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Developer of Uniqueness

KNX-DALI Gateway

Product Manual

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1. Content of The Document

This document contains Interra's ITR832-00X1 KNX-DALI Gateway Single Channel & ITR832-00X2 KNX-DALI Gateway Dual Channel coded devices' electronic and all essential feature information for programming these products. Each subtitle has explained the characteristics of the device. Modifications of the product and special change requests are only allowed in coordination with product management.

2. Product Description

ITR832-00X1 & ITR832-00X2 KNX-DALI Gateway devices are the newest products of Interra company. This manual provides detailed technical information concerning ITR832-00X1 KNX-DALI Gateway Single Channel and ITR832-00X2 KNX-DALI Gateway Dual Channel. Both of them are KNX-; DALI Gateways and have identical functions but the only difference is the number of DALI outputs. These KNX-DALI Gateways can be used to control several DALI lamps individually or in groups on a DALI output via a KNX bus. Little groups of ballasts in an office, for large areas lots of lights can be combined with Interra KNX-DALI Gateways according to desired configurations. This manual also describes the devices' installation, programming, commissioning and use with detailed information.

ITR832-00X1 & ITR832-00X2 KNX-DALI Gateways are used to control DALI equipment such as ballasts, transformers or LED converters with device type 0 DALI interfaces via KNX. Also, device type 1 DALI self-contained emergency lights with individual batteries can be integrated.

ITR832-00X1 & ITR832-00X2 KNX-DALI Gateways provide no functionality regarding the emergency lighting regulations. They serve as an intelligent interface between KNX and DALI lines.

Several mandatory emergency tests such as duration tests can be triggered via the KNX bus and the results are provided in the same way. This information can then be used for higher-level management of the emergency lighting, which triggers at prescribed times and captures, saves or logs the result provided via KNX on the gateway.

ITR832-00X2 has two DALI outputs and can control up to 2 x 64 DALI devices individually or in up to 2 x 16 DALI groups. Group and individual control of the outputs can also be mixed. According to the desired configuration, all the DALI devices can be controlled together in broadcast or up to 2 x 16 light scenes. Interra KNX-DALI Gateway devices have highly versatile features so you can configure all the controls in any way on the DALI Gateways outputs.

ITR832-00X1 & ITR832-00X2 KNX-DALI Gateways are compatible with DALI 2 standards. Both of them can be commissioned with DALI 2 devices.

2.1. Technical Information

Product Name	KNX-DALI Gateway - Single Channel	KNX-DALI Gateway - Dual Channel
Product Code	ITR832-00X1	ITR832-00X2
DALI Line Output	1 x 64, Single Channel	2 x 64, Dual Channel
Max. ECG Devices	Up to 64 devices (1 x 64)	Up to 128 devices (2 x 64)
Display	2 x 16 LCD Display	2 x 16 LCD Display
Short Circuit & Overvoltage Proof	Available	Available
Power Supply	240 V AC	240 V AC
Power Consumption	6 W	13 W
DALI Line Current Consumption	1 x 250 mA	2 x 250 mA
DALI Voltage	Typical 19 V DC (12...20.5)	Typical 19 V DC (12...20.5)
Bus Connection	1 x KNX, 1 x Ethernet* and 1 x USB Port	1 x KNX, 1 x Ethernet* and 1 x USB Port
Type of Protection	IP 20	IP 20
Temperature Range	Operation (-5℃...45℃) Storage (-25℃...55℃)	Operation (-5℃...45℃) Storage (-25℃...55℃)
Max. Air Humidity	< 90 RH	< 90 RH
Colour	Light Grey and White	Light Grey and White
Dimensions	90 x 70 x 64.5 mm (H x W x D)	90 x 70 x 64.5 mm (H x W x D)
Configuration	Configuration with ETS	Configuration with ETS

0 : Ethernet port | **1 :** No Ethernet port

*** :** ITR832-0011 & ITR832-0012 have no Ethernet port

2.2. Connection Diagram & Feature

Single Channel:

- ITR832-00X1 - KNX-DALI Gateway Single Channel device is supplied with 240 V AC mains voltage. The phase, neutral and ground connections are shown in the figure (L, N, PE).
- The positive (+) and negative (-) poles of the DALI electronic control units (ECGs) should be connected correctly via the single DALI line on the device to ensure DALI communication.
- The supply voltages of the DALI electronic control units are supplied from the mains, so the phase, neutral and ground connections of the ECGs should be properly connected.

Dual-Channel:

- ITR832-00X2 - KNX-DALI Gateway Dual Channel device is supplied with 240 V AC mains voltage. The phase, neutral and ground connections are shown in the figure (L, N, PE).
- The positive (+) and negative (-) poles of the DALI electronic control units (ECGs) should be connected correctly via the two independent DALI lines on the device to ensure DALI communication.
- The supply voltages of the DALI electronic control units are supplied from the mains, so the phase, neutral and ground connections of the ECGs should be properly connected.

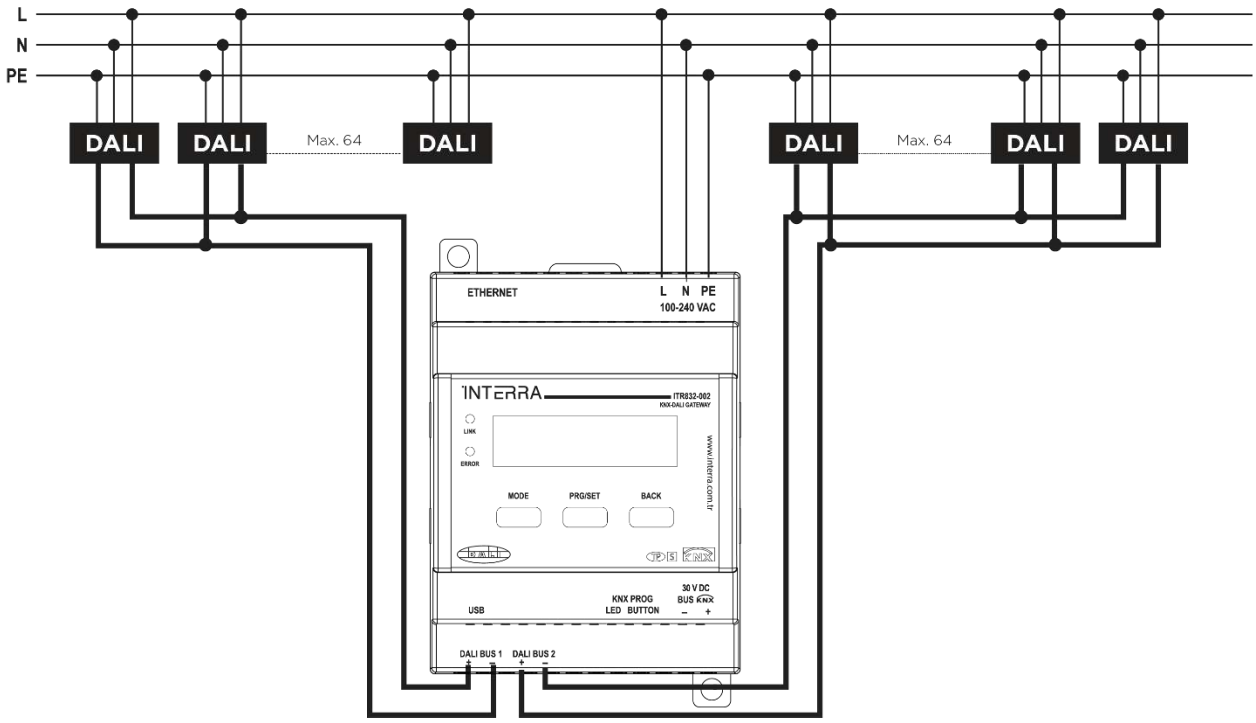

Fig. 1: Connection Diagram of KNX-DALI Gateway

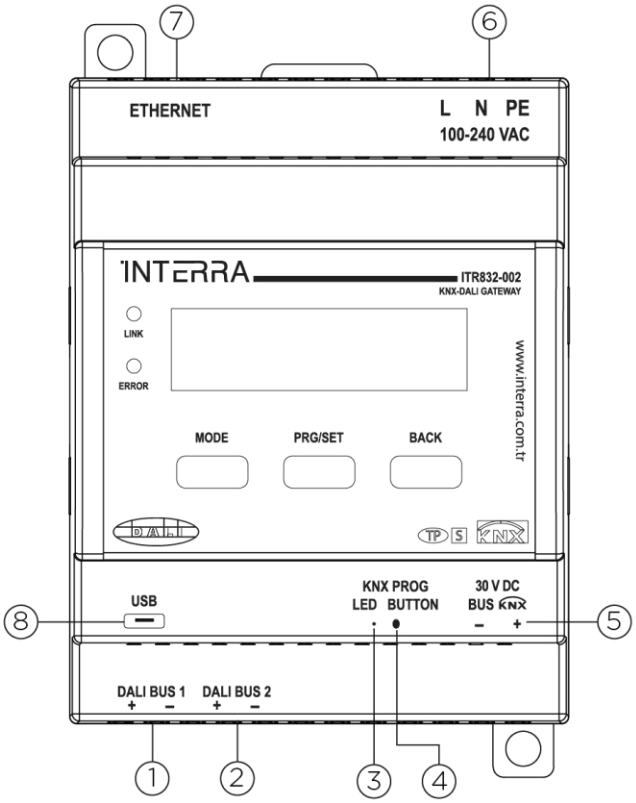

Fig. 2: General Features of KNX-DALI Gateway

Number	Feature
1	DALI Bus Channel 1
2	DALI Bus Channel 2
3	KNX Programming LED
4	KNX Programming Button
5	KNX Connector
6	Power Input
7	Ethernet*
8	USB

*** :** ITR832-0011 & ITR832-0012 have no Ethernet port

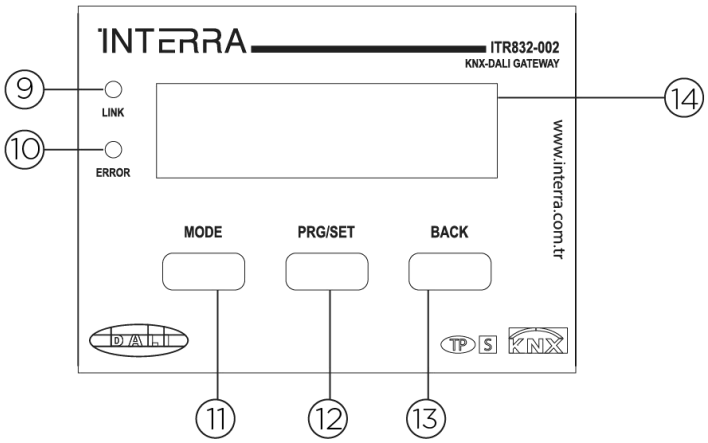

Fig. 3: Buttons & LCD Features of KNX-DALI Gateway

Number	Feature
9	Ethernet LED*
10	Error Status LED
11	Menu Mode Button
12	Menu Setting Button
13	Menu Back Button
14	LCD Panel

*** :** ITR832-0011 & ITR832-0012 have no Ethernet port

2.3 Dimensions

All values given in the device dimensions are millimetres. Also, the device can be used in an area of up to 4 modules.

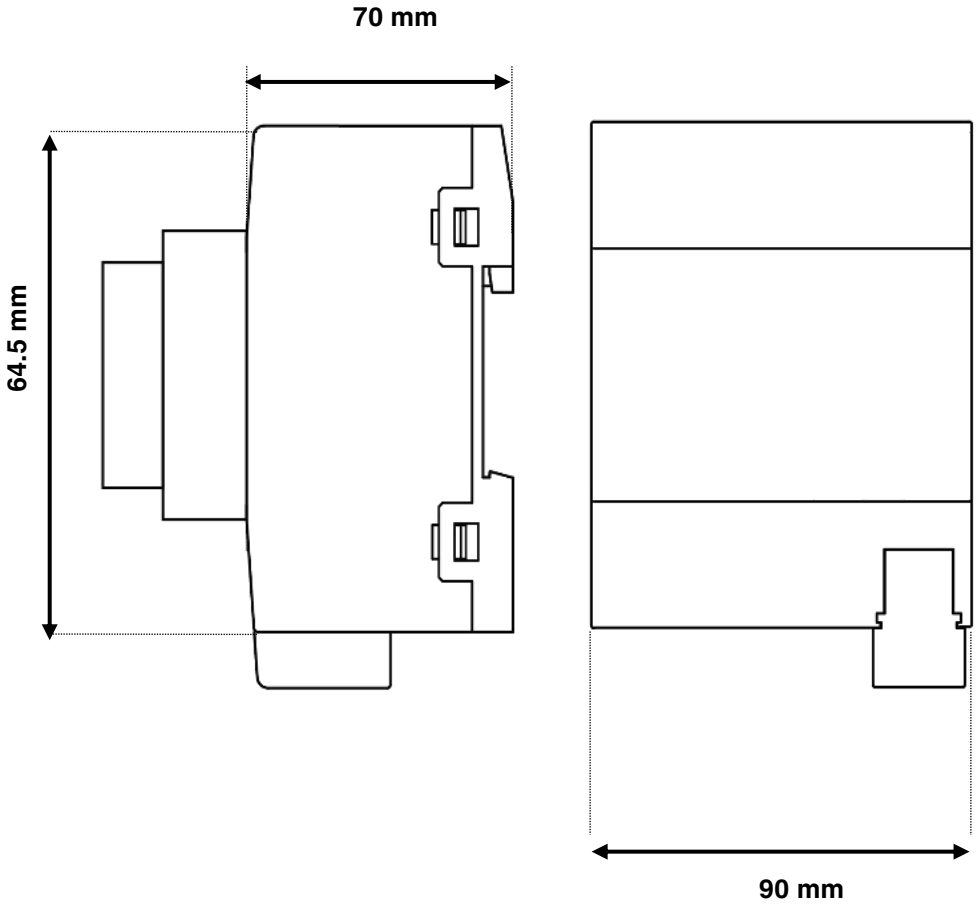

Fig. 4: Dimensions of KNX-DALI Gateway

2.4. Functional Descriptions

KNX-DALI Gateway Single Channel and KNX-DALI Gateway Dual Channel devices are Master-Single Controllers according to DALI Standards. A KNX-DALI Gateway device provides the interface between the KNX bus installation and DALI lighting control.

Single & Dual differ from each other only in the number of their outputs. The outputs of each device are the same and have identical functions and properties. Up to 64 DALI devices can be connected to each output. These 64 devices can be controlled in broadcast, single or in a DALI group. Single and group control can be combined on the same output.

Each device or group can be independently switched, dimmed and assigned a brightness value via the KNX. The gateways have group objects which can be programmed to signal lamp, ballast or combined lamp/ballast faults on the KNX. The fault status of an individual device can also be signalled or queried via coded group objects. The gateways also have a Scene function (16 per output), a Staircase Lighting function, and Slave, Block and Forced operation functions.

The prominent features of the KNX-DALI Gateway Single & Dual Channel devices are the followings :

- Switching, dimming, brightness value setting.
- Programming of the brightness value (Power-On Level) after a ballast supply voltage recovery.
- Programming of individual maximum/minimum brightness dimming values(threshold values).
- Status signalling via common or separate group objects.
- Status signalling for a lamp and/or ballast malfunction.
- For switching, brightness settings and dimming, different dimming speeds can be configured.
- Reaction on DALI and KNX bus voltage failure and recovery.
- KNX control of all connected DALI devices without prior commissioning (DALI group assignment).
- Light schemes are recalled or saved via KNX.
- A partial failure function, such as switching on other devices to compensate for brightness loss in the event of a failure.
- DALI Query variation such as to check ballast status.

2.5. Information About DALI & DALI-2 Standards

The DALI protocol was first drafted in the late 1990s and has undergone many revisions as it has evolved. The requirements for modern lighting technology are extremely varied. Historically, lighting was only required for visual tasks, but nowadays there is a focus on factors such as comfort, ambience, functionality and energy saving.

Moreover, modern lighting systems are increasingly being incorporated into building installation facility management to monitor the status of the entire lighting system. The requirement is often for a complex lighting management system that meets the uses of the premises. All these requirements cannot be adequately met by traditional 1–10 V electrical installations, or only at considerable effort and cost. The DALI standard (EN 62386, formerly EN 60929) has emerged against this background in conjunction with leading manufacturers of lamp ballasts. It describes and defines the DALI (Digital Addressable Lighting Interface) digital interface for lighting technology equipment.

While Part IEC62386-101 describes the general characteristics of DALI, control gear standards are specified in the IEC62386-102. For different device types (DT0-8), additional standards (IEC62386-201 to IEC62386-209) were gradually added. For example, device type 1 describes the property of DALI emergency lighting devices and device type 6 LED control gears.

DALI has become established as an independent standard in the field of lighting technology. The range of ballasts, transformers, dimmers and relays with DALI interfaces has decisively influenced modern lighting technology.

Part 202 of DALI standard 62386 standardizes telegrams, which communicate with emergency lighting units (converters) in self-contained emergency lighting with individual batteries. These standardized DALI telegrams can be used to trigger emergency lighting tests (e.g. function or duration tests). The test results are provided on the DALI by the DALI emergency lighting converter.

This DALI technology allows cyclically required emergency lighting tests to be triggered via a higher-level building management control system and can also document the result.

Since November 2014, a new version of the DALI standard is available, Edition 2 – also called “DALI-2”. DALI-2 is intended to eliminate ambiguities in the existing standard and to ensure better interoperability between devices of different manufacturers (revised parts 101 and 102). While Edition 1 described only control gear and general communication, Edition 2 includes, in addition to more detailed parts 101 and 102, a separate standard for control devices (part 103) and device type specifications for push buttons (301), analogue inputs (302), motion sensors (303) and light sensors (304).

DALI-2 helps fill the gaps in the original standard, resulting in significant improvements in interoperability. DALI-2 adds new features and introduces standardisation of control devices including the recent addition of input devices while maintaining backwards compatibility.

There are many improvements in the new version of the standard, including several new commands and features. Also, for the first time, IEC 62386 now includes the standardisation of control devices.

To accommodate this, changes were necessary for Parts 101 and 102 to ensure there would be a clean split between system requirements in Part 101 and control-gear requirements in Part 102. Also, the new Part 103 of the standard introduced general requirements for control devices.

Publication of Part 103 “General requirements - Control devices” also enabled further standardisation on specific Parts for control devices. Parts of the standard have been published for the first four input devices; these are a type of control device that provides information – an input – to the system. Another type of control device known as an application controller can use the information provided by input devices and other sources to allow them to make decisions and send commands to control gear.

Application controllers can operate as single masters or multi-masters. The bus communication requirements for both types are described in Part 103. Input devices are multi-masters but are also capable of operating in a mode where they are simply polled by application controllers.

Mixed Systems of DALI and DALI-2:

The table below gives some examples of different situations:

Situation	Outcome
Using DALI-2 control gear in older systems	No problems are expected. DALI-2 is designed for backward compatibility.
Using DALI version-1 control gear with DALI-2 application controllers	Check that the DALI version-1 control gear has been successfully tested. No problems are expected, but the DALI version-1 control gear will not have the new DALI-2 features.
Using bus power supplies that are not DALI-2 certified	There is no certainty that these will work because there were no tests for bus power supplies before DALI-2
Using control devices that are not DALI-2 certified	There are no standards and no tests for control devices before DALI-2. Contact the control device manufacturer for compatibility.

3. Mounting & Installation

The gateways are modular installation devices for installation in the distribution board on 35 mm mounting rails to EN 60715. They can be installed in any mounting position.

The electrical connection is via screw terminals. Connection to the KNX is via the supplied KNX connection terminal. The terminal assignment is located in the housing.

The devices are ready to operate when the KNX voltage and gateway supply voltage is applied. The devices must be accessible for operation, testing, visual inspection, maintenance and repair.

Mounting:

- First, the device is contacted the DIN rail by holding it at an oblique angle.
- Then, it is pushed slightly from above in the direction of the 1st numbered arrow.
- Finally, the device is pushed slightly in the direction of the 2nd arrow and placed on the DIN rail to finish the mounting.

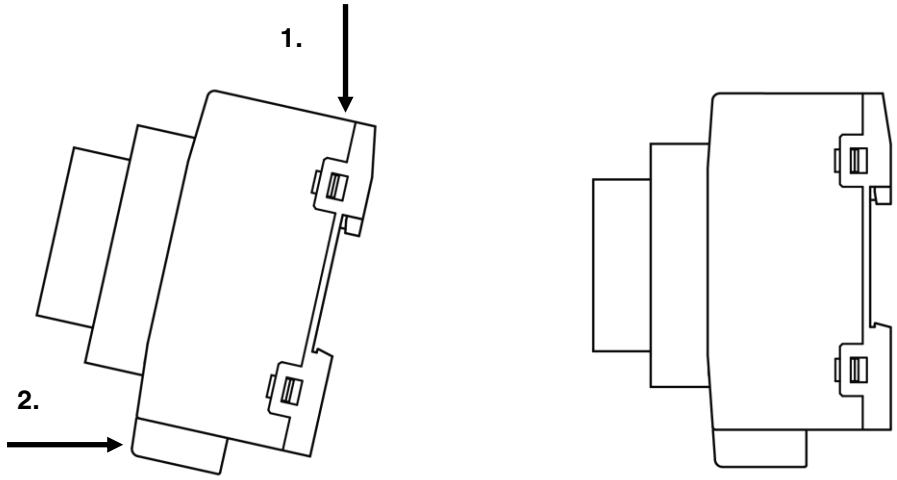

Fig. 5: Mounting method of KNX-DALI Gateway

Demounting:

- First, the device is pushed slightly from above in the direction of the 1st numbered arrow.
- Then, the device is pulled slightly in the direction of the 2nd arrow.
- Finally, when the device is at a sufficient oblique angle, it is completely withdrawn from the DIN rail and the demounting is finished.

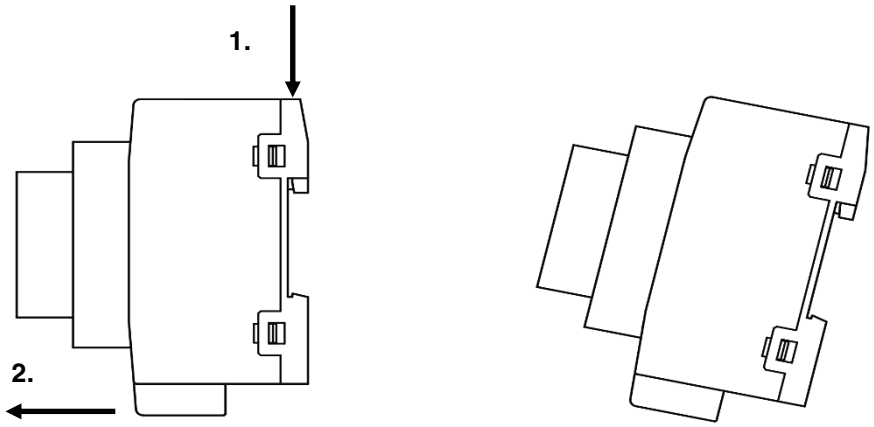

Fig. 6: Demounting method of KNX-DALI Gateway

Commissioning Requirement:

Gateway commissioning requires a PC with ETS and a KNX interface, e.g. USB or IP. Mounting and commissioning may only be carried out by electrical specialists. The applicable standards, directives, regulations and specifications for the country in question must be observed when planning and setting up electrical installations and security systems for intrusion and fire detection.

Protect the device from moisture, dirt and damage during transport, storage and operation. Do not operate the device outside the specified technical data. Only operate the device in a closed housing (distribution board). Switch off the device supply voltage before mounting.

To avoid dangerous touch voltages which originate through feedback from differing phase conductors, all poles must be disconnected when extending or modifying the electrical connections.

DALI is not a SELV (Safety Extra Low Voltage) system, therefore DALI control cables and the 230 V power supply cable must be routed into a single cable. Observe the corresponding installation regulations.

4. KNX-DALI Gateway Displays & Push Button Control

You can commission the connected KNX-DALI Gateway and set and change DALI functions via the three pushbuttons (MODE, PRG/SET, BACK) and the 2x16 character display on the front of the device. The user concept is menu-based. Depending on the menu position, you can select sub-menus. The current menu position is shown on the display. To navigate within the menu, press the push buttons briefly. Use the MODE button to select the next menu item on the same level. Use the PRG/SET button to go to the next lower sub-menu. Press the BACK button to leave a current menu and return to the next higher menu.

Moreover, according to figure 3, when there is an ethernet connection the link LED will be GREEN. On contrary, if the ethernet connection is lost, the will be OFF. If there is a failure on the DALI line, the error LED will be ON, otherwise, it will be OFF.

Special Note

Enabling a ballast in the A ballasts parameter window makes it an individual DALI device. It has been specified for individual control and cannot be assigned to a group.

Menu Displays:

Each model of the KNX-DALI Gateways has a 2x16 character display menu. The information on the menus is described below.

Main Menu 1:

DALI GATEWAY 2CH ITR832 - v x.x.x	This menu contains device information. Since there are 2 different devices for single and dual-channel, for the single-channel this screen shows 1 CH and for dual-channel shows 2 CH. The device version is specified as v.x.x.x. For example, v1.2.4 can be a device version.

Main Menu 2:

NETWORK IP ADDRESS	This menu contains the device's IP address and MAC address. If you briefly press the PRG/SET button you can enter the sub-menus: IP address and MAC address.

Sub Menus of Menu 2:

IP ADDRESS	This menu contains the device's IP address. If you briefly press the PRG/SET button you can enter and learn the current IP address of KNX-DALI Gateway. On this screen, if you press the BACK button, you will enter the parent menu. If you press the MODE button you will switch to an equal level other menu named MAC ADDRESS.
IP: 192.168.1.171	This menu shows the current IP address. You can briefly press the BACK button to switch the parent menu.
MAC ADDRESS	This menu contains the device's MAC address. If you briefly press the PRG/SET button you can enter and learn the device MAC address of KNX-DALI Gateway. On this screen, if you press the BACK button, you will enter the parent menu. If you press the MODE button you will switch to an equal level other menu named IP ADDRESS.
MAC: 80 -XY-KL-MN-PQ-RS	This menu shows the device's MAC address. You can briefly press the BACK button to switch the parent menu.

