DL04A02KNX	**Dimmer led DIN 4 channels RGB - WHITE**

USER MANUAL

Translation of the original instructions

Version: **1.0**

Date: **06/02/2026**

Contents

VERSION	DATE	CHANGES
1.0	06/02/2026	-

Any information in this manual is subject to change without notice.

This handbook can be download freely from the website:
www.eelectron.com

Exclusion of liability:
Despite checking that the contents of this document match the hardware and software, deviations cannot be completely excluded. We therefore cannot accept any liability for this.
Any necessary corrections will be incorporated into newer versions of this manual.

Symbol for relevant information 

Symbol for warning 

DISPOSAL : The crossed-out bin symbol on the equipment or packaging means the product must not be included with other general waste at the end of its working life. The user must take the worn product to a sorted waste centre, or return it to the retailer when purchasing a new one. An efficient sorted waste collection for the environmentally friendly disposal of the used device, or its subsequent recycling, helps avoid the potential negative effects on the environment and people's health, and encourages the reuse and/or recycling of the construction materials.

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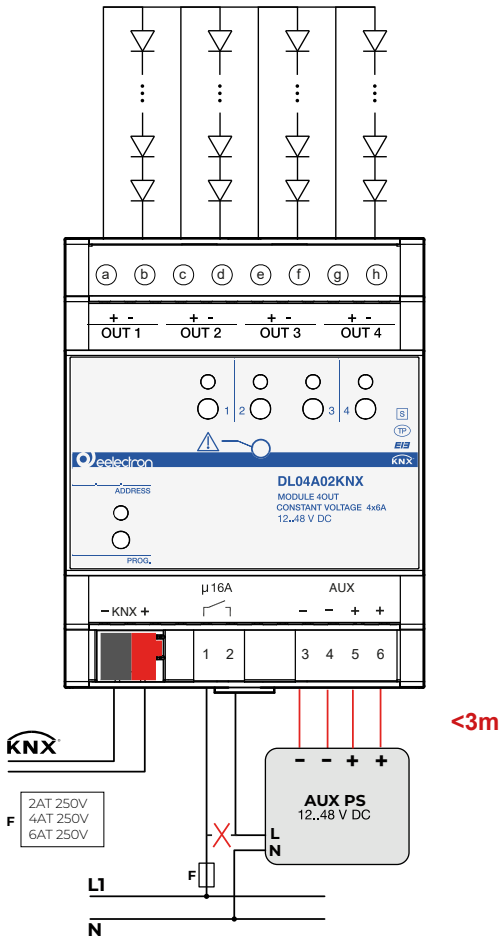
1. Introduction to the user manual

This manual is intended for KNX® installers and describes functions and parameters of the DIN module **DL04A02KNX** and how it is possible to change the settings and configurations using the ETS® software tool.
The DL04A02KNX module has 4 channels.

2. Product overview



Product is intended for installation on DIN rail in electrical distribution Cabinets and in vertical position with the bus connector on the bottom side as shown in figure; it is recommended to ensure adequate dissipation conditions in free air

DL04A02KNX is a dimming actuator for LED in DC with constant voltage (CV).
The device allows to drive 4 independent channels or 1 RGB channel and 1 single colour channel (white) or 1 channel RGBW.
It is possible to enable the notification mode of the correct functionality of the device via a communication object.
Module can be powered from 12 to 48V DC and consequently can manage the outputs (LED strips) with voltage from 12 to 48V DC. The maximum current for each channel is 6A.
It is mandatory to connect one of the external power supply cables to the relay.
In case of an anomaly of the outputs, the device automatically excludes the external power supply and the device stops working.
On the front panel there are 4 local switching buttons with corresponding status LED and a LED for signalling faults: overtemperature, power connection with reversed polarity, insufficient auxiliary power supply voltage.
Available functions include block, logic, scenes, colour sequences, etc.
Device is equipped with KNX communication interface and is intended for installation on DIN rail in LV distribution switchboards.

Installation instructions

The device can be used for permanent internal installations in dry places.

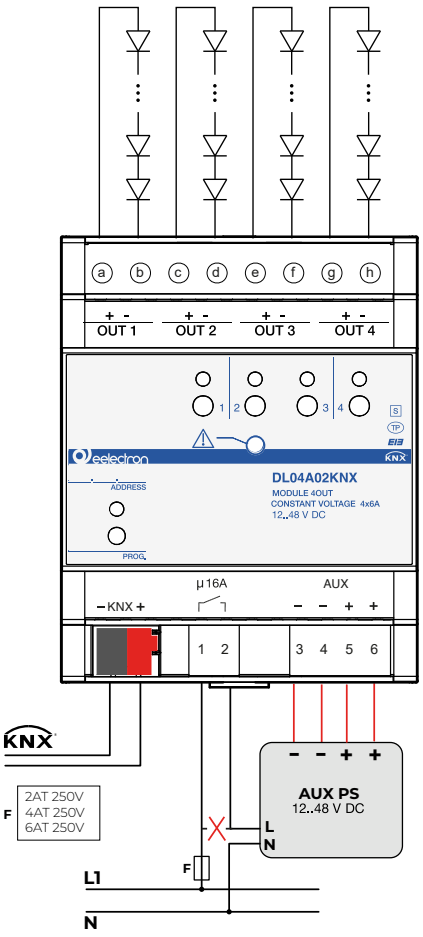
WARNING

- When a clear separation between the low voltage (SELV) and the dangerous voltage (230V) is NOT possible, the device must be installed maintaining a minimum guaranteed distance of 4 mm between the dangerous voltage lines or cables (230V not SELV) and the cables connected to the EIB / KNX BUS (SELV).
- The device must be mounted and commissioned by an authorized installer.
- The applicable safety and accident prevention regulations must be observed.
- The device must not be opened. Any faulty devices should be returned to manufacturer.
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.
- KNX bus allows you to remotely send commands to the system actuators. Always make sure that the execution of remote commands do not lead to hazardous situations, and that the user always has a warning about which commands can be activated remotely.
- KNX bus allows you to remotely send commands to the system actuators. Always make sure that the execution of remote commands do not lead to hazardous situations, and that the user always has a warning about which commands can be activated remotely.
- The device must be installed in a vertical position respecting the direction indicated in the drawing in paragraph 2; it is recommended to guarantee sufficient dissipating conditions in free air

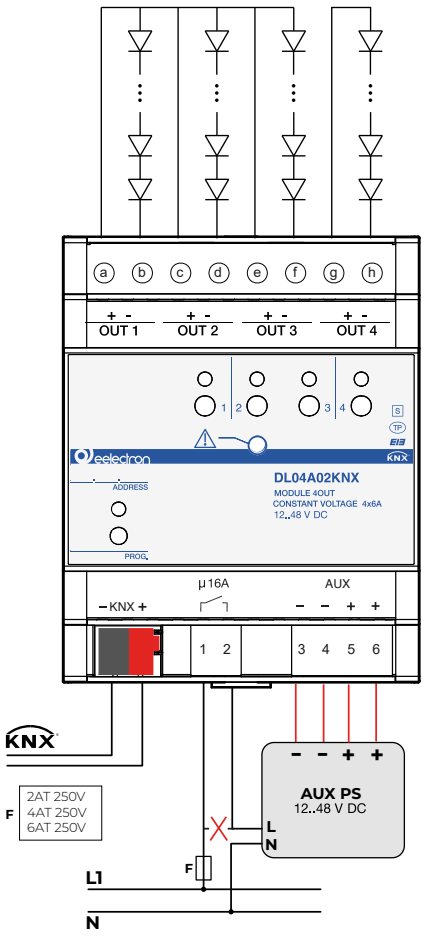
For more information: www.eelectron.com.

3. Connection diagram

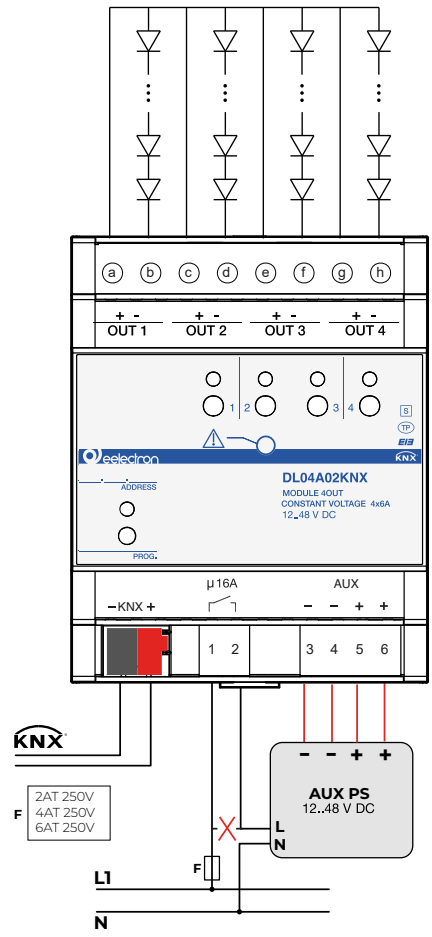
4 CH. INDEPENDENT



RGB + 1CH



RGBW



4. General parameters

In ETS®, in the drop down menu of the device the general parameters consist of four configuration blocks, described in the next paragraphs.

