

KNX LED dimming actuator 4-fold with constant voltage

KNX IO 534 CV (4D) Operating and installation manual



(Art. # 5314)

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1 Application

The KNX IO 534 CV (4D) is a compact RGB / RGBW / Tunable white dimming actuator with 4 PWM outputs.

The dimming actuator can be used e.g. for LED panels or strips with RGB / RGBW / Tunable white configuration or as 4 independent PWM dimmer channels. Every configuration allows to control the channel by switching, rel. dimming and dimming value.

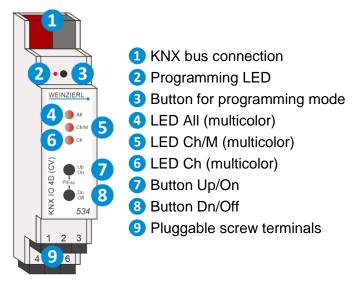
Several comfort functions are integrated as well, including scenes, slumber fading, staircase light and sequencer.

Two buttons and three LEDs allow a local operation and a visualization of the device state.

In addition to the output channels the device includes 16 independent functions for logic or timer control.

2 Installation and connection

The KNX IO 534 CV (4D) is designed for a DIN rail (35 mm) with a width of 1 unit (18 mm). An installation-friendly design with pluggable screw terminals helps to reduce costs of commissioning. The actuator has the following controls and displays:





If the bus voltage is missing, the device is without function.



2.1 KNX programming mode

The KNX programming mode is activated/deactivated either by pressing the recessed KNX programming button (3) or by simultaneously pressing the buttons (7) and (8).

When the programming mode is active, the programming LED 2 and the LED Ch/M 5 light up red.

The operation/visualization of the programming mode on the front can be activated/deactivated in the ETS® on page general settings.

2.2 Manual operation and status display

The LED Ch/M **5** lights up or flashes when KNX bus voltage is present.

The channel for manual operation can be selected by briefly pressing the button Up/On 7 or the button Dn/Off 8. The selected channel is indicated by a continuous light or cyclical flashing of the LED Ch/M 5 in green. The number of flashes (per cycle) indicates the channel number. With continuous light, all channels are controlled simultaneously in manual operation.

Pressing and holding the button Up/On 7 or the button Dn/Off 8 switches to manual operation for the dimming actuator channel. This is indicated by continuous light or cyclical flashing of the LED Ch/M 5 in orange. The number of flashes (per cycle) again corresponds to the channel selection.

The respective channel can be switched on in manual operation by briefly pressing the button Up/On 7 and switched off by pressing the button Dn/Off 8. In addition, a long press on the button Up/On 7 brightens and a long press on the button Dn/Off 8 darkens the dimming.

Pressing both buttons (P/Esc) 7 and 8 at the same time exits manual operation.



Summary of the states of the LED Ch/M 5:

| LED Status | Meaning |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| LED lights green | The device operates in normal operating mode. After activating the manual control, all channels can be operated. |
| LED flashes 1x green | After activating the manual control, channel 1 can be operated. |
| LED flashes 2x green | After activating the manual control, channel 2 can be operated. |
| LED flashes 3x green | After activating the manual control, channel 3 can be operated. |
| LED flashes 4x green | After activating the manual control, channel 4 can be operated. |
| LED lights orange | Manual operation is active. All channels can be switched or dimmed simultaneously. |
| LED flashes 1x orange | Manual operation is active. Channel 1 can be switched or dimmed. |
| LED flashes 2x orange | Manual operation is active. Channel 2 can be switched or dimmed. |
| LED flashes 3x orange | Manual operation is active. Channel 3 can be switched or dimmed. |
| LED flashes 4x orange | Manual operation is active. Channel 4 can be switched or dimmed. |
| LED lights red | The programming mode is active. |
| LED flashes red | The programming mode is not active. Manual operation is not active. The device is not loaded correctly e.g. after aborting a download. |
| LED flashes green | The device is currently loaded by the ETS. |

The LED All 4 is used to display the status of all channels of the dimming actuator. It lights up green when at least one channel is switched on. Furthermore, this LED lights up or flashes red if an error occurs on the device.

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Summary of the states of the LED All 4:

| LED Status | Meaning |
|------------------|-----------------------------------------------------------------------|
| LED lights red | Error condition: No auxiliary voltage is connected to the device. |
| LED flashes red | Error condition: Overheating, Overload or Overcurrent. |
| LED lights green | No error condition is active. At least one channel is switched on. |
| LED is off | No error condition is active. All channels are switched off. |

The LED Ch 6 is used to display the status of the individual channels. It lights up green when the corresponding channel is switched on.

Summary of the states of the LED Ch 6:

| LED Status | Meaning |
|------------------|--------------------------------------------|
| LED lights green | The corresponding channel is switched on. |
| LED is off | The corresponding channel is switched off. |

3 Reset to factory default settings

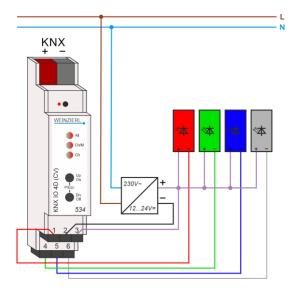
It is possible to reset the device to its factory default settings.

- Disconnect the KNX bus connector 1 from the device.
- Press the KNX programming button 3 and keep it pressed down.
- Reconnect the KNX bus connector 1 to the device.
- Keep the KNX programming button 3 pressed for at least another 6 seconds.
- A short flashing of all LEDs (2456) visualizes the successful reset of the device to factory default settings.

In the factory default settings, the device has the physical address 15.15.255 and no group addresses are connected.



4 Wiring scheme



4.1 Pluggable screw terminals

The pluggable screw terminals (9) are used to control e.g. LED panels or strips.

The $12...24V_{--}$ + connection of the power supply unit is connected to the right terminal at the upper screw terminal ($12..24V_{+}$), at the same time with the common anode of the consumers. The ground connection of the power supply is connected to the middle terminal ($12..24V_{-}$). The remaining terminals are connected to the cathode of the desired channel. The device has the following labeling of the channels:

| Ch 1 Out - | 12 | 24V + |
|---------------|-------|----------|
| Ch 2 | Ch 3 | Ch 4 |
| Out - | Out - | Out - |

In the basic setting of the individual operating modes, the assignment of the channels from the parameters corresponds to the following scheme, whereby the assignment of the channels can be freely changed in the ETS parameter dialog:

1 x RGB

| R Out - | 12 | 24V + |
|------------|-------|----------|
| G | B | Dim 4 |
| Out - | Out - | Out - |

1 x RGBW

| R Out - | 12 | 24V + |
|------------|-------|----------|
| G | B | W |
| Out - | Out - | Out - |

• 1 x Tunable white

| TW A: CW Out - | 12 | 24V + |
|-------------------|-------|----------|
| TW A: | Dim 3 | Dim 4 |
| WW Out - | Out - | Out - |

• 2 x Tunable white

| TW A: | 1224V | | |
|----------|----------|--------|--|
| CW Out - | - + | | |
| TW A: | TW B: | TW B: | |
| WW Out - | CW Out - | WW Out | |

• 4 x Common dimmer

| Dim 1 | 1224V | |
|-------|-------|-------|
| Out - | - + | |
| Dim 2 | Dim 3 | Dim 4 |
| Out - | Out - | Out - |

4.2 Pin assignment

| Connection | lcon | Description |
|------------|---------------|-------------------------------------------------|
| 1 | Ch 1 Out - | Cathode connection for channel 1 |
| 2 | 1224V - | Ground connection for supply voltage |
| 3 | 1224V + | Positive connection for supply voltage 12 24 V- |
| 4 | Ch 2 Out - | Cathode connection for channel 2 |
| 5 | Ch 3 Out - | Cathode connection for channel 3 |
| 6 | Ch 4 Out - | Cathode connection for channel 4 |
| KNX | + | Positive connection for KNX bus |
| KNX | - | Ground connection for KNX bus |

5 Operating parameters of the dimmer channels

5.1 Maximum connectable power

The maximum dimmable power of the dimming actuator is essentially limited by the power loss in the device. The maximum current of 6 A can be distributed as required to the four channels. With equal loads, 1.5 A per channel is therefore permitted.

In the Tunable white (TW) operating mode, two channels are used for one function. In the default setting, the total current of the two channels is 100 % of the maximum current of one channel. Thus, TW LEDs with double current can be connected here.

Examples:

1 x Tunable white, 2 x Common dimmer Channel 1 – TW A: Cold white – 3 A (together with channel 2) Channel 2 – TW A: Warm white – 3 A (together with channel 1) Channel 3 – Dim 3 – 1.5 A Channel 4 – Dim 4 – 1.5 A 2 x Tunable white Channel 1 – TW A: Cold white – 3 A (together with channel 2) Channel 2 – TW A: Warm white – 3 A (together with channel 1) Channel 3 – TW B: Cold white – 3 A (together with channel 4) Channel 4 – TW B: Warm white – 3 A (together with channel 3)

5.2 PWM phase position

The PWM signals of output channels 1 and 4 are in phase. Channels 2 and 3 are also in phase, but are 180 ° out of phase with 1 and 4.

5.3 Power dissipation

Dimming of luminaires is not possible without a certain power loss in the dimmer. This power dissipation leads to heating of the device and depends on several factors. In addition to the power of the connected lamps, the current dimming value is also taken into account. Thus, when the luminaire is switched off, the loss is almost zero except for the leakage current. Even at 100 %, the power loss is relatively low and is due to the contact resistance of the output.

Between 0 % and 100 %, the switching losses due to the PWM are added. Overall, this results in a maximum power loss in the upper dimming range.

The rated power of 144 W refers to the maximum permitted ambient temperature with free installation. If there are other devices next to the dimming actuator that emit heat, the connectable power is reduced. Alternatively, the devices can also be mounted with a small distance (approx. $\frac{1}{2}$ TE = 9 mm). Suitable spacers for the DIN rail are commercially available for this purpose.



5.4 Safety shutdown

The dimming actuator has an electronic fuse for overcurrent and overtemperature. In both cases of error, the output is switched off and can be switched on again via a command when the error is no longer present.

In addition, the device is also equipped with fuses against overcurrent and overtemperature. This fuse level protects connected devices and surrounding materials against severe damage, but leads to failure of the dimming actuator and can no longer be reset.



6 ETS database

The ETS database (for ETS 4.2 or newer) can be downloaded from the product website of the KNX IO 534 CV (4D) (<u>www.weinzierl.de</u>) or from the ETS online catalogue.

6.1 Description

| 1.1.1 KNX IO 534 CV (4D) > Desc | ription |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description | |
| General settings | KNX IO 534 CV (4D) KNX LED dimming actuator 4-fold with constant voltage |
| Logic / Timer | |
| + RGB | The KNX IO 534 CV (4D) is a compact RGB / RGBW / Tunable White dimming actuator with |
| + Channel 4: Dimmer | 4 PWM outputs. The dimming actuator can be used e.g. for LED panels or stripes with RGB / RGBW / Tunable White configuration or as 4 independent PWM dimmer channels. Every configuration allows to control the channel by switching, rel. dimming and dimming value. Several comfort functions are integrated as well, including scenes, slumber fading, |
| | staircase light and sequencer. Two push buttons and three LEDs allow a local operation and a visualization of the device state. |
| | In addition to the output channels the device includes 16 independent functions for logic or timer control. |
| | Wiring scheme: |
| | Please consult device data sheet and manual for further information. |
| | Contact: WEINZIERL ENGINEERING GmbH Achatz 3-4 84508 Burgkirchen an der Alz GERMANY www.weinzierl.de info@weinzierl.de |

The first page shows general information about the device.



6.2 General settings

| 1.1.1 KNX IO 534 CV (4D) > | General settings | |
|----------------------------|------------------------------------|----------------------------------|
| Description | Device name | KNX IO 534 (4D) |
| General settings | Send delay after bus power return | 5 s 👻 |
| Logic / Timer | Prog. mode on device front | O Disabled O Enabled |
| - | Manual operation on device | Enabled with time limit 10 min 👻 |
| + RGB | Heartbeat | Disabled Enabled |
| + Channel 4: Dimmer | | |
| | Alarm objects for error conditions | Disabled Enabled |
| | PWM frequency | 🔵 480 Hz 💿 600 Hz |
| | Device configuration | 1 x RGB |
| | Channel 1 configuration | Red |
| | Channel 2 configuration | Green |
| | Channel 3 configuration | Blue |
| | Channel 4 configuration | Common dimmer |

Device name (30 characters)

Any name can be assigned for the KNX IO 534 CV (4D). The device name should be meaningful, e.g. "Living room EG". This helps the clarity in the ETS project.

Send delay after bus power return

The parameter Send delay after bus power return can be used to set a delay of telegrams after bus power return. Telegrams are sent from the device to the KNX bus with a delay of the set time. This has the effect of reducing the bus load on bus power return. Other functions such as telegram reception or switching operations of the actuator are not influenced by this parameter.

Prog. mode on device front

In addition to the normal programming button (3), the device allows you to activate the programming mode on the device front without opening the panel cover. Programming mode can be activated and deactivated by pressing keys (7) and (8) simultaneously.

This function can be switched on and off via the parameter Prog. Mode on the device front. The recessed programming button (3) (next to the programming LED (2)) is always enabled and is not affected by this parameter.

Manual operation on the device

This parameter is used to configure manual operation on the device. Manual operation mode can be disabled or enabled (with or without time limit). The time limit defines the duration until the automatic return from manual operation back to normal operating mode.

The device is in normal operating mode when manual operation is not active. In manual operation mode, received switching telegrams are stored. When manual operation is terminated (after the time limit has expired or manually), the last switching telegram received is executed.

The following configuration options are available:

- Disabled
- Enabled with time limit 1 min
- Enabled with time limit 10 min
- Enabled with time limit 30 min
- Enabled without time limit

Heartbeat

Sends values cyclically to the KNX bus to indicate that the device is currently ready for operation. The cycle time can be selected between 1 minute and 24 hours.

| Group object | Type KNX | Size | Direction |
|--------------------------|----------|-------|-----------|
| GO 1 Heartbeat – Trigger | 1.001 | 1 bit | To KNX |

Alarm objects for error conditions

This parameter makes the following objects visible for visualization of error states:

| Group object | Type KNX | Size | Direction |
|--------------------------------|----------|-------|-----------|
| GO 2 Alarm – Overload | 1.001 | 1 bit | To KNX |
| GO 3 Alarm – Overtemperature | 1.001 | 1 bit | To KNX |
| GO 4 Alarm – No supply voltage | 1.001 | 1 bit | To KNX |

When an error state is detected, all dimmer outputs switch off and an ON telegram is sent via the respective object. The outputs are disabled for the duration of the error state. Once this has been rectified, the respective object sends an OFF telegram and the dimmer can be operated normally again.

Overload is triggered from a load of 8 A, overtemperature from a measured temperature of 85 °C in the load section. If no value is received from the load section for longer than 3 seconds, this triggers the error state "No supply voltage".

PWM frequency

Here you can switch between 480 Hz and 600 Hz PWM frequency. This parameter affects all dimmer outputs.



Device configuration

This allows the general operating mode of the device to be set; the following can be selected:

• 1 x RGB

The device is operated as an RGB dimmer, 3 output channels are occupied for this purpose, 1 further output channel can be used as a common dimmer or remain deactivated.

• 1 x RGBW

The device is operated as an RGBW dimmer, all 4 output channels are occupied for this purpose. In this mode the output value of white is set automatically, the value for white is calculated from the current RGB value with the formula: $White = Brightness \cdot (1 - Saturation)$

• 1 x Tunable white

The dimmer is used for one tunable white consumer, for cold and warm white 1 output channel each is occupied. 2 further output channels can be used as common dimmers or remain deactivated.

- 2 x Tunable white The dimmer is used for 2 independent tunable white loads, all 4 output channels are occupied.
- 4 x Common dimmer
 Each output channel can be used as an independent dimmer.

Channel 1 – 4 configuration

Depending on the parameter **Device configuration**, these parameters can be used to assign the output channels to the internal functions. The assignment of the channels in the basic setting of the device is described in section "Wiring scheme".



6.3 Device configuration "1 x RGB" and "1 x RGBW"

6.3.1 RGB: General

| I.1 KNX IO 534 CV (4D) > F | RGB > RGB: General | |
|----------------------------|-------------------------------------|-------------------------------------------------|
| Description | Name | |
| General settings | Function | O Dimmer O Staircase function |
| Logic / Timer | Send state | Disabled |
| RGB | Behavior on bus power loss | ○ No reaction ◎ Switch to color |
| 100 | Color | #FFFFF |
| RGB: General | Behavior after bus power return | Switch to color |
| RGB: Dimming curve | Color | #000000 |
| RGB: Sequencer | Adjustment of RGB LEDs by white | No influence Darker when white becomes brighter |
| | Object RGB combined (3 Byte) | Oisabled O Enabled |
| | Fade time on changing color | 00:00:00 hh:mm:ss |
| | Objects colors separate | Disabled Enabled |
| | Objects color/saturation/brightness | Disabled Enabled |
| | Scene function | Disabled Enabled |
| | Automatic mode | Disabled Enabled |
| | Slumber function | Disabled Enabled |
| | Lock function | Disabled Enabled |

Name (30 characters)

Any name can be assigned to the channel. However, this should be unique and meaningful, this makes it easier to work with the associated group objects later, as the assigned name is displayed there as a designation. If no name is assigned, the group objects are designated with "RGB: ...".

Function

This parameter defines the functionality of the actuator, the following options are available:

Dimmer

When this functionality is selected, scene function, automatic mode, slumber and lock function are available. In addition, objects for switching on/off, relative dimming and absolute value of the 3 individual colors, of color value, saturation and brightness, as well as for controlling the dimmer via RGB value can be configured.

Staircase function

If this functionality is selected, only the lock function is available. Furthermore, the parameter page "RGB: Staircase function" is also displayed.



Send state

This parameter defines the send behavior of the state objects:

- Disabled
 State objects are deactivated and hidden.
- Only on read Send state objects only for read requests.
- On change Send state objects only on value change.
- Cyclically and on change
 State objects send cyclically and on value change.

Time for cyclic state (only for "Cyclic and on change")

If send state is configured with "Cyclic and on change", this parameter appears to set the cycle time for sending.