Main Menu 3:

NEW DALI ADDRESSING	Briefly press the PRG/SET button to change from the main menu NEW INSTALLATION to the sub-menu SEARCH ECGs via PROG MODE. Hold the PRG/SET button to change into programming mode. Briefly press the PRG/SET button again to start the initialisation and search process. First, all ECGs connected to the DALI segment are automatically reset and any previously set parameters and group assignments are deleted. The device then searches for the connected ECGs via their random long address. The ECGs are automatically recognised in ascending order. Depending on the number of connected ECGs the search process may take a few minutes. Once the process is

	complete, the number of ECGs found is shown on the display. Press the ESC button (or wait for about 30 seconds) to return to the level above.

Sub Menus of Menu 3:

CHANNEL A SEARCH ECGs	This menu contains the device's channel number. If you briefly press the PRG/SET button you can enter the sub-menu. On this screen, if you press the BACK button, you will enter the parent menu. If you press the MODE button you will switch to an equal level other menu named CHANNEL B (In twin channel DALI Gateway).
START SEARCH ECGs?	Hold the PRG/SET button to change into programming mode. Briefly press the PRG/SET button again to start the verification and search process.
CH: A FOUND ECGs: x?	In this sub-menu the process is complete, the number of ECGs found is shown on the display. Press the ESC button (or wait for about 30 seconds) to return to the level above.

Main Menu 4:

CAPTURE DALI ADDRESSING	Briefly press the PRG/SET button to change from the main menu CAPTURE DALI ADDRESSING to the sub-menu CHANNEL A SEARCH ECGs. Hold the PRG/SET button to change into programming mode. Briefly press the PRG/SET button again to start the initialisation and search process. The device searches for the connected ECGs via their random long address. First, all ECGs connected to the DALI segment are automatically found and any previously set parameters and group assignments are protected. The ECGs are automatically recognised devices in ascending order. Depending on the number of connected newly ECGs the search process may take a few minutes. Once the whole process (verification and search) is complete, the display shows both the deleted and the newly found ECGs (deleted devices / new devices. Once the process is complete, the number of ECGs found is shown on the display. Press the ESC button (or wait for about 30 seconds) to return to the level above.

Sub Menus of Menu 4:

CHANNEL A SEARCH ECGs	This menu contains the device's channel number. If you briefly press the PRG/SET button you can enter the sub-menu. On this screen, if you press the BACK button, you will enter the parent menu. If you press the MODE button you will switch to an equal level other menu named CHANNEL B (In twin channel DALI Gateway).
START SEARCH ECGs?	Hold the PRG/SET button to change into programming mode. Briefly press the PRG/SET button again to start the verification and search process.
CH: A, DELETED/NEW xx/yy	The device first checks if one or several ECGs in the system were faulty. It then automatically looks for newly connected ECGs in the segment. The quick exchange is only possible if just one ECG in the segment was faulty and one new ECG is found. Newly added ECGs are automatically reset and any previously programmed parameters and group assignments are deleted and the deleted ECG's parameter and group assignment is written in new ECG. Once the whole process (verification and search) is complete, the display shows both the deleted and the newly found ECGs (deleted devices / new devices from left to right). Press the BACK button (or wait for about 30 seconds) to return to the level above.).

Main Menu 5:

BROADCAST
TEST

Briefly press the PRG/SET button to change from the main menu Broadcast Test to the submenu. Within the menu, groups can be switched either individually or all together to test the installation.
While in the Broadcast menu, the field periodic error inquiry is stopped. It can be used for different test scenarios. The difference between the broadcast menu from other menus is that it does not return to the main menu with an automatic timeout.

Sub Menus of Menu 5:

CHANNEL A
TEST

Briefly press the PRG/SET button to change from the main menu Broadcast Test to the submenu. Within the menu, groups can be switched either individually or all together to test the installation.

BROADCAST TEST
-> ON

Briefly press the PRG/SET button to run through the Broadcast. The number of the selected Broadcast is shown in the first display line.

BROADCAST TEST
-> DIMMING...

Long press the PRG/SET button to run through the Dimming. The Dimming status is shown in the display's second line. When the status is switched ON, it is dimmed downwards. When the status is switched OFF, it is dimmed upwards. As the long press continues, downward dimming continues.

BROADCAST TEST
-> %XX

When the long press is released, the brightness value of the current lights is displayed on the screen as a percentage.

5. ETS Parameters & Descriptions

In this chapter, the ETS parameters of ITR832-00X1 & ITR832-00X2 KNX-DALI Gateway devices are described using the parameter pages and options. The parameter page features are dynamic structures which means further parameters and parameter pages are enabled depending on the configuration and function of the groups.

Moreover, in the descriptions below, [x] group stands for a group from 1 to 16 that consists of up to 64 ballasts. The term “ballast” refers to a DALI device that can be individually or group controlled via Interra KNX-DALI gateways. The emergency lighting converter or converter term stands for a type 1 DALI emergency light with an individual battery.

In the ETS parameter configuration pages, each of the parameters has got a default parameter value. These default values are written in bold.

- E.g. : Values will received •**via parameter** via communication object

Special Notes

Information about the Switch or Brightness value of group objects is also applied to the group objects Switch Status or Brightness value Status.

A DALI device can be controlled either individually via ballast commands or in a group via group commands. Initially, the KNX-DALI Gateway assumes that group control is in use. If a ballast is to be individually controlled, it must be specifically parameterized in most current ETS software. The ballast concerned must be enabled in the [X] ballasts parameter window, which is enabled by selecting individual control in the A or B DALI configuration parameter window. To control individual DALI devices and groups together, a common KNX group assignment is required.

5.1. General Page

When the KNX-DALI Gateway ITR832-00X1 or ITR832-00X2 is attached to the project from the ETS program, a configuration setting must be made primarily before loading. When entering the “GENERAL” in the parameter page, the configuration screen will appear shown below. Global parameter settings for the whole device are made in this window.

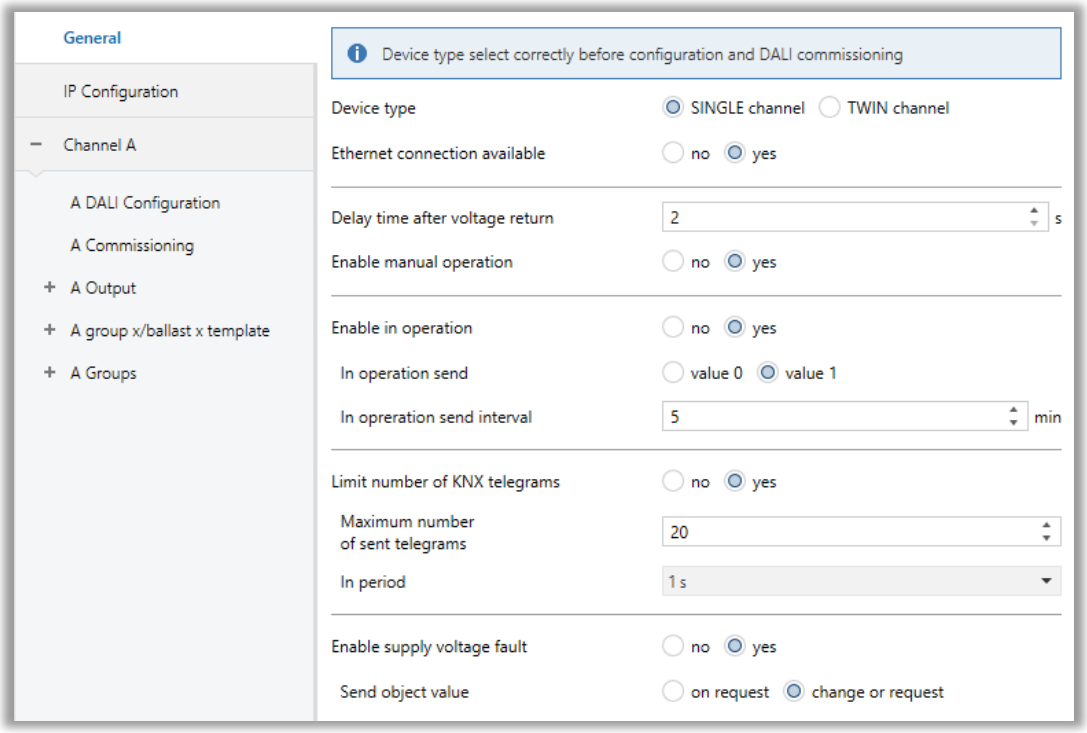

Fig. 7: General Parameter Configuration Page

5.1.1. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Device type	This parameter is used to determine the type of the KNX-DALI Gateway. If the device to be configured is ITR832-00X1 KNX-DALI Gateway Single Channel, please select the SINGLE channel. If the device to be configured is ITR832-00X1 Dual Channel, please select the TWIN channel.	**SINGLE channel** TWIN channel
-> Ethernet connection available	This parameter is used to set the Ethernet connection status. No: Disables the Ethernet connection. Yes: Activates the Ethernet connection.	**No** Yes
Delay time after voltage return	This parameter is used to determine the delay time after voltage return in seconds. When in a delayed state, the KNX-DALI Gateway does not send any KNX telegrams. Incoming telegrams are received and updated in the background. Switching, brightness value and scene commands are updated in the background, immediately saving the end brightness value without any transition time. Dimming commands are ignored. The updated values are only executed when the wait state ends and then sent according to the parametrization.	**2**...60
Enable manual operation	This parameter is used to enable or disable the manual push-button on the front of the KNX-DALI Gateway. If manual operation is enabled, it can be disabled by Disable manual operation/Status group object. **No:** The push button is disabled. No manual action is allowed on the device. **Yes:** Manual operation is enabled. Pressing the push button for 2-5 seconds activates test mode. In test mode, all DALI devices can be switched on and off to check the cable connections and verify that they are correct. Pressing the button for more than 5 seconds triggers DALI addressing which assigns a DALI address to any DALI device without one.	**No** Yes
Enable In Operation	This parameter is used to determine the presence of the KNX-DALI Gateway on the KNX bus line. The cyclic telegram can be monitored by an external KNX device. If a telegram is not received, the device	**No** Yes

	may be defective or the KNX cable to the transmitting device may be interrupted. **No:** The group object is not enabled. **Yes:** The group object is enabled.	
-> In operation send	This parameter is used to determine the send value of the in-operation group object on the KNX bus line.	Value 0 **Value 1**
-> In operation send interval	This parameter is used to set the cyclically sending time interval value of the In operation group object	1...**5**...255
Limit number of KNX telegrams	This parameter is used to limit the KNX-DALI Gateway device to ease the bus load. This limit concerns all of the KNX telegrams sent by KNX-DALI Gateway.	**No** Yes
-> Maximum number of sent telegrams	This parameter is used to set the maximum number of sent telegrams by the device.	1...**20**...255
-> In period	This parameter defines the number of telegrams sent by the device within a certain period. The telegrams are sent as quickly as possible at the start of a period. As soon as the maximum number of sent telegrams is reached, no further telegrams are sent on the KNX until the end of the period. A new period commences at the end of the previous period. The telegram counter is reset to zero, and sending of telegrams is allowed again. The current group object value at the time of sending is always sent.	50 ms 100 ms 200 ms 500 ms **1 s** 2 s 3 s 10 s 30 s 1 min
Enable supply voltage fault	This parameter is used to enable or disable the supply voltage fault. **No:** The KNX-DALI Gateway supply voltage failure is not signalled to the KNX bus line. **Yes:** As soon as the device supply voltage is interrupted, the KNX-DALI Gateway supply voltage fault group object sends a telegram with the value 1 on the KNX. The time at which a telegram is sent can be adjusted using the parameter below.	**No** Yes

-> Send object value	This parameter is used to set the sending object value method. **On request:** The status is sent when a request occurs. **Change or request:** The status is sent when either a change or request occurs.	On request **Change or request**

5.2. IP Configuration

This function is used to make the IP Configuration. Hostname, HTTP port, IP address assignment, Subnet mask assignment, Default gateway assignment, DNS Server assignment and user authentication configurations can be made on this parameter page.

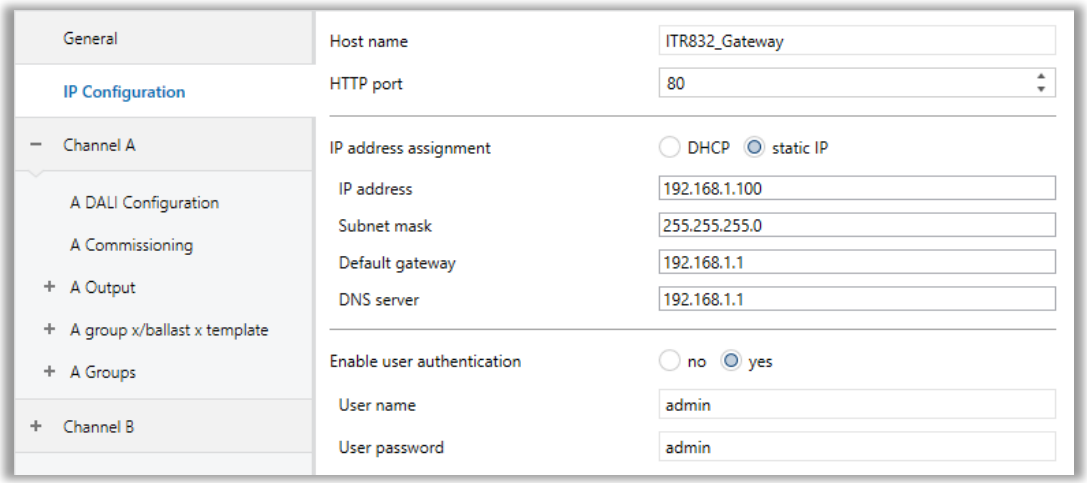

Fig. 8: IP Configuration Parameter Page

5.2.1. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Host Name	This parameter is used to determine a user-friendly Hostname for the KNX-DALI Gateway. Up to 15 bytes are allowed for the Hostname.	**ITR832_Gateway**
HTTP port	This parameter is used to configure the HTTP port number.	0...**80**...65535
IP address assignment	This parameter is used to assign a static IP address or a dynamic address by a DHCP server. The parameters for the static IP address are only visible if you select “Static IP”.	**DHCP** Static IP
-> IP address	This parameter is used to set the static IP address of the KNX-DALI Gateway if you do not select the DHCP.	**192.168.1.100**
-> Subnet mask	This parameter is used to set the subnet mask of the KNX-DALI Gateway if you do not select DHCP.	**255.255.255.0**
-> Default gateway	This parameter is used to set the address of a standard gateway for direct access via the Internet. The setting is only possible if you do not select the DHCP.	**192.168.1.1**
-> DNS server	This parameter is used to set the DNS server address of the KNX-DALI Gateway if you do not select the DHCP.	**192.168.1.1**
Enable user authentication	This parameter allows one to log in to the web server via a username and password.	**No** Yes
-> User name	This parameter is used to configure a user-friendly name for the user area of the web server. User names consist of up to 15 bytes.	**admin**
-> User password	This parameter is used to configure a password for the user area of the web server. Passwords consist of up to 15 bytes.	**admin**

5.3. Channel A

General parameter settings for channel A are made on this main parameter page. ITR832-00X2 KNX-DALI Gateway Dual Channel also supports Channel B for configuration.

5.3.1. A DALI Configuration

The main parameter settings defining the entire DALI output are made on this page. Various control options for the DALI devices are enabled from this page.

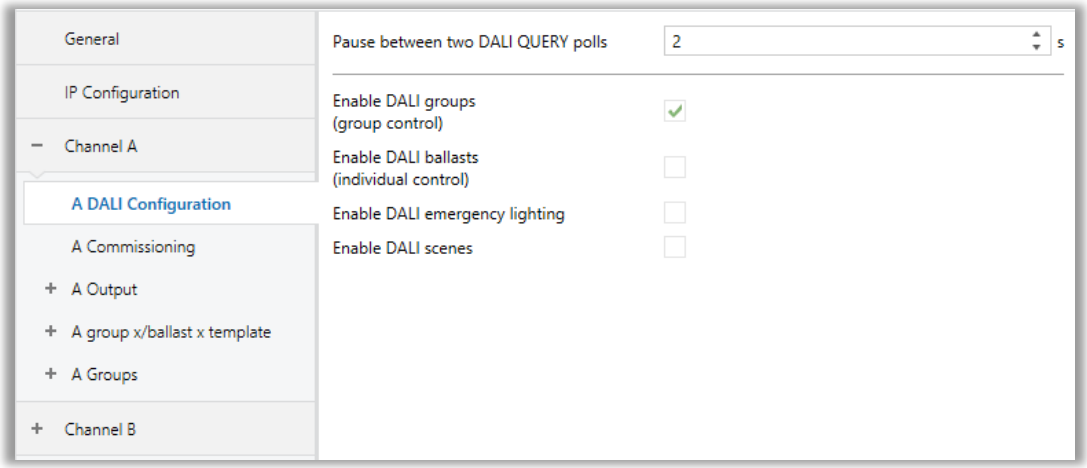

Fig. 9: A DALI Configuration Parameter Page

5.3.1.1. Parameters List

PARAMETERS	DESCRIPTIONS	VALUES
Pause between two DALI QUERY polls	This parameter is used to set the time interval between DALI QUERY polls. The KNX-DALI Gateway cyclically and automatically sends brightness value query on the DALI line to each possible DALI device. The KNX-DALI Gateway uses this poll to establish whether a DALI device with a DALI address is present. If it does not receive a response from the monitored DALI device, the gateway interprets this as a device fault. If it does receive a response, it polls other properties of the DALI device (e.g. lamp faults and DALI device type). The time interval configuration has a deep influence on the DALI telegram busload. A long interval reduces the load significantly. Nevertheless, the disadvantage of this is that a fault on a DALI device may not be detected straight away. Likewise, it takes longer to detect a new or recovered device. Besides, the time interval setting does not influence the DALI telegram rate. DALI commands (e.g. switching, dimming and brightness value settings etc.) and status signals (e.g. brightness values, emergency lighting information etc.) nor functions in progress (e.g. staircase lighting, forced operation etc.) are neither influenced nor delayed.	0...**2**...255
Enable DALI groups (group control)	This parameter is used to enable or disable DALI group control. **Unchecked:** DALI group control is disabled and so DALI group control is not supported on the DALI output. No related parameter pages and group objects are enabled. **Checked:** DALI group control is enabled on DALI output. Related parameter pages and group objects are enabled. Up to 16 DALI groups are available for each DALI output. Individual DALI groups can be selected on the [x] Group parameter page	Unchecked **Checked**

Enable DALI ballasts (individual control)	This parameter is used to enable or disable the DALI ballasts control. **Unchecked:** Individual DALI device control is disabled on the DALI output. There will be no related parameter pages and group objects are enabled. If a DALI device is controlled individually, it cannot also be assigned to a DALI group. A DALI device can be controlled either individually via ballast commands or in a group via group commands. Overlapping DALI groups are not supported. Initially, the DALI gateway assumes that group control is in use. If a ballast is to be individually controlled, it must be specifically parametrized in ETS. The ballast concerned must be enabled in the X ballasts parameter window, which is enabled by selecting individual control in the X DALI configuration parameter window. **Checked:** DALI individual device control is supported on the DALI output. Related parameter pages and group objects are enabled. Up to 64, DALI ballasts can be connected to each output. Individual [x] Ballast DALI devices can be hidden in the A ballasts parameter window.	**Unchecked** Checked
Enable DALI emergency lighting	This parameter is used to enable or disable the DALI emergency lighting. DALI addressing the emergency lighting converters can be flexibly handled in the ETS. **Unchecked**: Emergency lighting converter control is not supported on the DALI output. No corresponding parameter windows and group objects are enabled, so the ETS parameter structure here is very concise **Checked**: The DALI output supports control of DALI emergency lighting converters (type 1 DALI devices, emergency lights with individual batteries to EN 62386-202). Corresponding parameter windows and group objects are enabled. Up to 64 DALI, emergency lighting converters can be connected to each output. Individual DALI emergency lighting converters can be hidden in the A lighting converter	**Unchecked** Checked

	parameter window to provide a clear, compact parameter structure. DALI emergency lighting converters can also be assigned to a DALI group for a clearer overview. Again, in such cases, the converters can only be controlled individually. They have no group function.	
Enable DALI scenes	This parameter is used to enable or disable the DALI scene control. **Unchecked:** DALI output does not support the scenes function. No related parameter page and group objects are enabled. Scene numbers 1 to 16 in the gateway are mapped to 0 to 15 on the DALI line. **Checked:** DALI Gateway outputs allow control of up to 16 DALI scenes. Related parameter page x scenes and the Scenes 1...16 group object is enabled. There are 16 DALI light scenes available on each DALI output, scenes can be assigned to any of the KNX scenes.	**Unchecked** Checked

5.3.2. A Commissioning

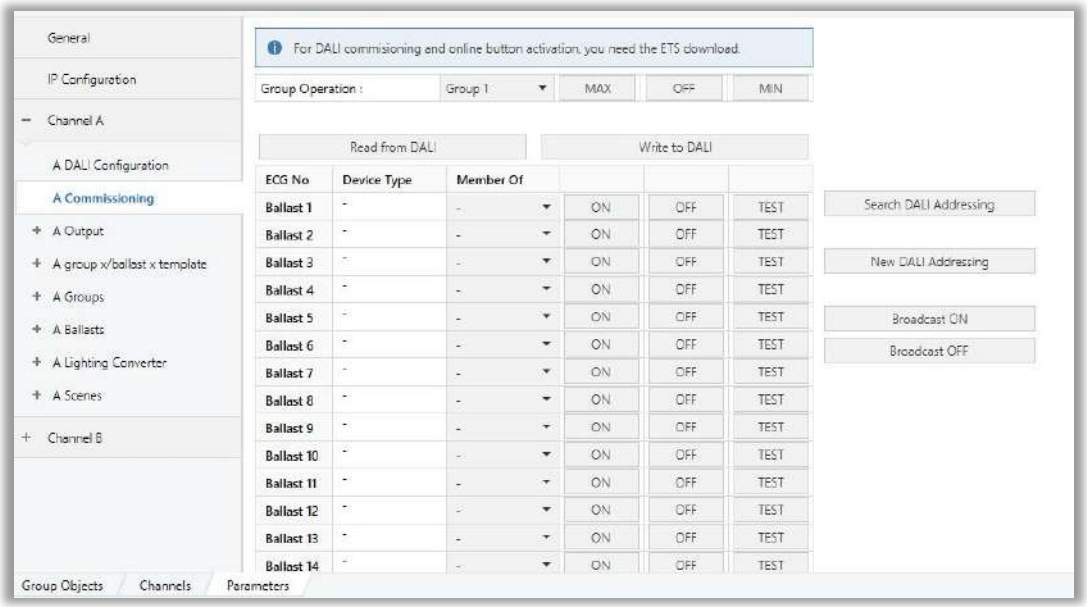

Fig. 10: A Commissioning Parameter Page

Depending on the number of each ballast, the device type and the name of the group to which it is a member can be obtained from this parameter page. Operations such as opening and closing any ballast, addressing test operations and commissioning new ballasts to be added to the commissioned infrastructure can be performed and opening and closing commands can be sent to all ballasts regardless of addressing operations. The features of this parameter page are explained in detail below.

ECG No:

Up to 64 ballasts can be installed in one channel of the KNX-DALI Gateway. The number of all ballasts is listed sequentially from 1 to 64 in column ECG No. From this section, the device type of the ballast, the group number etc. can be determined by looking at the corresponding ballast number.

Device Type:

The information about the device types of ballasts in the field is shown in this column. The device type corresponding to the specified ballast number is also given in the device type column on the same page. Device types 0 to 8 are shown here, each with a different type. The following table shows the type of controller according to the device type number.

Type of Control Gear	Device Type Number
Fluorescent lamp control gear	Device Type 0 (DT0)
Self-contained emergency control gear	Device Type 1 (DT1)
Discharge (HID) lamp control gear	Device Type 2 (DT2)
Low-voltage halogen lamp control gear	Device Type 3 (DT3)
Incandescent lamp dimmer	Device Type 4 (DT4)
Conversion to D. C. Voltage (1-10V, 0-10V converter)	Device Type 5 (DT5)
LED lamp control gear	Device Type 6 (DT6)
Switching (relay) control gear	Device Type 7 (DT7)
Colour control gear	Device Type 8 (DT8)

Member Of:

After pressing the New DALI addressing button, for example, 20 ballasts have been detected in the field. These ballasts can be assigned to one of the groups from 1 to 16 of the member of the list if they wish to be assigned to a group. For example, if the Write to DALI button is pressed after the associations are made, the ballasts assigned to the groups in this list are written to the KNX-DALI Gateway.

ON, OFF & TEST:

In the "ECG No" list, suppose that there are 30 ballasts in the field, from 1 to 64 ballasts. For example, suppose that ballast 5 is one of the commissioned ballasts. Pressing the ON button opposite ballast 5 will switch on the ballast lighting. Likewise, if the OFF button is pressed, the ballast lighting is switched off. When the TEST button is pressed, the illumination of the relevant ballast performs blinking for 1 minute. If the TEST button is pressed again while the blinking is in progress for 1 minute, the relevant ballast lighting goes out.

Suppose 1 minute has expired and the TEST button is not pressed again. In this case, the burn-out is performed for 1 minute and after the time has elapsed, the ballast lighting will return to the last position. The lighting of the ballast, for example, was at 80% brightness and returns to the same brightness after testing. The ballast lighting is not switched off.

This feature is generally used to understand which ballasts in the field are detected and which are not.

Read from DALI:

The information on the KNX-DALI Gateway can be obtained by pressing this button. The commissioning information in the DALI Gateway is read and reflected on the ETS screen. Types of ballasts, assigned group numbers, ON-OFF information, etc.

Write to DALI:

The configured information can be transferred to the KNX-DALI Gateway by pressing this button. Types of ballasts, assigned group numbers, and on-off information can be loaded into KNX-DALI Gateway by pressing this button.

New DALI Addressing:

The New DALI addressing button is used to address all ballasts in the field. There is also one object that can do the same work as this button. So, this button and the object make the same work. After addressing, the device types of the number of ballasts found are shown in the column on the relevant page. For example, if 18 ballasts were found, the information on 18 ballasts is written here. The device types corresponding to the specified ballast number are shown as type 0, type 1 .... type 8. For example, when an integrator installs ACK, it will write type 1 in this section. As an example, when an integrator uses RGB, it will type 8.

Search DALI Addressing:

Assume that there is a field in which all DALI ballasts are commissioned and addressed. For example, 30 ballasts are active in this field and you want to add 2 new ballasts. In this case, the ballast number will be 32. In such a case, it is generally not desirable to re-address all of the ballasts in the field. With the help of the Search DALI addressing button, the addressing of the newly installed 2 ballasts is performed. In this way, all ballasts in the field are addressed. When you press the Search DALI Addressing button, the ballasts without an address get an address.