KNX PARAMETER	SETTINGS
Delay to send telegrams on power-up	5 ÷ 15 seconds
Through this parameter it is possible to set the telegram transmission delay after switch-on by selecting the time beyond which the device is authorized to send telegrams. In large systems, after a power outage or shutdown, this delay avoids generating excessive traffic on the bus which cause slow performance or a transmission crash. In case of several devices requiring telegrams to be sent on the bus after a reset, these delays must be programmed to prevent traffic congestion during the initialization phase. Input detection and object values are updated at the end of the transmission delay time At the end of ETS programming, the device behaves as it did after it was switched on.	
Heartbeat (periodic alive notification)	nothing / periodic / on request
The heartbeat function is a periodic alive notification mechanism used to monitor and ensure the availability of KNX devices on a network.	
Telegram value	off / on / toggle
This parameter set telegrams to send and receive ON, OFF, and TOGGLE commands for controlling devices such as lights, blinds, HVAC, and switches. These commands are encoded using Data Point Types (DPTs) and can be monitored in ETS.	
Period - time unit	seconds / minutes / hours
Defines the unit of measure of the notification time interval. This parameter is not available for the “on demand” configuration.	
Period - time value	1 ... 255
Defines the notification interval time. This parameter is not available for the “on demand” configuration.	
Telegram value	off / on
This parameter set telegrams to send and receive ON, OFF, and TOGGLE commands for controlling devices such as lights, blinds, HVAC, and switches. These commands are encoded using Data Point Types (DPTs) and can be monitored in ETS.	
PWM working frequency	200 / 260 / 400 Hz
This parameter refers to the number of times per second the PWM (Pulse Width Modulation) signal completes a full cycle of turning ON and OFF. It is measured in Hertz (Hz).	
Auxiliary voltage value	12 ÷ 48
This parameter refers to an additional or secondary voltage supply used to power control circuits, sensors, or auxiliary components in an electrical system. It is typically separate from the main power supply.	
Max voltage drop allowed	1 / 2 / 3 / 4 / 5V
This parameter refers to the allowable reduction in voltage from the source to the load in an electrical system. It’s an important factor for ensuring that electrical devices and systems operate within their required voltage ranges.	
Max voltage rise allowed	1 / 2 / 3 / 5V
This parameter refers to the maximum permissible increase in voltage within a system from its nominal or base value.	
Status objects for auxiliary relay	disabled / enabled
The status objects for auxiliary relays in ETS represent the relay’s state (enabled or disabled) and are typically used for controlling or monitoring devices like lights, blinds, or alarms.	
Device configuration	4ch independents RGB + 1CH RGBW 2CH TW
This parameter refers to the choice of the dimmer configuration type and allows the user to configure the behaviour of the dimmer in relation to the control of light brightness, adapting its functionality to the system’s needs.	
Enable channel <x>	disabled / enabled
This parameter allows you to activate or disable a particular communication object (channel) that controls a specific dimming function. For instance, you might have multiple channels for controlling different groups of lights or different types of lighting in a room.	
Alarm object	nothing 1 bit 1 byte both
When configuring an alarm object for a dimmer, you can define how the alarm will be communicated through different data types. These data types define the format and size of the information that will be transmitted when the alarm object is triggered	
Alarm sending interval	no sending 5 min 15 min 1 h
This parameter refers to the frequency at which the alarm signal is transmitted from the dimmer to other devices or systems after an alarm condition is triggered. This setting helps prevent continuous or unnecessary alarm transmissions, which can be helpful in managing system bandwidth or reducing the number of alerts that are sent out.	
Temperature object	disabled / enabled
This parameter refers to a communication object that allows the dimmer to monitor and respond to temperature-related conditions. This could involve overheating of the dimmer unit or connected devices, or temperature-based control (like adjusting the light level in response to temperature changes). The temperature object can be either enabled or disabled, depending on whether you want the dimmer to be sensitive to temperature variations or actively monitor its own temperature.	
Send temperature if variation >= 5°C	false / true
If this parameter is set “true”, it’s possible to enable the sending of measured temperature value, only if the actual temperature value is different from the previous temperature value of at least 5°C or higher.	
Enable dynamic scene object	false / true
If this parameter is set “true”, it’s possible to enable a communication object Dynamic Scene, one for the whole device. Concerning Dynamic Scene function see paragraph: 17	
Economy mode: switch OFF leds after inactivity	never switch off 1 / 2 / 3 / 4 / 5 / 8 / 10 min
The economy mode feature allows you to save energy by turning off the LEDs (or other connected lights) after a period of inactivity. This feature is particularly useful in systems where you want to ensure that lights are automatically switched off when they are not in use, thus improving energy efficiency and reducing unnecessary power consumption.	

Danger of destruction of the device if connection is made as combined load without having correctly configured the device in ETS!

5. <Channel x>

Generic

Communication objects involved:

“<Channel x> Switching (at once)”	1 Bit	CW
“<Channel x> Switching (smooth)”	1 Bit	CW
“<Channel x> Switching (timing)”	1 Bit	CW
“<Channel x> Dimming”	4 Bit	CW
“<Channel x> Dimming Value”	1 Byte	CW
“<Channel x> Dimming Status”	1 Byte	CRT
“<Channel x> Status”	1 Bit	CRT
“<Channel x> Logic Function” *	1 Bit	CW
“<Channel x> Lock Function” *	1 Bit	CW
“<Channel x> Scene”	1 Byte	CW
“<Channel x> Sequence”	1 Bit	CW
“<Channel x> Sequence Sync Slave” *	1 Bit	CW
“<Channel x> Sequence Sync Master” *	1 Bit	CRT

*selectable parameters: Logic or Lock function, Master or Slave.

KNX PARAMETER	SETTINGS
Maximum dimming value 50-100%	50 ÷ 100 %
The maximum dimming value setting determines the highest light intensity level that the dimmer can reach, regardless of user input. This allows you to limit the maximum dimming value of the connected lights, preventing them from ever exceeding a certain level for various reasons such as protecting the lights, energy-saving, or creating a desired ambiance. This setting typically offers a range of 50% to 100%, allowing you to define the upper limit of the dimmer’s dimming value output.	
Minimum dimming value 0-45%	0 ÷ 45 %
This parameter allows you to define the lowest level of dimming value that the connected lights can reach. This setting is useful for preventing the lights from dimming too much, which can be important for both performance and visual effect.	
Ramp Time 0-100%	0 ÷ 100 (default 20)
This setting controls the speed at which the light fades up (increasing brightness) or down (dimming or turning off).	
Local buttons	disabled / enabled
This setting controls whether users can manually adjust brightness levels using its built-in buttons or local buttons are deactivated, preventing users from adjusting the dimmer manually. Device control is restricted to external commands (such as from a KNX system, sensors, or remote controls).	
Brightness for local buttons at switch on [0-100%]	0 ÷ 100 %
This parameter defines the state of the dimmer when it is switched on via local buttons. This setting controls whether the dimmer restores the last used brightness or starts with a predefined brightness and color: 0 = Off (0% brightness) ; 100 = Maximum brightness (100%); 0 ÷ 100 = Intermediate brightness levels	