State objects for on/off/RGB color (3 byte)

Activates the following state objects:

| Group object | Type KNX | Size | Direction |
|--------------------------------------|----------|---------|-----------|
| GO 31 RGB: RGB output – State on/off | 1.001 | 1 bit | To KNX |
| GO 32 RGB: RGB output – State color | 232.600 | 3 bytes | To KNX |

If send on value change is activated and all 3 colors change to value 0, the state object On/Off sends an Off telegram, if at least one of the 3 colors changes to a value greater than 0, the object sends an On telegram.

If send on value change is activated and at least one of the 3 colors changes, the Color state object sends new RGB values with a time interval of at least 1 second.

State objects for single colors

Activates the following state objects:

| Group object | Type KNX | Size | Direction |
|---------------------------------------|----------|--------|-----------|
| GO 33 RGB: Red output – State value | 5.001 | 1 byte | To KNX |
| GO 34 RGB: Green output – State value | 5.001 | 1 byte | To KNX |
| GO 35 RGB: Blue output – State value | 5.001 | 1 byte | To KNX |

In **Device configuration** "1 x RGBW", the following object is also available:

| Group object | Type KNX | Size | Direction |
|---------------------------------------|----------|--------|-----------|
| GO 36 RGB: White output – State value | 5.001 | 1 byte | To KNX |

If send on value change is activated, the state objects send with a time interval of at least 1 second if the color assigned to the object has changed by at least 1 % or if a dimming process has been completed.



State objects for HSV

Activates the following state objects:

| Group object | Type KNX | Size | Direction |
|------------------------------------------|----------|--------|-----------|
| GO 37 RGB: HSV color angle – State angle | 5.003 | 1 byte | To KNX |
| GO 38 RGB: HSV saturation – State value | 5.001 | 1 byte | To KNX |
| GO 39 RGB: HSV brightness – State value | 5.001 | 1 byte | To KNX |

If send on value change is activated, the state objects send with a time interval of at least 1 second if the color property assigned to the object has changed by at least

1 % or when a dimming process has been completed.

Behavior on bus power loss

The behavior of the output on bus power failure can be configured here.

The choices are:

- No reaction
- Switch to color

A parameter for setting the color appears.

Behavior after bus power return

The behavior of the output after bus power return can be configured here. This behavior is executed at every device restart (e.g. also at restart after an ETS download).

The choices are:

- No reaction
- Switch to color

A parameter for setting the color appears.

• State like before bus power failure

Adjustment of RGB LEDs by white (only with device configuration "1 x RGBW")

This parameter can be used to determine whether the output values for red, green and blue should be scaled depending on the current white value:

No influence

White has no influence on RGB, e.g. with an RGB color value of white (#FFFFF) all 4 outputs are at maximum.

Darker when white becomes brighter
 In this setting, the output values of red, green and blue are scaled with the formula
 1 - white value, e.g. if the RGB color value of white is #FFFFFF, the outputs of red, green and blue are at minimum, the output of white is at maximum.



Object RGB combined (3 Byte) (only with function "Dimmer")

Enables the function block for controlling the dimmer via the following object:

| Group object | Type KNX | Size | Direction |
|----------------------------|----------|---------|-----------|
| GO 11 RGB: RGB – Set value | 232.600 | 3 bytes | From KNX |

Fade time on changing color (only with function "Dimmer")

This parameter is visible if **Object RGB combined (3 Byte)** is activated. The time period is related to a complete dimming process from 0 - 100 %.

Objects colors separate (only with function "Dimmer")

Enables the function blocks for controlling the 3 individual colors red, green and blue. For this purpose, a parameter page is displayed for each color, which is described in the section "RGB: Red / Green / Blue".

Objects color/saturation/brightness (only with function "Dimmer")

Enables the function blocks for controlling the dimmer via the 3 properties Color, Saturation and Brightness. For this purpose, a parameter page is displayed for each property, which is described in the sections "RGB: Color", "RGB: Saturation" and "RGB: Brightness".

Scene function (only with function "Dimmer")

The scene function can be activated or deactivated here; it is only available in the "Dimmer" function. If this functionality is activated, a parameter page appears for further configuration of scenes 1 - 16. The further functionality is explained in section "RGB: Scene function".

Automatic mode (only with function "Dimmer")

Automatic mode is only available in the "Dimmer" function. If this function is selected, the following objects become visible:

| Group object | Type KNX | Size | Direction |
|--------------------------------------|----------|---------|--------------------|
| GO 41 RGB: Automatic mode – Activate | 1.001 | 1 bit | From KNX To KNX |
| GO 42 RGB: Autom. RGB – Set value | 232.600 | 3 bytes | From KNX |

When using automatic mode, the dimmer can be controlled via object 42, e.g. for light control or daylight-dependent basic lighting.

In automatic mode, the dimmer can be manually overridden by the function blocks "Object RGB combined", "Objects colors single" and "Objects color/saturation/brightness", as well as by scene, slumber and sequencer. During manual override, values of object 42 are ignored, each manual override restarts the fallback time.

After the fallback time set in the parameter has elapsed, the RGB values received on object 42 are processed again.

Object 41 can be used to switch the automatic mode on or off at any time; it also serves as a state object for automatic mode.



After bus power return, automatic mode is switched off and must be activated via object 41.

Time out for manual mode

(only with "Dimmer" function and active "Automatic mode")

This parameter defines the fallback time after manual mode.

Times from 1 min to 24 h can be set. The setting "Without timelimit" means that there is no automatic fallback from manual mode.

Slumber function (only with function "Dimmer")

The slumber function is only available in the "Dimmer" function. The slumber function offers 2 different dimming times each for switching on and off via object. If this function is activated, a new parameter page appears, which is explained in section "RGB: Slumber function".

Lock function

The disable function can be activated or deactivated here. This function is available in both functions "Dimmer" and "Staircase function". If this functionality is activated, a new parameter page appears for further configuration, which is explained in more detail in section "RGB: Lock function" explains in more detail.

6.3.2 RGB: Red / Green / Blue

Each of the 3 individual colors red, green and blue can be controlled independently with on/off telegram, rel. dimming and dimming value. The following parameters and objects are available for each color:

Object color Red on/off Object color Green on/off Object color Blue on/off

| Description | Objekt color Red on/off | 🔵 Disabled 🔘 Enabled | |
|--------------------|--------------------------------------------------------|-----------------------------------|---|
| General settings | Behavior on ON telegram | ○ No reaction ◎ Dimm to fix value | |
| Logic / Timer | Value on ON telegram | 100 | ÷ |
| RGB | Fade time on ON telegram (related to 100%) | 00:00:00 hh:mm:ss | |
| RGB: General | Behavior on OFF telegram | No reaction O Dimm to fix value | |
| RGB: Red | Value on OFF telegram | 0 | ÷ |
| RGB: Green | Fade time on OFF telegram (related to 100%) | 00:00:00 hh:mm:ss | |
| RGB: Blue | Day/night switching | Switch on day/night telegram | • |
| RGB: Dimming curve | Value on ON telegram (night) | 50 | * |
| RGB: Sequencer | Value on OFF telegram (night) | 0 | * |
| , | Fade time for day/night switching (related to 100%) | 00:00:04 hh:mm:ss | |
| | Object dimming color Red (rel.) | Disabled Enabled | |
| | Object value color Red (abs.) | Disabled Enabled | |



The following objects are available for switching the individual colors if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|----------------------------------|----------|-------|-----------|
| GO 12 RGB: Red on/off – Switch | 1.001 | 1 bit | From KNX |
| GO 15 RGB: Green on/off – Switch | 1.001 | 1 bit | From KNX |
| GO 18 RGB: Blue on/off – Switch | 1.001 | 1 bit | From KNX |

Behavior on ON telegram

This parameter can be used to configure the behavior when switching on via the respective object.

The choices are:

- No reaction
- Dimm to fix value

Value on ON telegram (only for "Dimm to fix value")

If the parameterisation is suitable, this value is activated via the respective object in the case of an ON telegram.

Fade time on ON telegram (related to 100%)

This fade time is active when an ON telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Behavior on OFF telegram

This parameter describes the behavior of the dimmer in the event of an OFF telegram via the respective object.

The choices are:

- No reaction
- Dimm to fix value

Value on OFF telegram (only for "Dimm to fix value")

With suitable parameterisation, this value is activated via the respective object in the case of an OFF telegram.

Fade time on OFF telegram (related to 100%)

This fade time is active when an OFF telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Day/night switching

When using this function for at least one of the 3 colors, the following object is visible for switching day/night operation:

| Group object | Type KNX | Size | Direction |
|-------------------------------|----------|-------|-----------|
| GO 30 RGB: Day/Night – Switch | 1.001 | 1 bit | From KNX |



Day mode is triggered with an OFF telegram to the object, night mode with an ON telegram. The device is in day mode after restart.



Telegrams to object 30 affect all activated day/night switchovers of the RGB channel.

In addition, it can be determined when the values become active after telegram via the object are available for selection:

- Disabled
- Switch on day/night telegram
 Immediately after day/night switching is received, dimming to the active value takes place according to the last received switch-on/switch-off via object 12, 15 or 18.
- Switch on next on/off telegram
 The currently active value is not used until the next on/off switching via object 12, 15 or 18.

There is a separate switch-on and switch-off value in the parameters for night mode, in day mode the always visible values are used.

Value on ON telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an ON telegram via object 12, 15 or 18 and suitable parameterisation.

Value on OFF telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an OFF telegram via object 12, 15 or 18 and suitable parameterisation.

Fade time for day/night switching (related to 100%)

(only with active day/night switching)

This fade time is only active if switching is used with day/night switching. If switching is used with the next on/off telegram, the regular fade time of the respective on or off telegram is active. The time period is related to a complete dimming process from 0 - 100 %.

Object dimming color Red (rel.) Object dimming color Green (rel.) Object dimming color Blue (rel.)

| 1.1.1 KNX IO 534 CV (4D) > RGE | 3 > RGB: Red | | | |
|--------------------------------|----------------------------------------------------|--------------|----------|-----|
| Description | Objekt color Red on/off | Disabled | Enabled | |
| General settings | Object dimming color Red (rel.) | 🔿 Disabled 🔘 | Enabled | |
| Logic / Timer | Minimal value while | 0 | | ÷ % |
| — RGB | changing with object Maximal value while | 100 | | ÷ |
| RGB: General | changing with object Fade time while increasing | 100 | | - 7 |
| RGB: Red | brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |
| RGB: Green | Fade time while decreasing | | | |
| RGB: Blue | brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |
| RGB: Dimming curve | | | | |
| RGB: Sequencer | Object value color Red (abs.) | Disabled | Enabled | |

The following objects are available for dimming the 3 colors via relative dimming commands, if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------|----------|--------|-----------|
| GO 13 RGB: Red dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| GO 16 RGB: Green dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| GO 19 RGB: Blue dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |

Minimal value while changing with object

This parameter can be used to set which minimum value can be reached via relative dimming. If the current value is below the minimum value, the brightness cannot be reduced via object 13, 16 or 19.

Maximal value while changing with object

This parameter can be used to set which maximum value can be reached via relative dimming. If the current value is above the maximum value, the brightness cannot be increased via object 13, 16 or 19.

Fade time while increasing brightness with object (related to 100%)

This fade time is active when the brightness is increased via relative dimming with object 13, 16 or 19. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing brightness with object (related to 100%)

This fade time is active when the brightness is reduced via relative dimming with object 13, 16 or 19. The time period is related to a complete dimming process from 0 - 100 %.



Object value color Red (abs.) Object value color Green (abs.) Object value color Blue (abs.)

| .1.1 KNX IO 534 CV (4D) > R | GB > RGB: Red | | | |
|-----------------------------|---------------------------------------------------------------------------|--------------|----------|-----|
| Description | Objekt color Red on/off | Disabled | Enabled | |
| General settings | Object dimming color Red (rel.) | O Disabled | Enabled | |
| Logic / Timer | | S Disabled | | |
| RGB | Object value color Red (abs.) | 🔵 Disabled 🔘 | Enabled | |
| RGB: General | Minimal value while receiving by object | 10 | | ÷ % |
| RGB: Red | Process value 0 by object | 🔵 Disabled 🔘 | Enabled | |
| RGB: Green | Maximal value while receiving by object | 100 | | ÷ % |
| RGB: Blue | Fade time while increasing | | | |
| RGB: Dimming curve | brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |
| RGB: Sequencer | Fade time while decreasing brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |

The following objects are used to control the 3 colors via dimming value, if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------|----------|--------|-----------|
| GO 14 RGB: Red dimming abs. – Set value | 5.001 | 1 byte | From KNX |
| GO 17 RGB: Green dimming abs. – Set value | 5.001 | 1 byte | From KNX |
| GO 20 RGB: Blue dimming abs. – Set value | 5.001 | 1 byte | From KNX |

Minimal value while receiving by object

This parameter can be used to configure which minimum value can be reached via object 14, 17 or 20. If a value below the minimum value is received, the color is controlled with the minimum value. If a value > 0 % is set here, the parameter **Process value 0 by object** is also visible.

Process value 0 by object (only with "Minimal value while receiving by object" > 0 %) Here you can select whether the color is switched off when a value of 0% is received.

Maximal value while receiving by object

This parameter can be used to configure which maximum value can be reached via object 14, 17 or 20. If a value above the maximum value is received, the color is controlled with the maximum value.

Fade time while increasing brightness with object (related to 100%)

This fade time is active if the brightness is increased when values are received via object 14, 17 or 20. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing brightness with object (related to 100%)

This fade time is active if the brightness is reduced when values are received via object 14, 17 or 20. The time period is related to a complete dimming process from 0 - 100 %.



6.3.3 RGB: Color

This function block can be used to activate different colors via on/off telegrams. In addition, there are objects for manipulating the color angle.

The color angle is a property of a color in HSV space and assigns an angle in a color wheel to each hue.

Object Dimmer on/off

| Description | Object Dimmer on/off | Disabled Enabled |
|--------------------|-------------------------------------------------|-----------------------------------------------|
| General settings | Behavior on ON telegram (when dimmer is off) | Dimm to fix color |
| Logic / Timer | Behavior on ON telegram (when dimmer is on) | No reaction O Dimm to fix color |
| RGB | Color on ON telegram | #FFFFF |
| RGB: General | Fade time on ON telegram | 00:00:04 hh:mm:ss |
| RGB: Color | Behavior on OFF telegram | No reaction O Dimm to fix color |
| RGB: Saturation | Color on OFF telegram | #000000 |
| RGB: Brightness | Fade time on OFF telegram | 00:00:04 hh:mm:ss |
| RGB: Dimming curve | Day/night switching | Switch on day/night telegram |
| RGB: Sequencer | Color on ON telegram (night) | #7F7F7F |
| | Color on OFF telegram (night) | #0F0F0F |
| | Fade time for day/night switching | 00:00:04 hh:mm:ss |
| | Object change Color Angle (rel.) | Disabled Enabled |
| | Object change Color Angle (abs.) | Disabled Enabled |

The following object is available for switching the dimmer if it has been activated via parameters:

| Group object | Type KNX | Size | Direction |
|----------------------------------|----------|-------|-----------|
| GO 21 RGB: Color on/off – Switch | 1.001 | 1 bit | From KNX |

Behavior on ON telegram (when dimmer is off)

If the dimmer is switched off, this parameter can be used to configure the behavior when switching on via object 21.

The choices are:

- No reaction
- Dimm to fix color
- Dimm to last color before switching off

Behavior on ON telegram (when dimmer is on)

If the dimmer is already switched on, this parameter can be used to configure the behavior in the event of a renewed ON telegram via object 21.

The choices are:

- No reaction
- Dimm to fix color

Color on ON telegram

With suitable parameterisation, this color is activated with an ON telegram via object 21.

Fade time on ON telegram

This fade time is active when an ON telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Behavior on OFF telegram

This parameter describes the behavior of the dimmer in the event of an OFF telegram via object 21.

The choices are:

- No reaction
- Dimm to fix color

Color on OFF telegram

With suitable parameterisation, this color is activated with an OFF telegram via object 21.

Fade time on OFF telegram

This fade time is active when an OFF telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Day/night switching

When using this function, the following object is visible for switching from day/night mode:

| Group object | Type KNX | Size | Direction |
|-------------------------------|----------|-------|-----------|
| GO 30 RGB: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram to the object, night mode with an ON telegram. The device is in day mode after restart.



Telegrams to object 30 affect all activated day/night switchovers of the RGB channel.

In addition, it can be determined when the values become active after telegram via the object are available for selection:

- Disabled
- Switch on day/night telegram Immediately after reception day/night switching is dimmed to the active color, according to the last received switch on/off via object 21.
- Switch on next on/off telegram
 The currently active color is not used until the next on/off switching via object 21.

There is a separate switch-on and switch-off color in the parameters for night mode, in day mode the always visible colors are used.

Color on ON telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this color is activated with an ON telegram via object 21 and suitable parameterisation.

Color on OFF telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this color is activated with an OFF telegram via object 21 and suitable parameterisation.

Fade time for day/night switching (only with active day/night switching)

This fade time is only active if switching is used with day/night switching. If switching is used with the next on/off telegram, the regular fade time of the respective on or off telegram is active. The time period is related to a complete dimming process from 0 - 100 %.



Object change Color Angle (rel.)

| 1.1.1 KNX IO 534 CV (4D) > RGB > | RGB: Color | |
|----------------------------------|-----------------------------------|--------------------|
| Description | Object Dimmer on/off | Disabled Enabled |
| General settings | Object change Color Angle (rel.) | Disabled O Enabled |
| Logic / Timer | Fade time on changing color angle | 00:00:04 hh:mm:ss |
| - RGB | | |
| RGB: General | Object change Color Angle (abs.) | Disabled Enabled |
| RGB: Color | | |
| RGB: Saturation | | |
| RGB: Brightness | | |
| RGB: Dimming curve | | |
| RGB: Sequencer | | |

To change the color angle via relative dimming commands, there is the following object, if it has been activated via parameters:

| Group object | Type KNX | Size | Direction |
|-----------------------------------------------------------|----------|--------|-----------|
| GO 22 RGB: Color angle adjusting rel. – Increase/Decrease | 3.007 | 4 bits | From KNX |

Fade time on changing color angle

The time period is related to a complete dimming process from $0 - 360^{\circ}$.