Broadcast ON:

The Broadcast ON button is used to turn on all ballasts in the field. The number of ballasts connected to the corresponding output of the KNX-DALI Gateway is switched on. Broadcasting is performed independently of the addressing process. Even if no operation is performed in the field (including addressing), the ballast lights are switched on with the broadcast ON command.

Broadcast OFF:

The Broadcast OFF button is used to turn off all ballasts on the field. The number of ballasts connected to the corresponding output of the KNX-DALI Gateway is switched off. Regardless of addressing, broadcast OFF is performed. Even if no operations have been performed on the field (including addressing), the ballast lights are switched off by the broadcast OFF command.

5.3.3. A Output

The parameter settings for the DALI output are made on this page. Various control options for the DALI devices are enabled from this page.

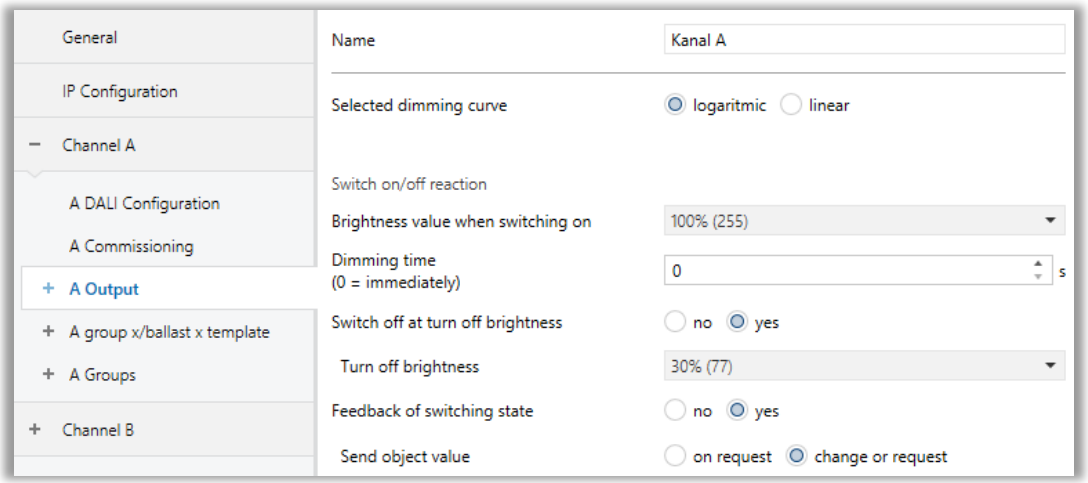

Fig. 11: A Output Configuration

5.3.3.1. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Name	This parameter is used to determine an output name. Each group can be assigned a name consisting of up to 40 characters. The name is stored in the ETS database, and also stored in the gateway by downloading the application.	**Kanal A**
Selected dimming curve	This parameter is used to determine the DALI characteristic. You can define whether the KNX setpoint and KNX status value refer to the DALI control value or luminous flux. **Logaritmic:** KNX value refers to the DALI control value. **Linear:** KNX value refers to the luminous flux.	**Logaritmic** Linear
Switch on/off reaction		
Brightness value when switching on	This parameter is used to determine the brightness value when the DALI output switches on after receiving an ON telegram. The dimming thresholds(upper and lower dimming values) are calibrated automatically to the maximum or minimum dimming values. **Previous value:** The output switches on at the brightness value it was switched off at by the Switch group object. The brightness value of each ballast and group are saved when they are switched off and restored when they are switched back on. If a ballast or group is OFF when switched off, the previous brightness value is saved as 0% (OFF) and is switched back on in the same state. This means that the group or ballast will be switched off unless it has a brightness value other than 0 when switched back on. **0%...100%:** When the output switches on, the selected % brightness value will be set to each group or ballast that is not configured individually.	0%...**100%** Previous value
Dimming time (0=immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately.	**0**...255

	1...255: During this time, the related output is dimmed from the previous brightness to the desired brightness.	
Switch off at the turn off brightness	This parameter is used to enable or disable the switch off at the turn-off brightness. If an OFF telegram is a receipt, whether the related lighting will be turned off or it will first reach a turn-off brightness is determined. **No:** The lighting switches off completely (the brightness value will be %0). **Yes:** The turn-off brightness is a parametrizable brightness value.	**No** Yes
-> Turn off the brightness	This parameter is used to determine the brightness value for the switch-off at the turn-off brightness. For example, the brightness at which the group members switch off when receiving an OFF telegram. If the turn off brightness is set outer of the maximum and minimum limits, the turn brightness will be automatically calibrated to maximum or minimum.	1%...**30%**...100%
Feedback of switching state	This parameter is used to enable or disable the output x status object to send information via this object to the KNX bus line. **No:** The group object is not enabled. **Yes:** The output x status group object is enabled. The information is given by a 1-bit group object.	**No** Yes
-> Send object value	This parameter is used to determine the sending object value according to action type. **Change or request:** The status is sent when a change occurs or a request demanding from the KNX bus line. **On request:** The status is sent when a request occurs from the KNX bus line.	**Change or request** On request

5.3.3.2. Dimming

Dimming controls reduce the output and energy consumption of light sources. Compared to on-off controls, they potentially increase energy savings, better align lighting with human needs, and can extend lamp life. Dimming systems should be considered carefully and compared to simpler systems that may also produce the desired results.

The dimming characteristics of the selected output is can be parameterized separately. Under certain circumstances, the dimming configurations of each output are described below. The following image shows the A Output parameter page.

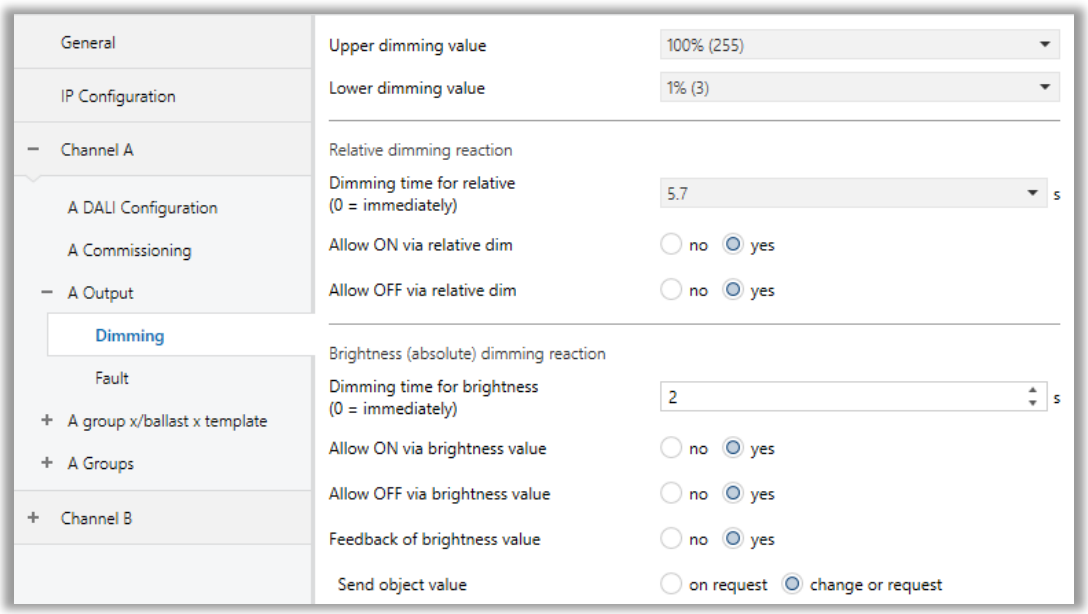

Fig. 12: Dimming Function Configuration

5.3.3.3. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Upper dimming value	This parameter defines the upper dimming value that will be applied to the ballast or group. This value is stored in the KNX-DALI Gateway and thus applies to all functions. If the defined upper dimming value exceeds the maximum brightness value, the KNX-DALI Gateway equals them.	1%...**100%**
Lower dimming value	This parameter defines the lower dimming value that will be applied to the ballast or group. This value is stored in the KNX-DALI Gateway and thus applies to all functions. If the defined lower dimming value exceeds the maximum brightness value, the KNX-DALI Gateway equals them. The lower dimming value also applies to dimming and scenes.	**1%**...100%
Relative dimming reaction		
Dimming time for relative (0 = immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...255:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0.7, 1.0, 1.4, 2.0, 2.8, 4.0, **5.7**, 8.0, 11.3, 16.0, 22.6, 32.0, 45.3, 64.0, 90.5
Allow ON via relative dim	This parameter defines the ballast or group behaviour when switching on with a dimming value. For example, the lighting is OFF and you send a %3 dimming telegram. If this object is selected as yes, the lighting will be switched on and its brightness is %3. Relative dim telegram can be sent via 4-bit value. **No:** Switching on using the relative dim telegram is not allowed. The ballast, group or output must be switched on to be dimmed. **Yes:** Switching on using the relative dim telegram is allowed.	No **Yes**

Allow OFF via relative dim	This parameter defines the ballast or group behaviour when switching off with a dimming value. For example, the lighting is ON and its dimming value is % 45 and when you send a dimming telegram for lowering %45. If this object is selected as yes, the lighting will be switched OFF. Relative dim telegram can be sent via 4-bit value. **No:** Switching OFF using the brightness telegram is not allowed. The ballast or group dims to the lower dimming value and stops there. **Yes:** Switching OFF using the brightness telegram is allowed.	**No** Yes
Brightness (absolute) dimming reaction		
Dimming time for brightness (0 = immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...65535:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**2**...65535
Allow ON via brightness value	This parameter defines the ballast or group behaviour when switching on with brightness value. For example, the lighting is OFF and you send a %67 brightness telegram. If this object is selected as yes, the lighting will be switched on and its brightness is %67. Brightness telegram can be sent via 1-byte value. **No:** Switching on using the brightness telegram is not allowed. The ballast, group or output must be switched on to be dimmed. **Yes:** Switching on using the brightness telegram is allowed.	No **Yes**
Allow OFF via brightness value	This parameter defines the ballast or group behaviour when switching off with a dimming value. For example, the lighting is ON and its dimming value is % 45 and when you send a dimming telegram for lowering %45. If this object is selected	No **Yes**

	as yes, the lighting will be switched OFF. Brightness(absolute) dim telegram can be sent via a 1-byte value. **No:** Switching OFF using the brightness telegram is not allowed. The ballast or group dims to the lower dimming value and stops there. **Yes:** Switching OFF using the brightness telegram is allowed.	
Feedback of brightness value	This parameter is used to enable or disable the current status of the DALI output brightness value sent on the KNX bus line via a related object. **No:** The group object is not enabled hence the status brightness value is not sent on the KNX bus line. **Yes:** The output x status brightness value group object is enabled. The information is given by a 1-byte group object.	**No** Yes
-> Send object value	This parameter is used to determine the sending object value according to action type. **On request:** The status is sent when a request occurs from the KNX bus line. **Change or request:** The status is sent when a change occurs or a request demanding from the KNX bus line.	On request **Change or request**

5.3.3.4. Fault

The output fault parameter page is used to determine X Output's reaction when a fault event occurs. Interra KNX-DALI Gateway Dual Channel model's second fault parameter page can be configured separately.

Moreover, the status response of the individual ballast and group can be set in the respective ballast/group in the Group x fault and Ballast x fault parameter windows. The ballast/group template window does not apply to the output.

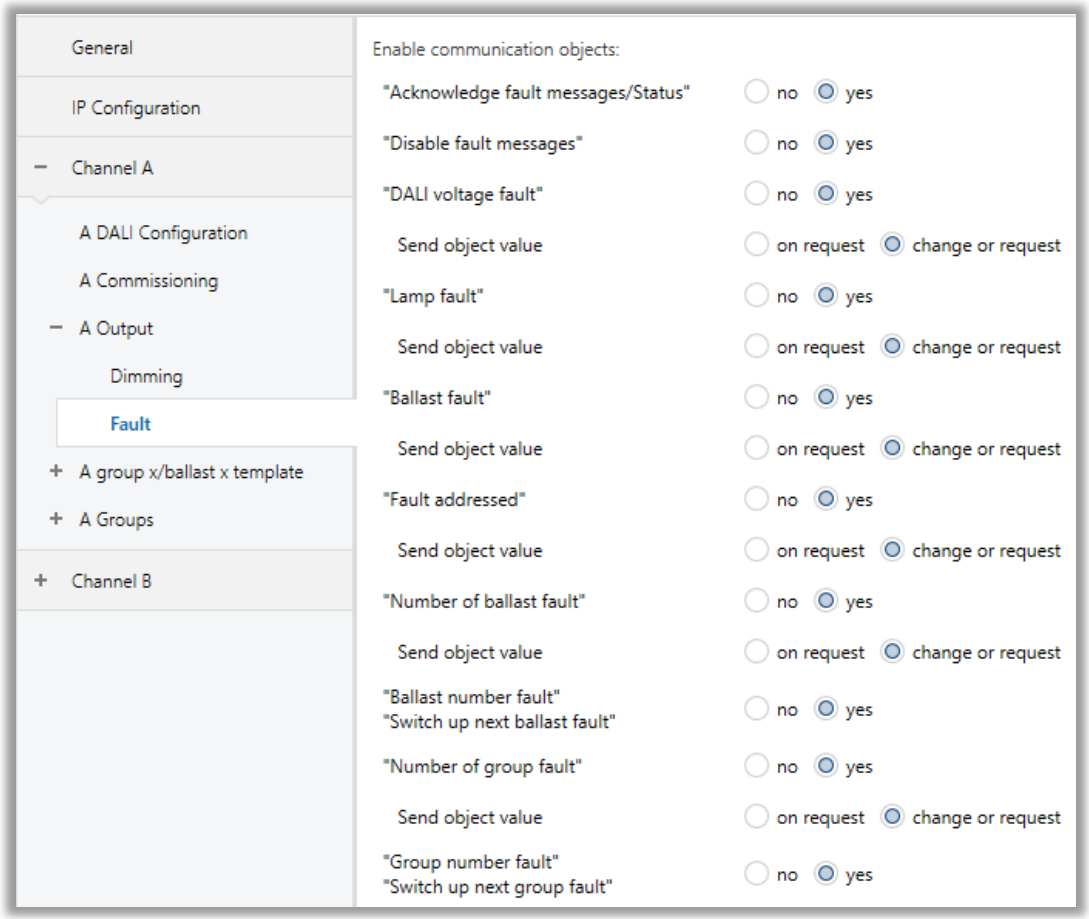

Fig. 13: Fault Function Configuration

5.3.3.5. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Enable communication objects		
“Acknowledge fault message /Status"	This parameter is used to enable or disable the Acknowledge fault message. The acknowledge fault message function is related to the whole DALI output. Fault messages for ballasts and groups can be acknowledged separately but the only exception of the KNX-DALI Gateway supply voltage fault. Generally, If the fault has been corrected, the fault messages are automatically reset. When the acknowledge fault message function is used, the messages are only cleared by acknowledgements. For example, with a value of 0 telegrams should be sent via the corresponding group object for a related fault. **No:** The acknowledge fault message function and its group object are disabled. **Yes:** The acknowledge fault message function is enabled. The related group object is visible in the object list.	**No** Yes
“Disable fault messages”	This parameter is used to enable or disable the Disable fault messages function. Although fault messages are disabled, the faults are evaluated behind but they are not sent to the KNX bus line. Also, related group objects' values are not updated. When fault messages are enabled, all faults are sent following their parametrization. If your system is under heavy KNX busload, disabling the fault messages can be useful to lower the telegram traffic **No:** The disable fault messages function and its group object are disabled. **Yes:** The disable fault messages function and its group object are enabled.	**No** Yes
“DALI voltage fault”	This parameter demonstrates that there is a DALI voltage fault in the line. For instance, if there is a short circuit or overvoltage case, there is a DALI voltage fault. **No:** The DALI voltage fault function and its group object are disabled.	**No** Yes

	Yes: The DALI voltage fault function and its group object are enabled.	
-> Send object value	This parameter is used to object value information to the KNX bus according to the following options : **On request:** The object value status is sent when a request occurs from the KNX bus line. **Change or request:** The object value status is sent when a change or a request occurs from the KNX bus line.	On request **Change or request**
“Lamp fault”	This parameter demonstrates that there is a lamp fault in the line. **No:** The Lamp fault function and its group object are disabled. **Yes:** The Lamp fault function and its group object are enabled.	**No** Yes
-> Send object value	This parameter is used to object value information to the KNX bus according to the following options : **On request:** The object value status is sent when a request occurs from the KNX bus line. **Change or request:** The object value status is sent when a change or a request occurs from the KNX bus line.	On request **Change or request**
“Ballast fault”	This parameter demonstrates that there is a ballast fault in the line. The DALI devices are continually monitored regardless of whether the lamp is active or not. The DALI devices must be properly installed and have a supply voltage. Any existing lamp fault is reset, as it is no longer possible to state information about the group or ballast. When the KNX-DALI Gateway polls the DALI devices, a ballast fault can be detected. DALI **No:** The ballast fault function and its group object are disabled. **Yes:** The ballast fault function and its group object are enabled.	**No** Yes
-> Send object value	This parameter is used to object value information to the KNX bus according to the following options : **On request:** The object value status is sent when a request occurs from the KNX bus line.	On request **Change or request**

	Change or request: The object value status is sent when a change or a request occurs from the KNX bus line.	
"Fault addressed"	This parameter is used to send the status of ballast or group fault with a specific 2-byte data point type. (DPT:237.600) **No:** The fault addressed the function and its group object is disabled. **Yes:** The fault addressed the function and its group object is enabled. If a fault occurs in the DALI line, the fault is demonstrated via the value 1 bit in the specific 2-byte data.	**No** Yes
-> Send object value	This parameter is used to object value information to the KNX bus according to the following options : **On request:** The object value status is sent when a request occurs from the KNX bus line. **Change or request:** The object value status is sent when a change or a request occurs from the KNX bus line.	On request **Change or request**
"Number of ballast fault"	This parameter is used to establish the faulty DALI devices on the related output. Faulty devices mean the sum of lamp and ballast faults. **No:** The number of ballast fault functions and their group object is disabled. **Yes:** The number of ballast fault functions and their group object is enabled.	**No** Yes
-> send object value	This parameter is used to object value information to the KNX bus according to the following options : **On request:** The object value status is sent when a request occurs from the KNX bus line. **Change or request:** The object value status is sent when a change or a request occurs from the KNX bus line.	On request **Change or request**
"Ballast number fault" **"Switch up next ballast fault"**	This parameter is used to gain additional fault message displays. Also, this parameter enables two different group objects. **-> "Ballast number fault":** This object demonstrates the number of faulty ballasts. **-> "Switch up next ballast fault":** If there is more than one faulty ballast in the DALI line, with this object the address of the next DALI device with its	**No** Yes

	fault can be displayed. The switching continues in a loop: when switched again at the last faulty device, the display shows the first faulty device. **No:** The ballast number fault & switch up the next ballast fault function and their group objects are disabled. **Yes:** The ballast number fault & switch up the next ballast fault function and their group objects are enabled.	
"Number of group fault"	This parameter is used to determine the number of faulty groups(lamp or ballast fault) on the DALI line. **No:** The number of group fault functions and their group object is disabled. **Yes:** The number of group fault functions and their group object is enabled.	**No** Yes
-> send object value	This parameter is used to object value information to the KNX bus according to the following options : **On request:** The object value status is sent when a request occurs from the KNX bus line. **Change or request:** The object value status is sent when a change or a request occurs from the KNX bus line.	On request **Change or request**
"Group number fault" **"Switch up next group fault"**	This parameter is used to gain additional fault message displays. Also, this parameter enables two different group objects. **-> "Group number fault":** This object demonstrates the number of faulty groups. **-> "Switch up next group fault":** If there is more than one faulty group in the DALI line, with this object the address of the next DALI group with its fault can be displayed. The switching continues in a loop: when switched again at the last faulty group, the display shows the first faulty group. **No:** The group number fault & switch up the next group fault function and their group objects are disabled. **Yes:** The group number fault & switch up the next group fault function and their group objects are enabled.	**No** Yes

5.3.4. A Group x / Ballast x Template

The group x/ballast x template parameter tab provides access to template parameter pages that can relate to any group or ballast on the DALI output. Whether they relate to the parametrization of a group or ballast in the template window or an individual parameter window is selected when first parameterizing the groups or ballasts. The template windows have a major advantage in that the settings made here relate to all groups or ballasts, so each group or ballast on the DALI output reacts in the same way.

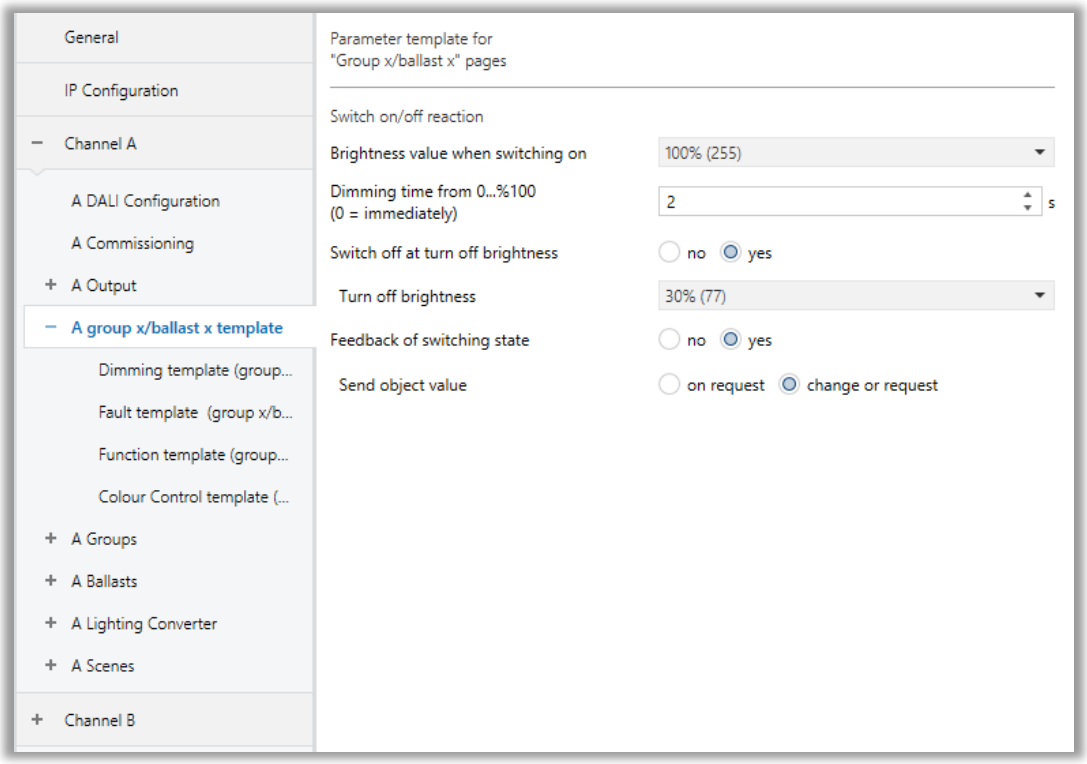

Fig. 14: A Group x / Ballast x Template Parameter Page Configuration

Using the template windows also considerably reduces the amount of parametrization work involved and provides a clearer overview. As a parameter change in the template window affects every group or ballast, the programmer only needs to change one parameter rather than up to 16 groups and 64 ballast parameters. For example, if the maximum brightness value for the system needs to be limited to 90%, make this setting in the template window apply to all groups and ballasts.

The template parameter window is illustrated above. Also, the parameter descriptions are described below. They are the same as the individual parameter windows except for the fact that they relate to all groups and ballasts while the individual windows relate only to a particular group or specific ballast.

5.3.4.1. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Parameter template for "Group x/ballast x" pages		
Brightness value when switching on	This parameter is used to determine the brightness value when the DALI group or ballast switches on after receiving an ON telegram. The dimming thresholds(upper and lower dimming values) are calibrated automatically to the maximum or minimum dimming values. **Previous value:** The group or ballast switches on at the brightness value it was switched off at by the Switch group object. The brightness value of each ballast and group are saved when they are switched off and restored when they are switched back on. If a ballast or group is OFF when switched off, the previous brightness value is saved as 0% (OFF) and is switched back on in the same state. This means that the group or ballast will be switched off unless it has a brightness value other than 0 when switched back on. **0%...100%:** When the group or ballast switch on, the selected % brightness value will be set to each group or ballast that is not configured individually.	Previous value 0%...**100%**
Dimming time **(0 = immediately)**	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...255:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**2**…255
Switch off at turn off brightness	This parameter is used to enable or disable the switch off at the turn-off brightness. If an OFF telegram is a receipt, whether the related lighting will be turned off or it will first reach a turn-off brightness is determined. **No:** The lighting switches off completely (the brightness value will be %0). **Yes:** The turn-off brightness is a parametrizable brightness value.	**No** Yes

-> Turn off brightness	This parameter is used to determine the brightness value for the switch-off at the turn-off brightness. For example, the brightness at which the group members switch off when receiving an OFF telegram. If the turn-off brightness is set outer of the maximum and minimum limits, the turn-off brightness will be automatically calibrated to maximum or minimum.	1%...**30%**...100%
Feedback of switching state	This parameter is used to enable or disable the output x – [x] Group status object or output x – [x] ballast status object to send information via this object to the KNX bus line. **No:** The group object is not enabled. **Yes:** The output x – [x] Group status object or output x – [x] ballast status group object is enabled. The information is given by a 1-bit group object.	**No** Yes
-> send object value	This parameter is used to determine the sending object value according to action type. **On request:** The status is sent when a request occurs from the KNX bus line. **Change or request:** The status is sent when a change occurs or a request demanding from the KNX bus line.	On request **Change or request**

5.3.4.2. Dimming Template (Group x / Ballast x)

The dimming characteristics of the selected output is can be parameterized from a template. Under certain circumstances, the dimming configurations of the template parameter page are described below. The following image shows the Dimming template (group x / ballast x) parameter page.