Configuration

KNX PARAMETER	SETTINGS
Behaviour on KNX bus power down [%] (101=no action)	0 ÷ 101 %
This setting defines the dimming level or switching status the output channel should adopt immediately when it detects a loss of power on the KNX bus line.	
Behaviour on KNX bus power up [%] (101=previous state)	0 ÷ 101 %
This setting dictates the dimming level or switching status the output channel should adopt immediately when the power supply to the KNX bus line is restored following an outage.	
Behaviour at switch on [%] (101=previous state)	0 ÷ 101 %
It defines the output level or state that the channel should adopt when it receives a switch-ON (or Enable) command from the bus.	
Switching object activation telegram	telegram “0” / telegram “1”
This parameter defines the polarity of the 1-bit telegram required to activate or trigger the associated switching function in an actuator or logic device within a system like KNX/ETS.	
Enable switch off with dimming object (4 bit)	enabled / disabled
This parameter controls whether the dimmer channel should treat a received dimming telegram as a potential “Switch OFF” command, in addition to being a command to change brightness.	
Absolute value object [%]	disabled / enabled
This parameter controls whether the dimmer channel should allow external devices to directly write a specific, absolute dimming level onto the bus, overriding any relative dimming commands.	
Additional function	no function logic function lock function ramp time object
This parameter allows the user to assign a secondary, advanced control feature to the device’s main output channel, enabling more complex behavior beyond simple switching or dimming. **No Function** The output channel performs its primary function only (e.g., simple ON/OFF switching, or direct dimming). No secondary logic or control mechanism is applied. **Logic Function** The channel’s output is governed not just by its primary control object, but also by an internal Boolean logic gate (e.g., AND, OR, XOR). The channel only activates if the logic condition is met. **Lock Function** The channel is equipped with a specific locking input object. When this object receives an “Enable” or “Lock” telegram (the polarity is usually configurable), the main control object is temporarily ignored or overridden. **Ramp Time Object** The channel’s dimming speed or switching speed is controlled by an external object. When a new time value (e.g., in seconds) is written to this object, the actuator uses that value as its transition speed for all subsequent ON/OFF or dimming commands.	
Timing Function	timing function disabled on/off with delay on with delay/timing off
This parameter defines how the device should manage its output status (ON/OFF) based on programmed time delays, allowing the actuator to act as a timer switch. **Timing Function Disabled** The actuator behaves as a simple switch. **On/Off with Delay** This configuration adds time delays to both the activation (ON) and deactivation (OFF) of the output **On with Delay/Timing Off** This is a classic Timer Function used in areas where the load needs to be ON for a fixed duration after being triggered.	

Brightness for timing [%]	0 ÷ 100 %
This parameter specifies the output brightness level that the light should adopt during the active timing period.	
Ramp time 0-100% for timing [s]	0 ÷ 255
This parameter defines the speed (duration in seconds) at which the light transitions from “0% brightness” to “100% brightness” (and vice versa) when the timing function is active.	
Delay on activation/deactivation	false / true
This parameter determines whether a pre-set time delay should be applied before the device executes a command. **Activation (ON)** When the actuator receives a command to switch ON (from OFF to ON). **Deactivation (OFF)** When the actuator receives a command to switch OFF (from ON to OFF).	
Delay on activation / deactivation (base time)	1 s / 1 min / 1 h
This parameter defines the time unit used for the associated time delay functions. It determines the granularity of the delay measurement.	
Delay on activation / deactivation (factor)	0 ÷ 255
This parameter is used in conjunction with the Base Time setting to determine the specific duration of the time delay applied before an ON or OFF command is executed.	
Timing can be stopped	false / true
This parameter dictates whether an active timer can be prematurely halted or canceled by an external command. This parameter controls the behavior when a specific “Stop” command (often a 1-bit telegram) is received on a linked group address.	
Warning function	false / true
This parameter controls whether the light should signal the user a few moments before the automatic switch-off occurs.	
Warning time (seconds before time ends)	15 s / 30 s / 1 min / 2 min
This parameter defines the specific duration of the pre-warning period. The amount of time the device should alert the user before the output automatically switches off.	
Switch off time	1.0 s / 1.5 s / 2 s
This parameter defines the maximum duration the actuator will wait after the command to switch OFF has been received before it actually executes the physical disconnection of the load.	
Receiving on when timing is active	ignore trigger mode extension mode
This parameter defines how the device should react if it receives a new Switch ON telegram while its internal timer is already running. **Ignore** The actuator ignores the new ON telegram entirely. The active timer continues counting down from its current value without interruption. **Trigger Mode** The actuator interprets the new ON telegram as a new trigger event. The timer is reset to its full, initial duration (the follow-up time). The light remains ON, but the countdown starts over. **Extension Mode** The actuator interprets the new ON telegram as a command to add time to the current countdown. A pre-defined time extension (e.g., 1 minute, which is set in a separate parameter) is added to the time remaining on the timer. The total time on is effectively increased.	
Maximum number of timer extension	2 times / 3 times / 4 times
This parameter defines the upper limit for how many times the running timer can be prolonged by subsequent trigger events.	
Scene	disabled / enabled
This parameter controls whether the device should be capable of storing, recalling, or triggering a specific lighting or configuration, known as a Scene.	
Sequence	disabled / enabled
This parameter is related to the advanced control logic of the device, allowing a single control input to cycle the output through a series of pre-defined states instead of just toggling ON/OFF or setting a fixed level.	

Scene

In building automation, a **Scene** is a preset combination of states for multiple devices. For example, “Movie Scene” might mean: Lights 1 and 2 at 10%, Light 3 OFF, and the Blinds at 50%.The KNX standard uses a specific telegram type, the Scene Recall command (DPT 1.017), to activate a scene.
When disabled, the actuator ignores all Scene Recall telegrams (DPT 1.017). The device cannot be included in a scene and cannot save/recall a scene configuration.
When enabled, the actuator creates and exposes the necessary group objects to interact with scenes. These objects allow the device to:
Store Scene: A separate object allows a scene controller to write the current brightness/state as the desired setting for a specific scene number.
Recall Scene: The device listens for a Scene Recall telegram (which includes a Scene Number, 1-64) and automatically sets its output to the pre-stored level.

KNX PARAMETER	SETTINGS
Scene <A ÷ H> [0-63] (64=not active)	0 ÷ 64
This parameter defines which specific KNX Scene Numbers (from 1 to 64) the actuator will store and recall for a single, designated function or output channel. A KNX system can manage up to 63 distinct scenes (identified by numbers 1 through 63). However, many actuators only need to manage a few important scenes. The 64th slot disables internal memory slot. This parameter allows the installer to map a specific, local function within the actuator (labeled A, B, C, etc., corresponding to the device’s own internal Scene slots) to a specific number used on the KNX bus.	
Initial value scene <A ÷ H> [%]	0 ÷ 100
This parameter defines the default output level (brightness or power percentage) that the actuator will adopt for a specific internal scene slot (labeled A through H) before a valid scene value has been stored.	
Dimming time scene <A ÷ H> from 0% to 100% [s]	0 ÷ 255
This parameter defines the speed (or duration) at which the light transitions from 0% brightness to 100% brightness when a specific Scene (A through H) is recalled.	
Enable scene from bus	disabled / enabled
This parameter controls the device’s ability to receive and respond to Scene Recall commands transmitted over the KNX bus.	
Submit to dynamic scene function	false / true
This parameter determines whether the device is capable of storing its current brightness state into a KNX scene slot via a bus telegram. This is a fundamental control setting that dictates the user’s ability to modify and save lighting scenes dynamically.	
Keep scenes value after download	keep / overwrite
This parameter controls how the device should handle the user-stored scene brightness and state values during a new application download (programming) from the ETS software.	

Sequence

The parameter **Sequence** (disabled / enabled) is common in KNX/ETS actuators (especially dimmers or switches) that have a mechanism to execute a defined series of steps or states upon a single trigger command. It is related to the advanced control logic of the device.
When enabled, the Sequence function allows a single control input (e.g., a specific Group Address receiving a $DPT 1.001$ Switch command) to cycle the output through a series of pre-defined states instead of just toggling ON/OFF or setting a fixed level.
The sequence must be configured separately and usually involves:

Step 1: Output 50% brightness (or ON).
Step 2: Output 100% brightness.
Step 3: Output 10% brightness.
Step 4: Output 0% brightness (OFF).

