colour Temperature (DPT7.600)** ● 1-byte Percentage (DPT5.001)	Sets the format in which object "colour temperature" of the group is transmitted.
Sending colour value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Colour Temperature Value (Status)" of the group with the option you selected.
Colour changing fading time via dimming	● Immediately ● 0.7s ● 1.0s ● 1.4s .... ● 90.5s **[4.0s]**	Defines the time needed to achieve the required colour temperature by dimming.
Colour temperature range setting by	● **Scan or Reinstall function on DCA APP** ● defined	Choose which method to use to set the colour temperature range.
Minimum colour temperature	1000 K..10000 K **[2000K]**	Use this parameter to set the minimum colour temperature of the group. [This option only exists when "defined" in "Colour temperature range setting by" is chosen.]
Maximum colour temperature	1000 K..10000 K **[6000K]**	Use this parameter to set the maximum colour temperature of the group. [This option only exists when "defined" in "Colour temperature range setting by" is chosen.]

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The following chart shows the objects that belong to "Colour Temperature" :

Num	Object name	Length	Description
1142	[A:Group 1] Relative Colour Temperature	4bit	Relative colour temperature adjustment for the group.
1143	[A:Group 1] Colour Temperature	2bytes	Absolute colour temperature adjustment for the group.
1144	[A:Group 1] Colour Temperature Value(Status)	2bytes	Feedback the colour temperature value of the group.

6.3.4.2 Colour control type- RGB

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Colour value on DALI System Failure	● no action ● define colour value	Uses this parameter to set the colour of the connected ECGs/lamps in the group when DALI bus voltage falls down. ●no action: The colour remains unchanged.

ETS-text	Dynamic range [default value]	Comment
Colour Value	Colour selection [#FF0000]	Use this parameter to set a desired colour. [This option only exists when "define colour value" in "Colour value on DALI System Failure" is chosen.]
Colour value on ECG Power On	● last colour value ● define colour value	Uses this parameter to set the colour of the connected ECGs/lamps in the group when AC power recovery. ●last colour value: Use the colour prior to the ECG being powered off.
Colour Value	Colour selection [#FF0000]	Use this parameter to set a desired colour. [This option only exists when "define colour value" in "Colour value on ECG Power On" is chosen.]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		
Switch-on behavior	● Keep last object value ● Use defined value	Use this parameter to set the switch-on colour of the connected ECGs/lamps in the group. If you select "Keep last object value" , the value is set to the colour prior to the lamp being switched off.
Switch-on colour value	Colour selection [#FF0000]	Use this parameter to set a desired colour. [This option only exists when "Use defined value" in "Switch-On behavior" is chosen.]

ETS-text	Dynamic range **[default value]**	Comment
Sending colour value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Colour RGB Value (Status)" of the group with the option you selected.
Colour changing fading time via dimming	● Immediately ● 0.7s ● 1.0s ● 1.4s .... ● 90.5s **[4.0s]**	Defines the time needed to achieve the required colour by dimming.

The following chart shows the objects that belong to "Colour RGB":

Num	Object name	Length	Description
1143	[A: Group1] Colour RGB	3bytes	Set the RGB value of the Group.
1144	[A: Group1] Colour RGB Value(Status)	3bytes	Feedback the RGB value of the Group.

6.3.4.3 Colour control type- RGBW

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
Colour value on DALI System Failure	● **no action** ● define colour value	Uses this parameter to set the colour of the connected ECGs/lamps in the group when DALI bus voltage falls down. ●no action: The colour remains unchanged.
Colour Value	Colour selection **[#FF0000]**	Use this parameter to set a desired colour. [This option only exists when "define colour value" in "Colour value on DALI System Failure" is chosen.]

ETS-text	Dynamic range [default value]	Comment
Additional white value	0..255 (Slider) [0]	Use this parameter to set a desired white value. [This option only exists when "define colour value" in "Colour value on DALI System Failure" is chosen.]
Colour value on ECG Power On	● last colour value ● define colour value	Uses this parameter to set the colour of the connected ECGs/lamps in the group when AC power recovery. ●last colour value: Use the colour prior to the ECG being powered off.
Colour Value	Colour selection	Use this parameter to set a desired colour. [This option only exists when "define colour value" in "Colour value on ECG Power On" is chosen.]
Additional white value	0..255 (Slider) [255]	Use this parameter to set a desired white value. [This option only exists when "define colour value" in "Colour value on ECG Power On" is chosen.]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		
Switch-on behavior	● Keep last object value ● Use defined value	Use this parameter to set the switch-on colour of the connected ECGs/lamps in the group. If you select "Keep last object value" , the value is set to the colour prior to the lamp being switched off.

ETS-text	Dynamic range **[default value]**	Comment
Switch-on colour value	Colour selection **[#FF0000]**	Use this parameter to set a desired colour. [This option only exists when "Use defined value" in "Switch-On behavior" is chosen.]
Additional white value	0..255 (Slider) **[255]**	Use this parameter to set a desired white value. [This option only exists when "Use defined value" in "Switch-On behavior" is chosen.]
Sending colour value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Colour RGBW Value (Status)" of the group with the option you selected.
Colour changing fading time via dimming	● Immediately ● 0.7s ● 1.0s ● 1.4s .... ● 90.5s **[4.0s]**	Defines the time needed to achieve the required colour by dimming.

The following chart shows the objects that belong to "Colour RGBW":

Num	Object name	Length	Description
1143	[A: Group1] Colour RGBW	6bytes	Set the RGBW value of the Group.
1144	[A:Group1] Colour RGBW Value(Status)	6bytes	Feedback the RGBW value of the Group.

6.3.4.4 Colour control type- xy-coordinate

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
Colour value on DALI System Failure	● **no action** ● define colour value	Uses this parameter to set the colour (xy-coordinate) of the connected ECGs/lamps in the group when DALI bus voltage falls down. ●no action: The colour remains unchanged.
Colour x-value	**0,33** value between (0..1)	Use this parameter to set a desired x-value. [This option only exists when "define colour value" in "Colour value on DALI System Failure" is chosen.]
Colour y-value	**0,33** value between (0..1)	Use this parameter to set a desired y-value. [This option only exists when "define colour value" in "Colour value on DALI System Failure" is chosen.]

ETS-text	Dynamic range [default value]	Comment
Colour value on ECG Power On	● **last colour value** ● define colour value	Uses this parameter to set the colour (xy-coordinate) of the connected ECGs/lamps in the group when AC power recovery. ●last colour value: Use the colour prior to the ECG being powered off.
Colour x-value	**0,33** value between (0..1)	Use this parameter to set a desired x-value. [This option only exists when "define colour value" in "Colour value on ECG Power On" is chosen.]
Colour y-value	**0,33** value between (0..1)	Use this parameter to set a desired y-value. [This option only exists when "define colour value" in "Colour value on ECG Power On" is chosen.]
Note: The above parameters are only reset after downloading database, and will not be reset when KNX power is restored.		
Switch-on behavior	● **Keep last object value** ● Use defined value	Use this parameter to set the switch-on colour (xy-coordinate) of the connected ECGs/lamps in the group. If you select "Keep last object value", the value is set to the colour prior to the lamp being switched off.
Switch-on colour x-value (0..1)	**0,33** value between (0..1)	Use this parameter to set a desired x-value. [This option only exists when "Use defined value" in "Switch-On behavior" is chosen.]