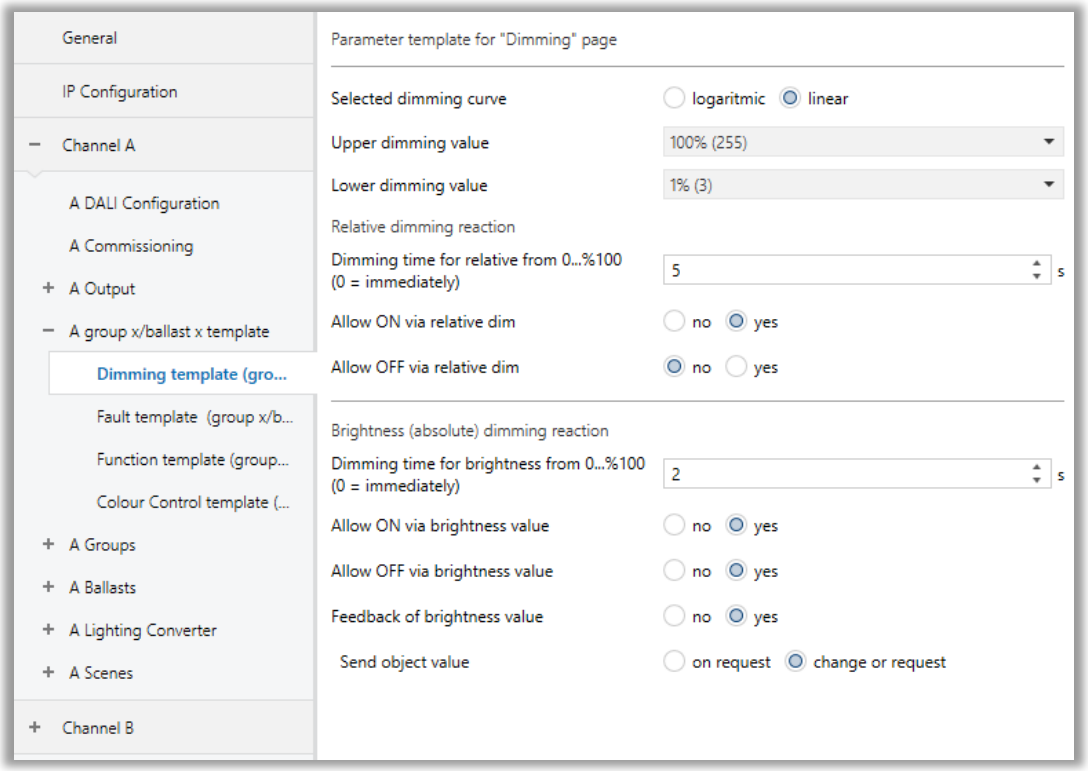

Fig. 15: Dimming Template (Group x / Ballast x) Configuration

5.3.4.3. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Parameter template for "Dimming" page "Group x/ballast x" pages		
Selected dimming curve	This parameter is used to determine the DALI characteristic. You can define whether the KNX setpoint and KNX status value refer to the DALI control value or luminous flux. **Logaritmic:** KNX value refers to the DALI control value. **Linear:** KNX value refers to the luminous flux.	**Logaritmic** Linear
Upper dimming value	This parameter defines the upper dimming value that will be applied to the ballast or group. This value is stored in the KNX-DALI Gateway and thus applies to all functions. If the defined upper dimming value exceeds the maximum brightness value, the KNX-DALI Gateway equals them.	1%...**100%**
Lower dimming value	This parameter defines the lower dimming value that will be applied to the ballast or group. This value is stored in the KNX-DALI Gateway and thus applies to all functions. If the defined lower dimming value exceeds the maximum brightness value, the KNX-DALI Gateway equals them. The lower dimming value also applies to dimming and scenes.	**1%**...100%
Dimming time for relative **(0 = immediately)**	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...255:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**5**…255
Allow ON via relative dim	This parameter defines the ballast or group behaviour when switching on with a dimming value. For example, the lighting is OFF and you send a %3 dimming telegram. If this object is selected as yes, the lighting will be switched on and its brightness is %3. Relative dim telegram can be sent via 4-bit value.	No **Yes**

	No: Switching on using the relative dim telegram is not allowed. The ballast, group or output must be switched on to be dimmed. **Yes:** Switching on using the relative dim telegram is allowed.	
Allow OFF via relative dim	This parameter defines the ballast or group behaviour when switching off with a dimming value. For example, the lighting is ON and its dimming value is % 45 and when you send a dimming telegram for lowering %45. If this object is selected as yes, the lighting will be switched OFF. Relative dim telegram can be sent via 4-bit value. **No:** Switching OFF using the brightness telegram is not allowed. The ballast or group dims to the lower dimming value and stops there. **Yes:** Switching OFF using the brightness telegram is allowed.	**No** Yes
Dimming time for brightness (0 = immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...65535:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**2**…65535
Allow ON via brightness value	This parameter defines the ballast or group behaviour when switching on with brightness value. For example, the lighting is OFF and you send a %67 brightness telegram. If this object is selected as yes, the lighting will be switched on and its brightness is %67. Brightness telegram can be sent via 1-byte value. **No:** Switching on using the brightness telegram is not allowed. The ballast, group or output must be switched on to be dimmed. **Yes:** Switching on using the brightness telegram is allowed.	No **Yes**

Allow OFF via brightness value	This parameter defines the ballast or group behaviour when switching off with a dimming value. For example, the lighting is ON and its dimming value is % 45 and when you send a dimming telegram for lowering %45. If this object is selected as yes, the lighting will be switched OFF. Brightness(absolute) dim telegram can be sent via a 1-byte value. **No:** Switching OFF using the brightness telegram is not allowed. The ballast or group dims to the lower dimming value and stops there. **Yes:** Switching OFF using the brightness telegram is allowed.	No **Yes**
Feedback of brightness value	This parameter is used to enable or disable the DALI output x – [x] Group status brightness value object or output x – [x] ballast status brightness value object to send brightness value on the KNX bus line via related object. **No:** The DALI output x – [x] Group status brightness value object or output x – [x] ballast status brightness value object is not enabled hence the status brightness value is not sent on the KNX bus line. **Yes:** The DALI output x – [x] Group status brightness value object or output x – [x] ballast status brightness value group object is enabled. The information is given by a 1-byte group object.	**No** Yes
-> Send object value	This parameter is used to determine the sending object value according to action type. **On request:** The status is sent when a request occurs from the KNX bus line. **Change or request:** The status is sent when a change occurs or a request demanding from the KNX bus line.	On request **Change or request**

5.3.4.4. Fault Template (Group x / Ballast x)

Parameters for the reaction of the ballast or group to KNX/DALI voltage or gateway supply voltage failure and recovery are made in this parameter window.

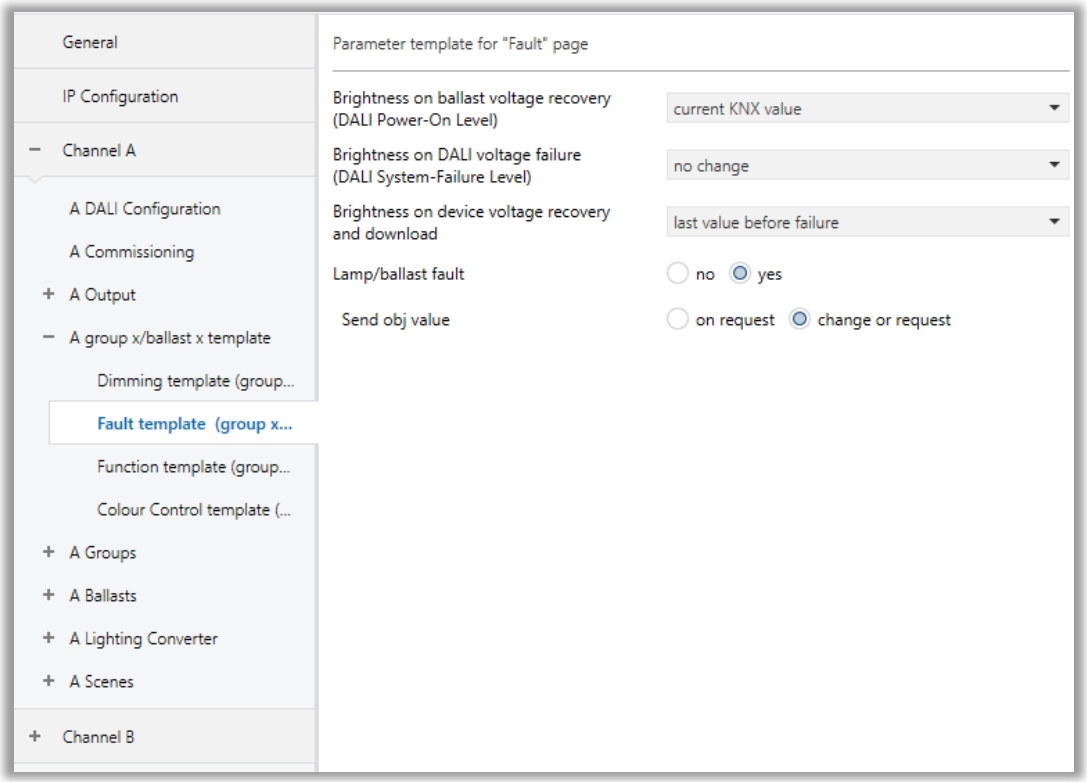

Fig. 16: Fault Template (Group x / Ballast x) Configuration

5.3.4.5. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Parameter template for "Fault" page "Group x/ballast x" pages		
Brightness on ballast voltage recovery (DALI Power-On Level)	This parameter is used to determine a ballast or all ballasts that remain in a group to react when a ballast supply voltage recovery occurs. A save function can be used to save the last value to the proper storage location. The brightness value (DALI Power-On Level) that the ballast uses to switch on the lamp when the ballast supply voltage recovers are stored in this location. **Current KNX value:** The DALI device (ballast) is switched on using the previous set brightness value used before the ballast voltage failure. To use this function, the system ballasts must support the last situation values. If you face any problems, please contact the ballast manufacturer. **0%...100%:** The DALI device is switched on to the set brightness value from %0 to %100.	Current KNX value 0%...**100%**
Brightness on DALI voltage failure (DALI System-Failure Level)	This parameter is used to determine the ballast or group reaction that takes their parameter configuration via fault template when a DALI voltage failure occurs such as DALI short circuit or KNX-DALI Gateway supply voltage failure. **Max. brightness value:** The ballast/group ballasts switch on to the maximum brightness value. **Min. brightness value:** The ballast/group ballasts switch on to the minimum brightness value. **OFF:** The ballast or group that is applied from the template ballasts switch off. **No change:** The brightness of the ballast/group ballasts does not change. DALI devices that are switched off remain off.	Max. brightness value Min. brightness value OFF **No change**
Brightness on device voltage recovery and download	This parameter determines the value that will be sent. **Last value before failure:** The ballast or group is restored to its before-failure status. After the device voltage recovery, the ballast or group must be set at least two or more seconds before restoration.	Max. brightness value Min. brightness value OFF No change **Last value before failure**

	Max. brightness value: The ballast/group ballasts switch on to the maximum brightness value. **Min. brightness value:** The ballast/group ballasts switch on to the minimum brightness value. **OFF:** The ballast or group that is applied from the template ballasts switch off. **No change:** The brightness of the ballast/group ballasts does not change. DALI devices that are switched off remain off.	
Lamp/ballast fault	This parameter is used to enable or disable the lamp/ballast fault. This parameter indicates a fault in a group or ballast. **No:** The related fault object is disabled. **Yes:** When this option is selected, the related fault object is enabled and visible.	**No** Yes
-> send object value	This parameter is used to object value information to the KNX bus according to the following options : **On request:** The object value status is sent when a request occurs from the KNX bus line. **Change or request:** The object value status is sent when a change or a request occurs from the KNX bus line.	On request **Change or request**

Special Note

According to the DALI standard, no exact priority has been defined between Brightness on ballast voltage recovery & Brightness on DALI voltage failure function. The reaction depends on when the ballast is ready to receive again its power and when it detects that there is no DALI voltage. Both depend on the electronics and firmware of the ballast.

5.3.4.6. Function Template (Group x / Ballast x)

On this parameter page, settings for ballast and DALI group x / ballast x functions are described.

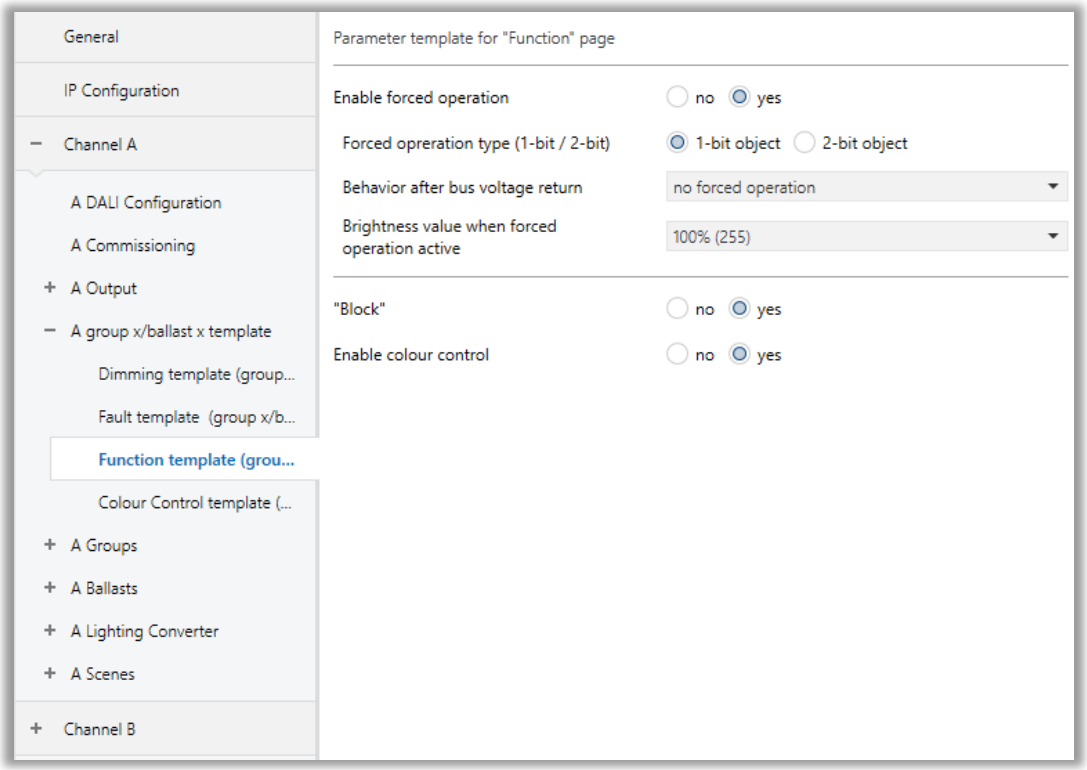

Fig. 17: Function Template (Group x / Ballast x) Configuration

5.3.4.7. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Parameter template for "Function" page "Group x/ballast x" pages		
Enable Forced Operation	This parameter is used to enable or disable the forced operation.	**No** Yes
->> Forced operation type (1-bit / 2-bit)	This parameter is used to determine the forced operation object type. **Forced operation 1 bit:** The Forced operation 1-bit group object is enabled. If the gateway receives a telegram with the value 1 via this group object, the ballast/group is forcibly operated. When it receives a telegram with the value 0 the forced operation is lifted and the ballast/group is re-enabled. **Forced operation 2-bit:** The Forced operation 2-bit group object is enabled. If the gateway receives a telegram with the value 2 or 3 via this group object, the ballast/group is forcibly operated.	**1-bit object** 2-bit object
->> Behaviour after bus voltage return	This parameter is used to define the Forced operation state after KNX bus voltage recovery. **No Forced Operation:** The ballast/group is enabled after bus voltage recovery and is no longer subject to Forced operation. Any parametrized Staircase lighting functions will be active on standby if they were activated before Forced operation. **Forced On:** The ballast/group is forcibly operated and switched on at the brightness parameterized in the Brightness value when switched on by force. **Forced Off:** The ballast or the group is forcibly operated and switched off. This option is available only with Forced operation, 2-bit. **Position Before Failure:** The ballast or group is reset to the state it was in before the KNX voltage failure.	**No forced operation** Forced on Forced off Position before failure
->> Brightness value when forced operation active	This parameter is used to define the brightness value used to switch on the ballast or group during activated forced operation. Forced switch off of the or the group/ballast is also parameterizable.	**100% (255)**…0% (OFF)

“Block”	This parameter is used to enable or disable the function for the ballast/group. The Block function is activated by a telegram with the value 1 and deactivated with the value 0. The ballast/group can be blocked using this group object so that it cannot be changed via the bus. The current brightness value of the ballast/group is frozen. Incoming telegrams are processed in the background. Dimming processes are not simulated in the background; with time sequences the end brightness value is immediately memorized. When the block is removed, the value updated in the background is set.	No **Yes**
Enable colour control	This parameter is used to enable or disable the colour control function.	**No** Yes

5.3.4.8. Colour Control Template (Group x / Ballast x)

On this parameter page, the colour control temperature function parameters are described. You can program the Color temperature function individually by group/ballast or adopt the parameters from the Color temperature template.

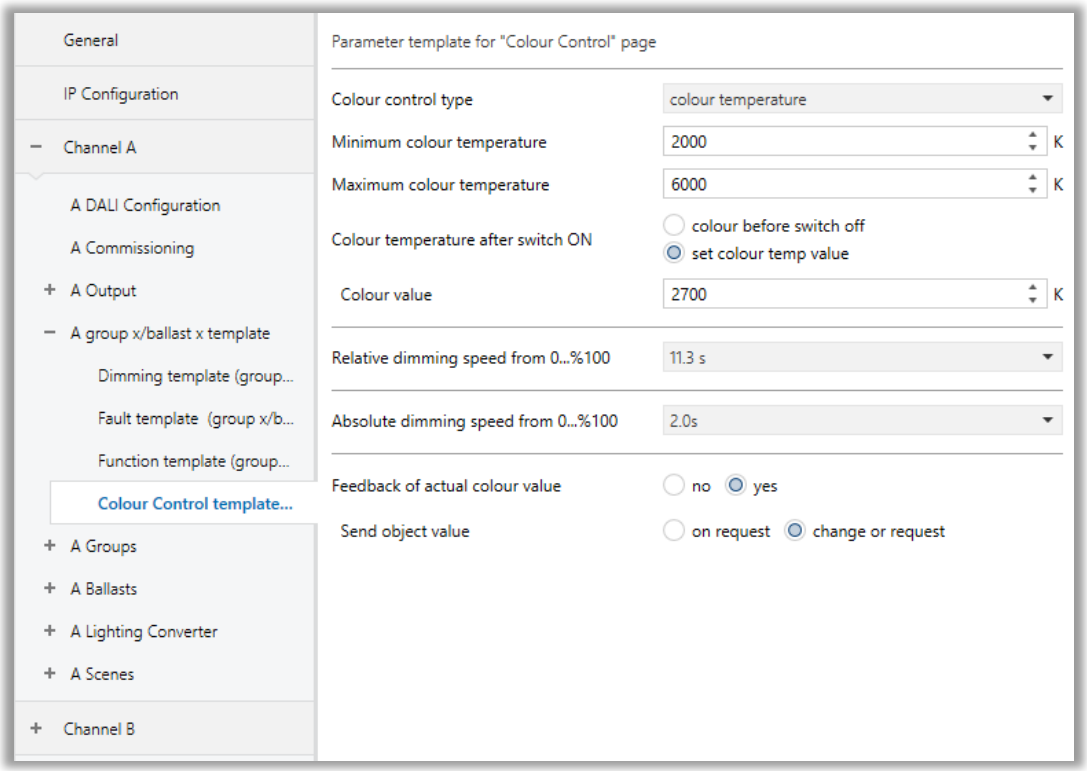

Fig. 18: Colour Control Template (Group x / Ballast x) Configuration

5.3.4.1. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Parameter template for "Colour Control" page "Group x/ballast x" pages		
Colour Control type	This parameter is used to define the brightness when the Staircase lighting function is running. This is the brightness value that is set after a switch is on. **Colour Temperature:** Minimum and maximum colour temperatures are used to control the ballast. The values to be entered are in Kelvin format. **RGB Colour:** 3 colour channels are used to control the ballast. The colour format – is RGB (red, green, blue) or HSV (hue, saturation, value). **RGBW Colour:** 4 colour channels are used to control the ballast. The white value can be customized. The colour format – is RGB (red, green, blue) or HSV (hue, saturation, value).	**Colour temperature** RGB colour RGBW colour
Colour Temperature		
Minimum colour temperature	This parameter is used to set the minimum colour temperature of the group/ballast. If the set colour temperature value is below the physical minimum colour temperature limit, the setting defaults to this limit.	1000…**2000**…10000
Maximum colour temperature	This parameter is used to set the maximum colour temperature of the group/ballast. If the set colour temperature value is above the physical maximum colour temperature limit, the setting defaults to this limit. **Note:** The lower the colour temperature, the warmer the light, and vice versa.	1000…6**000**…10000
Colour temperature after switching ON	This parameter is used to set the colour temperature after switching it on. **Colour before switch off:** The colour temperature value that was set before switching off is updated and set when switching on. **Set colour temp value:** The group/ballast switches on at a fixed colour temperature value.	Colour before switch off **Set colour temp value**
->> Colour value	This parameter is used to set the colour temperature at which the group/ballast switches on. This can be a value between 1,000 and 10,000 K.	1000…**2700**…10000

RGB Colour		
Colour temperature after switch ON	This parameter is used to set the colour temperature after switching it on. **Colour before switch off:** The colour temperature value that was set before switching off is updated and set when switching on. **Set colour temp value:** The group/ballast switches on at a fixed colour temperature value	Colour before switch off **Set colour temp value**
->> Colour value	This parameter is used to set the colour temperature at which the group/ballast switches on. This can be a value between #000000 and #FFFFFF.	#000000…**#FF0000**... #FFFFFF
RGBW Colour		
Colour temperature after switch ON	This parameter is used to set the colour temperature after switching it on. **Colour before switch off:** The colour temperature value that was set before switching off is updated and set when switching on. **Set colour temp value:** The group/ballast switches on at a fixed colour temperature value	Colour before switch off **Set colour temp value**
->> Colour value	This parameter is used to set the colour temperature at which the group/ballast switches on. This can be a value between #000000 and #FFFFFF.	#000000…**#FF0000**... #FFFFFF
->> Additional white	This parameter is used to customize the White value using a 1-byte value.	0…**255**
Relative Dimming Speed from 0…%100	This parameter is used to set a soft start by defining how long the output takes to dim up from 0% brightness to the turn-on brightness when it receives an ON telegram by the relative dimming method. **Jump to:** The output switches ON immediately. **0.7 s…90.5 s:** During this time, the output is dimmed from 0% brightness to the turn-on brightness.	0.7s, 1.0s, 1.4s, 2.0s, 2.8s, 4.0s, 5.7s, 8.0s, **11.3s**, 16.0s, 22.6s, 32.0s, 45.3s, 64.0s, 90.5s Jump to
Absolute Dimming Speed from 0…%100	This parameter is used to set a soft start by defining how long the output takes to dim up from 0% brightness to the turn-on brightness when it receives an ON telegram by the absolute dimming method. **Jump to:** The output switches ON immediately.	0.7s, 1.0s, 1.4s, **2.0s**, 2.8s, 4.0s, 5.7s, 8.0s, 11.3s, 16.0s, 22.6s, 32.0s, 45.3s, 64.0s, 90.5s Jump to

	0.7 s…90.5 s: During this time, the output is dimmed from 0% brightness to the turn-on brightness.	
Feedback of actual colour value	This parameter is used to enable or disable the colour control status group object. The Status group objects are enabled depending on the option selected in the Control colour type parameter.	**No** Yes
->> Send Object Value	This parameter is used to set the sending object value method. **On request:** The status is sent when a request occurs. **Change or request:** The status is sent when either a change or request occurs.	On request **Change or request**

5.3.5. A Groups

This parameter page is where groups are enabled for use on the DALI output. As a group and a ballast are equivalents on the DALI output hence, they have the same functions and parameter windows. The group parameter window and its properties are described below. The related parameter window for the ballast looks the same, except with the word ballast instead of the group.

Selecting the Yes option under Enable DALI groups (group control) or Enable DALI ballasts (individual control) in the A DALI configuration parameter window enables the X groups and X ballasts parameter windows.

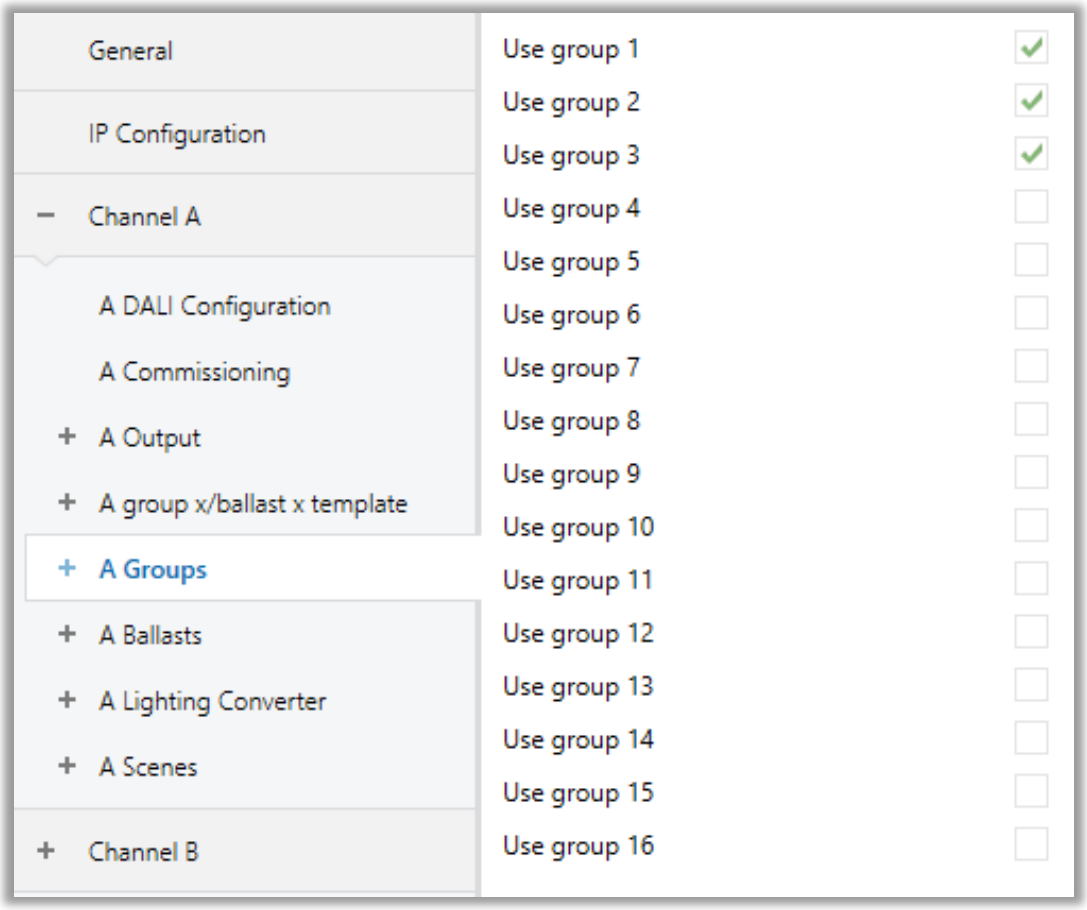

Fig 19: A Groups Configuration

5.3.5.1. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Use group 1 **...** **Use group 16**	This parameter is used to enable or disable the related group. **Checked:** Group x is enabled for the output. This option enables further parameter pages and group objects for that group. **Unchecked:** Group x is not enabled for the output. The related parameter pages and groups are not shown.	**Checked** Unchecked

Special Note

Enabling a ballast in the A ballasts parameter window makes it an individual DALI device. It has been specified for individual control and cannot be assigned to a group.