KNX PARAMETER	SETTINGS
Sequence type	flashing / pulse / custom
The parameter Sequence type is configured to execute a series of predefined output steps (a Sequence) upon a single trigger command. This setting defines the nature of the action or signal generated during that sequence. **Flashing** The output channel cycles the load ON and OFF repeatedly for a fixed duration, or for a set number of cycles. A rapid toggle between 0% and 100% (or between two specified brightness levels). **Pulse** The output channel momentarily switches ON for a short, defined period and then switches OFF again, regardless of the input command type. A brief, single-step ON/OFF cycle. **Custom** The output channel executes a user-defined series of steps that are configured in separate parameters. As output there is a series of defined output values (e.g. 10% → 50% → 100% → 0%).	
Telegram for sequence activation	telegram "0" / telegram "1"
This parameter defines the specific logical value (0 or 1) that the sequence control object must receive to trigger the actuator to advance to the next step in its programmed sequence.	
Enable Sync Object	disable device is master device is slave
The parameter defines how the device participates in a synchronization mechanism to ensure consistent timing or data across multiple devices on the bus. **Disable** The device ignores all synchronization telegrams and does not send any synchronization pulses itself. It operates independently, relying on its internal clock or its own trigger mechanisms. **Device is master** The device is designated as the source of the synchronization signal. It sends out periodic synchronization telegrams (often a simple 1-bit or 1-byte command) onto the bus. A Time Server or a Weather Station might be set as the master to send the current time (Time DPT) to all other devices. In a sequence, the Master dictates when the next step occurs. **Device is slave** The device listens for synchronization telegrams sent by the Master device. When it receives a synchronization pulse, it adjusts its own internal clock or advances its own internal sequence/schedule accordingly. Some devices must be set as slaves to the Time Server (master) to ensure they all execute the correct color temperature change at the exact same moment.	
Sequence type: Flashing	
Time On / Off [1-60 s]	1-60
This parameter defines the duration that the light or output will remain actively ON or OFF after being switched on, usually associated with a specific timing function.	
Brightness [%]	0 ÷ 100
This parameter defines the overall luminous intensity or dimming level applied to the device's output, regardless of the color (hue) currently set. It acts as a master dimmer for the combined Red, Green, and Blue channels.	
Sequence type: Pulse	
Minimum value brightness 0-45%	0 ÷ 45 %
This parameter defines the lowest light intensity level (as a percentage of the total possible output) that the dimmer channel is allowed to physically output.	
Maximum value brightness 50-100%	50 ÷ 100 %
This parameter defines the highest light intensity level (as a percentage of the total possible output) that the dimmer channel is allowed to physically output.	
Time from min to max [0-60 s]	0 ÷ 60
This parameter defines the maximum time duration required for the light output to transition (or ramp) smoothly from its Minimum Brightness Value (0% or the calibrated minimum) to its Maximum Brightness Value (100% or the calibrated maximum).	
Time from max to min [0-60 s]	0 ÷ 60
This parameter defines the maximum time duration required for the light output to transition (or ramp) smoothly from its Maximum Brightness Value (100% or the calibrated maximum) to its Minimum Brightness Value (0% or the calibrated minimum).	
Time min / max brightness [0-60 s]	0 ÷ 60
This parameter defines the speed (duration in seconds) of the light's transition (ramping) between its minimum and maximum possible brightness levels.	
Sequence type: Custom	
Number of elements	2 ÷ 10
This parameter defines how many individual components, steps, or values the device should utilize for a specific function.	
Value step <1 ÷ 10> [%]	0 ÷ 100
This parameter defines the output level (percentage of brightness, power, or value) for each specific, numbered step within a programmed sequence.	
Ramp to step <1 ÷ 10> [0-60 s]	0 ÷ 60
This parameter defines the speed (duration in seconds) at which the light or load transitions smoothly from its current state to the target output level defined for that specific sequence step.	
Time in step <1 ÷ 10> [0-60 s]	0 ÷ 60
This parameter defines the holding time; the amount of time the actuator must maintain its output at the current step's value before it is ready to advance to the next step in the sequence.	
Send status telegram	false / true
This parameter defines whether the device should actively send its current state (e.g., ON/OFF, brightness level, blind position) onto the KNX bus.	
Loop endless	false / true
This parameter defines whether the programmed sequence or cycle should stop after reaching its final step or whether it should immediately restart from the beginning.	
Number of repetitions	1 ÷ 255
This parameter defines the exact number of times the specific action or process should be repeated before the function stops (terminates).	

Sequence can be stopped	false / true
This parameter determines whether a running sequence can be interrupted, paused, or terminated by an external command before it reaches its natural end (either its final step or the set number of repetitions).	
Brightness when sequence ends / stops [%] (101 = previous value)	0 ÷ 101
This parameter defines the specific output brightness level (or power percentage) the actuator should adopt once the sequence naturally terminates (ends) or is manually interrupted (stops).	

Logic

KNX PARAMETER	SETTINGS
Logic function	AND / OR / XOR / NAND / NOR / XNOR
The logic functions AND, OR, XOR, NAND, NOR, and XNOR are the foundational building blocks of Boolean logic and automation. In KNX/ETS devices, these functions are integrated to process multiple binary input signals (telegrams) and generate a single output telegram.	
AND = The output is 1 only if ALL inputs are 1 **OR** = The output is 1 if AT LEAST ONE of the inputs is 1 **XOR** = The output is 1 only if ONE and only one input is 1 **NAND** = The output is 0 only if ALL inputs are 1. (It is the inverse of AND) **NOR** = The output is 1 only if NEITHER input is 1. (It is the inverse of OR) **XNOR** = The output is 1 only if the inputs are EQUAL (both 0 or both 1).	
Initial value for logic object	value 0 / value 1 / last value received
This parameter defines the output state of the logic gate when the device is first started, typically after a power failure (bus power up) or following a programming download. **value 0** = The output of the logic object is immediately set to Logic 0 (OFF). **value 1** = The output of the logic object is immediately set to Logic 1 (ON). **last value received** = The output of the logic object is set to the last state it held just before the power failure or reset occurred.	
Output when logic result is true / false	as received OFF as received ON fixed value last value
This parameter defines the specific action or value the logic object's output should take when the processed inputs cause the logic gate result to become TRUE (1) or FALSE (0). **Logic result:TRUE** **as received ON** = The logic object sends the exact telegram it last received as an ON command (usually a '1' telegram) to its output Group Address. **as received OFF** = The logic object sends the exact telegram it last received as an OFF command (usually a '0' telegram) to its output Group Address. **fixed value** = The logic object sends a pre-configured fixed value (usually set in a separate parameter) to the output. **last value** = The logic object sends the last value (0 or 1) it previously sent to the output. **Logic result:FALSE** **as received OFF** = The logic object sends the exact telegram it last received as an OFF command (usually a '0' telegram) to its output Group Address. **as received ON** = The logic object sends the exact telegram it last received as an ON command (usually a '1' telegram) to its output Group Address. **fixed value** = The logic object sends a pre-configured fixed value (e.g., 0% for a dimming DPT) to the output. **last value** = The logic object sends the last value (0 or 1) it previously sent to the output.	
Brightness value when true / false [%]	0 ÷ 100 %
This parameter defines the specific absolute dimming level (as a percentage) that the output channel should adopt when the result of the logic operation is either TRUE (1) or FALSE (0).	
Ramp time 0-100% when true / false [s]	0 ÷ 255
This parameter defines the speed (duration in seconds) at which the output brightness transitions from 0% to 100% (or vice versa) when the result of the logic operation changes to TRUE (1) or FALSE (0).	

Lock

KNX PARAMETER	SETTINGS
Initial value for lock object	value 0 / value 1 / last value received
This parameter defines the default state of the internal lock mechanism's control object when the device first powers up (after a power failure) or is programmed. **value 0** = The lock object starts at Logic 0, if 0 is configured to mean "UNLOCKED," the primary control is immediately active. **value 1** = The lock object starts at Logic 1, if 1 is configured to mean "LOCKED," the primary control is immediately inactive (blocked). **last value received** = The lock object starts at the last state (0 or 1) it held before the power failure, the actuator resumes its last lock status.	
Telegram for lock activation	telegram "0" / telegram "1"
This parameter defines the specific absolute dimming level (as a percentage) that the output channel should adopt when the result of the logic operation is either TRUE (1) or FALSE (0).	
Brightness value when lock is active / ends [%] (101=no action)	0 ÷ 101 %
This parameter defines the specific output brightness level (as a percentage) a KNX dimmer actuator should adopt under two scenarios related to the Lock Function: when the lock is engaged (Active) and when the lock is disengaged (Ends). The parameter uses the range 0% to 100% for a defined output level, and 101 to signify no action. **When the lock is engaged (active).** This setting dictates the mandatory brightness level the light must adopt while the lock mechanism is engaged (i.e., while local user control is blocked). The light's output is forced to the programmed percentage. **Setting to 0 % =** Used to force the light OFF (e.g., during a security alarm, the light is forcibly switched off, and the local switch is ignored). **Setting to 100 % =** Used to force the light to full brightness (e.g., as emergency lighting, the light is forcibly set to maximum, and the local switch is ignored). **When the lock is disengaged (ends).** This setting dictates the brightness level the light should adopt immediately after the lock mechanism is disengaged (unlocked). **Setting to 0 ÷ 100 % =** When the lock is released, the light automatically reverts to a defined standby level. **Setting to 101 (No Action) =** When the lock is released, the actuator sends no command. This is often used to allow the user's last command (which was blocked) to immediately take effect, or to simply maintain the last known state.	
Position when lock ends	fixed value keep previous state and ignore telegrams keep previous state and don't ignore telegrams
This parameter defines the specific action the dimming channel's brightness level should take once the Lock Function is disengaged (unlocked). In a dimmer, "position" refers to the brightness percentage [%]. **fixed value =** The dimmer immediately sets the light to a pre-configured absolute brightness level (e.g., 50%, 100%, or 0%). This percentage is defined in a separate parameter. **keep previous state and ignore telegrams** = The dimmer maintains the brightness level it was forced to (or was at) when the lock ended.	

Crucially, it ignores any new dimming or switching commands received on the bus until a subsequent, explicit command is sent to the main control object. **keep previous state and don't ignore telegrams** = The dimmer maintains the brightness level it was forced to (or was at) when the lock ended. Crucially, it does not ignore any new telegrams.