ETS-text	Dynamic range [default value]	Comment
Switch-on colour y-value (0..1)	**0,33** value between (0..1)	Use this parameter to set a desired y-value. [This option only exists when "Use defined value" in "Switch-On behavior" is chosen.]
Sending colour value status	● no send, passive status object ● **at change** ● always at input of telegram	Sends status signals from the object "Colour xy-coordinate Value (Status)" of the group with the option you selected.
Colour changing fading time via dimming	● Immediately ● 0.7s ● 1.0s ● 1.4s .... ● 90.5s **[4.0s]**	Defines the time needed to achieve the required colour (xy-coordinate) by dimming.

The following chart shows the objects that belong to "xy-coordinate" :

Num	Object name	Length	Description
1143	[A:Group 1] Colour xy-coordinate	6bytes	Set the xy-coordinate value of the Group.
1144	[A:Group 1] Colour xy-coordinate Value(Status)	6bytes	Feedback the xy-coordinate value of the Group.

6.4 Scenes setting

You can set the scene fade time of all ECGs on Bus DALI A or DALI B on the pages "A: Scenes setting" and "B: Scenes setting" . The fade time defines the time needed to achieve the required brightness or colour by dimming.
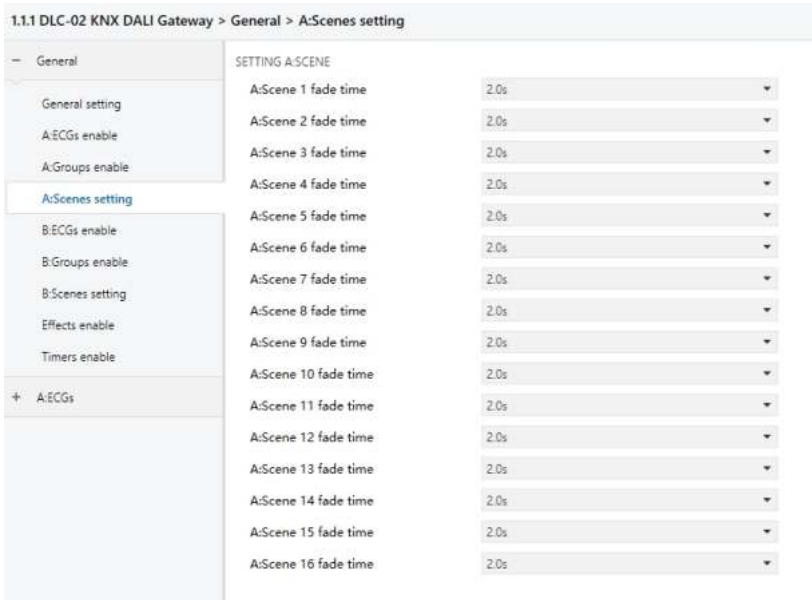
The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
A/B:Scene n fade time (n=1~16)	● Immediately ● 0.7s ● 1.0s ● 1.4s .... ● 90.5s [2.0s]	Uses this parameter to set the scene fade time of all ECGs on Bus DALI A or DALI B.

The following chart shows the objects that belong to "xy-coordinate" :

Num	Object name	Length	Description
5	[Dali A] Scene Number	1byte	DALI Bus A – Scene Number. This object can be used for calling scenes. Configure the scene on the DCA interface. Configuration steps: Select ECG or Group ->Right mouse button and select "scene edit"->After editing, click "save"->Click "download" to download the parameters.
22	[Dali B] Scene Number	1byte	DALI Bus B – Scene Number. This object can be used for calling scenes. Configure the scene on the DCA interface. Configuration steps: Select ECG or Group->Right mouse button and select "scene edit"->After editing, click "save"->Click "download" to download the parameters.

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6.5 Timers enable

Timer enable page is used to activate the timer functions.
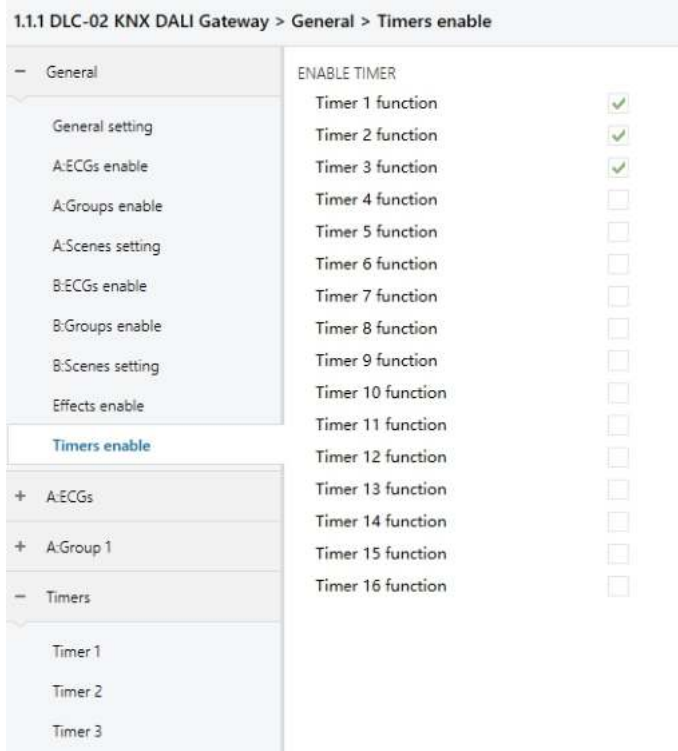
The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Timer n function n = [1, 16]	● Unchecked ● Checked	Use this parameter to activate the function. Up to 16 timers can be selected.

Once a timer is activated, a new page Timers will appear. At this subpage, the further parameterization can be done. Detailed information is described in the following section.

6.5.1 Timers

Timer function allows the lights to switch on at particular times of a day. Take an office application for example, lamps in group 1 of DALI bus A is used for the lobby, we can set a timer to switch on the lights in the lobby at a certain time on weekday morning before staff coming into work.