5.3.5.2. [x] Group

As previously mentioned, there are 16 possible Groups. In this section, due to all of the groups, parameters and configurations being the same only one group will be explained.

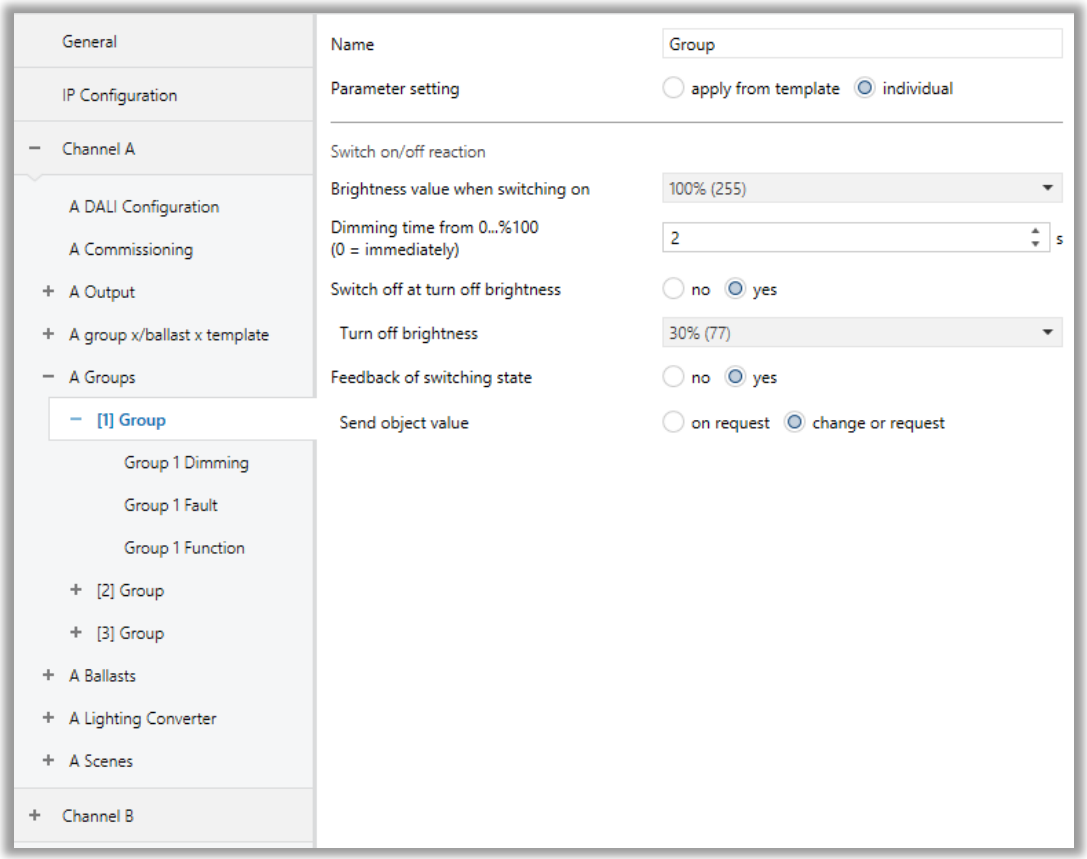

Fig. 20: [x] Group Parameter Page Configuration

5.3.5.3. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Name	This parameter is used to determine a group name. Each group can be assigned a name consisting of up to 40 characters. The name is stored in the ETS database, and also stored in the gateway by downloading the application.	**Group**
Parameter setting	This parameter is used to determine the related group's settings according to the template or with individual configuration. **Apply from template:** The related group's configuration is taken from the X group x / ballast x template. **Individual:** The related group is configured individually. Corresponding parameters for the related group are shown on the parameter page. The individual parameters are the same as the X group x / ballast x template parameter page. Specific configurations can be made from this page that exclude from the template.	**Apply from template** Individual
Switch on / off reaction		
Brightness value when switching on	This parameter is used to determine the brightness value when the DALI group switches on after receiving an ON telegram. The dimming thresholds(upper and lower dimming values) are calibrated automatically to the maximum or minimum dimming values. **Previous value:** The group switches on at the brightness value it was switched off at by the Switch group object. The brightness value of the related group is saved when it is switched off and restored when it is switched back on. If a group is OFF when switched off, the previous brightness value is saved as 0% (OFF) and is switched back on in the same state. This means that the group will be switched off unless it has a brightness value other than 0 when switched back on. **0%...100%:** When the related group switches on, the selected % brightness value will be set to each group that is not configured individually.	Previous value 0%...**100%**

Dimming time (0 = immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...255:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**2**…255
Switch off at turn off brightness	This parameter is used to enable or disable the switch off at turn off brightness. If an OFF telegram is a receipt, whether the related lighting will be turned off or it will first reach a turn-off brightness is determined. **No:** The lighting switches off completely (the brightness value will be %0). **Yes:** The turn-off brightness is a parametrizable brightness value.	**No** Yes
-> Turn off brightness	This parameter is used to determine the brightness value for the switch-off at the turn off brightness. For example, the brightness at which the group members switch off when receiving an OFF telegram. If the turn-off brightness is set outer of the maximum and minimum limits, the turn-off brightness will be automatically calibrated to maximum or minimum.	1%...**30%**...100%
Feedback of switching state	This parameter is used to enable or disable the output x – [x] Group status object to send information via this object to the KNX bus line. **No:** The group object is not enabled. **Yes:** The output x – [x] Group status object is enabled. The information is given by a 1-bit group object.	**No** Yes
-> Send object value	This parameter is used to determine the sending object value according to action type. **On request:** The status is sent when a request occurs from the KNX bus line. **Change or request:** The status is sent when a change occurs or a request demanding from the KNX bus line.	On request **Change or request**

5.3.5.4. Group X Dimming

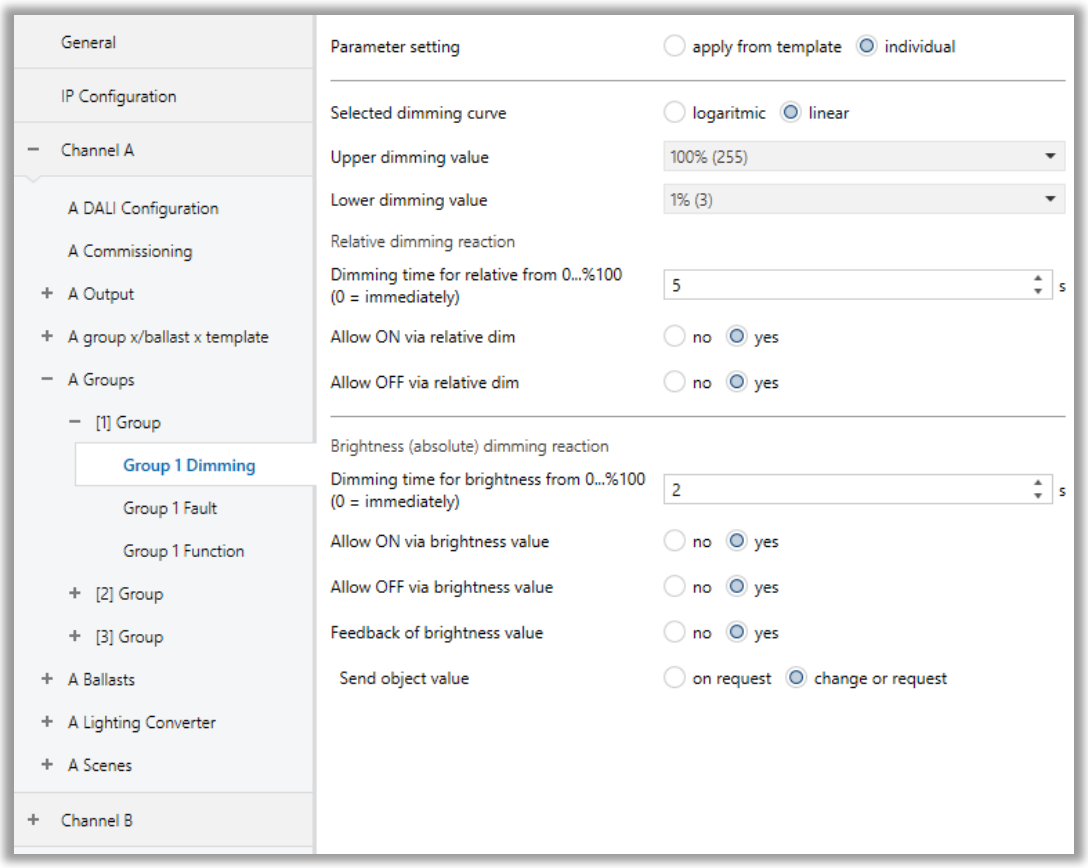

Fig. 21: Group X Dimming Parameter Page Configuration

5.3.5.5. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Parameter setting	This parameter is used to determine the related group's settings according to the template or with individual configuration. **Apply from template:** The related group's configuration is taken from the Dimming template group x / ballast x. **Individual:** The related group is configured individually. Corresponding parameters for the related ballast are shown on the parameter page. The individual parameters are the same as the Dimming template group x / ballast x parameter page. Specific configurations can be made from this page that exclude from the template.	**Apply from template** Individual
Selected dimming value	This parameter is used to determine the DALI characteristic. You can define whether the KNX setpoint and KNX status value refer to the DALI control value or luminous flux. **Logaritmic:** KNX value refers to the DALI control value. **Linear:** KNX value refers to the luminous flux.	Logaritmic **Linear**
Upper Dimming Value	This parameter defines the upper dimming value that will be applied to the ballast or group. This value is stored in the KNX-DALI Gateway and thus applies to all functions. If the defined upper dimming value exceeds the maximum brightness value, the KNX-DALI Gateway equals them.	1%...**100%**
Lower Dimming Value	This parameter defines the lower dimming value that will be applied to the ballast or group. This value is stored in the KNX-DALI Gateway and thus applies to all functions. If the defined lower dimming value exceeds the maximum brightness value, the KNX-DALI Gateway equals them. The lower dimming value also applies to dimming and scenes.	**1%**...100%
Relative dimming reaction		

Dimming time for relative (0 = immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...255:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**5**…255
Allow ON via relative dim	This parameter defines the ballast or group behaviour when switching on with a dimming value. For example, the lighting is OFF and you send a %3 dimming telegram. If this object is selected as yes, the lighting will be switched on and its brightness is %3. Relative dim telegram can be sent via 4-bit value. **No:** Switching on using the relative dim telegram is not allowed. The ballast, group or output must be switched on to be dimmed. **Yes:** Switching on using the relative dim telegram is allowed.	No **Yes**
Allow OFF via relative dim	This parameter defines the ballast or group behaviour when switching off with a dimming value. For example, the lighting is ON and its dimming value is % 45 and when you send a dimming telegram for lowering %45. If this object is selected as yes, the lighting will be switched OFF. Relative dim telegram can be sent via 4-bit value. **No:** Switching OFF using the brightness telegram is not allowed. The ballast or group dims to the lower dimming value and stops there. **Yes:** Switching OFF using the brightness telegram is allowed.	**No** Yes
Brightness (absolute) dimming reaction		

Dimming time for brightness (0 = immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...65535:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**2**…65535
Allow ON via brightness value	This parameter defines the ballast or group behaviour when switching on with brightness value. For example, the lighting is OFF and you send a %67 brightness telegram. If this object is selected as yes, the lighting will be switched on and its brightness is %67. Brightness telegram can be sent via 1-byte value. **No:** Switching on using the brightness telegram is not allowed. The ballast, group or output must be switched on to be dimmed. **Yes:** Switching on using the brightness telegram is allowed.	No **Yes**
Allow OFF via brightness value	This parameter defines the ballast or group behaviour when switching off with a dimming value. For example, the lighting is ON and its dimming value is % 45 and when you send a dimming telegram for lowering %45. If this object is selected as yes, the lighting will be switched OFF. Brightness(absolute) dim telegram can be sent via a 1-byte value. **Yes:** Switching OFF using the brightness telegram is allowed. **No:** Switching OFF using the brightness telegram is not allowed. The ballast or group dims to the lower dimming value and stops there.	No **Yes**

Feedback of brightness value	This parameter is used to enable or disable the DALI output x – [x] Group status brightness value object to send brightness value on the KNX bus line via a related object. **Yes:** The DALI output x – [x] Group status brightness value group object is enabled. The information is given by a 1-byte group object. **No:** The DALI output x – [x] Group status brightness value group object is not enabled hence the status brightness value is not sent on the KNX bus line.	**No** Yes
-> Send object value	This parameter is used to determine the sending object value according to action type. **Change or request:** The status is sent when a change occurs or a request demanding from the KNX bus line. **On request:** The status is sent when a request occurs from the KNX bus line.	On request **Change or request**

5.3.5.6. Group X Fault

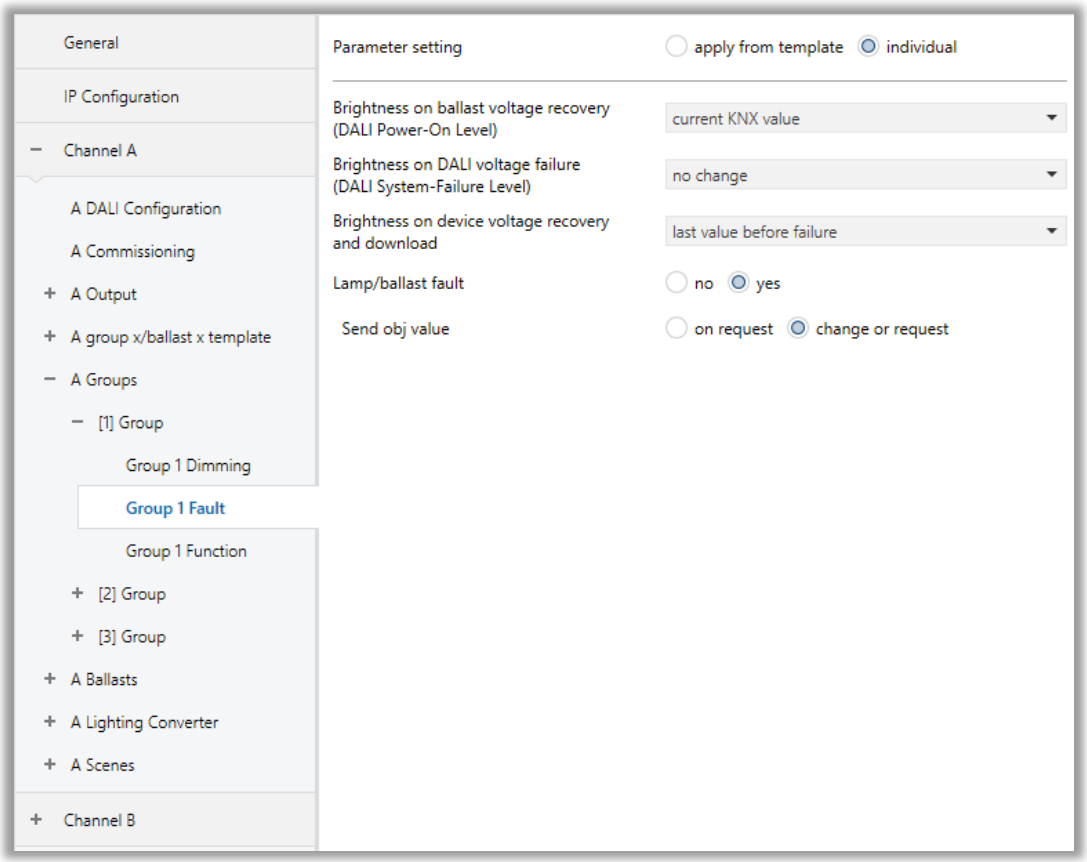

Fig. 22: Group X Fault Parameter Page Configuration

5.3.5.7. Parameters List

PARAMETER	DESCRIPTION	VALUES
Parameter setting	This parameter is used to determine the related group's settings according to the template or with individual configuration. **Apply from template:** The related group's configuration is taken from the fault template(group x / ballast x). **Individual:** The related group is configured individually. Corresponding parameters for the related group are shown on the parameter page. The individual parameters are the same as the fault template(group x / ballast x) parameter page. Specific configurations can be made from this page that exclude from the template.	**Apply from template** Individual
Brightness on ballast voltage recovery (DALI Power-On Level)	This parameter is used to determine a ballast or all ballasts that remain in a group to react when a ballast supply voltage recovery occurs. A save function can be used to save the last value to the proper storage location. The brightness value (DALI Power-On Level) that the ballast uses to switch on the lamp when the ballast supply voltage recovers are stored in this location. **Current KNX value:** The DALI device (ballast) is switched on using the previous set brightness value used before the ballast voltage failure. To use this function, the system ballasts must support the last situation values. If you face any problems, please contact the ballast manufacturer. **0%...100%:** The DALI device is switched on to the set brightness value from %0 to %100.	%0...**%**100 **Current KNX value**
Brightness on DALI voltage failure (DALI System-Failure Level)	This parameter is used to determine the ballast or group reaction that takes their parameter configuration via fault template when a DALI voltage failure occurs such as DALI short circuit or KNX-DALI Gateway supply voltage failure. **Max. brightness value:** The ballast/group ballasts switch on to the maximum brightness value. **Min. brightness value:** The ballast/group ballasts switch on to the minimum brightness value.	Max. Brightness value (100%) Min. Brightness value (1%) OFF **No change**

	OFF: The ballast or group that is applied from the template ballasts switch off. **No change:** The brightness of the ballast/group ballasts does not change. DALI devices that are switched off remain off.	
Brightness on device voltage recovery and download	This parameter determines the value that will be sent. **Last value before failure:** The ballast or group is restored to its before-failure status. After the device voltage recovery, the ballast or group must be set at least two or more seconds before restoration. **Max. brightness value:** The ballast/group ballasts switch on to the maximum brightness value. **Min. brightness value:** The ballast/group ballasts switch on to the minimum brightness value. **OFF:** The ballast or group that is applied from the template ballasts switch off. **No change:** The brightness of the ballast/group ballasts does not change. DALI devices that are switched off remain off.	Max. Brightness value (100%) Min. Brightness value (1%) OFF No change **Last value before failure**
Lamp/ballast fault	This parameter is used to enable or disable the lamp/ballast fault. This parameter indicates a fault in a group or ballast. **No:** The related fault object is disabled. **Yes:** When this option is selected, the related fault object is enabled and visible.	**No** Yes
Send object value	This parameter is used to object value information to the KNX bus according to the following options: **On request:** The object value status is sent when a request occurs from the KNX bus line. **Change or request:** The object value status is sent when a change or a request occurs from the KNX bus line.	On request **Change or request**

5.3.6. A Ballasts

This parameter page is where ballasts are enabled for use on the DALI output. As a group and a ballast are equivalents on the DALI output hence, they have the same functions and parameter windows. The ballast parameter window and its properties are described below. The related parameter window for the ballast groups is the same, except with the word group instead of ballast.

Selecting the Yes option under Enable DALI groups (group control) or Enable DALI ballasts (individual control) in the A DALI configuration parameter window enables the X groups and X ballasts parameter windows.

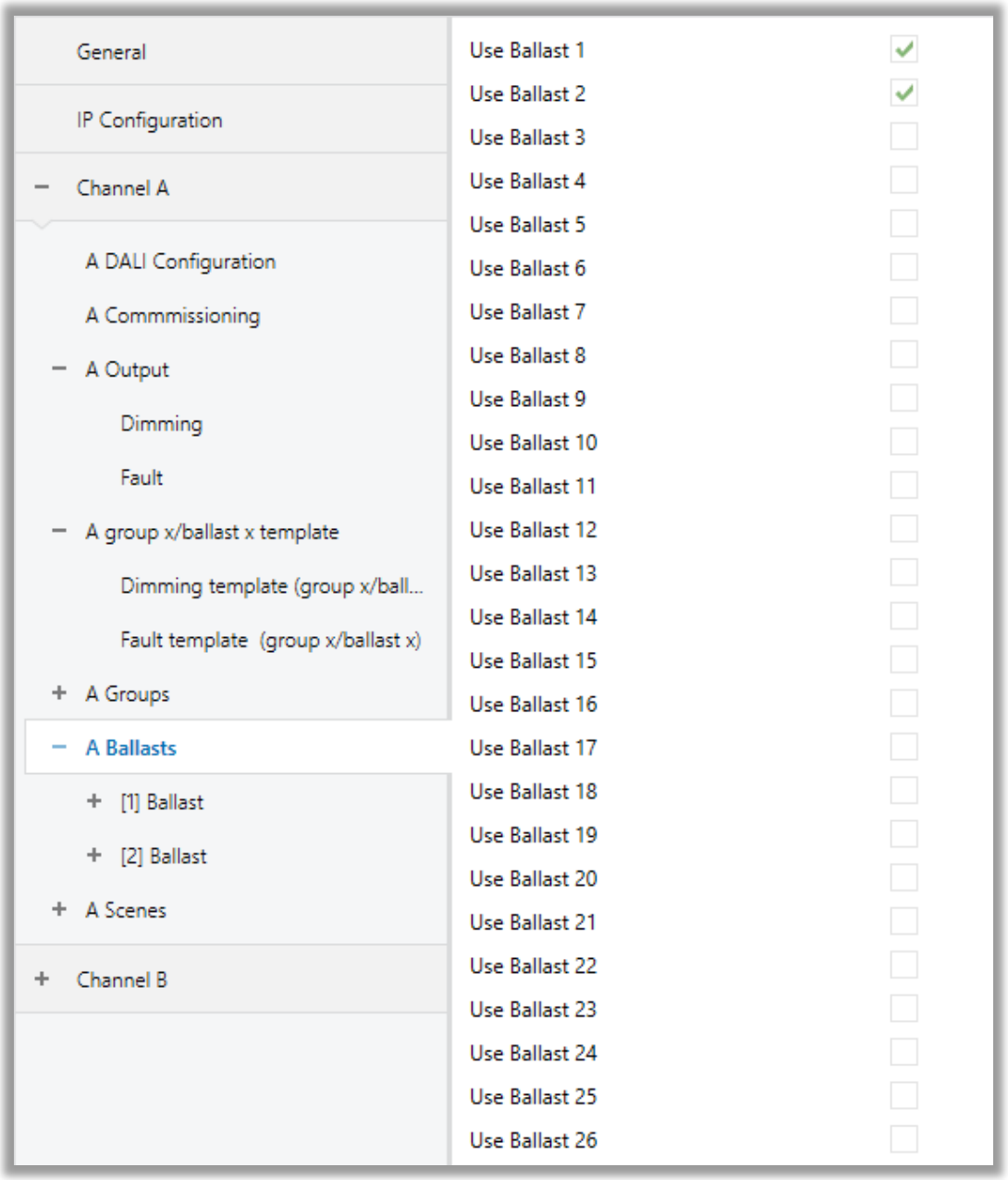

Fig. 23: A Ballasts Configuration

5.3.6.1. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Use Ballast 1 **...** **Use Ballast 64**	This parameter is used to enable or disable the related ballast. **Checked: Ballast** x is enabled for the output. This option enables further parameter pages and group objects for that ballast. **Unchecked:** Ballast x is not enabled for the output. The related parameter pages and groups are not shown.	**Checked** Unchecked

5.3.6.2. [x] Ballast

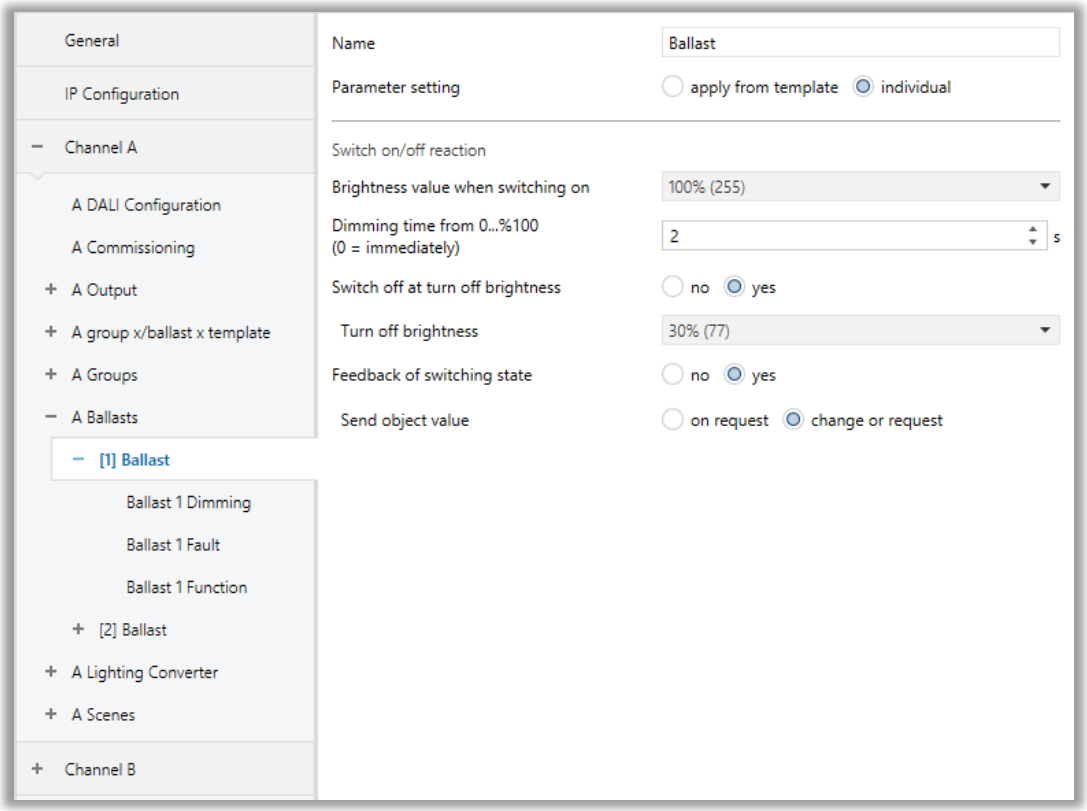

Fig. 24: [x] Ballast Parameter Page Configuration

5.3.6.3. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Name	This parameter is used to determine a ballast name. Each group or ballast can be assigned a name consisting of up to 40 characters. The name is stored in the ETS database, and also stored in the gateway by downloading the application.	**Ballast**
Parameter setting	This parameter is used to determine the related ballast's settings according to the template or with individual configuration. **Apply from template:** The related ballast's configuration is taken from the X group x / ballast x template. **Individual:** The related ballast is configured individually. Corresponding parameters for the related ballast are shown on the parameter page. The individual parameters are the same as the X group x / ballast x template parameter page. Specific configurations can be made from this page that exclude from the template.	**Apply from template** Individual
Brightness value when switching on	This parameter is used to determine the brightness value when the DALI ballast switches on after receiving an ON telegram. The dimming thresholds(upper and lower dimming values) are calibrated automatically to the maximum or minimum dimming values. **Previous value:** The ballast switches on at the brightness value it was switched off at by the Switch group object. The brightness value of the related ballast is saved when it is switched off and restored when it is switched back on. If a ballast is OFF when switched off, the previous brightness value is saved as 0% (OFF) and is switched back on in the same state. This means that the ballast will be switched off unless it has a brightness value other than 0 when switched back on. **0%...100%:** When the related ballast switches on, the selected % brightness value will be set to each ballast that is not configured individually.	Previous value 0%...**100%**