Object change Color Angle (abs.)

| 1.1.1 KNX IO 534 CV (4D) > RGB > | RGB: Color | |
|----------------------------------|-----------------------------------|----------------------|
| Description | Object Dimmer on/off | Disabled Enabled |
| General settings | Object change Color Angle (rel.) | O Disabled C Enabled |
| Logic / Timer | | |
| - RGB | Object change Color Angle (abs.) | Oisabled O Enabled |
| RGB: General | Fade time on changing color angle | 00:00:04 hh:mm:ss |
| RGB: Color | | |
| RGB: Saturation | | |
| RGB: Brightness | | |
| RGB: Dimming curve | | |
| RGB: Sequencer | | |

To set the absolute value of the color angle, there is the following object, if it has been activated via parameters:

| Group object | Type KNX | Size | Direction |
|---------------------------------------------------|----------|--------|-----------|
| GO 23 RGB: Color angle adjusting abs. – Set value | 5.003 | 1 byte | From KNX |

Fade time on changing color angle

The time period is related to a complete dimming process from $0 - 360^{\circ}$.

6.3.4 RGB: Saturation

Saturation is a property of a color in HSV space and represents the amount of white in a color.

Pure colors without white content have a saturation of 100 %. The lower the saturation, the more the color is perceived as white.

Object Saturation on/off

| l.1.1 KNX IO 534 CV (4D) > R | RGB > RGB: Saturation | | | |
|------------------------------|-----------------------------------------------------|---------------------------------|--------|---|
| Description | Object Saturation on/off | Oisabled O Enabled | | |
| General settings | Behavior on ON telegram | ○ No reaction | | |
| Logic / Timer | Saturation on ON telegram | 100 | × ¥ | % |
| RGB | Fade time on ON telegram (related to 100%) | 00:00:04 hh:mm:ss | | |
| RGB: General | Behavior on OFF telegram | No reaction O Dimm to fix value | | |
| Hob. Certeral | Saturation on OFF telegram | 0 | * | % |
| RGB: Color | Fade time on OFF telegram (related to 100%) | 00:00:04 hh:mm:ss | | |
| RGB: Saturation | (related to 100%) | | | |
| RGB: Brightness | Day/night switching | Switch on day/night telegram | | • |
| RGB: Dimming curve | Saturation on ON telegram (night) | 50 | ÷ | % |
| RGB: Sequencer | Saturation on OFF telegram (night) | 0 | * | % |
| | Fade time for day/night switching (related to 100%) | 00:00:04 hh:mm:ss | | |
| | Object change Saturation (rel.) | Disabled Enabled | | |
| | Object set value Saturation (abs.) | Disabled Enabled | | |

The following object is available for switching the saturation if it has been activated via parameters:

| Group object | Type KNX | Size | Direction |
|---------------------------------------|----------|-------|-----------|
| GO 24 RGB: Saturation on/off – Switch | 1.001 | 1 bit | From KNX |

Behavior on ON telegram

This parameter can be used to configure the behavior when switching on via the respective object.

The choices are:

- No reaction
- Dimm to fix value

Saturation on ON telegram

With suitable parameterisation, this saturation is activated with an ON telegram via object 24.

Fade time on ON telegram (related to 100%)

This fade time is active when an ON telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Behavior on OFF telegram

This parameter describes the behavior of the dimmer in the event of an OFF telegram via object 24.

The choices are:

- No reaction
- Dimm to fix value

Saturation on OFF telegram

With suitable parameterisation, this value is activated with an OFF telegram via object 24.

Fade time on OFF telegram (related to 100%)

This fade time is active when an OFF telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Day/night switching

When using this function, the following object is visible for switching from day/night mode:

| Group object | Type KNX | Size | Direction |
|-------------------------------|----------|-------|-----------|
| GO 30 RGB: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram to the object, night mode with an ON telegram. The device is in day mode after restart.



Telegrams to object 30 affect all activated day/night switchovers of the RGB channel.

In addition, it can be determined when the values become active after telegram via the object are available for selection:

- Disabled
- Switch on day/night telegram Immediately after day/night switching is received, dimming to the active value takes place according to the last received switch on/off via object 24.
- Switch on next on/off telegram
 The currently active value is only used with the next on/off switching via object 24.

There is a separate switch-on and switch-off value in the parameters for night mode, in day mode the always visible values are used.

Saturation on ON telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an ON telegram via object 24 and suitable parameterisation.

Saturation on OFF telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an OFF telegram via object 24 and suitable parameterisation.

Fade time for day/night switching (related to 100%)

(only with active day/night switching)

This fade time is only active if switching is used with day/night switching. If switching is used with the next on/off telegram, the regular fade time of the respective on or off telegram is active. The time period is related to a complete dimming process from 0 - 100 %.

Object change Saturation (rel.)

| 1.1.1 KNX IO 534 CV (4D) > R | GB > RGB: Saturation | | | | |
|------------------------------|---------------------------------------------------------------|------------|-----------|-------|-----------|
| Description | Object Saturation on/off | O Disabled | Enabled | | |
| General settings | Object change Saturation (rel.) | Disabled | Enabled | | |
| Logic / Timer | Minimal saturation while | 0 | | * | % |
| - RGB | changing with object Maximal saturation while | 100 | | | 2 |
| RGB: General | changing with object Fade time while increasing saturation | 00:00:04 | hhimmiss | | <u> ۱</u> |
| RGB: Color | (related to 100%) | 00.00.04 | nn.mn.ss | | |
| RGB: Saturation | Fade time while decreasing saturation (related to 100%) | 00:00:04 | hh:mm:ss | | |
| RGB: Brightness | | | | | |
| RGB: Dimming curve | Object set value Saturation (abs.) | O Disabled |) Enabled | | |
| RGB: Sequencer | | | | | |

To change the saturation via relative dimming commands, there is the following object if it has been activated via parameters:

| Group object | Type KNX | Size | Direction |
|----------------------------------------------------------|----------|--------|-----------|
| GO 25 RGB: Saturation adjusting rel. – Increase/Decrease | 3.007 | 4 bits | From KNX |

Minimal saturation while changing with object

This parameter can be used to set which minimum saturation can be achieved via relative dimming. If the current saturation is below the minimum value, the saturation cannot be reduced via object 25.

Maximal saturation while changing with object

This parameter can be used to set which maximum saturation can be achieved via relative dimming. If the current saturation is above the maximum value, the saturation cannot be increased via object 25.

Fade time while increasing saturation (related to 100%)

This fade time is active when the saturation is increased via relative dimming with object 25. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing saturation (related to 100%)

This fade time is active when the saturation is reduced via relative dimming with object 25. The time period is related to a complete dimming process from 0 - 100 %.



Object set value Saturation (abs.)

| 1.1.1 KNX IO 534 CV (4D) > R | GB > RGB: Saturation | | | | |
|------------------------------|------------------------------------------------------------|--------------|----------|--------|---|
| Description | Object Saturation on/off | O Disabled | Enabled | | |
| General settings | Object change Saturation (rel.) | O Disabled | Enabled | | |
| Logic / Timer | | | Chabled | | |
| RGB | Object set value Saturation (abs.) | 🔵 Disabled 🔘 | Enabled | | |
| RGB: General | Minimal value for changing saturation by object | 0 | | ▲ ▼ | |
| RGB: Color | Maximal value for changing saturation by object | 100 | | | - |
| RGB: Saturation | Fade time while increasing saturation (related to 100%) | 00:00:04 | hh:mm:ss | | |
| RGB: Brightness | Fade time while decreasing saturation | 00.00.04 | hh:mm:ss | | |
| RGB: Dimming curve | (related to 100%) | 00:00:04 | hh:mm:ss | | |
| RGB: Sequencer | | | | | |

The following object is used to control saturation via dimming value if it has been activated via parameters:

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------|----------|--------|-----------|
| GO 26 RGB: Saturation adjusting abs. – Set value | 5.001 | 1 byte | From KNX |

Minimal value for changing saturation by object

This parameter can be used to configure which minimum saturation can be reached via object 26. If a value below the minimum value is received, the dimmer is controlled with the minimum value.

Maximal value for changing saturation by object

This parameter can be used to configure which maximum saturation can be reached via object 26. If a value above the maximum value is received, the dimmer is controlled with the maximum value.

Fade time while increasing saturation (related to 100%)

This fade time is active if the saturation is increased when values are received via object 26. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing saturation (related to 100%)

This fade time is active if the saturation is reduced when values are received via object 26. The time period is related to a complete dimming process from 0 - 100 %.

6.3.5 RGB: Brightness

Brightness is a property of a color in HSV space.

A brightness of 100% means that the color shines with maximum possible intensity, the lower the brightness, the less bright the color shines.

Object Brightness on/off

| 1.1.1 KNX IO 534 CV (4D) > RG | B > RGB: Brightness | | |
|-------------------------------|--------------------------------------------------------|-----------------------------------|------|
| Description | Object Brightness on/off | Oisabled O Enabled | |
| General settings | Behavior on ON telegram (when brightness 0%) | Dimm to fix value | • |
| Logic / Timer | Behavior on ON telegram (when brightness >0%) | Dimm to fix value | • |
| - RGB | Brightness on ON telegram | 100 | ÷ % |
| RGB: General | Fade time on ON telegram (related to 100%) | 00:00:04 hh:mm:ss | |
| RGB: Color | Behavior on OFF telegram | O No reaction O Dimm to fix value | |
| RGB: Saturation | Brightness on OFF telegram | 0 | ÷ % |
| RGB: Brightness | Behavior on 2nd OFF telegram | No reaction Switch off | |
| RGB: Dimming curve | Fade time on OFF telegram (related to 100%) | 00:00:04 hh:mm:ss | |
| RGB: Sequencer | Day/night switching | Switch on day/night telegram | • |
| | Brightness on ON telegram (night) | 50 | \$ % |
| | Brightness on OFF telegram (night) | 0 | ÷ % |
| | Fade time for day/night switching (related to 100%) | 00:00:04 hh:mm:ss | |
| | Object change Brightness (rel.) | Disabled Enabled | |
| | Object set value Brightness (abs.) | Disabled Enabled | |

The following object is available for switching the brightness if it has been activated via parameters:

| Group object | Type KNX | Size | Direction |
|---------------------------------------|----------|-------|-----------|
| GO 27 RGB: Brightness on/off – Switch | 1.001 | 1 bit | From KNX |

Behavior on ON telegram (when brightness 0%)

If the current brightness is 0 %, this parameter can be used to configure the behavior when switching on via object 27.

The choices are:

- No reaction
- Dimm to fix value
- Dimm to last value before switching off

Behavior on ON telegram (when brightness >0%)

If the current brightness is greater than 0 %, this parameter can be used to configure the behavior for a renewed ON telegram via object 27.

The choices are:

- No reaction
- Dimm to fix value
- Dimm to fix value if higher than actual

Brightness on ON telegram

With suitable parameterisation, this brightness is activated with an ON telegram via object 27.

Fade time on ON telegram (related to 100%)

This fade time is active when an ON telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Behavior on OFF telegram

This parameter describes the behavior of the dimmer in the event of an OFF telegram via object 27.

The choices are:

- No reaction
- Dimm to fix value

Brightness on OFF telegram

With suitable parameterisation, this value is activated with an OFF telegram via object 27.

Behavior on 2nd OFF telegram

This parameter describes the behavior of the dimmer when a 2nd OFF telegram is received via object 27.

The choices are:

- No reaction
- Switch off

The 2nd OFF telegram must follow the 1st OFF telegram within 1 second in order to be evaluated. If the current brightness is equal to or lower than the parameterised brightness on the OFF telegram, switching off already takes place with the 1st OFF telegram.

Fade time on OFF telegram (related to 100%)

This fade time is active when an OFF telegram is received. The time period is related to a complete dimming process from 0 - 100 %.



Day/night switching

When using this function, the following object is visible for switching from day/night mode:

| Group object | Type KNX | Size | Direction |
|-------------------------------|----------|-------|-----------|
| GO 30 RGB: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram on object 30, night mode with an ON telegram. The device is in day mode after restart.



Telegrams to object 30 affect all activated day/night switchovers of the RGB channel.

In addition, it is possible to determine when the brightness values become active after a telegram via object 30:

- Disabled
- Switch on day/night telegram
 Immediately after day/night switching is received, dimming to the active brightness takes place according to the last received switch on/off via object 27.
- Switch on next on/off telegram
 The currently active brightness is only used with the next ON/OFF switching via object 27.

There is a separate switch-on and switch-off value in the parameters for night mode, in day mode the always visible brightness values are used.

Brightness on ON telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an ON telegram via object 27 and suitable parameterisation.

Brightness on OFF telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an OFF telegram via object 27 and suitable parameterisation.

Fade time for day/night switching (related to 100%)

(only with active day/night switching)

This fade time is only active if switching is used with day/night switching. If switching is used with the next on/off telegram, the regular fade time of the respective on or off telegram is active. The time period is related to a complete dimming process from 0 - 100 %.



Object change Brightness (rel.)

| 1.1.1 KNX IO 534 CV (4D) > F | RGB > RGB: Brightness | |
|------------------------------|----------------------------------------------------|--------------------|
| Description | Object Brightness on/off | Disabled Enabled |
| General settings | Object change Brightness (rel.) | Disabled O Enabled |
| Logic / Timer | Minimal brightness while | 0 |
| — RGB | changing with object Maximal brightness while | 100 * % |
| RGB: General | changing with object Fade time while increasing | · |
| RGB: Color | brightness with object (related to 100%) | 00:00:04 hh:mm:ss |
| RGB: Saturation | Fade time while decreasing | |
| RGB: Brightness | brightness with object (related to 100%) | 00:00:04 hh:mm:ss |
| RGB: Dimming curve | | |
| RGB: Sequencer | Object set value Brightness (abs.) | Disabled Enabled |

To change the brightness via relative dimming commands, there is the following object if it has been activated via parameters:

| Group object | Type KNX | Size | Direction |
|------------------------------------------------------|----------|--------|-----------|
| GO 28 RGB: Brightness dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |

Minimal brightness while changing with object

This parameter can be used to set which minimum brightness can be achieved via relative dimming. If the current brightness is below the minimum value, the brightness cannot be reduced via object 28.

Maximal brightness while changing with object

This parameter can be used to set the maximum brightness that can be achieved via relative dimming. If the current brightness is above the maximum value, the brightness cannot be increased via object 28.

Fade time while increasing brightness with object (related to 100%)

This fade time is active when the brightness is increased via relative dimming with object 28. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing brightness with object (related to 100%)

This fade time is active when the brightness is reduced via relative dimming with object 28. The time period is related to a complete dimming process from 0 - 100 %.



Object set value Brightness (abs.)

| 1.1 KNX IO 534 CV (4D) > R0 | GB > RGB: Brightness | | | |
|-----------------------------|----------------------------------------------------------|-------------------|----------|--------|
| | | | | |
| Description | Object Brightness on/off | Disabled Er | abled | |
| General settings | Object change Brightness (rel.) | Disabled Er | abled | |
| Logic / Timer | | | | |
| RGB | Object set value Brightness (abs.) | 🔵 Disabled 🔘 Er | abled | |
| RGB: General | Minimal value for changing brightness value by object | 10 | | * * |
| RGB: Color | Switch off dimmer with telegram value 0% | 🔾 🔿 Disabled 🔘 Er | abled | |
| RGB: Saturation | Maximal value for changing brightness value by object | 100 | | |
| RGB: Brightness | Fade time while increasing | | | |
| RGB: Dimming curve | brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |
| RGB: Sequencer | Fade time while decreasing | | | |
| | brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |

The following object is used to control the brightness via dimming value if it has been activated via parameters:

| Group object | Type KNX | Size | Direction |
|------------------------------------------------|----------|--------|-----------|
| GO 29 RGB: Brightness dimming abs. – Set value | 5.001 | 1 byte | From KNX |

Minimal value for changing brightness value by object

This parameter can be used to configure which minimum brightness can be reached via object 29. If a value below the minimum value is received, the dimmer is controlled with the minimum value. If a value > 0 % is set here, the parameter **Switch off dimmer with telegram value 0%** is also visible.

Switch off dimmer with telegram value 0%

(only with "Minimal value for changing brightness value by object" > 0 %) Here you can select whether the dimmer is switched off when a brightness of 0 % is received.

Maximal value for changing brightness value by object

This parameter can be used to configure which maximum brightness can be reached via object 29. If a value above the maximum value is received, the dimmer is controlled with the maximum value.

Fade time while increasing brightness with object (related to 100%)

This fade time is active if the brightness is increased when values are received via object 29. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing brightness with object (related to 100%)

This fade time is active if the brightness is reduced when values are received via object 29. The time period is related to a complete dimming process from 0 - 100 %.

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6.3.6 RGB: Staircase function

| Description | Color on switching on the staircase function (day) | #FFFFF | | |
|-------------------------|---------------------------------------------------------|---------------|----------------------------|---|
| General settings | Color on switching on the staircase function (night) | #7F7F7F | | |
| Logic / Timer | Fade time for switching on | 00:00:01 | hh:mm:ss | |
| RGB | Delay time of staircase function | 10 min | | • |
| RGB: General | Reaction on ON telegram | O Switch on 🧿 | Switch to switch-off delay | |
| RGB: Staircase function | Delay time retriggerable | 🔵 Disabled 🔘 | Enabled | |
| RGB: Dimming curve | Orientation light after delay time | 30 s | | - |
| RGB: Sequencer | Color while orientation light | #1F1F1F | | |
| | Fade time for orientation light | 00:00:10 | hh:mm:ss | |
| | Reaction on OFF telegram | Ignore | | • |
| | Color on switching off the staircase function (day) | #000000 | | |
| | Color on switching off the staircase function (night) | #0F0F0F | | |
| | Fade time for switching off | 00:01:00 | hh:mm:ss | |

A staircase function with optional orientation light can be implemented via this parameter page. The staircase function can be overridden by the disable function. It has the following objects:

| Group object | Type KNX | Size | Direction |
|-----------------------------------------|----------|-------|-----------|
| GO 11 RGB: Staircase function – Trigger | 1.010 | 1 bit | From KNX |
| GO 30 RGB: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram on object 30, night mode with an ON telegram. The device is in day mode after restart.

Color on switching the staircase function (day)

This color is used in day mode when the staircase function is switched on via an ON telegram to object 11.