Object-1 Type	Switch(DPT1.1001) ▼
Object-2 Type	Switch(DPT1.1001) ▼
Object-3 Type	Switch(DPT1.1001) ▼
Object-4 Type	Switch(DPT1.1001) ▼
Timer operation 1	✓
Hours	0
Minutes	0
Monday	✓
Thursday	✓
Wednesday	✓
Thursday	✓
Friday	✓
Saturday	☐
Sunday	☐
Sending Object-1 value	☐
Sending Object-2 value	☐
Sending Object-3 value	☐
Sending Object-4 value	☐
Timer operation 2	☐
Timer operation 3	☐
Timer operation 4	☐
Timer operation 5	☐
Timer operation 6	☐

● Object-n type

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Object-1Type	● **Switch(DPT1.001)** ●Percentage(DPT5.001) ●Colour temperature (DPT7.600) ●RGB value (DPT232.600) ●RGBW value (DPT251.600) ●xy-coordinate value (DPT242.600) ●Scene number (DPT17.001)	Sets which object type is used to send status signals. Note: 1.A Timer has 4 optional objects. Users can choose the corresponding object type according to the ECG/lamp type. 2.A timer has 6 optional Timer operations, Users can customize the timing time, and decide whether to activate the object to send data.
Please refer to the above Object-1 Type for the parameters description of the Object-2 Type to Object-4 Type.		

● Timer operation n

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Timer operation n n=[1, 16]	● **Unchecked** ● Checked	Use this parameter to activate the function.
Hours ★	0 – 23hrs [0hr]	Set a desired time in hours to trigger the timer.
Minutes ★	0 – 59mins [0min]	Set a desired time in minutes to trigger the timer.
Monday ★	● **Unchecked** ● Checked	Whether to trigger the timer on Monday.
Tuesday ★	● **Unchecked** ● Checked	Whether to trigger the timer on Tuesday.
Wednesday ★	● **Unchecked** ● Checked	Whether to trigger the timer on Wednesday.

ETS-text	Dynamic range [default value]	Comment
Tuesday ★	● **Unchecked** ● Checked	Whether to trigger the timer on Thursday.
Friday ★	● **Unchecked** ● Checked	Whether to trigger the timer on Friday.
Saturday ★	● **Unchecked** ● Checked	Whether to trigger the timer on Saturday.
Sunday ★	● **Unchecked** ● Checked	Whether to trigger the timer on Sunday.
Sending Object-1 value ★	● **no check** ● Check	Whether to use Object-1 to send status signals when the timer is triggered.
Switch value	● **off** ● on	Sets the on or off signal to be sent by the "1bit switch object" when the timer is triggered. [This option only exists when "Switch (DPT1.001)" in "Object-1 type" is chosen].
Percentage value	0 – 100% **[0%]**	Sets the dimming signal to be sent by the "1byte object percentage" when the timer is triggered. [This option only exists when "Percentage (DPT5.001)" in "Object-1 type" is chosen].
Colour temperature value	1000-10000k **[3000]**	Sets the colour temperature signal to be sent by the "2byte object colour temperature" when the timer is triggered. [This option only exists when "Colour temperature (DPT7.600)" in "Object-1 type" is chosen].

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ETS-text	Dynamic range [default value]	Comment
Colour RGB value	Selection colour [#FF0000]	Sets the RGB signal to be sent by the "3byte object colour RGB" when the timer is triggered. [This option only exists when "RGB (DPT232.600)" in "Object-1 type" is chosen].
Colour RGB value	Selection colour [#FF0000]	Sets the RGB signal to be sent by the "6byte object colour RGBW" when the timer is triggered. [This option only exists when "RGBW (DPT251.600)" in "Object-1 type" is chosen].
Addition white value	0-255 [255]	Sets the white signal to be sent by the "6byte object colour RGBW" when the timer is triggered. [This option only exists when "RGBW (DPT251.600)" in "Object-1 type" is chosen].
Colour x-value(0..0.8)	0~0.8 [0.33]	Sets the x-value signal to be sent by the "6byte object colour xy-coordinate" when the timer is triggered. [This option only exists when "xy coordinate (DPT242.600)" in "Object-1 type" is chosen].
Colour y-value (0..0.9)	0~0.9 [0.33]	Sets the y-value signal to be sent by the "6byte object colour xy-coordinate" when the timer is triggered. [This option only exists when "xy coordinate (DPT242.600)" in "Object-1 type" is chosen].

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ETS-text	Dynamic range **[default value]**	Comment
Scene number	1-64 **[1]**	Sets the scene signal to be sent by the "6byte object colour xy-coordinate" when the timer is triggered. [This option only exists when "Scene number (DPT17.001)" in "Object-1 type" is chosen].
Please refer to the above "Sending Object-1 value" for the parameters description of the "Sending Object-2 value" to "Sending Object-4 value".		

★: Only appears when "Timer operation n" is checked.

The following chart shows the objects that belong to Timer:

Num	Object name	Length	Description
2703	[Timer 1] Object-1 Switch	1 bit	This object is used to send on/off signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Switch (DPT1.001)".
	[Timer 1] Object-1 Percentage	1 byte	This object is used to send dimming signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Percentage (DPT5.001)".
	[Timer 1] Object-1 Colour Temperature	2 bytes	This object is used to send colour temperature signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Colour Temperature (DPT7.600)".

Num	Object name	Length	Description
2703	[Timer 1] Object-1 Colour RGB	3 bytes	This object is used to send RGB signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Colour RGB (DPT232.600)" .
	[Timer 1] Object-1 Colour RGBW	6 bytes	This object is used to send RGBW signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Colour RGBW (DPT251.600)".
	[Timer 1] Object-1 Colour xy-coordinate	6 bytes	This object is used to send xy-coordinate signals of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Colour xy-coordinate (DPT242.600)".
	[Timer 1] Object-1 Scene Number	1 byte	This object is used to trigger scene of the timer when it is triggered. This object only available when the parameter "Object-1 Type" chooses "Scene Number (DPT17.001)".

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Num	Object name	Length	Description
2704	[Timer 1] Object-2 Switch	1 bit	This object is used to send on/off signals of the timer when it is triggered. This object only available when the parameter "Object-2 Type" chooses "Switch (DPT1.001)" .
	------	------	------
	[Timer 1] Object-2 Scene Number	1 byte	This object is used to trigger scene of the timer when it is triggered. This object only available when the parameter "Object-2 Type" chooses "Scene Number (DPT17.001)" .
2705	[Timer 1] Object-3 Switch	1 bit	This object is used to send on/off signals of the timer when it is triggered. This object only available when the parameter "Object-3 Type" chooses "Switch (DPT1.001)" .
	------	------	------
	[Timer 1] Object-3 Scene Number	1 byte	This object is used to trigger scene of the timer when it is triggered. This object only available when the parameter "Object-3 Type" chooses "Scene Number (DPT17.001)" .

6

Num	Object name	Length	Description
2706	[Timer 1] Object-4 Switch	1 bit	This object is used to send on/off signals of the timer when it is triggered. This object only available when the parameter "Object-4 Type" chooses "Switch (DPT1.001)" .
	------	------	------
	[Timer 1] Object-4 Scene Number	1 byte	This object is used to trigger scene of the timer when it is triggered. This object only available when the parameter "Object-4 Type" chooses "Scene Number (DPT17.001)" .