6. <RGB>

RGB Generic

Communication objects involved:

"<RGB> Switching (at once)"	1 Bit	CW
"<RGB> Switching (smooth)"	1 Bit	CW
"<RGB> Switching (timing)"	1 Bit	CW
"<RGB> Brightness"	4 Bit	CW
"<RGB> Brightness Value"	1 Byte	CW
"<RGB> Brightness Status"	1 Byte	CRT
"<RGB> Status"	1 Bit	CRT
"<RGB> Red Absolute Value"	1 Byte	CW
"<RGB> Green Absolute Value"	1 Byte	CW
"<RGB> Blue Absolute Value"	1 Byte	CW
"<RGB> Lock Function"	1 Bit	CW
"<RGB> Scene"	1 Byte	CW
"<RGB> Color Value"	3 Bytes	CW
"<RGB> Color Status"	3 Bytes	CRT
"<RGB> Sequence <x>"	1 Bit	CW
"<RGB> Sequence <x> Sync Master"	1 Bit	CRT
"<RGB> Sequence <x> Sync Slave"	1 Bit	CW
"<RGB> Red Status"	1 Byte	CRT
"<RGB> Green Status"	1 Byte	CRT
"<RGB> Blue Status"	1 Byte	CRT

The **RGB + 1CH** (Red, Green, Blue plus 1 Channel) section in a KNX dimmer actuator is a configuration mode used to control lighting fixtures that combine standard color control (**RGB**) with a dedicated, separate channel for **white light (1CH)**. This differs slightly from an RGBW setup.

KNX PARAMETER	SETTINGS
Maximum brightness value 50-100%	50 ÷ 100 %
The maximum brightness value setting determines the highest light intensity level that the dimmer can reach, regardless of user input. This allows you to limit the maximum brightness value of the connected lights, preventing them from ever exceeding a certain level for various reasons such as protecting the lights, energy-saving, or creating a desired ambiance. This setting typically offers a range of 50% to 100%, allowing you to define the upper limit of the dimmer's brightness value output.	
Minimum brightness value 0-45%	0 ÷ 45 %
This parameter allows you to define the lowest level of brightness value that the connected lights can reach. This setting is useful for preventing the lights from brightness too much, which can be important for both performance and visual effect.	
Maximum compensation for red / green /blue color [50-100%]	50 ÷ 100 %
This parameter defines the upper power limit that can be delivered to each individual color channel (Red, Green, and Blue) when emitting colored light.	
Ramp Time 0-100% [s]	0 ÷ 255
This setting defines the maximum time duration (in seconds) that the color output takes to transition smoothly across its entire range, from the lowest color intensity to the highest color intensity. This setting controls the speed of color changes and the smoothness of fades for the combined Red, Green, and Blue channels.	
Local buttons	disabled / enabled
This setting controls whether users can manually adjust brightness levels using its built-in buttons or local buttons are deactivated, preventing users from adjusting the dimmer manually. Device control is restricted to external commands (such as from a KNX system, sensors, or remote controls).	
Value for local buttons at switch on - red / green / blue	0 ÷ 255
This parameter defines the initial brightness level or color component value (ranging from 0 to 255) that the actuator will use when a local wall switch or push-button linked to that channel is pressed to turn the light ON.	
Brightness for local buttons [0-100%]	0 ÷ 100 %
This parameter defines the state of the dimmer when it is switched on via local buttons. This setting controls whether the dimmer restores the last used brightness or starts with a predefined brightness and color: 0 = Off (0% brightness) ; 100 = Maximum brightness (100%); 1–100 = Intermediate brightness levels.	

RGB Configuration

KNX PARAMETER	SETTINGS
Behaviour on KNX bus power down	no action / fixed
This setting dictates the output state of the Red, Green, and Blue channels immediately upon loss of the KNX bus voltage. The logic is identical to that used for single channels, but it applies specifically to the color output of the device.	
Behaviour on KNX bus power up	previous / fixed
This setting dictates the color and brightness state of the Red, Green, and Blue channels the instant the KNX bus voltage is restored after a power failure. This setting ensures the system returns to a predictable state, balancing user comfort against energy efficiency.	
Behaviour at switch on for color	previous / fixed
This setting defines the color state the RGB channels should adopt specifically when a Switch ON (1-bit) command is received. This behavior is triggered by a control input (like a push-button press) while the device is already powered and running, not during a system power-up.	
Behaviour at switch on for brightness	previous / fixed
This setting defines the brightness state the RGB channels should adopt specifically when a Switch ON (1-bit) command is received. This behavior is triggered by a control input (like a push-button press) while the device is already powered and running, not during a system power-up.	
Value for channel red / green / blue	0 ÷ 255
This parameter defines the initial color component value (ranging from 0 to 255) that the actuator will use when a local wall switch or push-button linked to that channel is pressed to turn the light ON.	
Brightness [%]	0 ÷ 100
This parameter defines the initial brightness component value (ranging from 0 to 255) that the actuator will use when a local wall switch or push-button linked to that channel is pressed to turn the light ON.	
Switching object activation telegram	telegram "0" / telegram "1"
This parameter defines the polarity of the 1-bit telegram required to activate or trigger the associated switching function in an actuator or logic device within a system like KNX/ETS.	

Enable switch off with dimming object (4 bit)	enabled / disabled
This parameter controls whether the RGB channels should treat a received dimming telegram as a potential “Switch OFF” command, in addition to being a command to change brightness.	
Absolute value object [%]	disabled / enabled
This parameter controls whether the RGB channels should allow external devices to directly write a specific, absolute dimming level onto the bus, overriding any relative dimming commands.	
Additional function	no function logic function lock function ramp time object
This parameter allows the user to assign a secondary, advanced control feature to the device’s main output channel, enabling more complex behavior beyond simple switching or dimming.	
No Function The output channel performs its primary function only (e.g., simple ON/OFF switching, or direct dimming). No secondary logic or control mechanism is applied. **Logic Function** The channel’s output is governed not just by its primary control object, but also by an internal Boolean logic gate (e.g., AND, OR, XOR). The channel only activates if the logic condition is met. **Lock Function** The channel is equipped with a specific locking input object. When this object receives an “Enable” or “Lock” telegram (the polarity is usually configurable), the main control object is temporarily ignored or overridden. **Ramp Time Object** The channel’s dimming speed or switching speed is controlled by an external object. When a new time value (e.g., in seconds) is written to this object, the actuator uses that value as its transition speed for all subsequent ON/OFF or dimming commands.	
Timing Function	timing function disabled on/off with delay on with delay/timing off
This parameter dictates the type of time delay or timer functionality applied to the light output, specifically controlling the Red, Green, and Blue channels. This function overrides simple instantaneous switching, allowing for timed or delayed activation and deactivation of the colored light. **Timing Function Disabled** No time delays are active. The light switches ON or OFF immediately upon receiving a command. **On/Off with Delay** The light is controlled with both an ON delay and an OFF delay. **On with Delay/Timing Off** This combines an ON delay with a specific timer function for the OFF state.	
Scene	disabled / enabled
This parameter defines whether the device can participate in and store/recall lighting scenes that involve color and brightness.	
Sequence	disabled / enabled
This parameter determines whether the device is capable of executing a programmed series of automatic color and brightness changes (a sequence or loop).	

RGB Timing Function

The Timing Function defines how the light’s switching behavior (ON/OFF) is governed by internal time delays or timers, rather than immediate command execution. This function allows the actuator to manage the light automatically for periods ranging from a few seconds to several hours.

KNX PARAMETER	SETTINGS
RGB color in timing mode	last value fixed color custom color
This parameter defines the specific color and brightness that the RGB channels will adopt while a Timing Function (like a run-on timer or staircase timer) is actively running. This setting dictates the appearance of the light during the time-delayed period.	
Last value The light maintains the exact color and brightness it was set to when the timing function was first triggered. **Fixed color** The light immediately switches to a pre-configured, fixed color and brightness for the entire duration of the timer. This fixed value is typically defined in a separate parameter (e.g., a specific RGB value or a color temperature). **Custom color** The actuator may allow the user to define a specific HUE and Saturation value (in separate parameters) that the light must adopt while the timing mode is active. This offers more flexibility than a simple “fixed color.”	
RGB fixed color	red / orange / yellow / green-yellow / green / green-cyan / cyan / cyan-blue / blue / blue-magenta / magenta / white
This parameter allows the installer to select one of several predefined, standard colors that the actuator should output when instructed to use a “fixed color” (e.g., during a power-up, a safety lock, or a timed mode).This simplifies configuration, as the installer doesn’t need to manually enter the complex Red, Green, and Blue percentage values for common colors.	
R / G / B for custom color timing mode	0 ÷ 255
It defines the precise 8-bit value (0–255) for each of the three primary color channels that the light must adopt while the timer is actively running	
Ramp time 0-100% for timing [s]	0 ÷ 255
This parameter defines the speed (duration in seconds) at which the light transitions from “0% brightness” to “100% brightness” (and vice versa) when the timing function is active.	
Brightness for timing [%]	0 ÷ 100 %
This parameter specifies the output brightness level that the light should adopt during the active timing period.	
Delay on activation / deactivation	false / true
This parameter determines whether a pre-set time delay should be applied before the device executes a command. **Activation (ON)** When the actuator receives a command to switch ON (from OFF to ON). **Deactivation (OFF)** When the actuator receives a command to switch OFF (from ON to OFF).	
Delay on activation / deactivation (base time)	1 s / 1 min / 1 h
This parameter defines the time unit used for the associated time delay functions. It determines the granularity of the delay measurement.	
Delay on activation / deactivation (factor)	0 ÷ 255
This parameter is used in conjunction with the Base Time setting to determine the specific duration of the time delay applied before an ON or OFF command is executed.	
Timing can be stopped	false / true
This parameter dictates whether an active timer can be prematurely halted or canceled by an external command. This parameter controls the behavior when a specific “Stop” command (often a 1-bit telegram) is received on a linked group address.	
Warning function	false / true
This parameter controls whether the light should signal the user a few moments before the automatic switch-off occurs.	