Color on switching the staircase function (night)

This color is used in night mode when the staircase function is switched on via an ON telegram to object 11.

Fade time for switching on

This fading time is active when the staircase function is switched on via ON telegram to object 11. The time period is related to a complete dimming process from 0 - 100 %.

Delay time of staircase function

After the delay time has elapsed, the dimmer is dimmed to the switch-off or orientation light value, depending on the parameter setting.



Reaction on ON telegram

This parameter determines the behavior after switching on the staircase function via ON telegram to object 11: In the setting "Switch on", the channel remains switched on after ON telegram until the delay time is started via OFF telegram. In the setting "Switch to switch-off delay", the channel immediately switches to the delay time after the ON telegram.

Delay time retriggerable

If it is set that the delay time is started with an ON telegram, this parameter determines whether only the 1st ON telegram to object 11 restarts the delay time, or also each subsequent ON telegram.

If it is set that the overrun time is started with an OFF telegram, this parameter determines whether only the 1st OFF telegram on object 11 restarts the overrun time, or also every further one if the staircase function is already in the overrun time.

Orientation light after delay time

This parameter can be used to set whether the dimmer dims to the switch-off value or to the orientation light after the end of the delay time, as well as the duration of the orientation light.

To choose from:

- Disabled
- ∎ 1s
- 2 s
- 5s
- 10 s
- 30 s
- 1 min
- 2 min
- 5 min
- 10 min
- 20 min
- 30 min
- ∎ 1h
- 2 h
- Without timelimit

Color while orientation light

This color is dimmed to at the end of the follow-up time if orientation light is used.

Fade time for orientation light

This fading time is active when the staircase function dims to orientation light. The time period is related to a complete dimming process from 0 - 100 %.



Reaction on OFF telegram

Here you can set how the staircase function behaves in the event of an Off telegram. The following options are available:

- Ignore
 - No reaction of the channel on off telegram
- Switch off
 Switches to switch-off value from the parameters
- Switch to switch-off delay
 The delay time is started with an OFF telegram.
- Switch to orientation light The orientation light phase is started with an OFF telegram.
- Switch to orientation light/switch off
 With the 1st OFF telegram the orientation light phase is started, with the 2nd OFF telegram it is dimmed to the switch-off value.

Color on switching off the staircase function (day)

This color is dimmed in day mode if the staircase function is switched off after the delay time or via Off telegram to object 11.

Color on switching off the staircase function (night)

This color is dimmed in night mode if the staircase function is switched off after the delay time or via Off telegram to object 11.

Fade time for switching off

This fade time is active when the staircase function dims to the OFF value. The time period is related to a complete dimming process from 0 - 100 %.



6.3.7 RGB: Dimming curve

| Description | Dimming curve (affects all outputs of channel) | Linear | |
|--------------------|------------------------------------------------|--------|--------|
| General settings | Outputs at 0% | 0 | |
| , | Outputs at 10% | 10 | |
| Logic / Timer | Outputs at 20% | 20 | |
| RGB | Outputs at 30% | 30 | |
| | Outputs at 40% | 40 | |
| RGB: General | Outputs at 50% | 50 | |
| RGB: Dimming curve | Outputs at 60% | 60 | |
| | Outputs at 70% | 70 | |
| RGB: Sequencer | Outputs at 80% | 80 | |
| | Outputs at 90% | 90 | |
| | Outputs at 100% | 100 | |
| | Adjustment red | 100 | ÷ |
| | Adjustment green | 100 | ≜ ▼ |
| | Adjustment blue | 100 | |
| | Adjustment white | 100 | ▼ |

This parameter page is used for fine adjustment of the dimmer to different lamps.



All parameters on this page only affect the PWM value of the output, not the dimming or output state value.

Dimming curve (affects all outputs of channel)

Here you can define which PWM values are output by the dimming outputs when the dimming channel has reached a certain color. The curve affects all outputs of the channel.

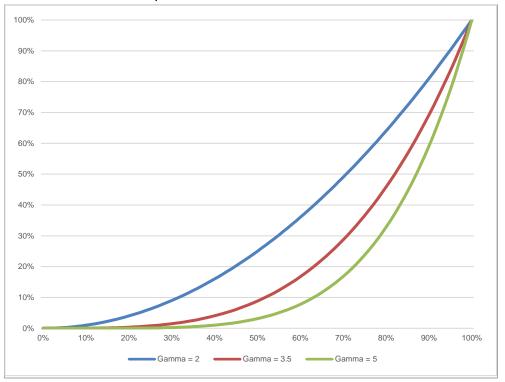
The choices are:

- Linear
- Logarithmic
- User defined



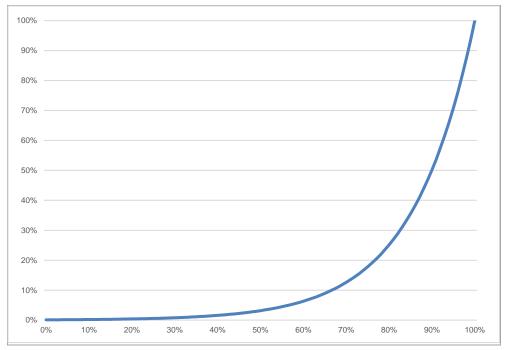
Gamma

Gamma correction according to the formula: PWM value = Dimming value ^{Gamma} Gamma can be set via parameter from 1.00 ... 5.00.



DALI

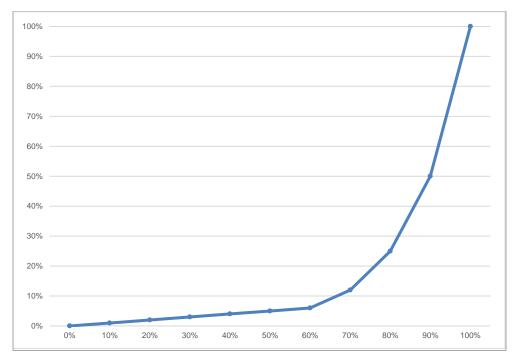
An DALI based function with the formula: $PWM value = 10^{3 - (Dimming value - 1)}$





Outputs at 0% - 100%

For the dimming curves "Linear", "Logarithmic" and "User defined", these values determine the PWM values of a dimming output at the specified dimming value. Values between the specified points are calculated and output linearly. As an example, a dimming output with dimming curve "Logarithmic" behaves according to the following graph:



For the dimming curves "Linear" and "Logarithmic" the output values are fixed, for "User defined" they can be freely configured.



If a dimming value of 0 % is reached, the channel is always switched off.

Adjustment red Adjustment green Adjustment blue Adjustment white (only with device configuration "1 x RGBW")

The PWM value of the color calculated by the dimming curve is additionally scaled with this value. **Adjustment white** is only available for **Device configuration** "1 x RGBW".



6.3.8 RGB: Scene function

| Description | Fade time on activation of scene | 00:00:04 | hh:mm:ss | |
|---------------------|----------------------------------|-------------|----------|--------|
| General settings | Scene 1 | Color | | • |
| Logic / Timer | Number | 1 | | * * |
| - | Color | #FFFFF | | |
| RGB | Scene 2 | Learnable | | • |
| RGB: General | Number | 2 | | + |
| RGB: Dimming curve | Scene 3 | Color | | • |
| RGB: Scene function | Number | 3 | | 4 |
| RGB: Sequencer | Color | #DDDDDD | | |
| | Scene 4 | Learnable | | • |
| | Number | 4 | | 4 * |
| | Scene 5 | No reaction | | • |
| | Scene 6 | No reaction | | • |
| | Scene 7 | No reaction | | • |
| | Scene 8 | No reaction | | • |
| | Scene 9 | No reaction | | • |
| | Scene 10 | No reaction | | • |
| | Scene 11 | No reaction | | • |
| | Scene 12 | No reaction | | • |
| | Scene 13 | No reaction | | • |
| | Scene 14 | No reaction | | • |
| | Scene 15 | No reaction | | |

If the scene function is activated, the following group object appears:

| Group object | Type KNX | Size | Direction |
|--------------------------------|----------|--------|-----------|
| GO 40 RGB: Scene – Activ./Lrn. | 18.001 | 1 byte | From KNX |

Fade time on activation of scene

The time period in which the received scene is dimmed is set here. The time period is related to a complete dimming process from 0 - 100 %.

Scene 1 – 16

These parameters can be used to configure the reaction of the channel when the respective scene is received.



The choices are:

- No reaction
- Color

The output is switched to the set color value if the scene of the corresponding number was received.

Learnable

Here, the current state at the output for the respective scene can be saved with the help of a scene control telegram. Thus, the scene can be adapted by the user without ETS download.

Number

This parameter can be used to assign any scene number between 1 and 64 to the scene. No scene numbers may be assigned twice.

6.3.9 RGB: Slumber function

| .1.1 KNX IO 534 CV (4D) > RG | B > RGB: Slumber function | | | |
|------------------------------|-------------------------------------------------------|----------|----------|--|
| Description | Target color while switching on the slumber function | #FFFFF | | |
| General settings | Target color while switching off the slumber function | #000000 | | |
| Logic / Timer | Fade time on 1. ON telegram (1. button press) | 01:00:00 | hh:mm:ss | |
| - RGB | Fade time on 2. ON telegram (2. button press) | 00:00:01 | hh:mm:ss | |
| RGB: General | Fade time on 1. OFF telegram | 01:00:00 | hh:mm:ss | |
| RGB: Dimming curve | (1. button press) | | | |
| RGB: Slumber function | Fade time on 2. OFF telegram (2. button press) | 00:00:01 | hh:mm:ss | |
| RGB: Sequencer | | | | |
| | | | | |

If the slumber function is selected, the following object is visible:

| Group object | Type KNX | Size | Direction |
|---------------------------------------|----------|-------|-----------|
| GO 43 RGB: Slumber function – Trigger | 1.001 | 1 bit | From KNX |

Target color while switching on the slumber function

This color is reached after receiving an ON telegram via object 43 at the output of the dimmer after completion of the dimming process.

Target color while switching off the slumber function

This color is reached after receiving an off telegram via object 43 at the output of the dimmer after completion of the dimming process.

Fade time on 1. ON telegram (1. button press)

This dimming time is used to dim to the final value for switching on after pressing the 1st button. The time period is related to a complete dimming process from 0 - 100 %.



Fade time on 2. ON telegram (2. button press)

This dimming time is used to dim to the final value for switching on after the 2nd button is pressed. The time period is related to a complete dimming process from 0 - 100 %.

Fade time on 1. OFF telegram (1. button press)

This dimming time is used to dim to the final value for switching off after the 1st key is pressed. The time period is related to a complete dimming process from 0 - 100 %.

Fade time on 2. OFF telegram (2. button press)

This dimming time is used to dim to the final value for switching off after the 2nd button is pressed. The time period is related to a complete dimming process from 0 - 100 %.

6.3.10 RGB: Lock function

| 1.1 KNX IO 534 CV (4D) > F | RGB > RGB: Lock function | | |
|----------------------------|--------------------------|-------------------------------------|---|
| Description | Polarity of object | O Lock active on 1 Lock active on 0 |) |
| General settings | Behavior on start | ○ No reaction ◎ Switch to color | |
| Logic / Timer | Color | #FFFFF | |
| | Behavior at end | Switch to color | • |
| RGB | Color | #000000 | |
| RGB: General | | | |
| RGB: Dimming curve | | | |
| RGB: Lock function | | | |
| RGB: Sequencer | | | |

If the lock function is activated, the following objects are active:

| Group object | Type KNX | Size | Direction |
|---------------------------------------|----------|---------|-----------|
| GO 44 RGB: Lock – Activate | 1.001 | 1 bit | From KNX |
| GO 45 RGB: Prior. RGB on/off – Switch | 1.001 | 1 bit | From KNX |
| GO 46 RGB: Prior. RGB – Set value | 232.200 | 3 bytes | From KNX |

If the lock has been activated via group object 44, other received telegrams for dimmer, automatic mode, slumber, scene function and sequencer are not executed.

In addition to the disable object, 2 priority objects are also visible when the disable function is activated, with which the dimmer can be controlled independently of the disable. In this way, it is possible to set an initial state without influencing other functions.

Example of priority objects:

At events in public buildings or in restaurants, the buttons can be disabled after regular operation by means of the disable object. This makes it possible to block buttons that are accessible to unauthorised persons during the lecture or concert in order to prevent unintentional switching. Nevertheless, the organiser can, if necessary, control the individual lamps with the help of the priority object without lifting the lock.



Polarity of object

The object's mode of action can be used to set how the lock is to be activated – either by receiving a 1 or by receiving a 0.

The choices are:

- Lock active on 1
- Lock active on 0

Behavior on start

Here you can configure the state that is set when the lock is activated at the output.

The choices are:

- No reaction
- Switch to colorParameter for setting the color appears.

The state of the output can be further changed by the priority objects.

Behavior at end

Here you can configure the state that is set when the lock is deactivated at the output.

The choices are:

- No reaction
- Switch to colorParameter for setting the color appears.
- State before lock Here the original state before activation of the lock is restored. Telegrams received during the lock are ignored.
- State without lock

Here the state of the last received telegram is restored. This means that the received telegrams are taken into account during the lock. Thus, when the lock is deactivated, the state of the last received telegram is set.



6.3.11 RGB: Sequencer

| escription | Steps of sequencer | 3 | |
|-------------------|---------------------------------------|-------------------------------------|---|
| eneral settings | Resume sequence after man. operation | Only by object | • |
| gic / Timer | Step after man. operation | Active step | • |
| gic / Timer | Polartity of object "Sequence on/off" | Switch on with 0 O Switch on with 1 | |
| 5B | Behavior on switching on | Step 1 | |
| GB: General | Behavior on switching off | Complete actual step | • |
| SB: Dimming curve | | | |
| GB: Sequencer | Step 1: | Step 1 | |
| | Start by time | Disabled Start by time of day | |
| | Start by ON/OFF telegram | Disabled Enabled | |
| | Start by scene number | Disabled Enabled | |
| | Action | Color | , |
| | Color | #FF0000 | |
| | Fade time | 00:00:00 hh:mm:ss | |
| | Step 2: | Step 2 | |
| | Start by time | Start after last trigger | |
| | Start time | 00:00:01 hh:mm:ss | |
| | Start by ON/OFF telegram | Disabled Enabled | |
| | Start by scene number | Disabled Enabled | |
| | Action | Color | |
| | Color | #00FF00 | |
| | Fade time | 00:00:00 hh:mm:ss | |
| | Step 3: | Step 3 | |
| | Start by time | Start after last trigger | , |
| | Start time | 00:00:01 hh:mm:ss | |
| | Start by ON/OFF telegram | O Disabled | |
| | Start by scene number | Disabled Enabled | |
| | Action | Color | |
| | Color | #0000FF | |
| | Fade time | 00:00:00 hh:mm:ss | |

The sequencer can be used to create complex sequence programs consisting of up to 32 individual steps for the dimmer channel. The activation of the individual steps is possible at the following start conditions:

- At a fixed time
- After a waiting time to a previous step
- Via on/off telegram
- On receipt of a parameterized scene number

When a step is activated, a color can be dimmed or a scene number can be sent. In addition, a step or an entire sequence of steps can be repeated cyclically.



The following objects are available for general control of the sequencer:

| Group object | Type KNX | Size | Direction |
|----------------------------------------------|----------|-------|-----------|
| GO 53 RGB: Sequence suspend – Suspend/Resume | 1.001 | 1 bit | From KNX |
| GO 54 RGB: Sequence on/off – Switch | 1.001 | 1 bit | From KNX |



Polarity of object 53: 1 =Suspend / 0 =Resume

The following parameters determine the general behavior of the sequencer:

Steps of sequencer

Number of steps (0 ... 32) to be used.

Resume sequence after man. operation

A sequence that is switched on can always be interrupted or continued via object 53; an ON telegram interrupts the sequence, an OFF telegram continues it.

A sequence is also interrupted after manual operation, i.e. after commands for dimmer, automatic mode, slumber or scene function.

In addition, this parameter determines how an interrupted sequence can still be continued, is available for selection:

- Only by object The sequence can only be continued via object 53.
- After off-time The sequence is continued after the set blocking time.
- On next activated step The sequence is continued at the next activated step. The next step can be activated via object or time-controlled.

Off-time

Only visible if the sequence is to be continued after off-time, this blocking time can be configured with this.

Step after man. operation

This step is executed when resuming after manual operation, the function of the set step is always executed, regardless of its other set start conditions.

Polarity of object "Sequence on/off"

This parameter can be used to set the telegram value with which the sequence can be switched on and off via object 54. If the sequence is switched off, any further activation of a step is disabled.



Behavior on switching on

This determines how the sequencer behaves when switched on via object 54, available for selection:

- No reaction
 No function is executed, the sequencer is waiting for steps to be activated.
- Step 1 32

The function of the step is executed (regardless of the other set start conditions of the step), the sequence is then continued according to its configuration from this step.

Switching on also reactivates a sequence interrupted by manual operation.

Behavior on switching off

This determines how the sequencer behaves when switched off via object 54, available for selection:

- Complete actual step
 If the sequencer is in a dimming process, this is still being completed.
- Step 1 32

The function of the step is executed (regardless of the other start conditions set for the step).

Stop immediately
 If the sequencer is in a dimming process, this is stopped.

Apart from the set behavior when switching off, any further activation of a step after switching off is blocked until the sequencer is switched on again via object 54.



Step 1 – 32

| Step 2: | Step 2 |
|--------------------------|----------------------------|
| Start by time | Start after last trigger 🔹 |
| Start time | 00:00:01 hh:mm:ss |
| Start by ON/OFF telegram | Disabled Enabled |
| Start by scene number | Disabled Enabled |
| Action | Color 👻 |
| Color | #00FF00 |
| Fade time | 00:00:00 hh:mm:ss |

When a step is activated, its parameters appear for configuration.

You can enter your own name for the step in the text field at the top right with the content "Step x". This designation is used for better orientation of the user and has no influence on the functionality of the step.

Start by time

This parameter is used to configure a time start condition of the step, available for selection:

- Disabled Start condition is not used.
- Start by time of day

The time at which the step is to start can be entered here. When using this start condition, the current time must have been received via the following object:

| Group object | Type KNX | Size | Direction |
|------------------------|----------|---------|-----------|
| GO 5 Time of Day – Set | 10.001 | 3 bytes | From KNX |



If no valid time has been specified via object 5, all start conditions at fixed times are not active.