Dimming time from 0..%100 (0 = immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...255:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**2**…255
Switch off at turn off brightness	This parameter is used to enable or disable the switch off at turn off brightness. If an OFF telegram is a receipt, whether the related lighting will be turned off or it will first reach a turn-off brightness is determined. **No:** The lighting switches off completely (the brightness value will be %0). **Yes:** The turn-off brightness is a parametrizable brightness value.	**No** Yes
-> Turn off brightness	This parameter is used to determine the brightness value for the switch-off at the turn off brightness. For example, the brightness at which the group members switch off when receiving an OFF telegram. If the turn-off brightness is set outer of the maximum and minimum limits, the turn-off brightness will be automatically calibrated to maximum or minimum.	1%...**30%**...100%
Feedback of switching state	This parameter is used to enable or disable the output x – [x] ballast status object to send information via this object to the KNX bus line. **No:** The group object is not enabled. **Yes:** The output x – [x] ballast status group object is enabled. The information is given by a 1-bit group object.	**No** Yes
-> Send object value	This parameter is used to determine the sending object value according to action type. **On request:** The status is sent when a request occurs from the KNX bus line. **Change or request:** The status is sent when a change occurs or a request demanding from the KNX bus line.	On request **Change or request**

Special Note

There are some useful features of using the templates for the configuration of the parameters :
-> Clear, compact and comprehensible interface for Integrators.
-> All of the ballasts that are configured via template react as identical
-> Only template configuration changes affect all of the ballasts, so fast c

5.3.6.4. Ballast X Dimming

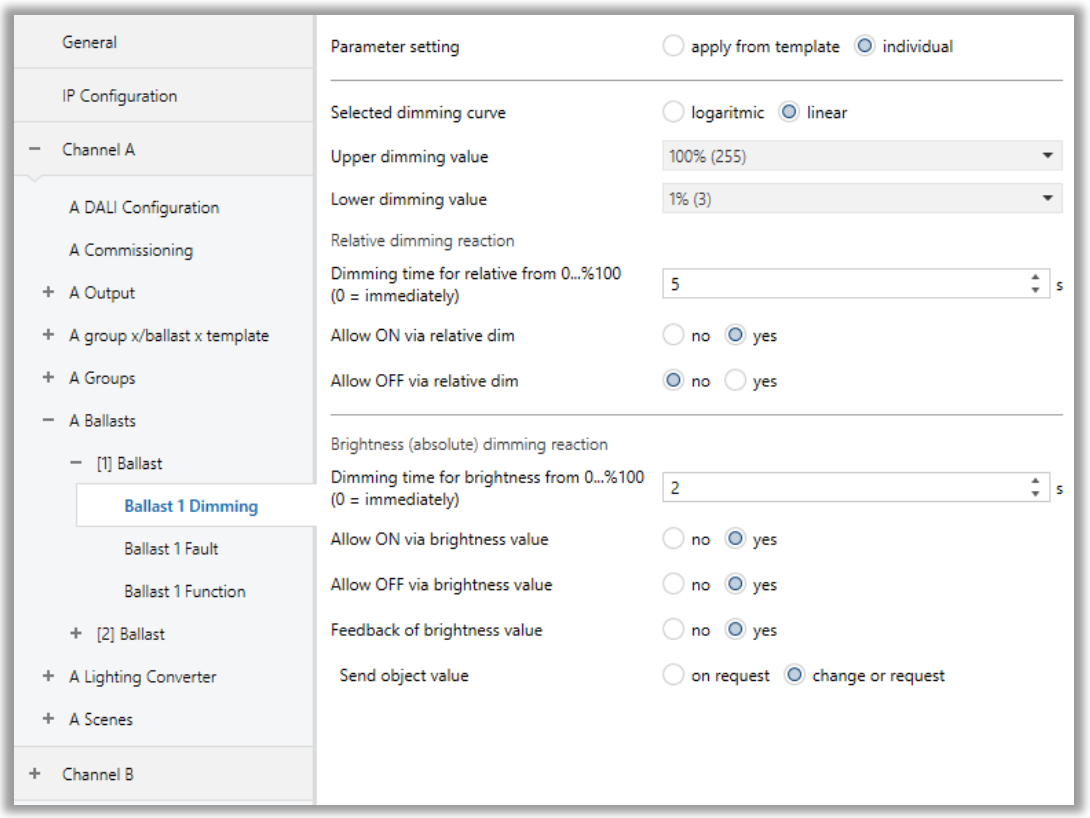

Fig. 25: Ballast X Dimming Parameter Page Configuration

5.3.6.5. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Parameter setting	This parameter is used to determine the related ballast's settings according to the template or with individual configuration. **Apply from template:** The related ballast's configuration is taken from the Dimming template group x / ballast x. **Individual:** The related ballast is configured individually. Corresponding parameters for the related ballast are shown on the parameter page. The individual parameters are the same as the Dimming template group x / ballast x parameter page. Specific configurations can be made from this page that exclude from the template.	**Apply from template** Individual
Selected dimming curve	This parameter is used to determine the DALI characteristic. You can define whether the KNX setpoint and KNX status value refer to the DALI control value or luminous flux. **Logaritmic:** KNX value refers to the DALI control value. **Linear:** KNX value refers to the luminous flux.	**Logaritmic** Linear
Upper Dimming Value	This parameter defines the upper dimming value that will be applied to the ballast or group. This value is stored in the KNX-DALI Gateway and thus applies to all functions. If the defined upper dimming value exceeds the maximum brightness value, the KNX-DALI Gateway equals them.	1%...**100%**
Lower Dimming Value	This parameter defines the lower dimming value that will be applied to the ballast or group. This value is stored in the KNX-DALI Gateway and thus applies to all functions. If the defined lower dimming value exceeds the maximum brightness value, the KNX-DALI Gateway equals them. The lower dimming value also applies to dimming and scenes.	**1%**...100%
Relative dimming reaction		

Dimming time for relative (0 = immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...255:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**5**…255
Allow ON via relative dim	This parameter defines the ballast or group behaviour when switching on with a dimming value. For example, the lighting is OFF and you send a %3 dimming telegram. If this object is selected as yes, the lighting will be switched on and its brightness is %3. Relative dim telegram can be sent via 4-bit value. **No:** Switching on using the relative dim telegram is not allowed. The ballast, group or output must be switched on to be dimmed. **Yes:** Switching on using the relative dim telegram is allowed.	No **Yes**
Allow OFF via relative dim	This parameter defines the ballast or group behaviour when switching off with a dimming value. For example, the lighting is ON and its dimming value is % 45 and when you send a dimming telegram for lowering %45. If this object is selected as yes, the lighting will be switched OFF. Relative dim telegram can be sent via 4-bit value. **No:** Switching OFF using the brightness telegram is not allowed. The ballast or group dims to the lower dimming value and stops there. **Yes:** Switching OFF using the brightness telegram is allowed.	**No** Yes
Brightness (absolute) dimming reaction		

Dimming time for brightness from 0…%100 (0 = immediately)	This parameter can be used to set a start by defining how long the output takes to dim up or down from the previous brightness value to the desired brightness when it receives a telegram. **0:** The related output is to get the desired brightness value immediately. **1...65535:** During this time, the related output is dimmed from the previous brightness to the desired brightness.	0...**2**…65535
Allow ON via brightness value	This parameter defines the ballast or group behaviour when switching on with brightness value. For example, the lighting is OFF and you send a %67 brightness telegram. If this object is selected as yes, the lighting will be switched on and its brightness is %67. Brightness telegram can be sent via 1-byte value. **No:** Switching on using the brightness telegram is not allowed. The ballast, group or output must be switched on to be dimmed. **Yes:** Switching on using the brightness telegram is allowed.	No **Yes**
Allow OFF via brightness value	This parameter defines the ballast or group behaviour when switching off with a dimming value. For example, the lighting is ON and its dimming value is % 45 and when you send a dimming telegram for lowering %45. If this object is selected as yes, the lighting will be switched OFF. Brightness(absolute) dim telegram can be sent via a 1-byte value. **No:** Switching OFF using the brightness telegram is not allowed. The ballast or group dims to the lower dimming value and stops there. **Yes:** Switching OFF using the brightness telegram is allowed.	No **Yes**

Feedback of brightness value	This parameter is used to enable or disable the DALI output x – [x] ballast status brightness value object to send brightness value on the KNX bus line via a related object. **No:** The DALI output x – [x] ballast status brightness value object is not enabled hence the status brightness value is not sent on the KNX bus line. **Yes:** The DALI output x – [x] ballast status brightness value group object is enabled. The information is given by a 1-byte group object.	**No** Yes
-> Send object value	This parameter is used to determine the sending object value according to action type. **On request:** The status is sent when a request occurs from the KNX bus line. **Change or request:** The status is sent when a change occurs or a request demanding from the KNX bus line.	On request **Change or request**

5.3.6.6. Ballast X Fault

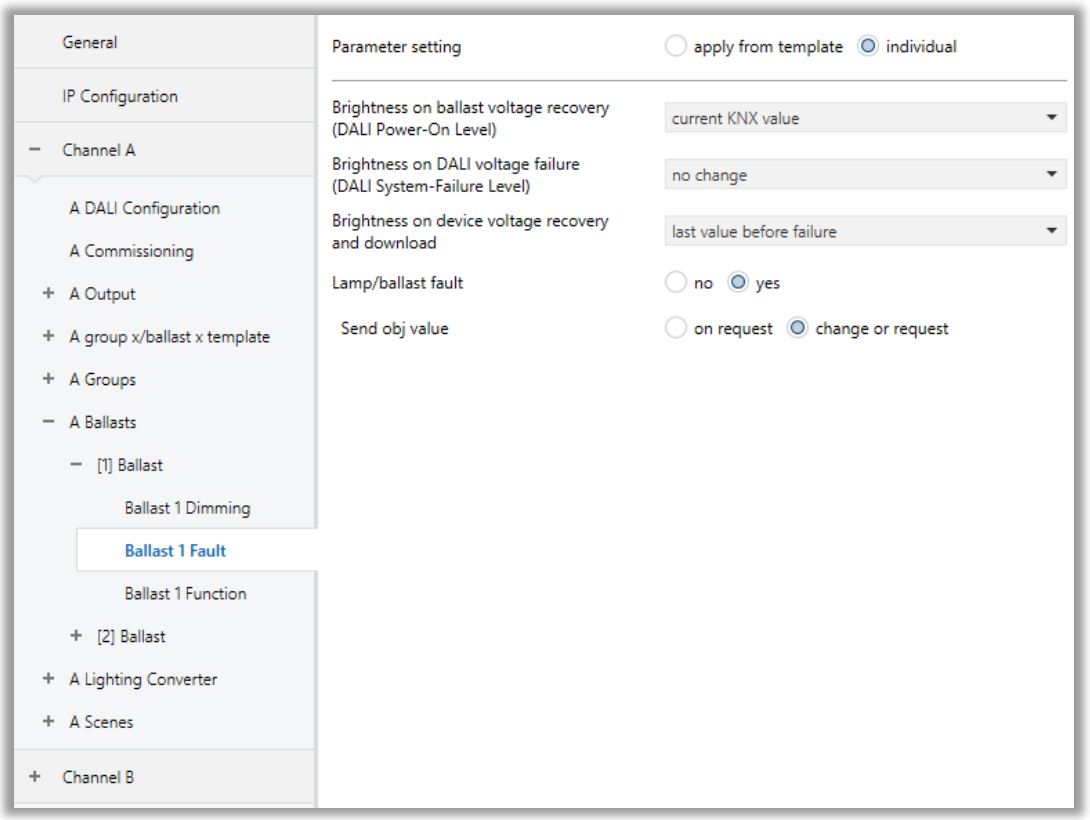

Fig. 26: Ballast X Fault Parameter Page Configuration

5.3.6.7. Parameters List

PARAMETER	DESCRIPTION	VALUES
Parameter setting	This parameter is used to determine the related ballast's settings according to the template or with individual configuration. **Apply from template:** The related ballast's configuration is taken from the fault template(group x / ballast x). **Individual:** The related ballast is configured individually. Corresponding parameters for the related ballast are shown on the parameter page. The individual parameters are the same as the fault template(group x / ballast x) parameter page. Specific configurations can be made from this page that exclude from the template.	**Apply from template** Individual
Brightness on ballast voltage recovery (DALI Power-On Level)	This parameter is used to determine a ballast or all ballasts that remain in a group to react when a ballast supply voltage recovery occurs. A save function can be used to save the last value to the proper storage location. The brightness value (DALI Power-On Level) that the ballast uses to switch on the lamp when the ballast supply voltage recovers are stored in this location. **0%...100%:** The DALI device is switched on to the set brightness value from %0 to %100. **Current KNX value:** The DALI device (ballast) is switched on using the previous set brightness value used before the ballast voltage failure. To use this function, the system ballasts must support the last situation values. If you face any problems, please contact the ballast manufacturer.	%0...%100 **Current KNX value**
Brightness on DALI voltage failure (DALI System-Failure Level)	This parameter is used to determine the ballast or group reaction that takes their parameter configuration via fault template when a DALI voltage failure occurs such as DALI short circuit or KNX-DALI Gateway supply voltage failure. **Max. brightness value:** The ballast/group ballasts switch on to the maximum brightness value. **Min. brightness value:** The ballast/group ballasts switch on to the minimum brightness value.	Max. Brightness value (100%) Min. Brightness value (1%) OFF **No change**

	OFF: The ballast or group that is applied from the template ballasts switch off. **No change:** The brightness of the ballast/group ballasts does not change. DALI devices that are switched off remain off.	
Brightness on device voltage recovery and download	This parameter determines the value that will be sent. **Max. brightness value:** The ballast/group ballasts switch on to the maximum brightness value. **Min. brightness value:** The ballast/group ballasts switch on to the minimum brightness value. **OFF:** The ballast or group that is applied from the template ballasts switch off. **No change:** The brightness of the ballast/group ballasts does not change. DALI devices that are switched off remain off. **Last value before failure:** The ballast or group is restored to its before-failure status. After the device voltage recovery, the ballast or group must be set at least two or more seconds before restoration.	Max. Brightness value (100%) Min. Brightness value (1%) OFF No change **Last value before failure**
Lamp/ballast fault	This parameter is used to enable or disable the lamp/ballast fault. This parameter indicates a fault in a group or ballast. **No:** The related fault object is disabled. **Yes:** When this option is selected, the related fault object is enabled and visible.	**No** Yes
Send object value	This parameter is used to object value information to the KNX bus according to the following options: **On request:** The object value status is sent when a request occurs from the KNX bus line. **Change or request:** The object value status is sent when a change or a request occurs from the KNX bus line.	On request **Change or request**

5.3.8. A Lighting Converter

On this parameter page, the emergency lighting converters are enabled for use on the related DALI channel. It is also used to set the emergency lighting properties and tests that affect all the emergency lighting converters on the output.

->> Automatic emergency lighting test

->> Inhibit/rest mode function

->> Enable emergency lighting converter

Selecting the Yes option under Enable DALI emergency lighting converter (emergency lighting control) in the A DALI configuration parameter window enables the A lighting converter parameter window. The same settings can be made for the other channel B.

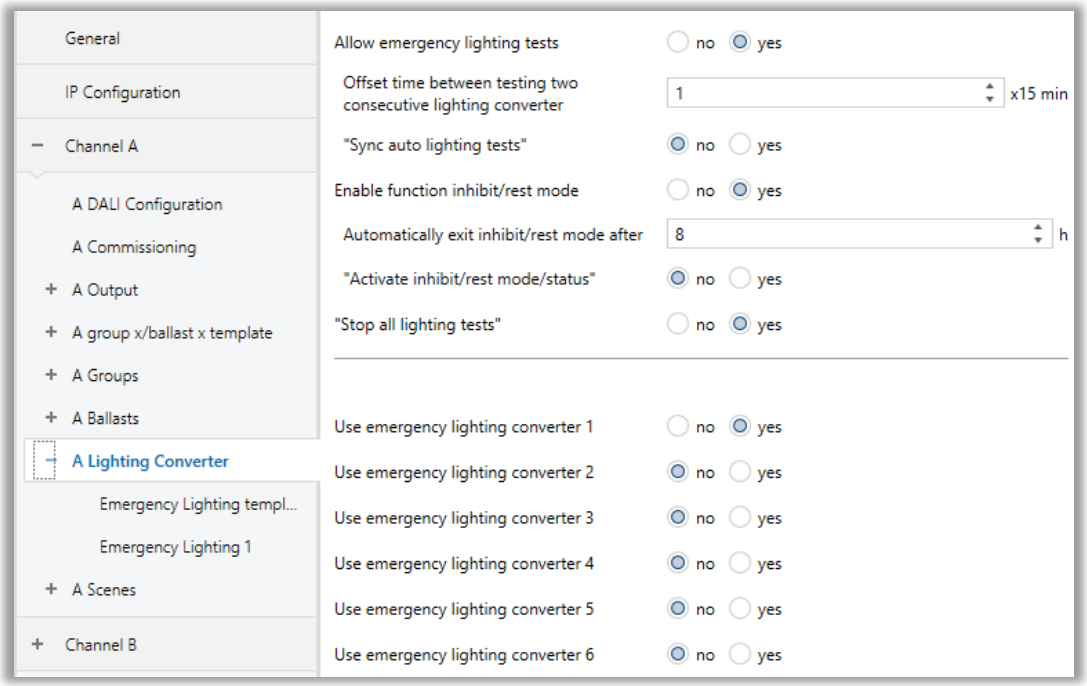

Fig. 27: A Lighting Converter Parameter Page Configuration

5.3.8.1. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Allow Emergency Lighting Tests	This parameter is used to enable or disable the emergency lighting tests. In the Emergency light x parameter window for each emergency lighting converter, you can define whether that converter is included in the test. Due to the different and sometimes very large tolerances of emergency lighting converters, it is preferable to control the automatic emergency lighting test with a higher-level emergency lighting controller. **Note:** The automatic emergency lighting test is an optional function of the DALI standard for emergency lighting converters to EN 62386-202. Therefore, check in advance whether the emergency lighting converter can run an automatic test. Otherwise, the test can only be triggered via the higher-level controller.	**No** Yes
->> Offset time between testing two consecutive lighting converter	This parameter is used to define offset at 15-minute intervals between automatic test starts for two neighbouring emergency lighting converters. This offset can be used to avoid a situation where all the emergency lighting converters at once are being tested or in the post-test recharging cycle. The formula used for the offset is the DALI short address multiplied by the offset. In other words, an offset of 1 (= 15 minutes) means that converter 1 is offset by 15 minutes, converter 2 by 30 minutes, and so on. The gateway can set this time but is not responsible for the timing tolerances that the emergency lighting converter uses to implement it. Also, note that a test will not run immediately if an emergency light is in the post-test recharging cycle.	0…**1**…255
->> "Sync auto lighting tests"	This parameter is used to send the start request for the automatic emergency lighting test to the emergency lighting converter. The request is only sent to those converters to be included. Settings for this are made in the Emergency light x parameter window using the parameters Included in the automatic function test or Included in the automatic duration/partial duration test.	**No** Yes

	The automatic emergency lighting test is a standalone function on an emergency lighting converter. The converter runs the tests cyclically based on its stipulated timing. There is no need for additional triggering via the gateway or an emergency lighting controller when automatic testing is active. The test result is provided by the converter in the converter, read by the gateway and sent on the KNX. **Note:** There is a pause between two DALI QUERY polls parameters in the A DALI configuration parameter window. The longer the pause selected, the later the gateway will read the test result from the converter.	
Enable Function inhibit/rest mode	This parameter is used to activate inhibit/rest mode. Whether or not an emergency lighting converter evaluates the group object and executes the Inhibit/rest mode function is defined in the Emergency light x parameter window. So, it is possible to deactivate the emergency lighting function to conserve the battery charge e.g. during a construction/commissioning phase. **Note:** Rest mode is a state in which the emergency light is switched off during its emergency lighting operation. Inhibit mode is a timed state in which the emergency light does not switch to emergency operation in the event of a mains voltage failure.	**No** Yes
->> Automatically exit inhibit/rest mode after	This parameter is used to define how long the emergency lighting converter stays in Inhibit/rest mode. There will be no emergency lighting function during this time. The emergency lighting converter does not switch on the emergency lighting in the event of a mains voltage failure.	0…**8**…48
->> Activate inhibit/rest mode/status	This parameter is used to enable or disable the inhibit/rest mode/status object.	**No** Yes

->>> Send object value	This parameter is used to determine the sending object value condition. The Activate emergency lighting Inhibit/rest mode/Status group object not only activates the mode but also displays the status, i.e. whether at least one emergency lighting converter on the output is in Inhibit/rest mode. Information on individual emergency lighting converters is determined by the Emergency lighting converter status group object.	On request **Change or request**
“Stop all lighting tests”	This parameter is used to enable or disable the stop all lighting tests object. Running tests are interrupted. Pending tests are cancelled.	**No** Yes
Use Emergency Lighting Converter 1 . . . **Use Emergency Lighting Converter 64**	This parameter is used to enable or disable the related emergency lighting. **No:** Emergency Lighting x is not enabled for the output. The related parameter pages and groups are not shown. **Yes:** Emergency Lighting x is enabled for the output. This option enables further parameter pages and group objects for that emergency lighting.	**No** Yes

5.3.8.2. Emergency Lighting Template

On this parameter page, the emergency lighting template parameter page configuration is described. This parameter window is enabled if the Enable DALI emergency lighting converter parameter is set to Yes in the X DALI configuration parameter window.

The template window has a major advantage in that the settings made here relate to all emergency lighting converters, so each converter on the DALI output reacts in the same way.

The template parameter window is illustrated and described below. It is the same as the individual parameter window except for the fact that it relates to all emergency lighting converters while the individual window relates only to a particular converter.