Warning time (seconds before time ends)	15 s / 30 s / 1 min / 2 min
This parameter defines the specific duration of the pre-warning period. The amount of time the device should alert the user before the output automatically switches off.	
Switch off time	1.0 s / 1.5 s / 2 s
This parameter defines the maximum duration the actuator will wait after the command to switch OFF has been received before it actually executes the physical disconnection of the load.	
Receiving on when timing is active	ignore trigger mode extension mode
This parameter defines how the device should react if it receives a new Switch ON telegram while its internal timer is already running. **Ignore** The actuator ignores the new ON telegram entirely. The active timer continues counting down from its current value without interruption. **Trigger Mode** The actuator interprets the new ON telegram as a new trigger event. The timer is reset to its full, initial duration (the follow-up time). The light remains ON, but the countdown starts over. **Extension Mode** The actuator interprets the new ON telegram as a command to add time to the current countdown. A pre-defined time extension (e.g., 1 minute, which is set in a separate parameter) is added to the time remaining on the timer. The total time on is effectively increased.	
Maximum number of timer extension	2 times / 3 times / 4 times
This parameter defines the upper limit for how many times the running timer can be prolonged by subsequent trigger events.	

RGB Scene

KNX PARAMETER	SETTINGS
Scene <A ÷ H> [0-63] (64=not active)	0 ÷ 64
This parameter defines which specific KNX Scene Numbers (from 1 to 64) the actuator will store and recall for a single, designated function or output channel. A KNX system can manage up to 63 distinct scenes (identified by numbers 1 through 63). However, many actuators only need to manage a few important scenes. The 64th slot disables internal memory slot. This parameter allows the installer to map a specific, local function within the actuator (labeled A, B, C, etc., corresponding to the device's own internal Scene slots) to a specific number used on the KNX bus.	
RGB color for scene <A ÷ H>	fixed color / custom color
This parameter defines how the desired color for a specific scene slot (A through H) is determined when the scene is stored or recalled.	
RGB fixed color scene <A ÷ H>	red / orange / yellow / green-yellow / green / green-cyan / cyan / cyan-blue / blue / blue-magenta / magenta / white
This parameter allows the installer to select one of several predefined, standard colors that the actuator should output when instructed to use a "fixed color" (e.g., during a power-up, a safety lock, or a timed mode).This simplifies configuration, as the installer doesn't need to manually enter the complex Red, Green, and Blue percentage values for common colors.	
R / G / B for custom color scene <A ÷ H>	0 ÷ 255
It defines the precise 8-bit value (0–255) for each of the three primary color channels that the light must adopt while the timer is actively running.	
Ramp time 0-100% for scene <A ÷ H> [s]	0 ÷ 255
This parameter defines the speed (duration in seconds) at which the actuator transitions from its current output state to the target state stored in the specific scene slot (A through H) when that scene is recalled.	

Brightness for scene <A ÷ H> [%]	0 ÷ 100 %
This parameter defines the overall intensity (dimming level) of the colored light output for a specific, stored scene (A through H).	
Enable scene from bus	disabled / enabled
This parameter controls the device's ability to receive and respond to Scene Recall commands transmitted over the KNX bus.	
Submit to dynamic scene function	false / true
This parameter determines whether the device is capable of storing its current color state into a KNX scene slot via a bus telegram. This is a fundamental control setting that dictates the user's ability to modify and save lighting scenes dynamically.	
Keep scenes value after download	keep / overwrite
This parameter controls how the device should handle the user-stored scene color and state values during a new application download (programming) from the ETS software.	

RGB Sequence

KNX PARAMETER	SETTINGS
Sequence <1 ÷ 6>	disabled / enabled
This parameter defines whether the device is configured to utilize its internal memory to store and execute multiple, separate color sequences. Modern KNX color actuators allow different triggers to initiate different dynamic effects. This parameter is used to activate or deactivate these individual internal sequence slots.The (1 ÷ 6) indicates that the device has internal memory slots for up to six separate sequences (Sequence 1 ÷ 6).	

RGB Sequence <1 ÷ 6>

KNX PARAMETER	SETTINGS
Enable Sync Object (must set the same sequence on Master and Slaves)	disable device is master device is slave
The parameter defines the device's role in a Master/Slave setup for sequence control. This feature is used to ensure that a dynamic color sequence (like a slow color fade) runs perfectly synchronized across multiple separate actuators, making the entire group of lights appear as one continuous color display. **Disable** The synchronization object is not used. The device runs the sequence independently, based on its own internal timing. The actuator will ignore any incoming synchronization telegrams, and it will not send any synchronization telegrams. **Device is master** The device is designated as the control source for the sequence timing. The master device sends a specialized, continuous synchronization telegram onto the KNX bus. This telegram constantly broadcasts the master's current position within the sequence (e.g., "I am 50% through Step 3"). **Device is slave** The dimmer is designated to receive and follow the timing of a master device. The slave device actively listens for the synchronization telegram sent by the master. It adjusts its internal sequence timing and color output to match the position broadcast by the master.	
Telegram for sequence activation	telegram "0" / telegram "1"
This parameter defines the specific logical value (0 or 1) that the sequence control object must receive to trigger the actuator to advance to the next step in its programmed sequence.	

Sequence type	red colors / green colors / blue colors / all colors / warm colors / cold colors / flashing / pulse / custom

The parameter Sequence type in the RGB section of a KNX dimmer LED actuator defines the pre-programmed color pattern or effect the sequence will execute when activated. This allows the installer to quickly select a complex, dynamic effect without having to manually program every color step. These types cycle through a specific subset of the color wheel:

red colors
The sequence cycles through various shades and intensities of red (e.g., pure red → light red → deep red).

green colors
Cycles through various shades and intensities of green.

blue colors
Cycles through various shades and intensities of blue.

all colors
Cycles through the entire visible color spectrum (the full 360° color wheel, e.g., red → yellow → green → cyan → blue → magenta → red).

warm colors
Cycles through colors on the warm side of the wheel, typically ranging from reds and oranges to yellows.

cold colors
Cycles through colors on the cool side of the wheel, typically ranging from blues, cyans, and greens.

Dynamic Effects (Temporal Patterns)

flashing
The sequence rapidly switches the light ON and OFF at a high frequency (often between 0.5 and 2 Hz). The color used for the flash is usually defined by a separate parameter.

pulse
The sequence involves a continuous, smooth change in brightness (a dimming up and dimming down) while maintaining a fixed color. This creates a “breathing” effect.

custom
The actuator ignores the internal, predefined color patterns and uses the explicit color, brightness, ramp time, and hold time values programmed by the installer for each individual step within the sequence.

Sequence type: Pulse

Brightness - point 1 / 2 [%]	0 ÷ 100 %

This parameter defines the overall intensity (dimming level) that the colored light must adopt specifically during Step 1 of a programmed sequence.

RGB color - point 1 / 2	fixed color / custom color

This parameter defines how the color for Step 1 of the sequence is determined. This setting determines whether the color is selected from a manufacturer’s predefined list or if the installer manually specifies the exact R, G, B values.

RGB fixed - point 1 / 2	red / orange / yellow / green-yellow / green / green-cyan / cyan / cyan-blue / blue / blue-magenta / magenta / red-magenta / white

This parameter defines the specific, named standard color that the RGB light must adopt for Step 1 of a programmed color sequence. This is available when the “RGB color - point 1” parameter is set to use a “fixed color.” It allows the installer to select a color from a predefined list without needing to calculate the individual Red, Green, and Blue intensity values.