The time is continuously updated by the device through its internal timer, but due to component tolerances there is always a deviation from the actual time. Therefore, the current time should be sent to the device at least twice a day by a precise timer in order to keep the deviation as small as possible.

Start after last trigger

Here you can specify the time interval to wait after the previous activation before executing the step. This start condition is not available for step 1.

Start time

Here either the time or the waiting time can be specified for the execution of the current step, if a timed start condition is used.



Start by ON/OFF telegram

When using this start condition, a separate object is available for each step:

| Group object | Type KNX | Size | Direction |
|------------------------------------------------------|----------|-------|-----------|
| GO 55 – 86 RGB: Sequence Step 1 – 32 on/off – Switch | 1.001 | 1 bit | From KNX |

An ON telegram to one of these objects activates the respective step, the sequence is then continued from this step according to its configuration.

An Off telegram also activates this step, but resets the sequence at the same time.

Start by scene number

When this start condition is used, the following object becomes visible:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------|----------|--------|-----------|
| GO 51 RGB: Sequence scene – Activate step | 18.001 | 1 byte | From KNX |

A telegram with the set scene to this object activates the respective step, the sequence is then continued according to its configuration from this step.

All steps with this start condition are controlled via this object.

Action

When the step is activated, the configured function is executed:

None

No function is executed. This can be used, for example, to implement a switch-on delay of a sequence.

Start loop

The sequence is continued at the selected step. Parameters for the start step of the loop and number of loops become visible.

Send scene number

When using this function, the following object becomes visible:

| Group object | Type KNX | Size | Direction |
|----------------------------------------|----------|--------|-----------|
| GO 52 RGB: Sequence scene – Send scene | 18.001 | 1 byte | To KNX |

A parameter for the sent scene number becomes visible; when the step is activated, this scene number is sent via the object.

All steps send the scene number via this object if this function is used for the respective step.



Color

Parameters for color and fade time become visible. When the step is activated, the dimmer dims from the current color value to the specified color with the parameterised fade time. This time is related to a complete dimming process from 0 - 100 %.



The fade time must be shorter than or equal to the **Start time** or waiting time of the next step in order to achieve the set color.

6.4 Device configuration "1 x Tunable white" and "2 x Tunable white"

6.4.1 TW A / TW B: General

| 1.1.1 KNX IO 534 CV (4D) > Char | nnel A: TW > TW A: General | | | |
|---------------------------------|------------------------------------------------------------|-------------------------------|--------|---|
| Description | Name | | | |
| General settings | Function | O Dimmer O Staircase function | | |
| Logic / Timer | Send state | Cyclic and on change | | • |
| | Time for cyclic state | бh | | • |
| - Channel A: TW | State objects for on/off/color temperature/ brightness | Disabled Enabled | | |
| TW A: General | State objects for cold/warm white | Disabled Enabled | | |
| TW A: Color mapping cold wh | Behavior on bus power loss | No reaction 🔘 Switch to state | | |
| TW A: Color mapping warm w | Color temperature | 4000 | ÷ | к |
| TW A: Sequencer | Brightness | 100 | | % |
| + Channel B: TW | Behavior after bus power return | Switch to state | | • |
| | Color temperature | 4000 | * | Κ |
| | Brightness | 100 | * * | % |
| | Objects for control of color temperature via brightness | Disabled Enabled | | |
| | Objects for color temperature/brightness | Disabled Enabled | | |
| | Scene function | Disabled Enabled | | |
| | Automatic mode | Disabled Enabled | | |
| | Slumber function | Disabled Enabled | | |
| | Lock function | Disabled Enabled | | |

Name (30 characters)

Any name can be assigned to the channel. However, this should be unique and meaningful, this facilitates later work with the associated group objects, since the assigned name is displayed there as a designation. If no name is assigned, the group objects are designated with "TW A: ... " or "TW B: ... ".



Function

This parameter defines the functionality of the actuator. The following options are available:

Dimmer

Scene function, automatic mode, slumber and lock function are available when this functionality is selected. Objects for switching on/off, relative dimming and absolute value can be configured.

Staircase function
 When this function is selected, the parameter pages
 "TW A: Staircase function" or "TW B: Staircase function" are displayed. Only the lock function is available.

Send state

This parameter defines the send behavior of the state objects:

- Disabled
 State objects are deactivated and hidden.
- Only on read
 Send state objects only for read requests.
- On change
 Send state objects only on value change.
- Cyclically and on change State objects send cyclically and on value change.

Time for cyclic state (only for "Cyclic and on change")

If send state is configured with "Cyclic and on change", this parameter appears to set the cycle time for sending.

State objects for on/off/color temperature/brightness

Activates the following state objects:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------|----------|---------|-----------|
| GO 22 TW A: TW output - State on/off | 1.001 | 1 bit | To KNX |
| GO 23 TW A: TW output – State temperature | 7.600 | 2 bytes | To KNX |
| GO 24 TW A: TW output – State brightness | 5.001 | 1 byte | To KNX |

| Group object | Type KNX | Size | Direction |
|--------------------------------------------|----------|---------|-----------|
| GO 102 TW B: TW output – State on/off | 1.001 | 1 bit | To KNX |
| GO 103 TW B: TW output – State temperature | 7.600 | 2 bytes | To KNX |
| GO 104 TW B: TW output – State brightness | 5.001 | 1 byte | To KNX |

If send on value change is activated, the On/Off state object sends an Off telegram when the brightness changes to value 0 %. If the brightness changes from 0 % to a value greater than 0 %, the object sends an ON telegram.

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If send on value change is activated, the Temperature and Brightness state objects send new values with a time interval of at least 1 second if the value has changed by at least 1 % in each case.

State objects for cold/warm white

Activates the following state objects:

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------|----------|--------|-----------|
| GO 25 TW A: Cold white output – State brightness | 5.001 | 1 byte | To KNX |
| GO 26 TW A: Warm white output – State brightness | 5.001 | 1 byte | To KNX |

| Group object | Type KNX | Size | Direction |
|---------------------------------------------------|----------|--------|-----------|
| GO 105 TW B: Cold white output – State brightness | 5.001 | 1 byte | To KNX |
| GO 106 TW B: Warm white output – State brightness | 5.001 | 1 byte | To KNX |

If send on value change is activated, the state objects send with a time interval of at least 1 second if the color assigned to the object has changed by at least 1 % or if a dimming process has been completed.

Behavior on bus power loss

The behavior of the output in the event of bus voltage failure can be configured here.

The choices are:

- No reaction
- Switch to state

Parameters for setting color temperature and brightness appear.

Behavior after bus power return

The behavior of the output after bus power return can be configured here. This behavior is executed at every device restart (e.g. also at restart after an ETS download).

The choices are:

- No reaction
- Switch to state
 - Parameters for setting color temperature and brightness appear.
- State like before bus power failure

Objects for control of color temperature via brightness (only with the "Dimmer" function)

Enables the function block for controlling the color temperature via brightness. If this functionality is activated, a parameter page appears for further configuration, which is explained in section "TW A / TW B: Color temperature via brightness".

Objects for color temperature/brightness (only with "Dimmer" function)

Enables the function blocks for separate control of color temperature and brightness. If this functionality is activated, parameter pages appear for further configuration, which are explained in the sections "TW A / TW B: Color temperature" and "TW A / TW B: Brightness".



Scene function (only with "Dimmer" function)

The scene function can be activated or deactivated here; it is only available in the "Dimmer" function. If this functionality is activated, a parameter page appears for further configuration of scenes 1 - 16. The further functionality is explained in section "TW A / TW B: Scene function".

Automatic mode (only with "Dimmer" function)

Automatic mode is only available in the "Dimmer" function. If this function is selected, the following objects become visible:

| Group object | Type KNX | Size | Direction |
|------------------------------------------------------------------------------------|----------|---------|--------------------|
| GO 30 TW A: Automatic mode – Activate | 1.001 | 1 bit | From KNX To KNX |
| GO 31 TW A: Autom. dimming abs Set brightness value | 5.001 | 1 byte | From KNX |
| GO 32 TW A: Autom. dimming abs. – Set color temperature together via brightness | 5.001 | 1 byte | From KNX |
| GO 33 TW A: Autom. dimming abs. – Set color temperature via scaling | 5.001 | 1 byte | From KNX |
| GO 34 TW A: Autom. dimming abs. – Set color temperature | 7.600 | 2 bytes | From KNX |

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------------------------------------------|----------|---------|--------------------|
| GO 110 TW B: Automatic mode – Activate | 1.001 | 1 bit | From KNX To KNX |
| GO 111 TW B: Autom. dimming abs. – Set brightness value | 5.001 | 1 byte | From KNX |
| GO 112 TW B: Autom. dimming abs. – Set color temperature together via brightness | 5.001 | 1 byte | From KNX |
| GO 113 TW B: Autom. dimming abs. – Set color temperature via scaling | 5.001 | 1 byte | From KNX |
| GO 114 TW B: Autom. dimming abs. – Set color temperature | 7.600 | 2 bytes | From KNX |

When using automatic mode, the dimmer can be controlled by the objects for automatic dimming, e.g. for light control or daylight-dependent basic lighting.

In automatic mode, the dimmer can be manually overridden by the function blocks "Objects for controlling color temperature via brightness" and "Objects for color temperature/brightness", as well as by scene, slumber function and sequencer. During manual override, values from the objects for automatic dimming are ignored, each manual override restarts the fallback time.

After the fallback time set in the parameter has elapsed, the values received on the object for automatic dimming are processed again.

The automatic mode can be switched on or off at any time via object 30 or 110; it also serves as a state object for the automatic mode.



After bus power return, automatic mode is switched off and must be activated via object 30 or 110.



Time out for manual mode

(only with "Dimmer" function and active "Automatic mode")

This parameter defines the fallback time after manual mode.

Times from 1 min to 24 h can be set. The setting "Without timelimit" means that there is no automatic fallback from manual mode.

Slumber function (only with "Dimmer" function)

The slumber function is only available in the "Dimmer" function. The slumber function offers 2 different dimming times each for switching on and off via object. If this function is activated, a new parameter page appears, which is explained in section "TW A / TW B: Slumber function".

Lock function

The disable function can be activated or deactivated here. This function is available in both functions "Dimmer" and "Staircase function". If this functionality is activated, a new parameter page appears for further configuration, which is explained in more detail in section "TW A / TW B: Lock function".

6.4.2 TW A / TW B: Color temperature via brightness

In this mode, the dimmer is controlled by brightness, the color temperature is automatically adjusted according to the current brightness and the 2 following parameters:

Color temperature at brightness of 0% Color temperature at brightness of 100%

These two color temperatures are assigned to the two brightness limit values. In the range between 0 % and 100 % is calculated and output linearly.

| 1.1 KNX IO 534 CV (4D) > Channel A: T | W > TW A: Color temperature via brigh | ntness |
|------------------------------------------------------------------|-----------------------------------------------------|---------------------------------|
| Description | Color temperature at brightness of 0% | 2700 |
| General settings | Color temperature at brightness of 100% | 6500 |
| Logic / Timer | Object Brightness on/off | Disabled O Enabled |
| Channel A: TW | Behavior on ON telegram (when dimmer is off) | Dimm to fix value |
| TW A: General | Behavior on ON telegram (when dimmer is on) | Dimm to fix value |
| TW A: Color temperature via brightness | Brightness on ON telegram | 100 🍦 🤋 |
| TW A: Color mapping cold white TW A: Color mapping warm white | Fade time on ON telegram (related to 100%) | 00:00:04 hh:mm:ss |
| TW A: Sequencer | Behavior on OFF telegram | No reaction O Dimm to fix value |
| | Brightness on OFF telegram | 0 |
| Channel B: TW | Behavior on 2nd OFF telegram | No reaction Switch off |
| | Fade time on OFF telegram (related to 100%) | 00:00:04 hh:mm:ss |
| | Day/night switching | Switch on day/night telegram 🔻 |
| | Brightness on ON telegram (night) | 50 * |
| | Brightness on OFF telegram (night) | 0 |
| | Fade time for day/night switching (related to 100%) | 00:00:04 hh:mm:ss |
| | Object change Brightness (rel.) | Disabled Enabled |
| | Object set value Brightness (abs.) | Disabled Enabled |

Object Brightness on/off

The following objects are available for switching the brightness if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------------------|----------|-------|-----------|
| GO 11 TW A: Color temperature via brightness on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 91 TW B: Color temperature via brightness on/off - Switch | 1.001 | 1 bit | From KNX |

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Behavior on ON telegram (when dimmer is off)

If the dimmer is switched off, this parameter can be used to configure the behavior when switching on via the respective object.

The choices are:

- No reaction
- Dimm to fix value
- Dimm to last value before switching off

Behavior on ON telegram (when dimmer is on)

If the dimmer is already switched on, this parameter can be used to configure the behavior in the event of a renewed ON telegram via the respective object.

The choices are:

- No reaction
- Dimm to fix value
- Dimm to fix value if higher than actual

Brightness on ON telegram

With suitable parameterisation, this value is activated with an ON telegram via the respective object.

Fade time on ON telegram (related to 100%)

This fade time is active when an ON telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Behavior on OFF telegram

This parameter describes the behavior of the dimmer in the event of an OFF telegram via the respective object.

The choices are:

- No reaction
- Dimm to fix value

Brightness on OFF telegram

With suitable parameterisation, this value is activated with an OFF telegram via the respective object.

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Behavior on 2nd OFF telegram

This parameter describes the behavior of the dimmer when a 2nd OFF telegram is received via the respective object.

The choices are:

- No reaction
- Switch off

The 2nd OFF telegram must follow the 1st OFF telegram within 1 second in order to be evaluated. If the current dimming value is equal to or lower than the parameterised dimming value for the OFF telegram, switching off takes place with the 1st OFF telegram.

Fade time on OFF telegram (related to 100%)

This fade time is active when an OFF telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Day/night switching

When using this function, the following objects are visible for switching from day/night mode:

| Group object | Type KNX | Size | Direction |
|--------------------------------|----------|-------|-----------|
| GO 21 TW A: Day/Night – Switch | 1.001 | 1 bit | From KNX |

| Group object | Type KNX | Size | Direction |
|---------------------------------|----------|-------|-----------|
| GO 101 TW B: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram to the respective object, night mode with an ON telegram. The device is in day mode after restart.



Telegrams to these objects affect all activated day/night changeovers of the TW channel.

In addition, it can be determined when the values become active after telegrams via these objects are available for selection:

- Disabled
- Switch on day/night telegram Immediately after day/night switching is received, dimming to the active value takes place according to the last received switch on/off via object 11 or 91.
- Switch on next on/off telegram
 The currently active value is only used with the next on/off switching via object 11 or 91.

There is a separate switch-on and switch-off value in the parameters for night mode, in day mode the always visible values are used.



Brightness on ON telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an ON telegram via object 11 or 91 and suitable parameterisation.

Brightness on OFF telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an OFF telegram via object 11 or 91 and suitable parameterisation.

Fade time for day/night switching (related to 100%)

(only with active day/night switching)

This fade time is only active if switching is used with day/night switching. If switching is used with the next on/off telegram, the regular fade time of the respective on or off telegram is active. The time period is related to a complete dimming process from 0 - 100 %.

Object change Brightness (rel.)

| 1.1 | .1 KNX IO 534 CV (4D) > Channel A: TW | / > TW A: Color temperature via brigh | tness | | |
|-----|---------------------------------------------------|---------------------------------------------------------------------------|-----------------------|---|----|
| | Description | Color temperature at brightness of 0% | 2700 | ţ | К |
| | General settings | Color temperature at brightness of 100% | 6500 | ÷ | К |
| | Logic / Timer | Object Brightness on/off | Disabled Enabled | | |
| - | Channel A: TW | | | | |
| | TW A: General | Object change Brightness (rel.) Minimal brightness while | Disabled O Enabled | | 1~ |
| | TW A: Color temperature via brightness | changing with object | 0 | Ŧ | % |
| | TW A: Color mapping cold white | Maximal brightness while changing with object | 100 | | % |
| | TW A: Color mapping warm white TW A: Sequencer | Fade time while increasing brightness with object (related to 100%) | 00:00:04 hh:mm:ss | | |
| | TW A. sequencer | Fade time while decreasing | | | |
| + | Channel B: TW | rade time while decreasing brightness with object (related to 100%) | 00:00:04 hh:mm:ss | | |
| | | Object set value Brightness (abs.) | Disabled Enabled | | |

The following objects are available for dimming the brightness via relative dimming commands, if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|-----------------------------------------------------------------------------|----------|--------|-----------|
| GO 12 TW A: Color temperature via brightness dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 92 TW B: Color temperature via brightness dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |

Minimal brightness while changing with object

This parameter can be used to set which minimum value can be reached via relative dimming. If the current value is below the minimum value, the brightness cannot be reduced via object 12 or 92.



Maximal brightness while changing with object

This parameter can be used to set which maximum value can be reached via relative dimming. If the current value is above the maximum value, the brightness cannot be increased via object 12 or 92.

Fade time while increasing brightness with object (related to 100%)

This fade time is active when the brightness is increased via relative dimming with object 12 or 92. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing brightness with object (related to 100%)

This fade time is active when the brightness is reduced via relative dimming with object 12 or 92. The time period is related to a complete dimming process from 0 - 100 %.

Object set value Brightness (abs.)

| 1.1.1 | KNX IO 534 CV (4D) > Channel A: TW | > TW A: Color temperature via brightr | ness | | |
|-------|----------------------------------------|---------------------------------------------------------------------------|--------------|----------|--------|
| [| Description | Color temperature at brightness of 0% | 2700 | | * * |
| (| Seneral settings | Color temperature at brightness of 100% | 6500 | | * * |
| l | .ogic / Timer | Object Brightness on/off | O Disabled | Enabled | |
| - (| Channel A: TW | | | | |
| | TW A: General | Object change Brightness (rel.) | O Disabled (| Enabled | |
| | TW A: Color temperature via brightness | Object set value Brightness (abs.) | 🔵 Disabled 🧕 | Enabled | |
| | TW A: Color mapping cold white | Minimal value for changing brightness value by object | 10 | | ÷ |
| | TW A: Sequencer | Switch off dimmer with telegram value 0% | Disabled (| Enabled | |
| + (| Channel B: TW | Maximal value for changing brightness value by object | 100 | | ÷ |
| | | Fade time while increasing brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |
| | | Fade time while decreasing brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |

The following objects are used to control brightness via dimming value if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------------------------------|----------|--------|-----------|
| GO 13 TW A: Color temperature via brightness dimming abs. – Set value | 5.001 | 1 byte | From KNX |
| | | | |
| | | | |
| Group object | Type KNX | Size | Direction |

Minimal value for changing brightness value by object

This parameter can be used to configure which minimum value can be reached via object 13 or 93. If a value below the minimum value is received, the brightness is controlled with the minimum value. If a value > 0 % is set here, the parameter **Switch off dimmer with telegram value 0%** is also visible.