Please refer to the above Timer 1 for the objects description of the Timer 2 to Timer 16.

6

6.6 Effects enable

Effects enable page is used to activate effect functions. There are 16 independent effects available.

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Effect n function n = [1, 16]	● **Unchecked** ● Checked	Use this parameter to activate the function.
Number of cycles (0=not limited)	0-255 **[1]**	Use this parameter to set the number of times to execute the effect. If you choose "0", it means that the effect is executed in an infinite loop.

ETS-text	Dynamic range [default value]	Comment
Reaction on stop via KNX	● **stop immediately** ● complete the cycle	Choose how to stop the effect when an Effect's "Stop" command is received. ● stop immediately: When receiving the "stop" command from object "[Effect] Start/Stop", stop the current operation Immediately. ● complete the cycle: When receiving the "stop" command from object "[Effect] Start/Stop" , stop effect after completing the current cycle.

Once an effect function is activated, a new page "Effects" will appear. At this subpage, the further parameterization can be done. Detailed information is described in the following section.
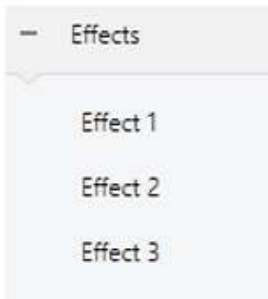
6.6.1 Effects

An effect is essentially the process control of individual ECGs and different groups. In the Effects subpage, you can set the brightness or colour of individual ECGs or groups. 32 effect steps can be programmed by an effect function.

The "End" step means that it is executed after all the loops of the Effect are executed, Suppose that after executing all the loops of the Effect (1), you want to set the lamp to a certain brightness or colour, which can be set in the "End" Step.

1.1.1 DLC-02 KNX DALI Gateway > Effects > Effect 1

	Step	DALI	NO.	Colour type	Colour value	White value	Brightness value	Fade time	Delay
General									
General setting	1	ECG (A) ▾	1 ▾	Tc ▾	3000 ▾ K		no change ▾	2.0s ▾	0 ▾ s
A:ECGs enable	2	no use ▾						2.0s ▾	0 ▾ s
A:Groups enable	3	no use ▾						2.0s ▾	0 ▾ s
A:Scenes setting	4	no use ▾						2.0s ▾	0 ▾ s
B:ECGs enable	5	no use ▾						2.0s ▾	0 ▾ s
B:Groups enable	6	no use ▾						2.0s ▾	0 ▾ s
B:Scenes setting	7	no use ▾						2.0s ▾	0 ▾ s
Effects enable	8	no use ▾						2.0s ▾	0 ▾ s
Timers enable	9	no use ▾						2.0s ▾	0 ▾ s
	10	no use ▾						2.0s ▾	0 ▾ s
A:ECGs	11	no use ▾						2.0s ▾	0 ▾ s
	12	no use ▾						2.0s ▾	0 ▾ s
+ A:ECG 1	13	no use ▾						2.0s ▾	0 ▾ s
+ A:ECG 2	14	no use ▾						2.0s ▾	0 ▾ s
	15	no use ▾						2.0s ▾	0 ▾ s
+ A:Group 1	16	no use ▾						2.0s ▾	0 ▾ s
	17	no use ▾						2.0s ▾	0 ▾ s
Effects	18	no use ▾						2.0s ▾	0 ▾ s
	19	no use ▾						2.0s ▾	0 ▾ s
Effect 1	20	no use ▾						2.0s ▾	0 ▾ s
Effect 2	21	no use ▾						2.0s ▾	0 ▾ s
Effect 3	22	no use ▾						2.0s ▾	0 ▾ s
	23	no use ▾						2.0s ▾	0 ▾ s
	24	no use ▾						2.0s ▾	0 ▾ s
	25	no use ▾						2.0s ▾	0 ▾ s
	26	no use ▾						2.0s ▾	0 ▾ s
	27	no use ▾						2.0s ▾	0 ▾ s
	28	no use ▾						2.0s ▾	0 ▾ s
	29	no use ▾						2.0s ▾	0 ▾ s
	30	no use ▾						2.0s ▾	0 ▾ s
	31	no use ▾						2.0s ▾	0 ▾ s
	32	no use ▾						2.0s ▾	0 ▾ s
	End	no use ▾						2.0s ▾	0 ▾ s

Group Objects   Channels   Parameter   DCA

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
DALI	● **no use** ● ECG(A) ● group(A) ● broadcast(A) ● scene(A) ● ECG(B) ● group(B) ● broadcast(B) ● scene(B)	Choose which ECG, group, DALI bus or scene to work with this effect.
NO.	● 1 – 64 ● 1 – 16 **[1]**	●When "DALI" is selected as "ECG (A)" or "ECG (B)", the value range is 1~64, which is used to choose a certain lamp on the bus as the controlled part. ●When "DALI" is selected as "group (A)" or "group (B)", the value range is 1~16, which is used to choose a certain group on the bus as the controlled part. ●When "DALI" is selected as "scene (A)" or "scene (B)", the value range is 1~16, which is used to choose a certain scene on the bus as the controlled part.
Colour type	● **none** ● Tc ● RGB ● RGBW	Set the colour type of the controlled part
The following parameters will appear when "Colour type" is selected as "Tc".		
Colour Value	1000-10000 K **[3000K]**	Used the parameter to set the colour temperature of the controlled part.

ETS-text	Dynamic range **[default value]**	Comment
The following parameters will appear when "Colour type" is selected as "RGB".		
Colour Value	RGB value #FF0000	Used the parameter to set the colour (RGB) of the controlled part.
The following parameters will appear when "Colour type" is selected as "RGBW".		
Colour Value	RGB value #FF0000	Used the parameter to set the RGB value of the controlled part.
White Value	0-255 **[0]**	Used the parameter to set the white value of the controlled part.
Value	● no change ● 0~100% **[100]**	Use this parameter to set a desired value. ●"no change": Use the previous brightness value.
Fade time	●Immediately ●0.7s ●1.0s ●1.4s ...... ●90.5s **[2.0s]**	Defines the time needed to achieve the required setting.
Delay	0-65535s **[0s]**	The duration of the effect (single step).

The following chart shows the objects that belong to general setting:

Num	Object name	Length	Description
2687	[Effect 1] Start/Stop	1 bit	Activate or deactivates the Effect. Note: This object is only valid when the parameter "Effect 1" is checked.
Please refer to the above Effect 1 for the objects description of the Effect 2 to Effect 16.			

7. Display

The display on the DLC-02-KN can parameterize maximum level, minimum level, fade rate/time, group and scenes, set the system time and IP address, as well as turn on/off relay.