R G B for custom color - point 1 / 2	0 ÷ 255

This parameter allows the installer to define the precise color and intensity of a specific step in a programmed color sequence when the Sequence Type is set to custom.This set of parameters provides the necessary 8-bit values (0 to 255) for each of the primary colors (Red, Green, Blue) for a given sequence point (step).

Time in point 1 to 2 [0-60 s]	0 ÷ 60

This parameter defines the hold time, the duration for which the light remains static (at the color and brightness defined for that point) before the actuator begins the transition to the next point in the sequence.

Time in point 1 / 2 [0-60 s]	0 ÷ 60

This parameter defines the absolute hold duration (in seconds) for which the light must remain static at the color and brightness defined for that specific step (Point 1, Point 2...).

Time in point 2 to 1 [0-60 s]	0 ÷ 60

This parameter defines the duration (in seconds) required for the light to transition (or ramp) from the color and brightness defined in Sequence Step 2 to the color and brightness defined in Sequence Step 1.

Loop endless	false / true

This parameter defines whether the programmed sequence or cycle should stop after reaching its final step or whether it should immediately restart from the beginning.

Behaviour when sequence ends / stops	previous value / fixed value

This parameter defines the final state of the light output once the dynamic color sequence is terminated.

previous value
When the sequence is stopped, the light returns to the color and brightness value it had immediately BEFORE the sequence was started.
fixed value
When the sequence is stopped, the light adopts a predefined, fixed color and brightness regardless of the state it was in before the sequence started.

Brightness when sequence ends / stops [%]	0 ÷ 100

This parameter defines the specific output brightness level percentage the actuator should adopt once the sequence naturally terminates (ends) or is manually interrupted (stops).

RGB color when sequence ends / stops	red / orange / yellow / green-yellow / green / green-cyan / cyan / cyan-blue / blue / blue-magenta / magenta / red-magenta / white

This parameter is active only when the Behaviour when sequence ends / stops is set to fixed value. It defines the specific fixed color the light will adopt as its final, static output state once the dynamic sequence has been terminated or completed.

Send status telegram (via 3 bytes obj, 3x1 byte obj and on-off bit obj)	false / true

This parameter determines whether the actuator should enable and use a set of Group Addresses dedicated to reporting the device’s current state back onto the KNX bus.

3-byte Color Object
Sends the current R, G, B values as a single 3-byte telegram.

3x1-byte Color Objects
Sends the current R, G, B values as three separate 1-byte telegrams (one for each color channel).

On/Off Bit Object
Sends the current ON or OFF status (1 bit).

Sequence type: Flashing

Time On / Off [1-60 s]	1-60

This parameter defines the duration that the light or output will remain actively ON or OFF after being switched on, usually associated with a specific timing function.

RGB color - point 1 / 2	fixed color / custom color

This parameter defines how the color for Step 1 of the sequence is determined. This setting determines whether the color is selected from a manufacturer’s predefined list or if the installer manually specifies the exact R, G, B values.

Ramp Time [s]	0 ÷ 255

This setting defines the maximum time duration (in seconds) that the color output takes to transition smoothly across its entire range, from the lowest color intensity to the highest color intensity. This setting controls the speed of color changes and the smoothness of fades for the combined Red, Green, and Blue channels.	
Brightness [%]	0 ÷ 100
This parameter defines the overall luminous intensity or dimming level applied to the device's output, regardless of the color (hue) currently set. It acts as a master dimmer for the combined Red, Green, and Blue channels.	
Sequence type: Custom	
Number of steps	2 ÷ 10
This parameter defines the complexity and length of a custom-programmed dynamic color sequence. This parameter determines how many distinct color/brightness configurations (points) the actuator will cycle through during one full run of the sequence. The installer can select a number between 2 and 10 steps (or "points").	
RGB color step 1 / 2	red / orange / yellow / green-yellow / green / green-cyan / cyan / cyan-blue / blue / blue-magenta / magenta / red-magenta / white
This parameter allows the installer to define the specific standard color for a given step (or "point") in a programmed color sequence. This parameter is typically used only if the sequence is of a predefined type (e.g., "all colors" or "warm colors") or if the "RGB color - point 1" option is set to "fixed color". If the sequence is of the "custom type," the color for each step is defined using numerical R, G, B values (0 to 255) in a separate parameter (e.g., "R G B for custom color - point 1").	
Brightness step 1 / 2 [%]	0 / 10 / 20 / 30 ÷ 100 %
This parameter defines the overall luminous intensity that the light must achieve and maintain for a specific step ("point") in a programmed color sequence. This parameter controls the perceived brightness of the light at a defined moment within the dynamic sequence. The actuator offers specific percentage increments from 0% up to 100%. The listed options (0, 10, 20, 30.... 100%) suggest the values are often limited to multiples of 10 for simplicity, though the final device may allow any value within that range.	
Step time [s]	1 ÷ 255
This parameter defines the duration (in seconds) for the transition (or ramp) between two consecutive points (steps) in the sequence. This parameter controls the speed at which the light smoothly fades from the configuration of one step (color, brightness) to the configuration of the next step.	
Transition time between steps [s]	1 ÷ 60
This parameter defines the absolute duration (in seconds) for the light to smoothly change (or ramp) from the final color and brightness of one step to the initial color and brightness of the next step.	

RGB Logic

KNX PARAMETER	SETTINGS
Logic function	AND / OR / XOR / NAND / NOR / XNOR
The logic functions AND, OR, XOR, NAND, NOR, and XNOR are the foundational building blocks of Boolean logic and automation. In KNX/ETS devices, these functions are integrated to process multiple binary input signals (telegrams) and generate a single output telegram. **AND** = The output is 1 only if ALL inputs are 1 **OR** = The output is 1 if AT LEAST ONE of the inputs is 1 **XOR** = The output is 1 only if ONE and only one input is 1 **NAND** = The output is 0 only if ALL inputs are 1. (It is the inverse of AND) **NOR** = The output is 1 only if NEITHER input is 1. (It is the inverse of OR) **XNOR** = The output is 1 only if the inputs are EQUAL (both 0 or both 1).	
Initial value for logic object	value 0 / value 1 / last value received
This parameter defines the output state of the logic gate when the device is first started, typically after a power failure (bus power up) or following a programming download. **value 0** = The output of the logic object is immediately set to Logic 0 (OFF). **value 1** = The output of the logic object is immediately set to Logic 1 (ON). **last value received** = The output of the logic object is set to the last state it held just before the power failure or reset occurred.	
RGB color when logic is true / false	as received fixed value last value
This parameter defines what color data the actuator should use when a specific logical condition, typically generated by a logic block within the device itself, evaluates to TRUE or FALSE. KNX actuators often contain internal logic blocks (comparators, AND/OR gates, etc.) that generate a 1-bit output (TRUE or FALSE). This parameter links that logical result to a specific RGB color command. It is set twice: once for the TRUE state and once for the FALSE state. **as received** = The actuator uses the color value contained in the same telegram that triggered the logic evaluation. This means the color data is provided externally on the bus. Used when the color is dynamic or externally controlled, and the logic only serves as a gatekeeper to determine if that received color should be applied to the light. **fixed value** = The actuator uses a predefined, static RGB color value that the installer configured in the ETS parameters (e.g., pure red, or R=100, G=200, B=50). Used for signaling or status indication. The logical state directly dictates a specific, unchanging color. **last value** = The actuator uses the last color value it received and applied before the logic block was activated or the previous state ended. Used to maintain the current color state if the logic condition changes, allowing the logic to control only the brightness or on/off state, while preserving the color. **Application Example** = If the parameter RGB color when logic is TRUE is set to fixed value (RED), and RGB color when logic is FALSE is set to last value: • Start: Light is set manually to Blue. • Logic Triggered: Logic is → TRUE. Light instantly switches to RED (the fixed value). • Logic Changes: Logic is → FALSE. Light switches back to the last value applied, which is BLUE. This parameter is essential for implementing sophisticated, color-based status and control functions based on internal logic.	
R G B for custom color when logic is true / false	0 ÷ 255
This parameter allows the installer to define the precise color and intensity of a specific step in a programmed color sequence when the Sequence Type is set to custom color. This set of parameters provides the necessary 8-bit values (0 to 255) for each of the primary colors (Red, Green, Blue) for a given sequence point (step).	
Brightness when logic is true / false	as received OFF as received ON fixed value last value
This parameter defines the specific action or value the logic object's brightness should take when the processed inputs cause the logic gate result to become TRUE (1) or FALSE (0). **Logic result:TRUE** **as received ON** = The logic object sends the exact telegram it last received as an ON command (usually a '1' telegram) to its brightness Group Address. **as received OFF** = The logic object sends the exact telegram it last received as an OFF command (usually a '0' telegram) to its brightness Group Address. **fixed value** = The logic object sends a pre-configured fixed value (usually set in a separate parameter) to the brightness.	

last value = The logic object sends the last value (0 or 1) it previously sent to the brightness. **Logic result:FALSE** **as received OFF** = The logic object sends the exact telegram it last received as an OFF command (usually a '0' telegram) to its brightness Group Address. **as received ON** = The logic object sends the exact telegram it last received as an ON command (usually a '1' telegram) to its brightness Group Address. **fixed value** = The logic object sends a pre-configured fixed value (e.g., 0% for a dimming DPT) to the brightness. **last value** = The logic object sends the last value (0 or 1) it previously sent to the brightness.