Switch off dimmer with telegram value 0%

(only with "Minimal value for changing brightness value by object" > 0 %) Here you can select whether the dimmer is switched off when a brightness of 0 % is received.

Maximal value for changing brightness value by object

This parameter can be used to configure which maximum value can be reached via object 13 or 93. If a value above the maximum value is received, the brightness is controlled with the maximum value.

Fade time while increasing brightness with object (related to 100%)

This fade time is active if the brightness is increased when values are received via object 13 or 93. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing brightness with object (related to 100%)

This fade time is active if the brightness is reduced when values are received via object 13 or 93. The time period is related to a complete dimming process from 0 - 100 %.

6.4.3 TW A / TW B: Color temperature

Object Color Temperature on/off

| Description | Object Color Temperature on/off | 🔵 Disabled 🔘 | Enabled | |
|------------------------------|----------------------------------------------------------------------------|-------------------|----------------------|------------|
| General settings | Behavior on ON telegram (when dimmer is off) | O No reaction | Dimm to fix color te | emperature |
| Logic / Timer | Color temperature on ON telegram | 6500 | | ÷ |
| Channel A: TW | Fade time on ON telegram | 00:00:04 | hh:mm:ss | |
| | Behavior on OFF telegram | O No reaction | Dimm to fix color te | emperature |
| TW A: General | Color temperature on OFF telegram | 2700 | | ÷ |
| TW A: Color temperature | Fade time on OFF telegram | 00:00:04 | hh:mm:ss | |
| TW A: Brightness | Day/night switching | Switch on day/nig | ght telegram | • |
| TW A: Color mapping cold whi | Color temperature on ON telegram | 2700 | | \$ |
| TW A: Color mapping warm w | nite (night) Color temperature on OFF telegram | | | * |
| TW A: Sequencer | (night) | 2700 | | ÷ |
| Channel B: TW | Fade time for day/night switching | 00:00:04 | hh:mm:ss | |
| | Object change Color Temperature (rel.) | O Disabled 🔵 | Enabled | |
| | Object set Color Temperature via temperature value (abs.) | O Disabled | Enabled | |
| | Object set Color Temperature via scaling value (abs.) | O Disabled | Enabled | |
| | Adjust brightness with color temperature objects, when brightness is 0% | Disabled | Enabled | |



The following objects are available for switching the color temperature if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|-----------------------------------------------|----------|-------|-----------|
| GO 14 TW A: Color temperature on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |

| Group object | Type KNX | Size | Direction |
|-----------------------------------------------|----------|-------|-----------|
| GO 94 TW B: Color temperature on/off – Switch | 1.001 | 1 bit | From KNX |

Behavior on ON telegram (when dimmer is off)

This parameter can be used to configure the behavior when switching on via the respective object.

The choices are:

- No reaction
- Dimm to fix color temperature

Color temperature on ON telegram

With suitable parameterisation, this color temperature is activated with an ON telegram via object 14 or 94.

Fade time on ON telegram

This fade time is active when an ON telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Behavior on OFF telegram

This parameter describes the behavior of the dimmer in the event of an OFF telegram via object 14 or 94.

The choices are:

- No reaction
- Dimm to fix color temperature

Color temperature on OFF telegram

With suitable parameterisation, this value is activated with an OFF telegram via object 24.

Fade time on OFF telegram

This fade time is active when an OFF telegram is received. The time period is related to a complete dimming process from 0 - 100 %.



Day/night switching

When using this function, the following object is visible for switching from day/night mode:

| Group object | Type KNX | Size | Direction |
|---------------------------------|----------|-------|-----------|
| GO 21 TW A: Day/Night – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 101 TW B: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram to the object, night mode with an ON telegram. The device is in day mode after restart.



Telegrams to the object 21 or 101 have an effect on all activated day/night Day/night changeover of a TW channel.

In addition, it can be determined when the values become active after telegram via the object are available for selection:

- Disabled
- Switch on day/night telegram Immediately after day/night switching is received, dimming to the active value takes place according to the last received switch on/off via object 14 or 94.
- Switch on next on/off telegram
 The currently active value is only used with the next on/off switching via object 14 or 94.

There is a separate switch-on and switch-off value in the parameters for night mode, in day mode the always visible values are used.

Color temperature on ON telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an ON telegram via object 14 or 94 and suitable parameterisation.

Color temperature on OFF telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an OFF telegram via object 14 or 94 and suitable parameterisation.

Fade time for day/night switching (only with active day/night switching)

This fade time is only active if switching is used with day/night switching. If switching is used with the next on/off telegram, the regular fade time of the respective on or off telegram is active. The time period is related to a complete dimming process from 0 - 100 %.



| Description | Object Color Temperature on/off | Disabled E | nabled | |
|--------------------------------|---------------------------------------------------------|--------------------|----------|---|
| General settings | Object change Color Terroret as (col) | | | |
| Logic / Timer | Object change Color Temperature (rel.) | Disabled O Enabled | | |
| | Minimal color temperature while changing with object | 2700 | | ÷ |
| Channel A: TW | Maximal color temperature while | | | |
| | changing with object | 6500 | | * |
| TW A: General | Fade time while changing | 00:00:04 | hh:mm:ss | |
| TW A: Color temperature | color temperature with object | | | |
| TW A: Brightness | Object set Color Temperature | | | |
| TW A: Color mapping cold white | via temperature value (abs.) | Disabled Enabled | | |
| | | | | |
| TW A: Color mapping warm white | Object set Color Temperature | Disabled Enabled | | |
| TW A: Sequencer | via scaling value (abs.) | | | |
| Channel B: TW | Adjust brightness with color temperature | | | |
| | objects, when brightness is 0% | Disabled Enabled | | |

Object change Color Temperature (rel.)

To change the color temperature via relative dimming commands, the following objects are available, if activated via parameters:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------------------------|----------|--------|-----------|
| GO 15 TW A: Color temperature dimming rel. – Increase/Decrease | 3.007 | 4 bits | From KNX |

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------------------------|----------|--------|-----------|
| GO 95 TW B: Color temperature dimming rel. – Increase/Decrease | 3.007 | 4 bits | From KNX |

Minimal color temperature while changing with object

This parameter can be used to set which minimum color temperature can be achieved via relative dimming. If the current color temperature is below the minimum value, the color temperature cannot be reduced via object 15 or 95.

Maximal color temperature while changing with object

This parameter can be used to set which maximum color temperature can be achieved via relative dimming. If the current saturation is above the maximum value, the color temperature cannot be increased via object 15 or 95.

Fade time while changing color temperature with object

This fade time is active when the color temperature is changed via relative dimming with object 15 or 95. The time period is related to a complete dimming process from 0 - 100 %.



| Description | Object Color Temperature on/off | Disabled Enabled | |
|----------------------------------------------------|----------------------------------------------------------------------------|----------------------|-------|
| General settings | Object change Color Temperature (rel.) | Disabled Enabled | |
| Logic / Timer | Object change Color Temperature (rel.) | Usabled Chabled | |
| Channel A: TW | Object set Color Temperature via temperature value (abs.) | Oisabled O Enabled | |
| TW A: General | Minimal value for changing color temperature by object | 2700 | 4 |
| TW A: Color temperature | Maximal value for changing color temperature by object | 6500 | 4 |
| TW A: Brightness TW A: Color mapping cold white | Fade time while changing | 00:00:04 hh: | mm:ss |
| TW A: Color mapping warm whi TW A: Sequencer | te Object set Color Temperature via scaling value (abs.) | Disabled Enabled | |
| Channel B: TW | Adjust brightness with color temperature objects, when brightness is 0% | Disabled Enabled | |

Object set Color Temperature via temperature value (abs.)

The following objects are used to control the color temperature via temperature value, if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|---------------------------------------------------|----------|---------|-----------|
| GO 16 TW A: Color temperature value abs Set value | 7.600 | 2 bytes | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 96 TW B: Color temperature value abs Set value | 7.600 | 2 bytes | From KNX |

Minimal value for changing color temperature by object

This parameter can be used to configure which minimum color temperature can be reached via object 16 and 96. If a value below the minimum value is received, the dimmer is controlled with the minimum value.

Maximal value for changing color temperature by object

This parameter can be used to configure which maximum color temperature can be reached via object 16 and 96. If a value above the maximum value is received, the dimmer is controlled with the maximum value.

Fade time while changing color temperature with object

This fade time is active if the color temperature is changed when values are received via objects 16 and 96. The time period is related to a complete dimming process from 0 - 100 %.



| Description | Object Color Temperature on/off | Disabled | Enabled | |
|--------------------------------|--------------------------------------------------------------|--------------------|----------|--|
| General settings | Object charges Cales Terresenture (cal) | Disabled | Enabled | |
| Logic / Timer | Object change Color Temperature (rel.) | Uisabled | | |
| Channel A: TW | Object set Color Temperature via temperature value (abs.) | O Disabled | Enabled | |
| TW A: General | Object set Color Temperature | 0 | | |
| TW A: Color temperature | via scaling value (abs.) | Disabled O Enabled | | |
| TW A: Brightness | Color temperature on telegram value 0% | 2700 | | |
| TW A: Color mapping cold white | Color temperature on telegram value 100% | 6500 | | |
| TW A: Color mapping warm white | Fade time while changing color temperature with object | 00:00:04 | hh:mm:ss | |
| TW A: Sequencer | color temperature with object | | | |

Object set Color Temperature via scaling value (abs.)

The following objects are used to control the color temperature via percentage value, if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------------|----------|--------|-----------|
| GO 17 TW A: Color temperature dimming abs. – Set value | 5.001 | 1 byte | From KNX |
| | | | |

| Group object | Type KNX | Size | Direction |
|-----------------------------------------------------|----------|--------|-----------|
| GO 97 TW B: Color temperature dimming abs Set value | 5.001 | 1 byte | From KNX |

Color temperature on telegram value 0%

This parameter can be used to configure which color temperature is set when 0% is received via object 17 and 97.

Color temperature on telegram value 100%

This parameter can be used to configure which color temperature is set when 100% is received via object 17 and 97.

When a value between 0 - 100 % is received, the color temperature is calculated linearly based on the set limit values and output.

Fade time while changing color temperature with object

This fade time is active if the color temperature is changed when values are received via objects 17 and 97. The time period is related to a complete dimming process from 0 - 100 %.



| 1.1 KNX IO 534 CV (4D) > Channe | el A: TW > TW A: Color temperature | |
|---------------------------------|--------------------------------------------------------------|-----------------------|
| Description | Object Color Temperature on/off | Disabled Enabled |
| General settings | Object change Color Temperature (rel.) | Disabled Enabled |
| Logic / Timer | | <u> </u> |
| Channel A: TW | Object set Color Temperature via temperature value (abs.) | Disabled Enabled |
| TW A: General | Object set Color Temperature | |
| TW A: Color temperature | via scaling value (abs.) | Disabled Enabled |
| TW A: Brightness | Adjust brightness with color temperature | 0 |
| TW A: Color mapping cold white | objects, when brightness is 0% | Oisabled O Enabled |
| TW A: Color mapping warm white | Brightness | 100 🗘 |
| TW A: Sequencer | Fade time | 00:00:04 hh:mm:ss |

Adjust brightness with color temperature objects, when brightness is 0%

If the current brightness is 0 % and the color temperature is changed via one of the objects in the Color temperature parameter block, the brightness is dimmed to the set brightness at the same time. If the current brightness is > 0 %, this parameter has no effect on the brightness.



If this parameter is not used, a change in color temperature has no visible effect if the current brightness is 0 %.

Fade time

This fade time is active if the current brightness is 0 % and the color temperature is changed via one of the objects in the parameter block. The time period is related to a complete dimming process from 0 - 100 %.

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6.4.4 TW A / TW B: Brightness

Object Brightness on/off

| 1.1. | 1 KNX IO 534 CV (4D) > Channe | el A: TW > TW A: Brightness | | |
|------|--------------------------------|-----------------------------------------------------|---------------------------------|------|
| | Description | Object Brightness on/off | Oisabled O Enabled | |
| | General settings | Behavior on ON telegram (when dimmer is off) | Dimm to fix value | • |
| | Logic / Timer | Behavior on ON telegram (when dimmer is on) | Dimm to fix value | • |
| - | Channel A: TW | Brightness on ON telegram | 100 | ÷ % |
| | TW A: General | Fade time on ON telegram (related to 100%) | 00:00:04 hh:mm:ss | |
| | TW A: Color temperature | Behavior on OFF telegram | No reaction O Dimm to fix value | |
| | TW A: Brightness | Brightness on OFF telegram | | \$ % |
| | TW A: Color mapping cold white | Behavior on 2nd OFF telegram | No reaction Switch off | |
| | TW A: Color mapping warm white | Fade time on OFF telegram (related to 100%) | 00:00:04 hh:mm:ss | |
| | TW A: Sequencer | Day/night switching | Switch on day/night telegram 🔹 | |
| + | Channel B: TW | Brightness on ON telegram (night) | 50 | ÷ % |
| | | Brightness on OFF telegram (night) | | ÷ % |
| | | Fade time for day/night switching (related to 100%) | 00:00:04 hh:mm:ss | |
| | | Object change Brightness (rel.) | Disabled Enabled | |
| | | Object set value Brightness (abs.) | Disabled Enabled | |

The following objects are available for switching the brightness if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|----------------------------------------|----------|-------|-----------|
| GO 18 TW A: Brightness on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |

| Group object | Type KNX | Size | Direction |
|----------------------------------------|----------|-------|-----------|
| GO 98 TW B: Brightness on/off – Switch | 1.001 | 1 bit | From KNX |

Behavior on ON telegram (when dimmer is off)

If the current brightness is 0 %, this parameter can be used to configure the behavior when switching on via object 18 or 98.

The choices are:

- No reaction
- Dimm to fix value
- Dimm to last value before switching off

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Behavior on ON telegram (when dimmer is on)

If the current brightness is greater than 0 %, this parameter can be used to configure the behavior for a renewed ON telegram via object 18 or 98.

The choices are:

- No reaction
- Dimm to fix value
- Dimm to fix value if higher than actual

Brightness on ON telegram

With suitable parameterisation, this brightness is activated with an ON telegram via object 18 or 98.

Fade time on ON telegram (related to 100%)

This fade time is active when an ON telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Behavior on OFF telegram

This parameter describes the behavior of the dimmer in the event of an OFF telegram via object 18 or 98.

The choices are:

- No reaction
- Dimm to fix value

Brightness on OFF telegram

With suitable parameterisation, this value is activated with an OFF telegram via object 18 or 98.

Behavior on 2nd OFF telegram

This parameter describes the behavior of the dimmer when a 2nd OFF telegram is received via object 18 or 98.

The choices are:

- No reaction
- Switch off

The 2nd OFF telegram must follow the 1st OFF telegram within 1 second in order to be evaluated. If the current brightness is equal to or lower than the parameterised brightness with the OFF telegram, switching off already takes place with the 1st OFF telegram.

Fade time on OFF telegram (related to 100%)

This fade time is active when an OFF telegram is received. The time period is related to a complete dimming process from 0 - 100 %.



Day/night switching

When using this function, the following object is visible for switching from day/night mode:

| Group object | Type KNX | Size | Direction |
|---------------------------------|----------|-------|-----------|
| GO 21 TW A: Day/Night – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 101 TW B: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram to the object, night mode with an ON telegram. The device is in day mode after restart.



Telegrams to the object 21 or 101 have an effect on all activated day/night Day/night changeover of a TW channel.

In addition, it can be determined when the values become active after telegram via the object are available for selection:

- Disabled
- Switch on day/night telegram Immediately after day/night switching is received, dimming to the active value takes place according to the last received switch on/off via object 18 or 98.
- Switch on next on/off telegram
 The currently active value is only used with the next on/off switching via object 18 or 98.

There is a separate switch-on and switch-off value in the parameters for night operation. In daytime operation, the values that are always visible are used.

Brightness on ON telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an ON telegram via object 18 or 98 and suitable parameterisation.

Brightness on OFF telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an OFF telegram via object 18 or 98 and suitable parameterisation.

Fade time for day/night switching (related to 100%)

(only with active day/night switching)

This fade time is only active if switching is used with day/night switching. If switching is used with the next on/off telegram, the regular fade time of the respective on or off telegram is active. The time period is related to a complete dimming process from 0 - 100 %.



Object change Brightness (rel.)

| 1.1.1 KNX IO 534 CV (4D) > Channe | el A: TW > TW A: Brightness | | | |
|-----------------------------------|----------------------------------------------------|------------|----------|-----|
| Description | Object Brightness on/off | O Disabled | Enabled | |
| General settings | Object change Brightness (rel.) | Disabled | Enabled | |
| Logic / Timer | Minimal brightness while | 0 | Linabled | ÷ % |
| Channel A: TW | changing with object Maximal brightness while | 100 | | ÷ % |
| TW A: General | changing with object Fade time while increasing | | | |
| TW A: Color temperature | brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |
| TW A: Brightness | Fade time while decreasing | | | |
| TW A: Color mapping cold white | brightness with object (related to 100%) | 00:00:04 | hh:mm:ss | |
| TW A: Color mapping warm white | | | | |
| TW A: Sequencer | Object set value Brightness (abs.) | O Disabled | Enabled | |

The following objects are available for changing the brightness via relative dimming commands, if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------------|----------|-------|-----------|
| GO 19 TW A: Brightness dimming rel. – Brighter/Darker | 3.007 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 99 TW B: Brightness dimming rel. – Brighter/Darker | 3.007 | 1 bit | From KNX |

Minimal brightness while changing with object

This parameter can be used to set which minimum brightness can be achieved via relative dimming. If the current brightness is below the minimum value, the brightness cannot be reduced via object 19 or 99.