■The main page displays IP address, time and date.
■When the DLC-02-KN is not connected to the network, "ETH not Linked" is displayed; when the DLC-02-KN is connected to the network, the current IP address information will be displayed.

```
    DLC-02-KN
192.168.060.089
   15:58:45
  2021/05/07
```

■A new menu appears when one of the MOVE/SET/ESC buttons is pressed, as shown in the picture below.

```
1.Bus Info
2.Test
3.Add/Change
4.System
```
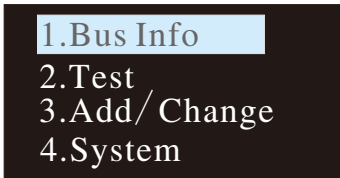
Menu Structure
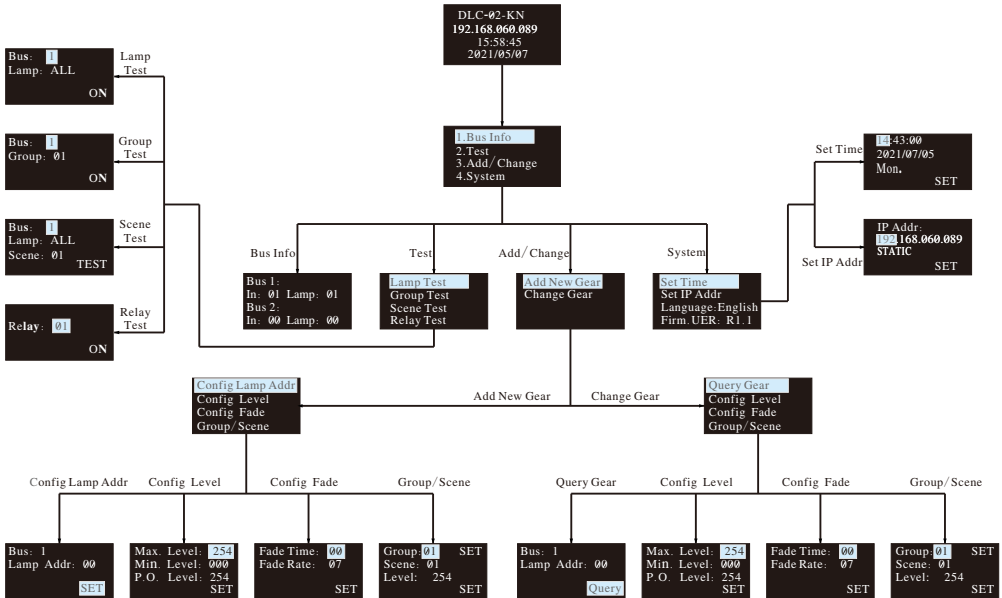
7.1 Bus Info

The menu is used to scan total quantity of input and output devices connected to the controller. The example below shows there is one input device and one output device in Bus A and no any device found in Bus B.

```
Bus 1:
In: 01  Lamp: 01
Bus 2:
In: 00  Lamp: 00
```

7.2 Test

●Press MOVE button to move the indicator onto Test, then press SET button to enter the menu, shown as below.

●The menu includes Lamp test, Group test, Scene test and Relay test.

```
Lamp Test
Group Test
Scene Test
Relay Test
```

The operation instructions are shown as follows:

7.2.1 Lamp test: used to turn ON/OFF a single lamp or all of the lamps on Bus A and B. Bus: 1 represents DALI-A, 2 represents DALI-B; Lamp: 00 – 63 represents name of a single lamps, ALL represents all of the lamps.

```
Bus:    1
Lamp:  ALL

           ON
```

7.2.2 Group test: used to turn ON/OFF a group of lights on Bus A and B. Bus: 1 represents DALI-A, 2 represents DALI-B; Group: 01 – 16 represents name of groups.

```
Bus:    1
Group:  01

           ON
```

7.2.3 Scene Test
- ●Set a single lamp or all of the lamps on the DALI A/B to a specific scene.
- ●Bus: 1 represents DALI-A, 2 represents DALI-B.
- ●Lamp: 00 – 63 represents name of a single lamps, ALL represents all of the lamps; Scene: 01 – 16 represents name of scenes.

```
Bus：  1
Lamp：  ALL
Scene：  01
                TEST
```

7.2.4 Relay test
- ●Test ON/OFF functions of the 4 relays
- ●Relay: 01 – 04 represents name of the relays; ON/OFF: ON makes relay short and the corresponding indicator lights up, OFF make relay open and the corresponding indicator switches off.

```
Relay：  01

                ON
```

7.3 Add/Change

```
Add New Gear
Change Gear
```

7.3.1 Add New Gear:
   It is used to add new devices to the DALI system and parameterize maximum level, minimum level, power on level, fade time, fade rate, group and scene of the new devices

```
Config Lamp Addr
Config  Level
Config  Fade
Group/ Scene
```

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The operation instructions are shown as follows：

①Config Lamp Addr
  Set short address 0-63, select "SET" to complete the setting. The set lamp must be a device that has not been assigned any address, otherwise it will display fail. Bus: 1 represents DALI-A, 2 represents DALI-B; Lamp addr: 00 – 63 represents a short address for the new device.

```
Bus： 1
Lamp  Addr： 00

              SET
```
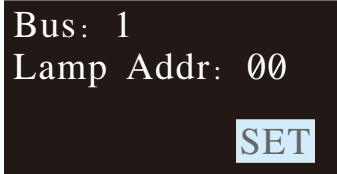
②Config Lamp Level
  Paramterize maximum level, minimum level for the new device, select "SET" to complete the setting.
  (All levels should be larger or equal to physical min level, otherwise setting will fail)

```
Max.  Level：  254
Min.  Level：  000
P.O.  Level：  254
              SET
```
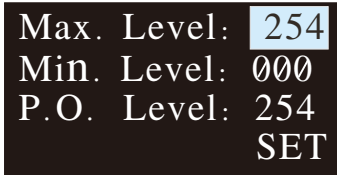
③Config Fade
  ● Paramterize fade time and fade rate for the new device.
  ● Fade time defines the time needed to achieve the required setting after receiving a DAPC command. It is mainly used for absolute dimming, such as go to scene or go to last active level.

  Fade times in seconds:

Index	00	01	02	03	04	05	06	07
Fade Time(s)	0	0.7	1.0	1.4	2.0	2.8	4.0	5.7

Index	08	09	10	11	12	13	14	15
Fade Time(s)	8.0	11.3	16.0	22.6	32.0	45.3	64.0	90.5

- Fade rate defines the rate at which changes are made (in steps per second) in the value of the lamp's power. It is mainly used for relative dimming, such as up or down.