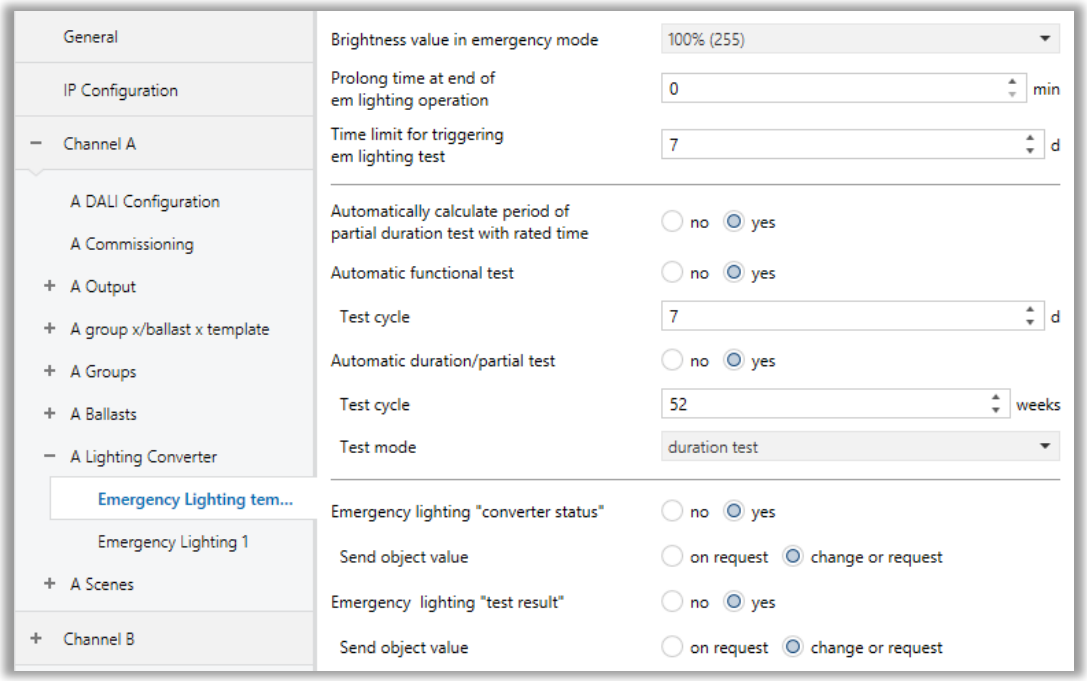

Fig. 28: A Lighting Converter – Emergency Lighting Template Configuration

5.3.8.3. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Brightness value in emergency mode	This parameter is used to define the brightness value adopted in emergency mode. The value set by this parameter is stored in the emergency lighting converter and therefore remains available even if there is no connection to the KNX DALI gateway. **Note:** The emergency lighting converters must support brightness value parametrization. Most converters have a fixed emergency brightness to ensure an emergency mode compatible with the battery and the lamp power. For an emergency lighting converter, DALI value 255 is specified as an undefined brightness value. Therefore the maximum brightness value setting of 255 is mapped to DALI 254.	**100%(255)**…1%(3)
Prolong time at end of em lighting operation	This parameter is used to define in minutes how long the emergency light remains on at this brightness value when the emergency mode ends before it is re-enabled for KNX telegrams. cycle.	**0**…127
Time limit for triggering em lighting test	This parameter is used to define a period (test execution time timeout) in days, within which the test must be run. This time is stored in the emergency lighting converter and evaluated. A converter may not always be able to implement a requested emergency lighting test immediately, e.g. because the battery charge is low. **Note:** The state indicating whether an emergency lighting test is pending, running or complete is sent via group objects (e.g. Emergency lighting converter status or Em lighting test status (add)), or can be queried if necessary.	0…**7**…127
Automatically calculate period of partial duration test with rated time	This parameter is used to enable or disable the period for a partial duration test with rated time. The period for the partial duration test is independent of whether the test is triggered automatically, or manually via a group object. The gateway reads the rated duration of the battery from the emergency lighting converter and uses this to calculate how long the partial duration test should run (test time = 10% of rated duration).	**No** Yes

->> Period for partial duration test	This parameter is used to define the runtime for the partial duration test. The value set here is multiplied by 2 to obtain a time in minutes. For example, if the default value is 35, the partial duration test will run for 70 minutes. **Note:** The partial duration test is a duration test that is terminated by the gateway after the partial duration test period. If there is no connection between the gateway and the emergency lighting converter, it cannot stop the test once it has started. In such cases, the emergency lighting battery fully discharges. The partial duration test then shows as failed.	1…**35**…600
Activate functional test	This parameter is used to enable or disable the functional test. **No:** The emergency lighting converter does not run an automatic function test. The test can be explicitly triggered by an emergency lighting controller via one of the Trigger em lighting tests... group objects. **Yes:** The emergency lighting converter runs the automatic function test. The cycle time for repeating the test can be set in the next parameter (Test Cycle).	**No** Yes
->> Test cycle	This parameter is used to define the time interval that the emergency lighting converter uses to automatically and cyclically run the function test. The default value of 7 days corresponds to the default factory setting on the converter.	1…**7**…255
Automatic duration/partial test	This parameter is used to enable or disable the automatic duration/partial test. **No:** The emergency lighting converter does not run any automatic duration/partial duration tests. The test can be explicitly triggered by an emergency lighting controller via one of the Trigger em lighting tests... group objects. **Yes:** The emergency lighting converter runs the automatic duration/partial duration test. The cycle time for repeating the test can be set in the next parameter.	**No** Yes
->> Test cycle	This parameter is used to define the time interval that the emergency lighting converter uses to automatically and cyclically run the duration/partial duration test.	1…**52**…97

->> Test mode	This parameter is used to define the type of emergency lighting test. **Duration test:** The emergency lighting converter automatically starts a duration test. The start of the test is executed at a fixed interval. The Test cycle parameter in this parameter window is used to set the test cycle. **Partial duration test:** The emergency lighting converter automatically starts a partial duration test. The start of the test is executed at a fixed interval. The Test cycle parameter in this parameter window is used to set the test cycle. **Duration and partial duration test:** The emergency lighting converter automatically starts a partial duration or duration test. The start of the test is executed at a fixed interval. The Test cycle parameter in this parameter window is used to set the test cycle. There is also a further parameter that determines how often the test is a full-duration test.	**Duration test** Partial duration test Duration and partial duration test
Emergency lighting "converter status"	This parameter is used to enable or disable the converter status object. **No:** The status of the emergency lighting converter is not sent on the KNX in a group object for each converter. **Yes:** The Emergency lighting converter status group object is enabled. This sends the status of the emergency lighting converter on the KNX.	**No** Yes
->> Send object value	This parameter is used to determine the sending object value according to the condition. **On request:** The status is sent when a request occurs. **Change or on request:** The status is sent when either a change or request occurs.	On request **Change or request**
Emergency lighting "test result"	This parameter is used to enable or disable the emergency lighting test result object.	**No** Yes
->> Send object value	This parameter is used to determine the sending object value according to the condition. **On request:** The status is sent when a request occurs. **Change or on request:** The status is sent when either a change or request occurs.	On request **Change or request**

5.3.8.4. Emergency Lighting X

On this parameter page, Settings for an emergency lighting converter test on emergency lights with individual batteries are described. Tests are automatically triggered by the converter, or by a higher-level controller via the KNX and the gateway. The tests themselves are run by the converter. The converter sends the test results to the DALI. The gateway sends them to the KNX, where they can be stored and documented by a controller.

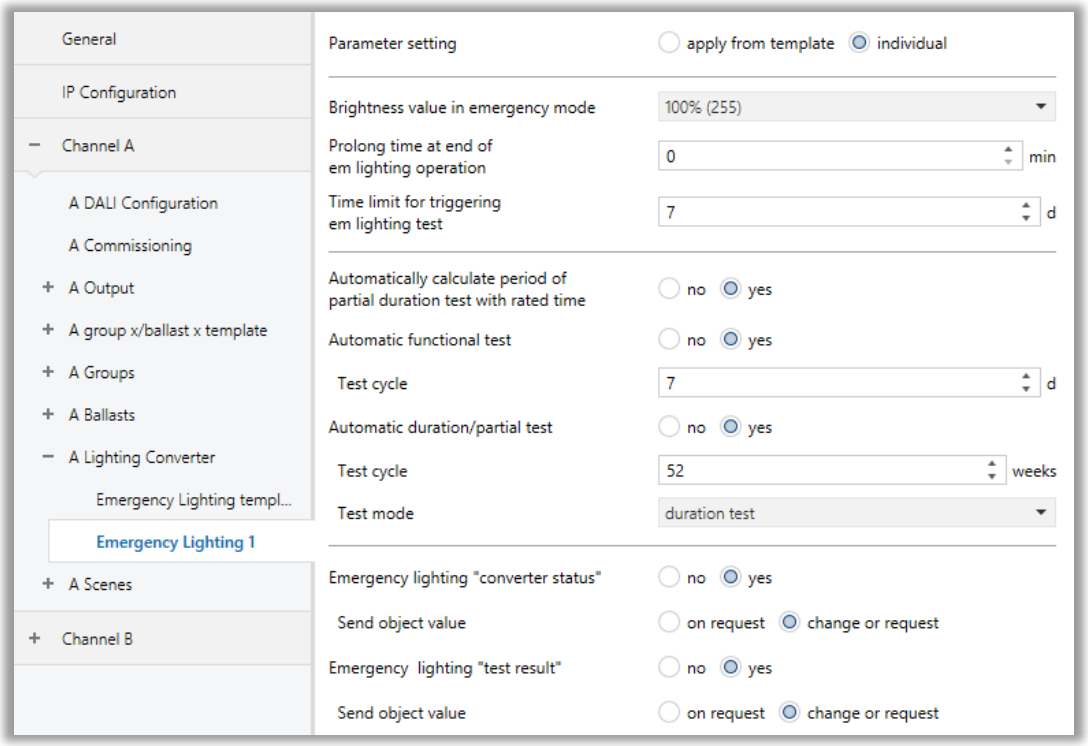

Fig. 29: A Lighting Converter – Emergency Lighting Template Configuration

5.3.8.5. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Parameter Setting	This parameter is used to determine the related emergency lighting settings according to the template or with individual configurations. **Apply from template:** The related emergency lighting configuration is taken from the X group x / ballast x template. **Individual:** The related emergency lighting is configured individually. Corresponding parameters for the related group are shown on the parameter page. The individual parameters are the same as the X group x / ballast x template parameter page. Specific configurations can be made from this page that exclude from the template.	**Apply from template** Individual
Brightness value in emergency mode	This parameter is used to define the brightness value adopted in emergency mode. The value set by this parameter is stored in the emergency lighting converter and therefore remains available even if there is no connection to the KNX DALI gateway. **Note:** The emergency lighting converters must support brightness value parametrization. Most converters have a fixed emergency brightness to ensure an emergency mode compatible with the battery and the lamp power. For an emergency lighting converter, DALI value 255 is specified as an undefined brightness value. Therefore the maximum brightness value setting of 255 is mapped to DALI 254.	**100%(255)**…1%(3)
Prolong time at end of em lighting operation	This parameter is used to define in minutes how long the emergency light remains on at this brightness value when the emergency mode ends before it is re-enabled for KNX telegrams. cycle.	**0**…127
Time limit for triggering em lighting test	This parameter is used to define a period (test execution time timeout) in days, within which the test must be run. This time is stored in the emergency lighting converter and evaluated. A converter may not always be able to implement a requested emergency lighting test immediately, e.g. because the battery charge is low. **Note:** The state indicating whether an emergency lighting test is pending, running or complete is sent via group objects (e.g. Emergency lighting converter status or Em lighting test status (addr)), or can be queried if necessary.	0…**7**…127

Automatically calculate period of partial duration test with rated time	This parameter is used to enable or disable the period for a partial duration test with rated time. The period for the partial duration test is independent of whether the test is triggered automatically, or manually via a group object. The gateway reads the rated duration of the battery from the emergency lighting converter and uses this to calculate how long the partial duration test should run (test time = 10% of rated duration).	**No** Yes
->> Period for partial duration test	This parameter is used to define the runtime for the partial duration test. The value set here is multiplied by 2 to obtain a time in minutes. For example, if the default value is 35, the partial duration test will run for 70 minutes. **Note:** The partial duration test is a duration test that is terminated by the gateway after the partial duration test period. If there is no connection between the gateway and the emergency lighting converter, it cannot stop the test once it has started. In such cases, the emergency lighting battery fully discharges. The partial duration test then shows as failed.	1…**35**…600
Activate functional test	This parameter is used to enable or disable the functional test. **No:** The emergency lighting converter does not run an automatic function test. The test can be explicitly triggered by an emergency lighting controller via one of the Trigger em lighting tests... group objects. **Yes:** The emergency lighting converter runs the automatic function test. The cycle time for repeating the test can be set in the next parameter (Test Cycle).	**No** Yes
->> Test cycle	This parameter is used to define the time interval that the emergency lighting converter uses to automatically and cyclically run the function test. The default value of 7 days corresponds to the default factory setting on the converter.	1…**7**…255

Automatic duration/partial test	This parameter is used to enable or disable the automatic duration/partial test. **No:** The emergency lighting converter does not run any automatic duration/partial duration tests. The test can be explicitly triggered by an emergency lighting controller via one of the Trigger em lighting tests... group objects. **Yes:** The emergency lighting converter runs the automatic duration/partial duration test. The cycle time for repeating the test can be set in the next parameter.	**No** Yes
->> Test cycle	This parameter is used to define the time interval that the emergency lighting converter uses to automatically and cyclically run the duration/partial duration test.	1…**52**…97
->> Test mode	This parameter is used to define the type of emergency lighting test. **Duration test:** The emergency lighting converter automatically starts a duration test. The start of the test is executed at a fixed interval. The Test cycle parameter in this parameter window is used to set the test cycle. **Partial duration test:** The emergency lighting converter automatically starts a partial duration test. The start of the test is executed at a fixed interval. The Test cycle parameter in this parameter window is used to set the test cycle. **Duration and partial duration test:** The emergency lighting converter automatically starts a partial duration or duration test. The start of the test is executed at a fixed interval. The Test cycle parameter in this parameter window is used to set the test cycle. There is also a further parameter that determines how often the test is a full-duration test.	**Duration test** Partial duration test Duration and partial duration test
Emergency lighting "converter status"	This parameter is used to enable or disable the converter status object. **No:** The status of the emergency lighting converter is not sent on the KNX in a group object for each converter. **Yes:** The Emergency lighting converter status group object is enabled. This sends the status of the emergency lighting converter on the KNX.	**No** Yes

->> Send object value	This parameter is used to determine the sending object value according to the condition. **On request:** The status is sent when a request occurs. **Change or on request:** The status is sent when either a change or request occurs.	On request **Change or request**
Emergency lighting "test result"	This parameter is used to enable or disable the emergency lighting test result object.	**No** Yes
->> Send object value	This parameter is used to determine the sending object value according to the condition. **On request:** The status is sent when a request occurs. **Change or on request:** The status is sent when either a change or request occurs.	On request **Change or request**

5.3.7. A Scenes

The Interra KNX-DALI Gateways have 16 scenes per output and these scenes correspond to DALI scenes. Each scene can be assigned to any ballast or group or both of them on the output. DALI groups and ballasts are referred to as scene members below. A scene member can be a member of several scenes.

This parameter window is visible if DALI scenes are enabled in the X DALI configuration parameter window.

DALI scenes are assigned to KNX scenes on this parameter page. So, the integration of any of the KNX scenes(up to 64) scenes into the DALI scenes can be possible.

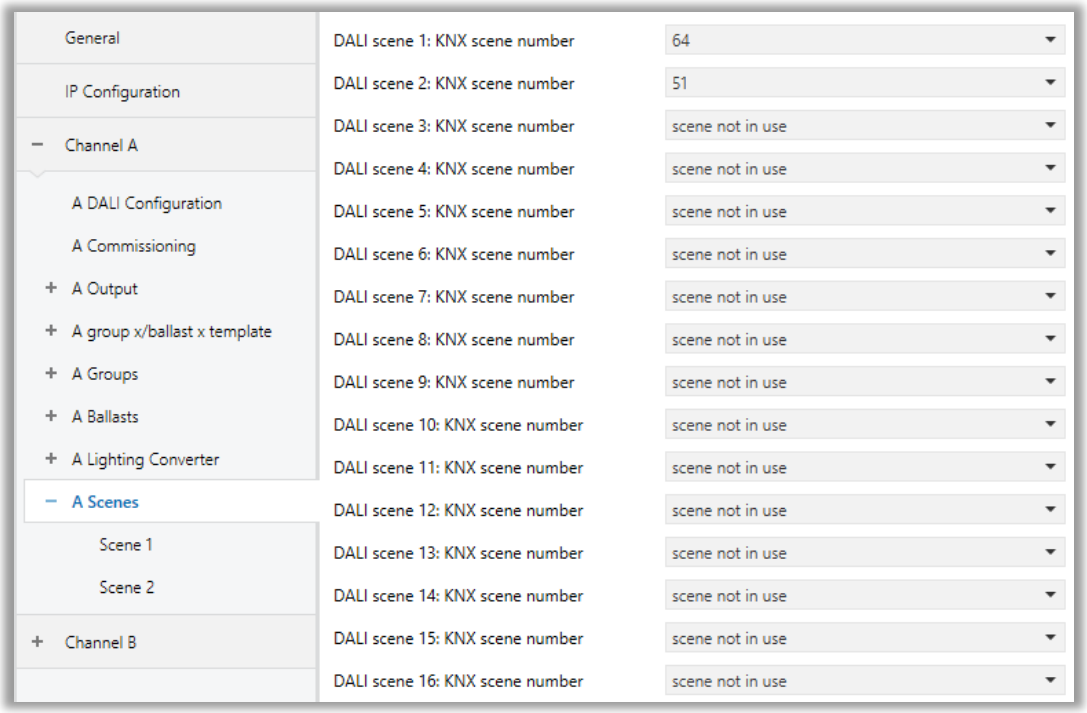

Fig. 30: A Scenes Parameter Page Configuration

Special Note

The Interra KNX-DALI Gateways' DALI scenes can only include members from the same output(A or B). If you want to configure a scene with ballasts and groups from both outputs, 2 separate scenes must be used as DALI scenes. Also, these DALI scenes should be linked by a common KNX group address.

5.3.7.1. Parameters List

PARAMETERS	DESCRIPTION	VALUES
DALI scene 1: KNX scene number **...** **DALI scene 16: KNX scene number**	This parameter is used to link a DALI scene to a KNX scene. All of the possible KNX scenes(64 possible scenes) can be linked to different 16 DALI scenes. **Scene not in use:** The related DALI scene x is not in use. **1...64:** The selected KNX scene Q(1 to 64) is assigned to the selected DALI scene x. This selection enables the related DALI scene parameter window. For example, If you select to assign KNX scene 44 to DALI scene 7. Scene 7 parameter page under X scenes will be enabled.	**Scene not in use** 1...64

5.3.7.2. Scene X

The scene x parameter page is only visible if DALI scene x is linked to a KNX scene(1 to 64 different KNX Scenes) in the X scenes parameter page.

A scene member can be any ballast or group on the related DALI output line. The scenes properties and their members are parameterized on this parameter page.

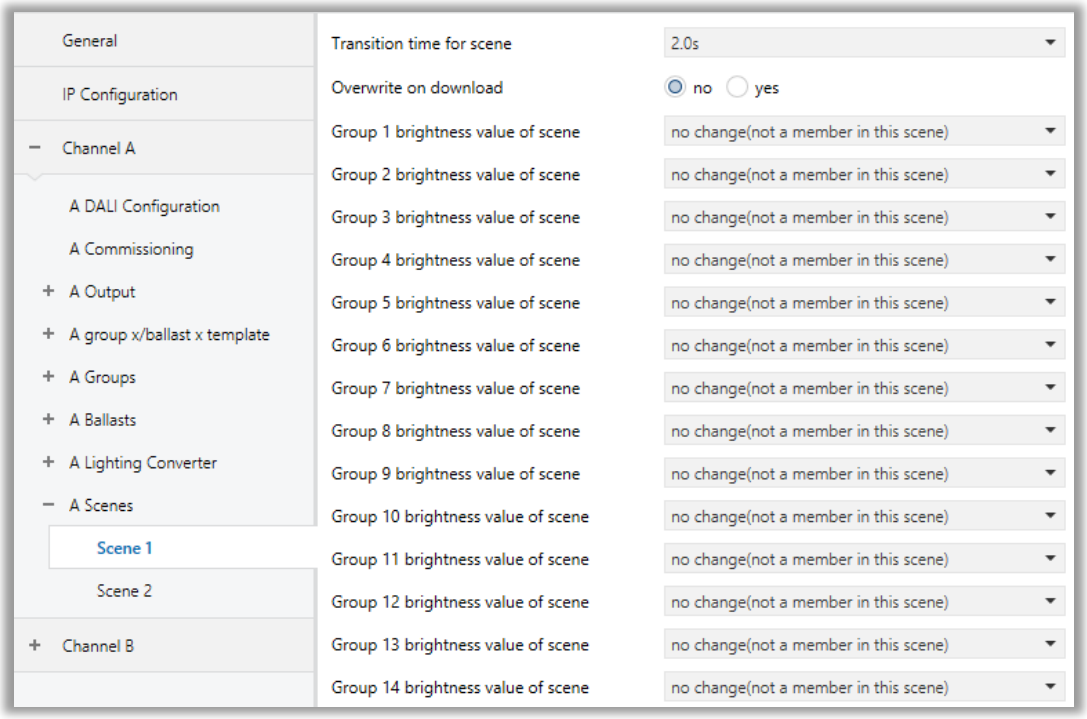

Fig. 31: Scene X Parameter Page Configuration

Special Note

On this parameter page, all the possible groups and ballasts are shown. Moreover, the integrators must be aware that the required members should be connected to the related output. Because Interra KNX-DALI Gateways and the ETS software do not check this situation.

5.3.7.3. Parameters List

PARAMETERS	DESCRIPTION	VALUES
Transition time for scene	This parameter is used to determine the processing time for scene members to reach their scene value after a scene is called. The times are listed in the parameter specified by the DALI standard and are stored in the related ballast. When the dimming process is finished, the scene members have reached the set brightness for the scene. For instance, Group 6, which is dimmed from 20% to 50%, ballast 11, which is dimmed from 60% to 90%, and ballast 37, which is dimmed from %40 to %10, all of them reach the set brightness value of the scene simultaneously. **0.7 s…90.5 s:** When a scene is recalled, all the lighting scene members are dimmed from their current brightness value to the set brightness value within this time. **Jump to:** When a scene is recalled, the scene members are switched on immediately at the set brightness value of the scene.	0.7s, 1.0s, 1.4s, **2.0s**, 2.8s, 4.0s, 5.7s, 8.0s, 11.3s, 16.0s, 22.6s, 32.0s, 45.3s, 64.0s, 90.5s Jump to
Overwrite on download	This parameter is used to prevent manually set scene values from being overwritten by ETS download or KNX bus voltage recovery. Generally, the configured scene values are downloaded to the Interra KNX-DALI Gateway by ETS. But with this option, the saved scene configuration values via KNX are retained. **No:** The scene values for the scene members can not be overwritten with the values configured in ETS by an application download or KNX bus voltage recovery. **Yes:** The scene values for the scene members can be overwritten with the values configured in ETS by an application download or KNX bus voltage recovery.	No **Yes**

Group 1 brightness value of scene . . . **Group 16 brightness value for scene**	This parameter is used the determine the brightness value of the related group when a scene is recalled. **No change (not a member in this scene):** The related group is not a member of the selected scene and is not affected by a scene recall. The current brightness of value remains unchanged and even when the scene is stored via the KNX, the brightness value is not stored in the ballast. **100% (255)…0% (OFF):** The related group is a member of the selected scene. During a scene recall, the scene member is set to the brightness value parameterized here. If the set brightness value is above or below the upper or lower dimming value defined for the scene member in question, the corresponding dimming value is stored in the scene.	**No change(not a member in this scene)** 0%...%100
Ballast 1 brightness value of scene . . . **Ballast 64 brightness value of scene**	This parameter is used the determine the brightness value of the related ballast when a scene is recalled. **No change (not a member in this scene):** The related ballast is not a member of the selected scene and is not affected by a scene recall. The current brightness of value remains unchanged and even when the scene is stored via the KNX, the brightness value is not stored in the ballast. **100% (255)…0% (OFF):** The related ballast is a member of the selected scene. During a scene recall, the scene member is set to the brightness value parameterized here. If the set brightness value is above or below the upper or lower dimming value defined for the scene member in question, the corresponding dimming value is stored in the scene.	**No change(not a member in this scene)** 0%...%100

Special Note

When a download occurs, the parametrized scene values are usually transferred to the gateway. Note that if no change has been made in the ETS application, ETS does not transfer these values again when a partial ETS download occurs. To transfer the values to the gateway even when no parameters have been changed, run a normal download using the "Program application program".

6. ETS Objects List & Descriptions

The Interra KNX-DALI Gateways can communicate via the KNX bus line. In this section, the group objects of the Interra KNX-DALI Gateways are described.

KNX-DALI Gateway Dual Channel device has an additional channel B that is equal to the A so, just describing the Output A group object is enough.

ETS group objects are divided into 4 main parts, and these are :

- **General** - General group objects to the single & dual channel KNX-DALI Gateway.
- **Output X** - The output x objects are for the whole channel outputs. For channel, A -> output A and channel B -> output B.
- **Output X - [x] Group** - These objects are clustered ballasts within a group.
- **Output X - [x] Ballast** - These objects are for a single ballast that is numbered x.

Special Note

Due to the flexible ETS configurations feature, some group objects are dynamic and they are only visible if the related parameters are activated in the application program.

All of the group objects of single & dual channel Interra KNX-DALI Gateways are listed below. You can quickly browse through this table to get the functional capabilities of Interra KNX-DALI Gateways. In this table, the [x] group represents a group and the [x] ballast represents a single DALI device.

The detailed functions of group objects are described in different topics.