Maximal brightness while changing with object

This parameter can be used to set the maximum brightness that can be achieved via relative dimming. If the current brightness is above the maximum value, the brightness cannot be increased via object 19 or 99.

Fade time while increasing brightness with object (related to 100%)

This fade time is active when the brightness is increased via relative dimming with object 19 or 99. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing brightness with object (related to 100%)

This fade time is active when the brightness is reduced via relative dimming with object 19 or 99. The time period is related to a complete dimming process from 0 - 100 %.



Object set value Brightness (abs.)

| Description | Object Brightness on/off | O Disabled | Enabled | |
|--------------------------------|----------------------------------------------------------|--------------|-----------|--------|
| General settings | | | | |
| Logic / Timer | Object change Brightness (rel.) | O Disabled (|) Enabled | |
| Channel A: TW | Object set value Brightness (abs.) | O Disabled | O Enabled | |
| TW A: General | Minimal value for changing brightness value by object | 10 | | * |
| TW A: Color temperature | Switch off dimmer with telegram value 0% | O Disabled | Enabled | |
| TW A: Brightness | Maximal value for changing brightness value by object | 100 | | Å V |
| TW A: Color mapping cold white | Fade time while increasing | | | |
| TW A: Color mapping warm white | brightness with object (related to 100%) | 00:00:04 | hh:mm | :55 |
| | | | | |

The following objects are used to control brightness via dimming value if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------|----------|-------|-----------|
| GO 20 TW A: Brightness dimming abs. – Set value | 5.001 | 1 bit | From KNX |

| Group object | Type KNX | Size | Direction |
|-----------------------------------------------|----------|-------|-----------|
| GO 100 TW B: Brightness dimming abs Set value | 5.001 | 1 bit | From KNX |

Minimal value for changing brightness value by object

This parameter can be used to configure which minimum brightness can be reached via object 20 or 100. If a value below the minimum value is received, the dimmer is controlled with the minimum value. If a value > 0 % is set here, the parameter **Switch off dimmer with telegram value 0%** is also visible.

Switch off dimmer with telegram value 0%

(only with "Minimal value for changing brightness value by object" > 0 %)

Here you can select whether the dimmer is switched off when a brightness of 0 % is received.

Maximal value for changing brightness value by object

This parameter can be used to configure which maximum brightness can be reached via object 20 or 100. If a value above the maximum value is received, the dimmer is controlled with the maximum value.

Fade time while increasing brightness with object (related to 100%)

This fade time is active if the brightness is increased when values are received via object 20 or 100. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while decreasing brightness with object (related to 100%)

This fade time is active if the brightness is reduced when values are received via object 20 or 100. The time period is related to a complete dimming process from 0 - 100 %.

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6.4.5 TW A / TW B: Staircase function

| Description | Color temperature on switching on the staircase function (day) | 6500 | | ÷ | k |
|--------------------------------|---------------------------------------------------------------------|---------------------|-----------------------|--------|---|
| General settings | Brightness on switching on the staircase function (day) | 100 | | ÷ | % |
| Logic / Timer | Color temperature on switching on the staircase function (night) | 2700 | | * | |
| Channel A: TW | Brightness on switching on the staircase function (night) | 50 | | ÷ | 9 |
| TW A: General | Fade time for switching on | 00:00:01 | hh:mm:ss | | |
| TW A: Staircase function | Delay time of staircase function | 10 min | | | • |
| TW A: Color mapping cold white | Reaction on ON telegram | 🔵 Switch on 🔘 Switc | h to switch-off delay | | |
| TW A: Color mapping warm white | Delay time retriggerable | 🔵 Disabled 🔘 Enable | ed | | |
| TW A: Sequencer | Orientation light after delay time | 30 s | | | • |
| Channel B: TW | Color temperature while orientation light | 🔘 No change 🔵 Colo | or temperature | | |
| | Brightness while orientation light | 20 | | + | 9 |
| | Fade time for orientation light | 00:01:00 | hh:mm:ss | | |
| | Reaction on OFF telegram | Ignore | | | • |
| | Color temperature on switching off the staircase function | O No change O Colo | or temperature | | |
| | Brightness on switching off the staircase function (day) | 0 | | * * | 9 |
| | Brightness on switching off the staircase function (night) | 10 | | ÷ | 9 |
| | Fade time for switching off | 00:01:00 | hh:mm:ss | | |

A staircase function with optional orientation light can be implemented via this parameter page. The staircase function can be overridden by the disable function. It has the following objects:

| Group object | Type KNX | Size | Direction |
|------------------------------------------|----------|-------|-----------|
| GO 11 TW A: Staircase function – Trigger | 1.010 | 1 bit | From KNX |
| GO 21 TW A: Day/Night – Switch | 1.001 | 1 bit | From KNX |

| Group object | Type KNX | Size | Direction |
|------------------------------------------|----------|-------|-----------|
| GO 91 TW B: Staircase function – Trigger | 1.010 | 1 bit | From KNX |
| GO 101 TW B: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram to object 21 or 101, night mode with an ON telegram. The device is in day mode after restart.

Color temperature on switching on the staircase function (day)

This color temperature is used in day mode if the staircase function is switched on via an ON telegram to object 21 or 101.

Brightness on switching on the staircase function (day)

This brightness is used in day mode if the staircase function is switched on via an ON telegram to object 21 or 101.



Color temperature on switching on the staircase function (night)

This color is used in night mode when the staircase function is switched on via an ON telegram to object 21 or 101.

Brightness on switching on the staircase function (night)

This brightness is used in night mode if the staircase function is switched on via an ON telegram to object 21 or 101.

Fade time for switching on

This fading time is active when the staircase function is switched on via ON telegram to object 21 or 101. The time period is related to a complete dimming process from 0 - 100 %.

Delay time of staircase function

After the delay time has elapsed, the dimmer is dimmed to the switch-off or orientation light value, depending on the parameter setting.

Reaction on ON telegram

This parameter determines the behavior after switching on the staircase function via ON telegram to object 21 or 101: In the setting "Switch on", the channel remains switched on after ON telegram until the delay time is started via OFF telegram. In the setting "Switch to switch-off delay", the channel goes immediately into the delay time after the ON telegram.

Delay time retriggerable

If it is set that the delay time is started with an ON telegram, this parameter determines whether only the 1st ON telegram to object 21 or 101 restarts the delay time, or also each subsequent ON telegram.

If it is set that the overrun time is started with an OFF telegram, this parameter determines whether only the 1st OFF telegram on object 21 or 101 restarts the overrun time, or also every further one if the staircase function is already in the overrun time.



Orientation light after delay time

This parameter can be used to set whether the dimmer dims to the switch-off value or to the orientation light after the end of the delay time, as well as the duration of the orientation light.

To choose from:

- Disabled
- ∎ 1s
- 2 s
- 5s
- 10 s
- 30 s
- 1 min
- 2 min
- 5 min
- 10 min
- 20 min
- 30 min
- 1h
- 2 h
- Without timelimit

Color temperature while orientation light

Here you can determine the behavior of the color temperature during the transition to the orientation light. If "No change" is set, the current color temperature is retained.

Color temperature

If the orientation light is to be dimmed to a color temperature at the end of the delay time, the value can be specified here.

Brightness while orientation light

This brightness is dimmed to at the end of the delay time if orientation light is used.

Fade time for orientation light

This fading time is active when the staircase function dims to orientation light. The time period is related to a complete dimming process from 0 - 100 %.



Reaction on OFF telegram

Here you can set how the staircase function behaves in the event of an Off telegram.

The choices are:

- Ignore
 No reaction of the channel in case of off telegram.
- Switch off
 Switches to switch-off value from the parameters.
- Switch to switch-off delay The delay time is started with an OFF telegram.
- Switch to orientation light The orientation light phase is started with an OFF telegram.
- Switch to orientation light/switch off
 With the 1st OFF telegram the orientation light phase is started, with the 2nd OFF telegram it is dimmed to the switch-off value.

Color temperature on switching off the staircase function

Here the behavior of the color temperature can be determined when switching off. If "No change" is set, the current color temperature is retained.

Color temperature (day)

If a color temperature is to be dimmed when switching off, the value for daytime operation can be specified here.

Color temperature (night)

If a color temperature is to be dimmed when switching off, the value for night mode can be specified here.

Brightness on switching off the staircase function (day)

This brightness is used in daytime operation on switching off the staircase function.

Brightness on switching off the staircase function (night)

This brightness is used in night mode on switching off the staircase function.

Fade time for switching off

This fade time is active when the staircase function dims to the OFF value. The time period is related to a complete dimming process from 0 - 100 %.



| Description | Color temperature of cold white LED | 6500 | ÷ |
|--------------------------------|-------------------------------------|--------------------|-----|
| General settings | Color mapping for cold white | Oisabled O Enabled | |
| Logic / Timer | Function of color mapping | Linear | • |
| Logic / Times | Output of cold white LED at 100% | 100 | 9 |
| Channel A: TW | Output of cold white LED at 90% | 90 | - |
| | Output of cold white LED at 80% | 80 | 9 |
| TW A: General | Output of cold white LED at 70% | 70 | 9 |
| TW A: Color mapping cold white | Output of cold white LED at 60% | 60 | 9 |
| TW A: Color mapping warm white | Output of cold white LED at 50% | 50 | 4 |
| TW A: Sequencer | Output of cold white LED at 40% | 40 | 4 |
| | Output of cold white LED at 30% | 30 | |
| Channel B: TW | Output of cold white LED at 20% | 20 | |
| | Output of cold white LED at 10% | 10 | 4 |
| | Output of cold white LED at 0% | 0 | |
| | Adjustment of cold white LED | 100 | ± . |

6.4.6 TW A / TW B: Color mapping cold white / warm white

These parameter pages are used for fine adjustment of the dimmer to different lamps.



All parameters on this page only affect the PWM value of the output, not the dimming or output state value.

Color temperature of cold white LED Color temperature of warm white LED

The specified color temperature of the respective LED must be entered here.

Color mapping for cold white Color mapping for warm white

Enables the color matching of the respective LED.



In **device configuration** "1 xTunable white" and "2 x Tunable white" the LEDs for cold and warm white are coupled, therefore when using the color mapping it must be ensured that the maximum power of a channel or of the entire device is not exceeded at any time.

Function of color mapping

Here you can specify which PWM values the outputs for cold or warm white should assume when the output has reached a certain dimming value.

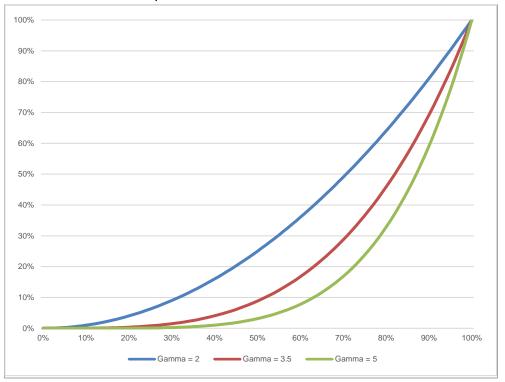
The choices are:

- Linear
- Logarithmic
- User defined



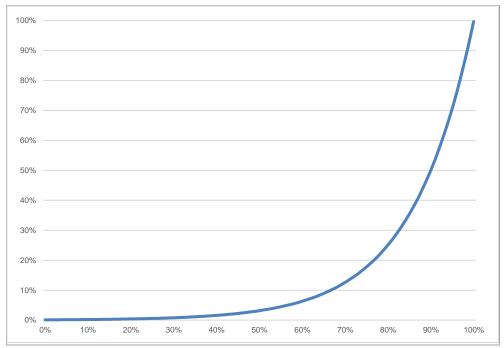
Gamma

Gamma correction according to the formula: PWM value = Dimming value ^{Gamma} Gamma can be set via parameter from 1.00 ... 5.00.



DALI

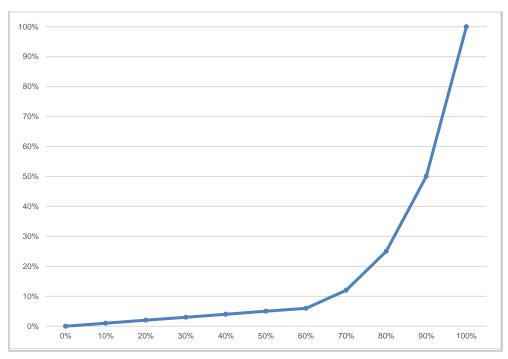
An DALI based function with the formula: $PWM value = 10^{3 - (Dimming value - 1)}$





Output of cold white LED at 0% – 100% Output of warm white LED at 0% – 100%

For the dimming curves "Linear", "Logarithmic" and "User defined", these values determine the PWM values of a dimming output at the specified dimming value. Values between the specified points are calculated and output linearly. As an example, a dimming output with dimming curve "Logarithmic" behaves according to the following graph:



For the dimming curves "Linear" and "Logarithmic" the output values are fixed, for "User defined" they can be freely configured.



If a dimming value of 0 % is reached, the channel is always switched off.

Adjustment cold white LED Adjustment warm white LED

The PWM value of the output calculated by the dimming curve is additionally scaled with this value.



State object for color temperature of cold white LED State object for color temperature of warm white LED

When activated, the following objects become visible:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------------|----------|---------|-----------|
| GO 27 TW A: State cold white LED – Color temperature | 7.600 | 2 bytes | To KNX |
| GO 28 TW A: State warm white LED – Color temperature | 7.600 | 2 bytes | To KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 107 TW B: State cold white LED – Color temperature | 7.600 | 2 bytes | To KNX |
| GO 108 TW B: State warm white LED – Color temperature | 7.600 | 2 bytes | To KNX |

These objects send the parameterized color temperatures of the cold and warm white LEDs 1x when the device is started. The values are also available for read requests.

6.4.7 TW A / TW B: Scene function

| Description | Fade time on activation of scene | 00:00:04 hh:mm:ss | |
|--------------------------------|----------------------------------|-------------------|--------|
| General settings | Scene 1 | State | • |
| Logic / Timer | Number | 1 | * * |
| - | Color temperature | 2700 | ÷ |
| Channel A: TW | Brightness | 100 | ÷, |
| TW A: General | Scene 2 | State | - |
| TW A: Color mapping cold white | Number | 2 | ÷ |
| TW A: Color mapping warm white | Color temperature | 6500 | * * |
| TW A: Scene function | Brightness | 100 | |
| TW A: Sequencer | Scene 3 | Learnable | - |
| Channel B: TW | Number | 3 | ÷ |
| Channel B. 1 W | Scene 4 | No reaction | • |
| | Scene 5 | No reaction | • |
| | Scene 6 | No reaction | • |
| | Scene 7 | No reaction | • |
| | Scene 8 | No reaction | • |
| | Scene 9 | No reaction | • |
| | Scene 10 | No reaction | - |
| | Scene 11 | No reaction | • |
| | Scene 12 | No reaction | • |
| | Scene 13 | No reaction | • |
| | Scene 14 | No reaction | • |
| | Scene 15 | No reaction | - |
| | Scene 16 | No reaction | • |



If the scene function is activated, the following group objects appear:

| Group object | Type KNX | Size | Direction |
|----------------------------------|----------|--------|-----------|
| GO 29 TW A: Scene – Activ./Lrn. | 18.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 109 TW B: Scene – Activ./Lrn. | 18.001 | 1 byte | From KNX |

Fade time on activation of scene

The time period in which the received scene is dimmed is set here. The time period is related to a complete dimming process from 0 - 100 %.

Scene 1 – 16

These parameters can be used to configure the reaction of the channel when the respective scene is received.

The choices are:

- No reaction
- State

The output is dimmed to the set color temperature and brightness if the scene of the corresponding number has been received.

Learnable

Here, the current state at the output for the respective scene can be saved with the help of a scene control telegram. Thus, the scene can be adapted by the user without ETS download.

Number

This parameter can be used to assign any scene number between 1 and 64 to the scene. No scene numbers may be assigned twice.

6.4.8 TW A / TW B: Slumber function

| Description | Target color temperature while switching on the slumber function | 6500 | | ÷ |
|-------------------------------------------------|---------------------------------------------------------------------|----------|----------|--------|
| General settings | Target brightness while switching on the slumber function | 100 | | ÷ v |
| Logic / Timer | Target color temperature while switching off the slumber function | 2700 | | * |
| Channel A: TW | Target brightness while switching off the slumber function | 0 | | * * |
| TW A: General TW A: Color mapping cold white | Fade time on 1. ON telegram (1. button press) | 01:00:00 | hh:mm:ss | |
| TW A: Color mapping cold write | Fade time on 2. ON telegram (2. button press) | 00:00:01 | hh:mm:ss | |
| TW A: Slumber function | Fade time on 1. OFF telegram (1. button press) | 01:00:00 | hh:mm:ss | |
| TW A: Sequencer | Fade time on 2. OFF telegram (2. button press) | 00:00:01 | hh:mm:ss | |



If the slumber function is selected, the following object is visible:

| Group object | Type KNX | Size | Direction |
|-----------------------------------------|----------|-------|-----------|
| GO 35 TW A: Slumber function – Trigger | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 115 TW B: Slumber function – Trigger | 1.001 | 1 bit | From KNX |

Target color temperature while switching on the slumber function

This color temperature is reached after receipt of an ON telegram via object 35 or 115 at the output of the dimmer after completion of the dimming process.

Target brightness while switching on the slumber function

This brightness is reached after receipt of an ON telegram via object 35 or 115 at the output of the dimmer after completion of the dimming process.

Target color temperature while switching off the slumber function

This color temperature is reached after receiving an Off telegram via object 35 or 115 at the output of the dimmer after completion of the dimming process.

Target brightness while switching off the slumber function

This brightness is reached after receipt of an OFF telegram via object 35 or 115 at the output of the dimmer after completion of the dimming process.

Fade time on 1. ON telegram (1. button press)

This fade time is used to dim to the end values for switching on after pressing the 1st button. The time period is related to a complete dimming process from 0 - 100 %.

Fade time on 2. ON telegram (2. button press)

This fade time is used to dim to the end values for switching on after the 2nd button is pressed. The time period is related to a complete dimming process from 0 - 100 %.