Fade rates in steps/second:

Index	01	02	03	04	05	06	07	08
Fade rate (step/s)	358	253	179	127	89	63	45	32

Index	09	10	11	12	13	14	15
Fade rate (step/s)	22	16	11.2	7.9	5.6	4.0	2.8

④Group/Scene

Assign a group and set a scene for the new device.
Group: 01 -16 represents name of groups; Scene: 01 -16 represents name of scene; Level: 0 – 254 represents light levels.

```
Group：01      SET
Scene：  01
Level:    254
              SET
```

7.3.2 Change Gear

- It is used to change maximum level, minimum level, power on level, fade time, fade rate, group and scene of the existed devices on the buses.
- The operation method is the same as Add New Gear, please refer to 7.3.1 for detailed instructions.

7.4 System

Functions include time calibration, IP address setting, language change and firmware version display.

```
Set Time
Set IP Addr
Language:English
Firm.UER: R1.1
```
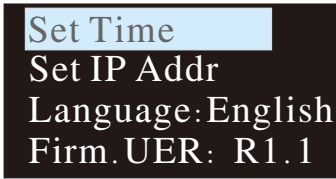
7.4.1 Set Time:

①Press MOVE button to move the indicator on HH/MM/SS/yyyy/mm/dd.
②Press SET button to adjust values.
③Select "SET" when finishing setting.

```
14:43:00
2021/07/05
Mon.
            SET
```
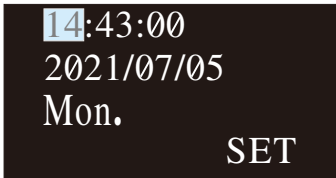
7.4.2 Set IP Addr:

①Press MOVE button to move the indicator on IP address.
②Press SET button to assign address and set DHCP or static IP.
③Select "SET" when finishing setting. The DLC-02-KN will reboot
   automatically to implement the new setting.

```
IP Addr:
192.168.060.089
STATIC
            SET
```
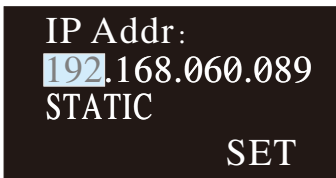
NOTE:

①When static IP is selected, the DLC-02-KN utilizes a fixed IP address and the address does not change over time. The DLC-02-KN and the PC must be set at the same network in order to work normally.
②When DHCP is selected, the DLC-02-KN will be assigned IP address automatically. It does not need to do any manual configuration to connect the controller to local devices or gain access to the Web.

7.4.3 Language:

There are two language options available: English and Simplified Chinese.

```
Set Time
Set IP Addr
Language:English
Firm.UER: R1.1
```
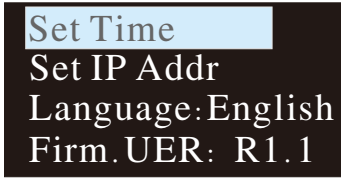
7.4.4 Firm :

It displays firmware version of the DLC-02-KN.

```
Firm.UER: R1.1
```

8. Web-based User Interface

DLC-02-KN has a web browser control function, you can set the fade time, fade rate, minimum level, maximum level, power-on behavior and system failure level of the lamp through the web browser. Users can also test the brightness of lamps or groups online, as well as test scenes and relays.

8.1 System requirements

- Window7 32-bit operating system and above.
- Google, Chrome, Firefox or Microsoft Edge browsers are recommended.

8.2 Connection and IP setting

8.2.1 Connection diagram
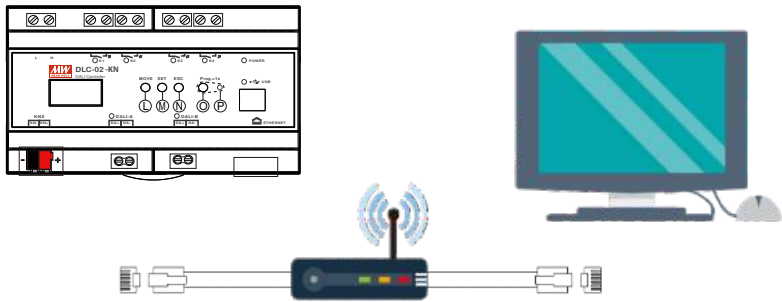
8.2.2 IP setting

- DHCP

If there is a DHCP server in the network, the DLC-02-KN can be assigned an IP address automatically. Before assigning an IP address, you need to set the IP address type to "DHCP" through button operation on the panel of the DLC-02-KN (please refer to chapter 7.4) or select "DHCP" for the parameter "IP Address assignment" through ETS software (Please refer to Section 6.1.1.6).

The left picture below is to use the button to set "DHCP", and the right picture is to use the ETS software to set "DHCP":
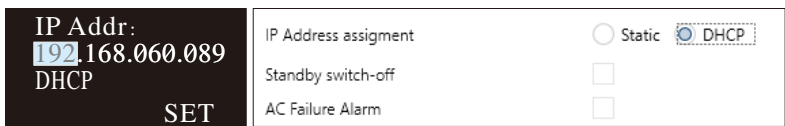
After the IP address type of DLC-02-KN is set to "DHCP", connect the DLC-02KN to the network using a network cable, then the DLC-02-KN will be automatically assigned an IP address, which will be displayed on the homepage of the OLED display. As shown below:

```
   DLC-02-KN
192.168.060.089
    15:58:45
   2022/05/07
```

- STATIC

If there is no DHCP server in the network or you want to use a static IP address, first you need to set the IP address type to "STATIC" through button operation on the panel of the DLC-02-KN (please refer to chapter 7.4) or select "STATIC" for the parameter "IP Address assignment" through ETS software (Please refer to Section 6.1.1.6), and then enter the IP address.

The left picture below is to use the button to set "STATIC", and the right picture is to use the ETS software to set "STATIC":

```
IP Addr：
192.168.060.089
STATIC
        SET
```

IP Address assigment	⦿ Static ◯ DHCP
IP Address	192.168.60.89
Standby switch-off	☐
AC Failure Alarm	☐
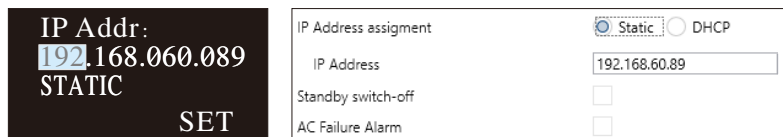
After the static IP address is set, it will be displayed on the homepage of the OLED display.

Note：The domain of the computer and DLC-02-KN must be the same for normal communication, but they cannot be the same IP.

8.3 Web browser operation

8.3.1 How to open the web page

Open a blank page and type the IP address (such as 192.168.60.89) of the DLC-02-KN in the address bar, and then open the web page.

8.3.2 Home page

There are Device Info, DALI Device, Groups Control, Scenes Control and Relay Control on the home page. Users can click the left menu to enter the corresponding page.

8.3.2.1 Device Info

On the device info page, some information of DLC-02-KN are display, such as version, network information, system time, etc.