No	Name	Function	DTP Type	Length	Flags			
					C	R	W	T
1	General	In operation	1.002	1 bit	X			X
2	General	Disable manual operation/Status	1.003	1 bit	X	X	X	X
3	General	Gateway supply voltage fault	1.005	1 bit	X	X		X
4	Logic 1	Input 1	1.002	1 bit	X		X	
5	Logic 1	Input 2	1.002	1 bit	X		X	
6	Logic 1	Input 3	1.002	1 bit	X		X	
7	Logic 1	Input 4	1.002	1 bit	X		X	
8	Logic 1	Output	1.002	1 bit	X	X		X
24	Converter 1	Input	1.001	1 bit	X		X	
			2.001	2 bit	X		X	
			5.010	1 byte	X		X	
			7.001	2 byte	X		X	
25	Converter 1	Output	1.001	1 bit	X	X		X
			2.001	2 bit	X	X		X
			5.010	1 byte	X	X		X
			7.001	2 byte	X	X		X
40	Output A	New DALI addressing	1.003	1 bit	X		X	
41	Output A	Search DALI addresses	1.010	1 bit	X		X	
42	Output A	Switch	1.001	1 bit	X		X	
43	Output A	Status switch	1.001	1 bit	X	X		X
44	Output A	Relative dimming	3.007	4 bit	X		X	
45	Output A	Brightness value	5.001	1 byte	X		X	
46	Output A	Status brightness value	5.001	1 byte	X	X		X
47	Output A	DALI voltage fault	1.005	1 bit	X	X		X
48	Output A	Lamp fault	1.005	1 bit	X	X		X
49	Output A	Ballast fault	1.005	1 bit	X	X		X
50	Output A	Fault addressed	237.600	2 byte	X	X	X	X
51	Output A	Number of ballast fault	5.010	1 byte	X	X		X
52	Output A	Ballast number fault	5.010	1 byte	X	X		X
53	Output A	Switch up next ballast fault	1.008	1 bit	X		X	
54	Output A	Number of group fault	5.010	1 byte	X	X		X
55	Output A	Group number fault	5.010	1 byte	X	X		X
56	Output A	Switch up next group fault	1.008	1 bit	X		X	
57	Output A	Acknowledge fault messages /Status	1.015	1 bit	X	X	X	X
58	Output A	Disable fault messages	1.003	1 bit	X		X	
59	Output A	Scenes 1…16	18.001	1 byte	X		X	
60	Output A	Burn-in lamps/Status	1.010	1 bit	X	X	X	X
61	Output A – [x] Group	Switch	1.001	1 bit	X		X	
62	Output A – [x] Group	Status switch	1.001	1 bit	X	X		X
63	Output A – [x] Group	Relative dimming	3.007	4 bit	X		X	

64	Output A – [x] Group	Brightness value	5.001	1 byte	X		X	
65	Output A – [x] Group	Status brightness value	5.001	1 byte	X	X		X
66	Output A – [x] Group	Lamp/ballast fault	1.005	1 bit	X	X		X
67	Output A – [x] Group	Forced operation 1-bit	1.003	1 bit	X	X	X	
		Forced operation 2-bit	2.001	2 bit	X	X	X	
68	Output A – [x] Group	Block	1.003	1 bit	X	X	X	
69	Output A – [x] Group	Burn-in lamp	1.010	1 bit	X	X	X	X
70	Output A – [x] Group	Staircase start	1.003	1 bit	X	X	X	
71	Output A – [x] Group	Staircase permanent on	1.001	1 bit	X		X	
72	Output A – [x] Group	OHC start/limiting value	7.007	2 byte	X		X	
73	Output A – [x] Group	OHC reset	1.015	1 bit	X		X	
74	Output A – [x] Group	OHC value	7.007	2 byte	X			X
75	Output A – [x] Group	OHC elapsed	1.002	1 bit	X			X
76	Output A – [x] Group	Colour temp absolute dim	7.600	2 byte	X		X	
		Colour setting	232.600	3 byte	X		X	
			251.600	6 byte	X		X	
77	Output A – [x] Group	Colour temp relative dim	3.007	4 bit	X		X	
78	Output A – [x] Group	Colour dimming value	232.600	2 byte	X	X		X
		Colour temp status	7.600	2 byte	X	X		X
			251.600	6 byte	X	X		X
349	Output A – [x] Ballast	Switch	1.001	1 bit	X		X	
350	Output A – [x] Ballast	Status switch	1.001	1 bit	X	X		X
351	Output A – [x] Ballast	Relative dimming	3.007	4 bit	X		X	
352	Output A – [x] Ballast	Brightness value	5.001	1 byte	X		X	
353	Output A – [x] Ballast	Status brightness value	5.001	1 byte	X	X		X
354	Output A – [x] Ballast	Lamp/ballast fault	1.005	1 bit	X	X		X
355	Output A – [x] Ballast	Forced operation 1-bit	1.003	1 bit	X	X	X	
		Forced operation 2-bit	2.001	2 bit	X	X	X	
356	Output A – [x] Ballast	Block	1.003	1 bit	X	X	X	
357	Output A – [x] Ballast	Burn-in lamp	1.010	1 bit	X	X	X	X
358	Output A – [x] Ballast	Staircase start	1.003	1 bit	X	X	X	
359	Output A – [x] Ballast	Staircase permanent on	1.001	1 bit	X		X	
360	Output A – [x] Ballast	OHC start/limiting value	7.007	2 byte	X		X	

361	Output A – [x] Ballast	OHC reset	1.015	1 bit	X		X	
362	Output A – [x] Ballast	OHC value	7.007	2 byte	X			X
363	Output A – [x] Ballast	OHC elapsed	1.002	1 bit	X			X
364	Output A – [x] Ballast	Colour temp absolute dim	7.600	2 byte	X		X	
		Colour setting	232.600	3 byte	X		X	
			251.600	6 byte	X		X	
365	Output A – [x] Ballast	Colour temp relative dim	3.007	4 bit	X		X	
366	Output A – [x] Ballast	Colour dimming value	232.600	2 byte	X	X		X
		Colour temp status	7.600	2 byte	X	X		X
			251.600	6 byte	X	X		X
1499	Output A – Emergency light x	Trigger em lighting test	20.611	1 byte	X		X	
1450	Output A – Emergency light x	Em lighting test result	245.600	6 byte	X	X		x
1451	Output A – Emergency light x	Em lighting converter status	244.600	2 byte	X	X		X
1501	Output B	Trigger DALI addressing	1.003	1 bit	X		X	
1502	Output B	Monitor DALI addresses	1.010	1 bit	X		X	
1503	Output B	Switch	1.001	1 bit	X		X	
1504	Output B	Status switch	1.001	1 bit	X	X		X
1505	Output B	Relative dimming	3.007	4 bit	X		X	
1506	Output B	Brightness value	5.001	1 byte	X		X	
1507	Output B	Status brightness value	5.001	1 byte	X	X		X
1508	Output B	DALI voltage fault	1.005	1 bit	X	X		X
1509	Output B	Lamp fault	1.005	1 bit	X	X		X
1510	Output B	Ballast fault	1.005	1 bit	X	X		X
1511	Output B	Fault addressed	237.600	2 byte	X	X	X	X
1512	Output B	Number of ballast fault	5.010	1 byte	X	X		X
1513	Output B	Ballast number fault	5.010	1 byte	X	X		X
1514	Output B	Switch up next ballast fault	1.008	1 bit	X		X	
1515	Output B	Number of group fault	5.010	1 byte	X	X		X
1516	Output B	Group number fault	5.010	1 byte	X	X		X
1517	Output B	Switch up next group fault	1.008	1 bit	X		X	
1518	Output B	Acknowledge fault messages /Status	1.015	1 bit	X	X	X	X
1519	Output B	Disable fault messages	1.003	1 bit	X		X	
1520	Output B	Scenes 1…16	18.001	1 byte	X		X	
1521	Output B	Burn-in lamps/Status	1.010	1 bit	X	X	X	X
1522	Output B – [x] Group	Switch	1.001	1 bit	X		X	

1523	Output B – [x] Group	Status switch	1.001	1 bit	X	X		X
1524	Output B – [x] Group	Relative dimming	3.007	4 bit	X		X	
1525	Output B – [x] Group	Brightness value	5.001	1 byte	X		X	
1526	Output B – [x] Group	Status brightness value	5.001	1 byte	X	X		X
1527	Output B – [x] Group	Lamp/ballast fault	1.005	1 bit	X	X		X
1528	Output B – [x] Group	Forced operation 1-bit	1.003	1 bit	X	X	X	
		Forced operation 2-bit	2.001	2 bit	X	X	X	
1529	Output B – [x] Group	Block	1.003	1 bit	X	X	X	
1530	Output B – [x] Group	Burn-in lamp	1.010	1 bit	X	X	X	X
1531	Output B – [x] Group	Staircase start	1.003	1 bit	X	X	X	
1532	Output B – [x] Group	Staircase permanent on	1.001	1 bit	X		X	
1533	Output B – [x] Group	OHC start/limiting value	7.007	2 byte	X		X	
1534	Output B – [x] Group	OHC reset	1.015	1 bit	X		X	
1535	Output B – [x] Group	OHC value	7.007	2 byte	X			X
1536	Output B – [x] Group	OHC elapsed	1.002	1 bit	X			X
1537	Output B – [x] Group	Colour temp absolute dim	7.600	2 byte	X		X	
		Colour setting	232.600	3 byte	X		X	
			251.600	6 byte	X		X	
1538	Output B – [x] Group	Colour temp relative dim	3.007	4 bit	X		X	
1539	Output B – [x] Group	Colour dimming value	232.600	2 byte	X	X		X
		Colour temp status	7.600	2 byte	X	X		X
			251.600	6 byte	X	X		X
1810	Output B – [x] Ballast	Switch	1.001	1 bit	X		X	
1811	Output B – [x] Ballast	Status switch	1.001	1 bit	X	X		X
1812	Output B – [x] Ballast	Relative dimming	3.007	4 bit	X		X	
1813	Output B – [x] Ballast	Brightness value	5.001	1 byte	X		X	
1814	Output B – [x] Ballast	Status brightness value	5.001	1 byte	X	X		X
1815	Output B – [x] Ballast	Lamp/ballast fault	1.005	1 bit	X	X		X
1816	Output B – [x] Ballast	Forced operation 1-bit	1.003	1 bit	X	X	X	
		Forced operation 2-bit	2.001	2 bit	X	X	X	
1817	Output B – [x] Ballast	Block	1.003	1 bit	X	X	X	
1818	Output B – [x] Ballast	Burn-in lamp	1.010	1 bit	X	X	X	X
1819	Output B – [x] Ballast	Staircase start	1.003	1 bit	X	X	X	
1820	Output B – [x] Ballast	Staircase permanent on	1.001	1 bit	X		X	

1821	Output B – [x] Ballast	OHC start/limiting value	7.007	2 byte	X		X	
1822	Output B – [x] Ballast	OHC reset	1.015	1 bit	X		X	
1823	Output B – [x] Ballast	OHC value	7.007	2 byte	X			X
1824	Output B – [x] Ballast	OHC elapsed	1.002	1 bit	X			X
1825	Output B – [x] Ballast	Colour temp absolute dim	7.600	2 byte	X		X	
		Colour setting	232.600	3 byte	X		X	
			251.600	6 byte	X		X	
1826	Output B – [x] Ballast	Colour temp relative dim	3.007	4 bit	X		X	
1827	Output B – [x] Ballast	Colour dimming value	232.600	2 byte	X	X		X
		Colour temp status	7.600	2 byte	X	X		X
			251.600	6 byte	X	X		X
2960	Output B – Emergency light x	Trigger em lighting test	20.611	1 byte	X		X	
2961	Output B – Emergency light x	Em lighting test result	245.600	6 byte	X	X		x
2962	Output B – Emergency light x	Em lighting converter status	244.600	2 byte	X	X		X

6.1. General Objects

This section describes the "general" group objects and their properties. General group objects, as the name suggests, indicate the general characteristics of the KNX-DALI Gateway. These features concern both channels (channels A & B).

Object Number	Object Name	Function	Type	Flags
1	**General**	**In operation**	**1 bit**	**CT**
This object is used to monitor the presence of the device on the KNX bus line regularly. However, monitoring telegrams can be sent cyclically on the KNX bus line. DPT: 1.002 (boolean).				
2	**General**	**Disable manual operation/Status**	**1 bit**	**CRWT**
This object is used to disable manual operation. The DALI devices that are connected to KNX-DALI Gateway can not be manually switched via KNX-DALI Gateway when the manual operation is disabled. If a logic 1 value sends via this object, manual operation is disabled. On the contrary, when the logic 0 value sends, manual operation is enabled. DPT: 1.003 (enable).				
3	**General**	**Gateway supply voltage fault**	**1 bit**	**CRT**
This object is used to detect the KNX-DALI Gateway's supply voltage fault. If the KNX-DALI gateway supply voltage fails for a few seconds, a fault message telegram is sent immediately. The time depends on the DALI load. If a logic 1 value sends via this object, there is a gateway supply voltage fault. On the contrary, when the logic 0 value sends, there is no fault. DPT: 1.005 (alarm).				

6.2. Output X Objects

This section describes the “Output A” group objects for DALI output channel A. Interra KNX-DALI Gateway dual-channel version has an additional independent output channel B. However, the same objects are available on channel B.

Between output A and output B, there is no overarching function. For example, a common KNX group is required to assign groups or individual lamps from both outputs to an overarching group or scene.

Object Number	Object Name	Function	Type	Flags
40	**Output A**	**New DALI addressing**	**1 bit**	**CW**
This object is used to start a DALI addressing process. If the KNX-DALI Gateway receives a telegram with the value 1 on this group object, a new DALI addressing progress starts. All DALI devices without a DALI address receive one. Besides, this group object is always enabled and visible in the group object list. DPT: 1.003 (enable)				
41	**Output A**	**Search DALI addresses**	**1 bit**	**CW**
This object is used to store the current KNX-DALI Gateway status as a reference state. The KNX-DALI Gateway must know all connected DALI devices to detect a ballast fault. If a logic 1 value sends via this object and the KNX-DALI Gateway receives the telegram, search DALI addresses run automatically in the background. Also, search DALI address monitoring should be carried out straight after commissioning or when adding or removing DALI devices. The DALI devices are continually monitored, regardless of whether the lighting equipment is activated/deactivated. The DALI devices must be properly installed and have a supply voltage if necessary. DPT: 1.010 (start/stop).				
42	**Output A**	**Switch**	**1 bit**	**CW**
This object is used to switch all the DALI devices connected to the DALI output ON or OFF at the brightness values defined in the X Output parameter page. If a logic 1 value sends via this object, the parameter settings define whether a predefined brightness value or the value before switch-off is set. On the contrary, when the logic 0 value sends, all connected lamps are switched on. If DALI devices are already switched on and the DALI gateway receives an ON telegram, all DALI devices are set to the parametrized switch-on value. DPT: 1.001 (switch).				
43	**Output A**	**Status switch**	**1 bit**	**CRT**
This object is used to gain information about the group objects that indicates the current switch state of the DALI output. If a logic 1 value sends via this object, at least one DALI device is switched on(or all). On the contrary, when the logic 0 value sends, all DALI devices are switched off.				

DPT: 1.001 (switch).

44	**Output A**	**Relative dimming**	**4 bit**	**CW**

This object is used to receive a dimming telegram for all DALI devices connected to the DALI output X.

When a start telegram is received, the brightness value is changed in the defined direction. If a stop telegram is received before the dimming process ends or the upper dimming or lower dimming value is reached, the dimming process is interrupted and the brightness value reached is retained.

The minimum and maximum dimming thresholds apply and cannot be exceeded.

The dimming thresholds for the individual groups or ballasts also continue to apply. Switching off via dimming is parametrizable. This setting switches off the DALI lamps on the output if all the devices have reached the minimal dimming value. Dimming time cannot be changed via KNX.

DPT: 3.007 (dimming control).

45	**Output A**	**Brightness value**	**1 byte**	**CW**

This object is used to receive the brightness value for all DALI devices connected to the DALI output X. Dimming time to reach the brightness value can be parameterized on the X output parameter page.

Brightness values higher or lower than the configured max brightness or minimum brightness are matched to the threshold values.

1-byte data is from decimal 0 to decimal 255. So, sending 0 is mapped to 0%, 255 is mapped to 100%, and 128 is mapped to 50%...so, be aware of the values corresponding to brightness.

DPT: 5.001(percentage - 0..100%).

46	**Output A**	**Status brightness value**	**1 byte**	**CRT**

This object is used to gain the status of brightness value for all DALI devices connected to the DALI output X. Status value can be sent on ‘request’ or ‘change or request’.

1-byte data is from decimal 0 to decimal 255. So, sending 0 is mapped to 0%, 255 is mapped to 100%, and 128 is mapped to 50%...so, be aware of the values corresponding to brightness.

DPT: 5.001(percentage - 0..100%)

47	**Output A**	**DALI voltage fault**	**1 bit**	**CRT**

This object is used to send DALI fault when a fault is detected. For instance, a short circuit or overload can be because of a DALI fault.

If a logic 1 value sends via this object, there is a DALI fault in the line. On the contrary, when the logic 0 value sends, there is no DALI fault.

DPT: 1.005(alarm)

48	**Output A**	**Lamp fault**	**1 bit**	**CRT**

This object is used to send a lamp fault when a lamp fault is detected. This function must be supported by the linked DALI device and sent via DALI by the KNX-DALI Gateway on request.

If a logic 1 value sends via this object, there is a lamp fault in the line. On the contrary, when the logic 0 value sends, there is no lamp fault.

DPT: 1.005(alarm).

49	**Output A**	**Ballast fault**	**1 bit**	**CRT**

This object is used to send a ballast fault when a ballast fault is detected.

If a logic 1 value sends via this object, there is a ballast fault in the line. On the contrary, when the logic 0 value sends, there is no ballast fault. Ballast fault can occur in these situations :

The ballast malfunctions and does not send telegrams on the DALI control line.

The ballast has no ballast supply voltage and does not send telegrams on the DALI control line.

The DALI control line to the ballast is interrupted and the gateway does not receive a status response.

The ballast has lost its address and a query from the gateway remains unanswered.

DPT: 1.005(alarm)

50	**Output A**	**Fault addressed**	**2 byte**	**CRWT**

This object is used to give detailed information about the DALI faults. This group object consists of two bytes. The High byte contains the fault status of the corresponding device or group. The Low byte contains the device or group number and the information as to whether it is a status request or a sent status. Via this group object, the KNX-DALI Gateway transmits the status of a fault on any group or any individual DALI device on the KNX.

The telegrams are sent as soon as the fault is detected. Should several faults occur at the same time, the telegrams are sent consecutively on the KNX. If a fault is corrected, this is also signalled on the group object.

DPT: 237.600(diagnostic value).

51	**Output A**	**Number of ballast fault**	**1 byte**	**CRT**

This object is used to display the number of individual DALI devices with at least one lamp or ballast fault. The value of the group object is sent on the KNX whenever a change occurs.

Individual ballasts count can be up to 64 so, telegram values are between 0…64.

DPT: 5.010(counter pulses).

52	**Output A**	**Ballast number fault**	**1 byte**	**CRT**

This object is used to display the first DALI device with a fault as a numeric value. A correction by 1 as required for the values in Fault addressed group objects is not necessary here. All the DALI devices with a fault can be displayed successively in conjunction with the group object ‘’Switch up next ballast fault’’.

Individual ballasts counts can be up to 64 so, telegram values are between 0...64.

DPT: 5.010(counter pulses).

53	**Output A**	**Switch up next ballast fault**	**1 bit**	**CW**

This object should be considered in conjunction with the Ballast number fault group object. If there are several ballast faults, this group object can be used to switch to the next number on the Ballast number fault object. Value 1 switches to the next number and value 0 to the previous number.
If a logic 1 value sends via this object, it displays the next highest ballast number with a fault on the Ballast number fault group object. On the contrary, when the logic 0 value sends, it displays the next lowest ballast number with a fault on the Ballast number fault group object.
DPT: 1.008 (up/down)

54	**Output A**	**Number of group fault**	**1 byte**	**CRT**

This object is used to display the number of DALI groups with at least one lamp or ballast fault. The value of the group object is sent on the KNX whenever a change occurs.

DALI group counts can be up to 16 so, telegram values are between 1...16.

DPT: 5.010(counter pulses).

55	**Output A**	**Group number fault**	**1 byte**	**CRT**

This object is used to display the first DALI group with a fault as a numeric value. A correction by 1 as required for the values in Fault addressed group objects is not necessary here.

DALI groups counts can be up to 16 so, fault indicating telegram values are between 1...16.

All the DALI groups with a fault can be displayed successively in conjunction with the group object Switch up next group fault.

DPT: 5.010(counter pulses).

56	**Output A**	**Switch up next group fault**	**1 bit**	**CW**

This object should be considered in conjunction with the Group number fault group object. If there are several group faults, this group object can be used to switch to the next number on the Group number fault object. Value 0 switches to the next number and value 1 to the previous number.

If a logic 1 value sends via this object, it displays the next highest group number with a fault on the group number fault group object. On the contrary, when the logic 0 value sends, it displays the next lowest group number with a fault on the group number fault group object.

DPT: 1.008 (up/down)

57	**Output A**	**Acknowledge fault messages / Status**	**1 bit**	**CRWT**

This object is used to reset a DALI output fault. The fault may be a lamp or ballast or a fault relating to individual devices or a DALI group. The fault is only reset after acknowledgement if it has been corrected.

If a logic 1 value sends via this object, the fault messages are reset. On the contrary when the logic 0 value send there will be no reset.

DPT: 1.015 (reset)

58	**Output A**	**Disable fault messages**	**1 bit**	**CW**

This object is used to disable the fault messages for the related DALI output. The KNX-DALI Gateway will continue checking fault messages even when the messages themselves are disabled. During the inhibit, the

faults are evaluated but not sent on the KNX. The values of the group objects are also not updated. Disabling fault messages minimize system latency by reducing the KNX load.

When fault messages are enabled, all faults are sent following their parametrization.

DPT: 1.003(enable).

59	**Output A**	**Scenes 1...16**	**1 byte**	**CW**

This object is used to send a scene telegram that integrates the groups in a KNX scene. The telegram contains the number of the scene concerned as well as the information as to whether to recall it or assign the current brightness values in the scene to the groups.

DPT: 18.001 (scene control).

6.3. Output X – Group X Objects

In this section, [x] group objects are described in the table. x indicates the group numbers from 1 to 16 and group objects mean DALI groups. In the first column name of the object, in the second column function name, in the third column data type and fourth column the objects flags, information is given.

According to the device model(ITR832-00X1 or ITR832-00X2), X can be A or B. The channel B [x] group objects are identical to channel A because channel B is a copied one of channel A.

Object Number	Object Name	Function	Type	Flags
61	**Output X – [x] Group**	**Switch**	**1 bit**	**CW**
This object is used to switch [x] group DALI devices connected to the DALI output ON or OFF at the brightness values defined in the X Group parameter page. If a logic 1 value sends via this object, the parameter settings define whether a predefined brightness value or the value before switch-off is set. On the contrary, when the logic 0 value sends, all connected lamps are switched on. If DALI devices are already switched on and the DALI gateway receives an ON telegram, all DALI devices are set to the parametrized switch-on value. DPT: 1.001 (switch)				
62	**Output X – [x] Group**	**Status switch**	**1 bit**	**CRT**
This object is used to gain information about the group objects that indicates the current switch state of the [x] group. If a logic 1 value sends via this object, at least one DALI device is switched on(or all). On the contrary, when the logic 0 value sends, all DALI devices are switched off. DPT: 1.001 (switch).				
63	**Output X – [x] Group**	**Relative dimming**	**4 bit**	**CW**
This object is used to receive dimming telegram for [x] group DALI devices connected to the DALI output X. When a start telegram is received, the brightness value is changed in the defined direction. If a stop telegram is received before the dimming process ends or the upper dimming or lower dimming value is reached, the dimming process is interrupted and the brightness value reached is retained. The minimum and maximum dimming thresholds apply and cannot be exceeded. The dimming thresholds for the individual groups or ballasts also continue to apply. Switching off via dimming is parametrizable. This setting switches off the DALI lamps on the output if all the devices have reached the minimal dimming value. Dimming time cannot be changed via KNX. DPT: 3.007 (dimming control).				

64	**Output X – [x] Group**	**Brightness value**	**1 byte**	**CW**

This object is used to receive brightness value for [x] group DALI devices connected to the DALI output X. Dimming time to reach brightness value can be parameterized on the X Groups parameter page.

Brightness values higher or lower than the configured max brightness or minimum brightness are matched to the threshold values.

1-byte data is from decimal 0 to decimal 255. So, sending 0 is mapped to 0%, 255 is mapped to 100%, and 128 is mapped to 50%...so, be aware of the values corresponding to brightness.

DPT: 5.001(percentage - 0..100%).

65	**Output X – [x] Group**	**Status brightness value**	**1 byte**	**CRT**

This object is used to gain the status of brightness value for [x] group DALI devices connected to the DALI output X. Status value can be sent on ‘request’ or ‘change or request’.

1-byte data is from decimal 0 to decimal 255. So, sending 0 is mapped to 0%, 255 is mapped to 100%, and 128 is mapped to 50%...so, be aware of the values corresponding to brightness.

DPT: 5.001(percentage - 0..100%)

66	**Output X – [x] Group**	**Lamp/ballast fault**	**1 bit**	**CRT**

This object is used to send lamp/ballast fault when a lamp or ballast fault is detected in the linked [x] group. For lamp faults, this function must be supported by the linked DALI device and sent via DALI by the KNX-DALI Gateway on request. Moreover, ballast fault can occur in these situations :

The ballast malfunctions and does not send telegrams on the DALI control line.

The ballast has no ballast supply voltage and does not send telegrams on the DALI control line.

The DALI control line to the ballast is interrupted and the gateway does not receive a status response.

The ballast has lost its address and a query from the gateway remains unanswered.

If a logic 1 value sends via this object, there is a fault in the related group. On the contrary, when the logic 0 value sends, there is no fault.

DPT: 1.005(alarm).

6.4. Output X – Ballast X Objects

In this section, [x] ballast objects are described in the table. x indicates the ballast numbers from 1 to 64. In the first column name of the object, in the second column function name, in the third column data type and fourth column the objects flags, information is given.

According to the device model(ITR832-00X1 or ITR832-00X2), X can be A or B. The channel B [x] ballast objects are identical to channel A because channel B is a copied one of channel A.

Object Number	Object Name	Function	Type	Flags
61	**Output X – [x] Ballast**	**Switch**	**1 bit**	**CW**
This object is used to switch [x] ballast DALI devices connected to the DALI output ON or OFF at the brightness values defined in the X Ballast parameter page. If a logic 1 value sends via this object, the parameter settings define whether a predefined brightness value or the value before switch-off is set. On the contrary, when the logic 0 value sends, all connected lamps are switched on. If DALI devices are already switched on and the DALI gateway receives an ON telegram, all DALI devices are set to the parametrized switch-on value. DPT: 1.001 (switch).				
62	**Output X – [x] Ballast**	**Status switch**	**1 bit**	**CRT**
This object is used to gain information about the group objects that indicates the current switch state of the [x] ballast. If a logic 1 value sends via this object, at least one DALI device is switched on(or all). On the contrary, when the logic 0 value sends, all DALI devices are switched off. DPT: 1.001 (switch).				
63	**Output X – [x] Ballast**	**Relative dimming**	**4 bit**	**CW**
This object is used to receive a dimming telegram for [x] ballast DALI devices connected to the DALI output X. When a start telegram is received, the brightness value is changed in the defined direction. If a stop telegram is received before the dimming process ends or the upper dimming or lower dimming value is reached, the dimming process is interrupted and the brightness value reached is retained. The minimum and maximum dimming thresholds apply and cannot be exceeded. The dimming thresholds for the individual groups or ballasts also continue to apply. Switching off via dimming is parametrizable. This setting switches off the DALI lamps on the output if all the devices have reached the minimal dimming value. Dimming time cannot be changed via KNX. DPT: 3.007 (dimming control)				

64	**Output X – [x] Ballast**	**Brightness value**	**1 byte**	**CW**

This object is used to receive brightness value for [x] group DALI devices connected to the DALI output X.

The dimming time to reach the brightness value can be parameterized in the X Groups parameter page. Brightness values higher or lower than the configured max brightness or minimum brightness are matched to the threshold values.

1-byte data is from decimal 0 to decimal 255. So, sending 0 is mapped to 0%, 255 is mapped to 100%, and 128 is mapped to 50%...so, be aware of the values corresponding to brightness.

DPT: 5.001(percentage - 0..100%)

65	**Output X – [x] Ballast**	**Status brightness value**	**1 byte**	**CRT**

This object is used to receive brightness value for [x] ballast DALI devices connected to the DALI output X. Dimming time to reach brightness value can be parameterized on the X Ballast parameter page.

Brightness values higher or lower than the configured max brightness or minimum brightness are matched to the threshold values.

1-byte data is from decimal 0 to decimal 255. So, sending 0 is mapped to 0%, 255 is mapped to 100%, and 128 is mapped to 50%...so, be aware of the values corresponding to brightness.

DPT: 5.001(percentage - 0..100%)

66	**Output X – [x] Ballast**	**Lamp/ballast fault**	**1 bit**	**CRT**

This object is used to send lamp/ballast fault when a lamp or ballast fault is detected in the linked [x] ballast. For lamp faults, this function must be supported by the linked DALI device and sent via DALI by the KNX-DALI Gateway on request. Moreover, ballast fault can occur in these situations:

The ballast malfunctions and does not send telegrams on the DALI control line.

The ballast has no ballast supply voltage and does not send telegrams on the DALI control line.

The DALI control line to the ballast is interrupted and the gateway does not receive a status response.

The ballast has lost its address and a query from the gateway remains unanswered.

If a logic 1 value sends via this object, there is a fault in the related group. On the contrary, when the logic 0 value sends, there is no fault.

DPT: 1.005(alarm)

CONTACT INFORMATION

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- Information about our products and projects.
- Overview of Interra company and values.
- Product Support: Datasheets, product manuals, application descriptions, latest software releases, ETS databases and archived software.

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