RGB Lock

KNX PARAMETER	SETTINGS
Initial value for lock object	value 0 / value 1 / last value received
This parameter defines the actuator's initial behavior regarding the lock function's status when the device is first powered up or after a bus reset. Specifically, it dictates the initial state of the internal lock object, which controls whether the primary color and brightness inputs are active or blocked. **value 0** = The internal lock object starts with the value 0 (FALSE). **value 1** = The internal lock object starts with the value 1 (TRUE). **last value received** = The actuator attempts to recall the last state of the lock object before the power loss or reset.	
Telegram for lock activation	telegram "0" / telegram "1"
This parameter defines which specific value of the 1-bit telegram sent to the lock group address should trigger the LOCKED state (i.e., block the primary control inputs). The Lock Function is typically controlled by a dedicated 1-bit communication object (DPT 1.001 Switch). The received telegram carries either a value of 0 (FALSE/OFF) or 1 (TRUE/ON). The actuator needs to be configured to know which of these two values means "Block the device."	
RGB color when lock is active / ends	fixed color custom color last received
This parameter defines the light's color output while the actuator is in the LOCKED state, and what color it should revert to when the lock is ENDED (unlocked). It is typically set twice: once for the "Active" state and once for the "Ends" state. **State: Lock is Active** **fixed color** = The output color is a standard color (e.g., red, yellow, white) selected from a predefined list in the ETS parameters. **custom color** = The output color is a precise RGB value defined by the installer. **custom color** = The logic object sends a pre-configured fixed value (usually set in a separate parameter) to the brightness. **last received** = The output color is the exact color the light was displaying immediately before the lock was activated. **State: Lock Ends** **fixed color** = When the lock ends, the light switches to a predefined standard color. **custom color** = When the lock ends, the light switches to a precisely defined RGB value. **custom color** = The logic object sends a pre-configured fixed value (usually set in a separate parameter) to the brightness. **last received** = When the lock ends, the light restores the color that was in use before the lock was activated.	
Brightness when lock is active / ends [%]	0 ÷ 100 %
This parameter defines the light's overall intensity (dimming level) while the lock is active, and what brightness level it should revert to when the lock is removed. **State: Lock is Active** This value dictates the brightness of the light while the actuator is ignoring normal RGB control commands. **Setting to 0 % =** The light turns OFF **Setting to 10 % =** The light dims to a very low level. **Setting to 100 % =** The light is at full intensity. **State: Lock Ends** This value dictates the brightness the light should adopt the moment the actuator receives the unlock telegram and resumes normal operation. **Setting to 0 % =** The light turns OFF upon unlocking. **Setting to 50 % =** The light returns to a moderate level. **Setting to 100 % =** The light is at full intensity.	
Ramp time 0-100% when lock is active / ends [s]	0 ÷ 255
This parameter defines the speed (duration in seconds) at which the light changes its output to reach the defined color and brightness when the lock is activated or ended. This parameter is a specialized transition speed setting specific to the Lock Function. It ensures that the shift in color and brightness that occurs when the lock state changes is smooth and controlled, rather than an instantaneous, jarring jump.ignore	
Behaviour of brightness when lock ends	fixed value keep previous state and ignore telegrams keep previous state and don't ignore telegrams
This parameter determines how the brightness channel resumes operation when the lock function is deactivated (i.e., when the actuator is unlocked). **fixed value =** The dimmer immediately sets the light to a pre-configured absolute brightness level (e.g., 50%, 100%, or 0%). This percentage is defined in a separate parameter. **keep previous state and ignore telegrams** = The dimmer maintains the brightness level it was forced to (or was at) when the lock ended. Crucially, it ignores any new dimming or switching commands received on the bus until a subsequent, explicit command is sent to the main control object. **keep previous state and don't ignore telegrams** = The dimmer maintains the brightness level it was forced to (or was at) when the lock ended. Crucially, it does not ignore any new telegrams.	

7. <RGBW>

RGBW features in an ETS software regarding a KNX Dimmer Led are mostly the same of the RGB+1Ch ones. The difference between the RGB+1Ch and RGBW sections in a KNX dimmer LED actuator lies in how the white light component is generated and controlled. This distinction fundamentally affects the quality of the white light and the overall energy efficiency of the installation.

Feature	RGB+1Ch	RGBW
White Channel	Independent channel; function depends on wiring (can be White, Tunable White, or another color).	Dedicated, integrated White LED.
White Quality	White is often inferior if generated by mixing RGB. Quality is high if generated by the +1Ch (White).	Typically high-quality, true white due to the dedicated diode.
Functionality	Designed for flexibility, allowing RGB and a completely separate function	Primarily designed for full-spectrum color and fixed white.

In modern installations, RGBW is the preferred choice when the highest quality white light is required alongside full color capability. RGB+1Ch is used when the installer needs more versatility for the fourth output.

RGBW Generic

Communication objects involved:

“<RGBW> Switching (at once)”	1 Bit	CW
“<RGBW> Switching (smooth)”	1 Bit	CW
“<RGBW> Switching (timing)”	1 Bit	CW
“<RGBW> Brightness”	4 Bit	CW
“<RGBW> Brightness Value”	1 Byte	CW
“<RGBW> Brightness Status”	1 Byte	CRT
“<RGBW> Status”	1 Bit	CRT
“<RGBW> Red Absolute Value”	1 Byte	CW
“<RGBW> Green Absolute Value”	1 Byte	CW
“<RGBW> Blue Absolute Value”	1 Byte	CW
“<RGBW> Lock Function”	1 Bit	CW
“<RGBW> Scene”	1 Byte	CW
“<RGBW> Color Value”	3 Bytes	CW
“<RGBW> Color Status”	3 Bytes	CRT
“<RGBW> Sequence <x>”	1 Bit	CW
“<RGBW> Sequence <x> Sync Master”	1 Bit	CRT
“<RGBW> Sequence <x> Sync Slave”	1 Bit	CW
“<RGBW> Red Status”	1 Byte	CRT
“<RGBW> Green Status”	1 Byte	CRT
“<RGBW> Blue Status”	1 Byte	CRT

KNX PARAMETER	SETTINGS
Automatic white	false / true

The parameter **Automatic white (false / true)** is a critical setting found in the generic function area of the **RGBW section** of a KNX dimmer LED actuator. This parameter defines how the actuator should utilize the **dedicated White (W) channel** when receiving a color command that includes a white component. This feature is often referred to as **Color Point Correction** or **White Replacement.**

In an RGBW system, white light can be generated in two ways:

- **Mixed White:** By driving all three RGBchannels simultaneously.
- **Dedicated White:** By driving the W channel.

The dedicated **W** channel provides higher quality and more efficient white light. The “Automatic white” function is designed to **prioritize the W channel** whenever possible.

false (Disabled) = The actuator performs standard RGB mixing. The W channel is not automatically used unless specifically commanded. If the actuator receives a command for “white” or a pastel color (which has a high white content), it achieves that color primarily by mixing the RGB channels. The light quality may be lower, and energy consumption may be higher.

true (Enabled) = The dimmer automatically **calculates the “white content”** of the received RGB color command and replaces that portion with the output from the **dedicated W channel**.

If the actuator receives a command for a pastel pink (e.g., R=100, G=50, B=50):

- The lowest component (G=50, B=50) is identified as the white base.
- The actuator sets W=50%.
- It then drives only the remaining color component (R=50%) on the R channel.
- This results in a cleaner color, higher brightness, and better energy efficiency.

Value for local buttons at switch on - white	0 ÷ 255
This parameter defines the initial brightness level or color component value (ranging from 0 to 255) that the actuator will use when a local wall switch or push-button linked to that channel is pressed to turn the light ON.	

8. Behaviour on bus failure, recovery and download

Behaviour on bus voltage failure

On failure of bus voltage, it’s possible to set an action to execute in case of independent relays. Behaviour of controlled actuators must be set using their own parameters.

Behaviour on bus voltage recovery

On bus voltage recovery all the communication objects are set to 0 except for objects for which a parameter is defined for the initial value.

Wrong application download

If the wrong ETS application is downloaded then KNX/EIB led starts blinking and device is not operative on the bus. A power reset must be done or the correct ETS application must be downloaded.