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Model	●DLC-02-KN	Display the model of the device.
Version	●RX.X [R2.0]	Displays the firmware version of the device.
Mode	●KNX to DALI Gateway	Display the working mode of the device.

ETS-text	Dynamic range **[default value]**	Comment
IP mode	●STATIC ●DHCP	Displays the IP address mode of the device. ●STATIC: Set the IP mode to statically assign addresses (manually assign addresses). ●DHCP: Set the IP mode to automatically assign addresses.
MAC	●XX:XX:XX:XX:XX:XX [54:10:EC:30:80:46]	Display the MAC address of the device.
IP	●XXX.XXX.XXX.XXX [192.168.60.89]	Displays the IP address of the device.
Http Port	●80	Displays the web access port of the device.
Gateway	●XXX.XXX.XXX.XXX [192.168.60.252]	Displays the gateway address of the device.
Subnet	●XXX.XXX.XXX.XXX [255.255.255.0]	Displays the subnet mask of the device.
DNS	●XXX.XXX.XXX.XXX [0.0.0.0]	Displays the DNS server address of the device.
Hostname	●MEANWELL-DLC-02	Displays the hostname of the device on the network.
Systime	●XXXX-XX-XX XX:XX:XX [2022-05-06 11:03:32]	Displays the date and time which are displayed on the device's OLED screen.
Set Timezone	●UTC -12 ~ UTC +12 [UTC +8]	Set the running time zone of the device, which will take effect after repowering the device.
Uptime	●XXd XXh XXm XXs [0d 0h 51m 11s]	Display the running time of the device.

8

8.3.2.2 DALI Device

The "DALI Device" page shows all the devices connected to the DLC-02-KN and their parameters. Here, you can set the fade time, fade rate, minimum level, maximum level, power-on behavior and system failure level of the lamp, as well as test the dimming of lamp and trigger scenes online.
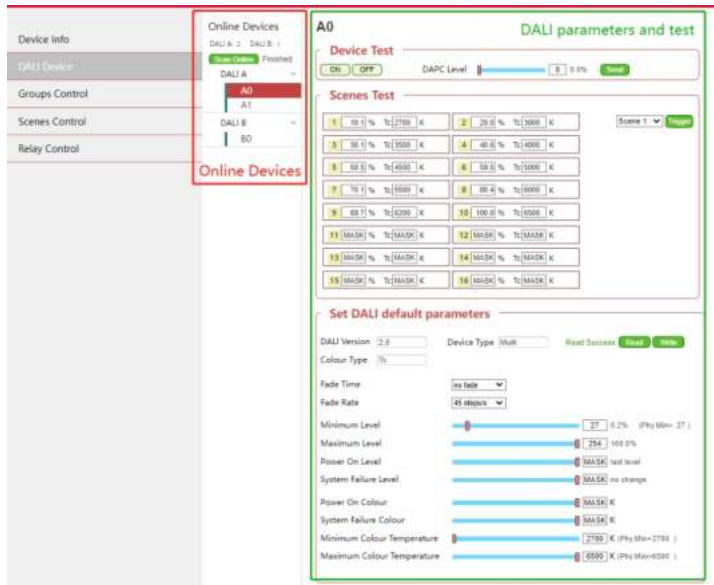
8.3.2.2.1 Online Devices

After entering the "DALI Device" page, first click "Scan Online" to scan all the devices connected to the DLC-02-KN and display them in the drop-down lists of "DALI A" and "DALI B". After scanning, the prompt "Finished" will appear. As shown in the figure below, there are two devices A0 and A1 on the DALI bus A, and one device B0 on the DALI bus B bus.

Note: "Scan Online" can only search for devices that have been assigned a DALI address. After selecting a device of "DALI A" or "DALI B", the background colour of the device will change to red, as A0 shown in the following figure.

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
DALI A: / DALI B:	●0~64	Displays the number of online devices.
Scan Online	------	Scan all online devices on the DALI bus and display the number and address of the devices. The device address is displayed in the drop-down list of DALI A and DALI B. Note: "Online device" refers to a device that has been assigned a DALI address.
DALI A v / DALI B v	●A0~A63; ●B0~B63	Display the address of the online device.

8.3.2.2.2 Device Test

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You can turn the lamp on or off and change the brightness of the lamp on the "Device Test" page.
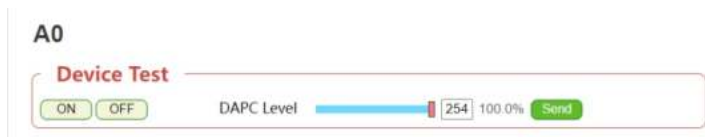
The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
ON	------	Adjust the brightness of the lamp to 100%.
OFF	------	Turn off the lamp.

ETS-text	Dynamic range [default value]	Comment
DAPC Level	●0~254	Slide the slider or enter the brightness level in the input box, click "Send" to set the brightness of the lamp to the specified value.
Send	------	Send the DAPC Level command to adjust the brightness of the lamp.

8.3.2.2.3 Scenes Test

You can test scene functions on the "Scenes Test" page, but cannot configure and modify scenes.
If you need to configure and modify the scene, please do it through the ETS software.

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range [default value]	Comment
Scenes Test	------	Displays the configured scene information of the device. When the device belongs to DT8, the configured colour information of the device is also displayed. "MASK" means that the scene is not configured.
Trigger	●Scene 1~ Scene 16	Select a scene and trigger it.

8.3.2.2.4 Set DALI default parameters

You can view the DALI version, type and colour type of the device, and also configure the fade time, fade rate, minimum level, maximum level, power-on behavior and system failure level of the lamp. If the device belongs to DT8, you can also configure its colour information.

The chart shows the dynamic range for this parameter:

ETS-text	Dynamic range **[default value]**	Comment
DALI Version	●X.X	Displays the DALI version number of the device.
Device Type	●DT0~8 ●Multi	Displays the type of the device.
Colour Type	●None ●Tc ●RGB ●RGB(W) ●xy-coordinate	Displays the colour type of the device.
Read	------	Read back the DALI configuration of the device.
Write	------	Write the DALI configuration to the device.
Fade Time	●no fade, 0.7s,1.0s, ...64s, 90.5s	Defines the time needed to achieve the required setting by absolute dimming, such as go to scene or go to last active level.

ETS-text	Dynamic range [default value]	Comment
Fade Rate	●2.8, 4.0, ...253,358steps/s	Defines the time needed to achieve the required setting by relative dimming, such as up or down.
Minimum Level	●Phy.min~254 `27  0.2%  (Phy.Min  27 )`	Lowest, minimum allowed dimming value for relative and absolute dimming. Note: "Phy.min" refers to the physical minimum dimming value of the lamp.
Maximum Level	●Phy.min~254 `254  100.0%`	Highest, maximum allowed dimming value for relative and absolute dimming. Note: "Phy.min" refers to the physical minimum dimming value of the lamp.
Power On Level	●0~255(MASK) `MASK  last level`	Uses this parameter to set the dimming value of the device when AC power recovery. If you select "255" or "MASK", the value is set to the dimming value prior to the device being powered off. Note: The range of the slider will be limited by the "Minimum Level" and "Maximum Level" .
System Failure level	●0~255(MASK) `MASK  no change`	Uses this parameter to set the behaviors of the device when DALI bus voltage falls down. "255" or "MASK" means that the dimming value of the lamp remains unchanged. Note: The range of the slider will be limited by the "Minimum Level" and "Maximum Level" .

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●Colour Type：Tc

When "Colour Type" is "Tc", the following parameters will also appear.

The following table shows the parameters that belong to "Tc":

ETS-text	Dynamic range [default value]	Comment
Power On Colour	●1000~10000K ●MASK 	Uses this parameter to set the colour temperature when AC power recovery of the ECG. ● "MASK"：Use the colour temperature prior to the ECG being powered off. Note: The range of the slider will be limited by "Minimum Colour Temperature" and "Maximum Colour Temperature".
System Failure Colour	●1000~10000K 	Uses this parameter to set the colour temperature when DALI bus voltage falls down. ● "MASK"：The colour temperature remains unchanged. Note: The range of the slider will be limited by "Minimum Colour Temperature" and "Maximum Colour Temperature".
Minimum Colour Temperature	●Phy.min colour temperature~ Phy.max colour temperature 	Use this parameter to set the minimum colour temperature value of the lamp.
Phy.Min=	●1000~10000K	Shows the physical minimum colour temperature value of the lamp.

ETS-text	Dynamic range [default value]	Comment
Maximum Colour Temperature	●Phy.min colour temperature~ Phy.max colour temperature	Use this parameter to set the maximum colour temperature value of the lamp.
Phy.Max=	●1000~10000K	Shows the physical maximum colour temperature value of the lamp.

●Colour Type：RGB

When "Colour Type" is "RGB", the following parameters will also appear.

Power On Colour	#0000fe	MASK
System Failure Colour	#ff0042	MASK

The following table shows the parameters that belong to "RGB":

ETS-text	Dynamic range [default value]	Comment
Power On Colour	●#000000~#FFFFFF	Uses this parameter to set the colour when AC power recovery of the ECG. ●"MASK"：Use the colour prior to the ECG being powered off.
System Failure Colour	●#000000~#FFFFFF	Uses this parameter to set the colour when DALI bus voltage falls down. ●"MASK"：The colour remains unchanged.

●Colour Type：RGB(W)

When "Colour Type" is "RGB(W)", the following parameters will also appear.

The following table shows the parameters that belong to "RGBW":

ETS-text	Dynamic range [default value]	Comment
Power On Colour	●#000000~#FFFFFF	Uses this parameter to set the colour when AC power recovery of the ECG. ●"MASK": Use the colour prior to the ECG being powered off.
Additional white value	●0~255(MASK)	Uses this parameter to set the white value when AC power recovery of the ECG. ●"MASK": Use the white value prior to the ECG being powered off.
System Failure Colour	●#000000~#FFFFFF	Uses this parameter to set the colour when DALI bus voltage falls down. ●"MASK": The colour remains unchanged.
Additional white value	●0~255(MASK)	Uses this parameter to set the white value when DALI bus voltage falls down. ●"MASK": The white value remains unchanged.

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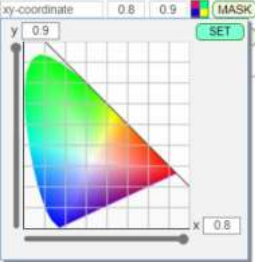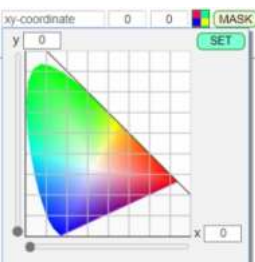
●Colour Type：xy-coordinate

When "Colour Type" is "xy-coordinate", the following parameters will also appear.

The following table shows the parameters that belong to "xy-coordinate":

ETS-text	Dynamic range [default value]	Comment
Power On Colour	●x：0.0~0.80 ●y：0.0~0.90	Uses this parameter to set the colour (xy-coordinate) when AC power recovery of the ECG. ●"MASK": Use the colour (xy-coordinate) prior to the ECG being powered off.
System Failure Colour	●x：0.0~0.80 ●y：0.0~0.90	Uses this parameter to set the colour (xy-coordinate) when DALI bus voltage falls down. ●"MASK": The colour (xy-coordinate) remains unchanged.

8.3.2.3 Groups Control

On the "Groups Control" page, you can view the grouping information of devices on DALI Bus A and B, and test group dimming.

The following table shows the parameters that belong to "Groups Control":

ETS-text	Dynamic range [default value]	Comment
DALI Channel	● DALI Channel A ● DALI Channel B	Select DALI bus A or B.
Get Group-Members	Finished Get Group-Members	Click the green button to read devices in all groups; when the read is complete, the word "Finished" will appear to the left of the button.

ETS-text	Dynamic range [default value]	Comment
Group A No. / Group B No.	●G1~ G16	Display groups; for example, click on "G1" and all devices in "G1" will be displayed.
ON/OFF	● ●	Click the bulb button to turn all lamps in the group on and off. Turn on; Turn off.
DAPC [0-254]	●0-254 Send	Slide the slider or enter a value in the input box to set the dimming value of the group. After the setup is complete, click "Send" to test.

8.3.2.4 Scenes Control

On the "Scenes Control" page, you can test the scene function of DALI Bus A or B by broadcasting.

Note: This is a broadcast operation.

The following table shows the parameters that belong to "Scenes Control":

ETS-text	Dynamic range [default value]	Comment
DALI Channel	●DALI Channel A ●DALI Channel B	Choose DALI bus A or B.
No.	●Scene01~ Scene16	Choose the scene number.
Command	● Trigger	Click the "Trigger" button to send scene trigger commands to all devices on the selected bus.

8.3.2.5 Relay Control

On the " Relay Control" page, you can turn the relay on or off.

Relay Control

Relay1: ON   [ON] [OFF]
Relay2: ON   [ON] [OFF]
Relay3: OFF   [ON] [OFF]
Relay4: OFF   [ON] [OFF]

The following table shows the parameters that belong to "Relay Control":

ETS-text	Dynamic range [default value]	Comment
Relay n	●ON ●OFF	Turn on or off relay. ON: short; OFF: open.

9.Warranty

This product provides five years warranty under normal usage. Do not replace parts or any form of modification to the product in order to keep the warranty effectively.

※MEAN WELL possesses the right to adjust the content of this manual.
Please refer to the latest version of our manual on our website.
https://www.meanwell.com

MEAN WELL WEB

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