Fade time on 1. OFF telegram (1. button press)

This fade time is used to dim to the end values for switching off after pressing the 1st button. The time period is related to a complete dimming process from 0 - 100 %.

Fade time on 2. OFF telegram (2. button press)

This fade time is used to dim to the end values for switching off after the 2nd button is pressed. The time period is related to a complete dimming process from 0 - 100 %.



6.4.9 TW A / TW B: Lock function

| 1.1.1 KN | X IO 534 CV (4D) > Channel | A: TW > TW A: Lock function | | | |
|----------|-----------------------------|-----------------------------|--------------------------------------|--------|---|
| Desc | ription | Polarity of object | O Lock active on 1 Lock active on 0 | | |
| Gene | eral settings | Behavior on start | No reaction O State | | |
| Logic | c / Timer | Color temperature | 4000 | ÷ | К |
| - | | Brightness | 100 | * * | % |
| - Chan | nnel A: TW | Behavior at end | State | | • |
| TW | A: General | Color temperature | 4000 | ÷ | К |
| TW | A: Color mapping cold white | Brightness | 100 | ∸ ▼ | % |
| TW | A: Color mapping warm white | | | | |
| тw | A: Lock function | | | | |
| TW | A: Sequencer | | | | |
| + Char | nnel B: TW | | | | |

If the lock function is activated, the following objects are active:

| Group object | Type KNX | Size | Direction |
|---------------------------------------------------|----------|--------|-----------|
| GO 36 TW A: Lock – Activate | 1.001 | 1 bit | From KNX |
| GO 37 TW A: Prior. on/off – Switch | 1.001 | 1 bit | From KNX |
| GO 38 TW A: Prior. dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| GO 39 TW A: Prior. dimming abs. – Set brightness | 5.001 | 1 byte | From KNX |

| Group object | Type KNX | Size | Direction |
|----------------------------------------------------|----------|--------|-----------|
| GO 116 TW B: Lock – Activate | 1.001 | 1 bit | From KNX |
| GO 117 TW B: Prior. on/off – Switch | 1.001 | 1 bit | From KNX |
| GO 118 TW B: Prior. dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| GO 119 TW B: Prior. dimming abs. – Set brightness | 5.001 | 1 byte | From KNX |

If the lock has been activated via group object 36 or 116, other received telegrams for dimmer, automatic mode, slumber, scene function and sequencer are not executed.

In addition to the disable object, 3 priority objects become visible when the disable function is activated, with which the dimmer can be controlled independently of the disable. In this way, it is possible to set an initial state without influencing other functions.

Example of priority objects:

At events in public buildings or in restaurants, the buttons can be disabled after regular operation by means of the disable object. This makes it possible to block buttons that are accessible to unauthorised persons during the lecture or concert in order to prevent unintentional switching. Nevertheless, the organiser can, if necessary, control the individual lamps with the help of the priority object without lifting the lock.



Polarity of object

The object's mode of action can be used to set how the lock is to be activated – either by receiving a 1 or by receiving a 0.

The choices are:

- Lock active on 1
- Lock active on 0

Behavior on start

Here you can configure the state that is set when the lock is activated at the output.

The choices are:

- No reaction
- State

Parameters for setting color temperature and brightness appear.

The state of the output can be further changed by the priority objects.

Behavior at end

Here you can configure the state that is set when the lock is deactivated at the output.

The choices are:

- No reaction
- State

Parameters for setting color temperature and brightness appear.

- State before lock Here the original state before activation of the lock is restored. Telegrams received during the lock are ignored.
- State without lock

Here the state of the last received telegram is restored. This means that the received telegrams are taken into account during the lock. Thus, when the lock is deactivated, the state of the last received telegram is set.

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6.4.10 TW A / TW B: Sequencer

| Description | Steps of sequencer | 2 | | 4 |
|--------------------------------|---------------------------------------|-----------------------|----------------------|---|
| General settings | Resume sequence after man. operation | After off-time | | • |
| Lesis / Terre | Off-time | 00:30:00 | hh:mm:ss | |
| Logic / Timer | Step after man. operation | Active step | | • |
| Channel A: TW | Polartity of object "Sequence on/off" | O Switch on with | 0 🔘 Switch on with 1 | |
| TW A: General | Behavior on switching on | No reaction | | |
| TW A: Color mapping cold white | Behavior on switching off | Complete actual s | tep | |
| TW A: Color mapping warm white | | | | |
| TW A: Sequencer | Step 1: | Step 1 | | |
| Channel B: TW | Start by time | 🔵 Disabled 🔘 | Start by time of day | |
| Channel B: TW | Start time | 07:00:00 | hh:mm:ss | |
| | Start by ON/OFF telegram | O Disabled 🔾 | Enabled | |
| | Start by scene number | O Disabled 🔵 | Enabled | |
| | Action | Color temperature | 2 | • |
| | Color temperature | 6500 | | * |
| | Fade time | 00:00:00 | hh:mm:ss | |
| | Step 2: | Step 2 | | |
| | Start by time | Start after last trig | ger | |
| | Start time | 00:00:01 | hh:mm:ss | |
| | Start by ON/OFF telegram | O Disabled 🔾 | Enabled | |
| | Start by scene number | O Disabled | Enabled | |
| | Action | Color temperature | 2 | • |
| | Color temperature | 2700 | | * |
| | | | | |

The sequencer can be used to create complex sequence programs consisting of up to 32 individual steps for the dimmer channel. The activation of the individual steps is possible at the following start conditions:

- At a fixed time
- After a waiting time to a previous step
- Via on/off telegram
- On receipt of a parameterized scene number

When a step is activated, a color temperature and/or brightness can be dimmed or a scene number can be sent, and a step or even an entire sequence of steps can be repeated cyclically.



The following objects are available for general control of the sequencer:

| Group object | Type KNX | Size | Direction |
|-----------------------------------------------|----------|-------|-----------|
| GO 53 TW A: Sequence suspend – Suspend/Resume | 1.001 | 1 bit | From KNX |
| GO 54 TW A: Sequence on/off – Switch | 1.001 | 1 bit | From KNX |

| Group object | Type KNX | Size | Direction |
|------------------------------------------------|----------|-------|-----------|
| GO 133 TW B: Sequence suspend – Suspend/Resume | 1.001 | 1 bit | From KNX |
| GO 134 TW B: Sequence on/off – Switch | 1.001 | 1 bit | From KNX |



Polarity of objects 53 and 133: 1 = Suspend / 0 = Resume

The following parameters determine the general behavior of the sequencer:

Steps of sequencer

Number of steps (0 ... 32) to be used.

Resume sequence after man. operation

A sequence that is switched on can always be interrupted or continued via object 53 or 133; an ON telegram interrupts the sequence, an OFF telegram continues it.

A sequence is also interrupted after manual operation, i.e. after commands for dimmer, automatic mode, slumber or scene function.

In addition, this parameter determines how an interrupted sequence can still be continued, is available for selection:

- Only by object The sequence can only be continued via object 53 or 133.
- After off-time The sequence is continued after the set blocking time.
- On next activated step The sequence is continued at the next activated step. The next step can be activated via object or time-controlled.

Off-time

Only visible if the sequence is to be continued after off-time, this blocking time can be configured with this.

Step after man. operation

This step is executed when resuming after manual operation, the function of the set step is always executed, regardless of its other set start conditions.



Polarity of object "Sequence on/off"

This parameter can be used to set the telegram value with which the sequence can be switched on and off via object 54 or 134. If the sequence is switched off, any further activation of a step is disabled.

Behavior on switching on

This determines how the sequencer behaves when switched on via object 54 or 134 is available for selection:

- No reaction
 No function is executed, the sequencer is waiting for steps to be activated.
- Step 1 32

The function of the step is executed (regardless of the other set start conditions of the step), the sequence is then continued according to its configuration from this step.

Switching on also reactivates a sequence interrupted by manual operation.

Behavior on switching off

This determines how the sequencer behaves when switched off via object 54 or 134 is available for selection:

- Complete actual step If the sequencer is in a dimming process, this is still being completed.
- Step 1 32 The function of the step is executed (regardless of the other start conditions set for the step).
- Stop immediately

If the sequencer is in a dimming process, this is stopped.

Apart from the set behavior when switching off, any further activation of a step after switching off is blocked until the sequencer is switched on again via object 54 or 134.

| Step 2: | Step 2 | |
|--------------------------|--------------------------|-----|
| Start by time | Start after last trigger | - |
| Start time | 00:00:01 hh:mm: | ss |
| Start by ON/OFF telegram | O Disabled C Enabled | |
| Start by scene number | O Disabled O Enabled | |
| Action | Color temperature | • |
| Color temperature | 6500 | ‡ K |
| Fade time | 00:00:00 hh:mm: | 55 |

Step 1 – 32

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When a step is activated, its parameters appear for configuration.

You can enter your own name for the step in the text field at the top right with the content "Step x". This designation is used for better orientation of the user and has no influence on the functionality of the step.

Start by time

This parameter is used to configure a time start condition of the step, available for selection:

- Disabled Start condition not used.
- Start by time of day

The time at which the step is to start can be entered here. When using this start condition, the current time must have been received via the following object:

| Group object | Type KNX | Size | Direction |
|------------------------|----------|---------|-----------|
| GO 5 Time of Day – Set | 10.001 | 3 bytes | From KNX |



If no valid time has been specified via object 5, all start conditions at fixed times are not active.



The time is continuously updated by the device through its internal timer, but due to component tolerances there is always a deviation from the actual time. Therefore, the current time should be sent to the device at least twice a day by a precise timer in order to keep the deviation as small as possible.

Start after last trigger

Here you can specify the time interval to wait after the previous activation before executing the step. This start condition is not available for step 1.

Start time

Here either the time or the waiting time can be specified for the execution of the current step, if a timed start condition is used.

Start by ON/OFF telegram

When using this start condition, a separate object is available for each step:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------------|----------|-------|-----------|
| GO 55 – 86 TW A: Sequence Step 1 – 32 on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |

| Group object | Type KNX | Size | Direction |
|---------------------------------------------------------|----------|-------|-----------|
| GO 135 – 166 TW B: Sequence Step 1 – 32 on/off – Switch | 1.001 | 1 bit | From KNX |

An ON telegram to one of these objects activates the respective step, the sequence is then continued from this step according to its configuration.



An Off telegram also activates this step, but resets the sequence at the same time.



Start by scene number

When this start condition is used, the following objects become visible:

| Group object | Type KNX | Size | Direction |
|---------------------------------------------|----------|--------|-----------|
| GO 51 TW A: Sequence scene – Activate step | 18.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 131 TW B: Sequence scene – Activate step | 18.001 | 1 byte | From KNX |

A telegram with the set scene on these objects activates the respective step, the sequence is then continued according to its configuration from this step.

All steps with this start condition are controlled via this object.

Action

When the step is activated, the configured function is executed:

None

No function is executed. This can be used, for example, to implement a switch-on delay of a sequence.

Start loop

The sequence is continued at the selected step. Parameters for the start step of the loop and number of loops become visible.

Send scene number

When using this function, the following objects become visible:

| Group object | Type KNX | Size | Direction |
|-----------------------------------------|----------|--------|-----------|
| GO 52 TW A: Sequence scene – Send scene | 18.001 | 1 byte | To KNX |

| Group object | Type KNX | Size | Direction |
|------------------------------------------|----------|--------|-----------|
| GO 132 TW B: Sequence scene – Send scene | 18.001 | 1 byte | To KNX |

A parameter for the sent scene number becomes visible; when the step is activated, this scene number is sent via the object.

All steps send the scene number via this object if this function is used for the respective step.



- Brightness
- Color temperature
- Color temperature/brightness

Parameters for brightness and/or color temperature and fade time become visible. When the step is activated, the dimmer dims from the current state to the specified brightness and/or color temperature with the parameterised fade time. This time is related to a complete dimming process from 0 - 100 %.



The fade time must be shorter than or equal to the **start time** or waiting time of the next step in order to achieve the set brightness and/or color temperature.

6.5 Device configuration "4 x Common dimmer"

6.5.1 Dimmer 1 – 4: General

| 1.1.1 KNX IO 534 CV (4D) > Chan | nel 1: Dimmer > Dimmer 1: General | | |
|---------------------------------|-----------------------------------|-------------------------------|-----|
| Description | Name | | |
| General settings | Function | O Dimmer O Staircase function | |
| Logic / Timer | Send state | Cyclic and on change | • |
| | Time for cyclic state | 6 h | - |
| Channel 1: Dimmer | Behavior on bus power loss | ○ No reaction | |
| Dimmer 1: General | Dimming value | 100 | ÷ % |
| Dimmer 1: Dimmer | Behavior after bus power return | Dimm to value | • |
| Dimmer 1: Dimming curve | Dimming value | 100 | ÷ % |
| Dimmer 1: Sequencer | | | |
| + Channel 2: Dimmer | Scene function | Disabled Enabled | |
| · channel 2. Dimmer | Automatic mode | Disabled Enabled | |
| + Channel 3: Dimmer | Slumber function | O Disabled C Enabled | |
| + Channel 4: Dimmer | Lock function | Disabled Enabled | |

Name (30 characters)

Any name can be assigned to the channel. However, this should be unique and meaningful, this makes it easier to work with the associated group objects later, as the assigned name is displayed there as a designation. If no name is assigned, the group objects are labelled "Dimmer 1: ... " – "Dimmer 4: ... ", depending on the channel.



Function

This parameter defines the functionality of the actuator. The following options are available:

Dimmer

In this operating mode, scene function, automatic mode, slumber and lock function are available. In the "Dimmer" operating mode, objects can be configured for switching on/off, relative dimming, control of the dimmer via dimming and RGB value. The "Dimmer 1 – 4: Dimmer" parameter page is displayed for this purpose.

Staircase function
 A parameter page "Dimmer 1 – 4: Staircase function" is displayed. Only the lock function is available in this operating mode.

Send state

This parameter defines the send behavior of the state objects:

- Disabled
 State objects are disabled and hidden.
- Only on read
 State objects send only for read requests.
- On change

The switch object sends an off telegram when the output value changes to 0 %, an on telegram when the output value changes from 0 % to a value greater than 0 %. The value object sends with a time interval of at least 1 second when the value at the output has changed by at least 1 %, or when a dimming operation has been completed.

Cyclically and on change
 State objects send cyclically and on value change.

| Group object | Type KNX | Size | Direction |
|------------------------------------------------|----------|--------|-----------|
| GO 176 Dimmer 1: Dimming output – State on/off | 1.001 | 1 bit | To KNX |
| GO 177 Dimmer 1: Dimming output – State value | 5.001 | 1 byte | To KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 236 Dimmer 2: Dimming output – State on/off | 1.001 | 1 bit | To KNX |
| GO 237 Dimmer 2: Dimming output – State value | 5.001 | 1 byte | To KNX |
| | | | |

| Group object | Type KNX | Size | Direction |
|------------------------------------------------|----------|--------|-----------|
| GO 296 Dimmer 3: Dimming output – State on/off | 1.001 | 1 bit | To KNX |
| GO 297 Dimmer 3: Dimming output – State value | 5.001 | 1 byte | To KNX |



| Group object | Type KNX | Size | Direction |
|------------------------------------------------|----------|--------|-----------|
| GO 356 Dimmer 4: Dimming output – State on/off | 1.001 | 1 bit | To KNX |
| GO 357 Dimmer 4: Dimming output – State value | 5.001 | 1 byte | To KNX |

Time for cyclic state (only for "Cyclic and on change")

If send state is configured with "Cyclic and on change", this parameter appears to set the cycle time for sending.

Behavior on bus power loss

The behavior of the output in the event of bus voltage failure can be configured here.

The choices are:

- No reaction
- Dimm to value

Behavior after bus power return

The behavior of the output after bus power return can be configured here. This behavior is executed at every device restart (e.g. also at restart after an ETS download).

The choices are:

- No reaction
- Dimm to value
- State like before bus power failure

Scene function (only with "Dimmer" function)

The scene function can be activated or deactivated here. It is only available in the "Dimmer" function. If this functionality is activated, a parameter page appears for further configuration of scenes 1 - 16. The further functionality is explained in section "Dimmer 1 - 4: Scene function".

Automatic mode (only with "Dimmer" function)

Automatic mode is only available in the "Dimmer" function. If this function is selected, the following objects become visible:

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------|----------|--------|--------------------|
| GO 179 Dimmer 1: Automatic mode – Activate | 1.001 | 1 bit | From KNX To KNX |
| GO 180 Dimmer 1: Autom. dimming abs. – Set value | 5.001 | 1 byte | From KNX |

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------|----------|--------|--------------------|
| GO 239 Dimmer 2: Automatic mode – Activate | 1.001 | 1 bit | From KNX To KNX |
| GO 240 Dimmer 2: Autom. dimming abs. – Set value | 5.001 | 1 byte | From KNX |



| Group object | Type KNX | Size | Direction |
|--------------------------------------------------|----------|--------|--------------------|
| GO 299 Dimmer 3: Automatic mode – Activate | 1.001 | 1 bit | From KNX To KNX |
| GO 300 Dimmer 3: Autom. dimming abs. – Set value | 5.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 359 Dimmer 4: Automatic mode – Activate | 1.001 | 1 bit | From KNX To KNX |
| GO 360 Dimmer 4: Autom. dimming abs. – Set value | 5.001 | 1 byte | From KNX |

When using automatic mode, the dimmer can be controlled via object 180, 240, 300 or 360, e.g. for light control or daylight-dependent basic lighting.

In automatic mode, the dimmer can be manually overridden by dimming on/off, dimming rel., dimming value, scene, slumber function or sequencer. During manual override, values of object 180, 240, 300 or 360 are ignored, each further manual override restarts the fallback time.

After the fallback time set in the parameter has elapsed, the values received on object 180, 240, 300 or 360 are processed again.

The automatic mode can be switched on or off at any time via object 179, 239, 299 or 359; it also serves as a state object for automatic mode.



After bus power return, automatic mode is switched off and must be activated via object 179, 239, 299 or 359.

Time out for manual mode

(only with "Dimmer" function and active "Automatic mode")

This parameter defines the fallback time after manual mode. Times from 1 min to 24 h can be set. The setting "Without timelimit" means that there is no automatic fallback from manual mode.

Slumber function (only with "Dimmer" function)

The slumber function is only available in the "Dimmer" function. The slumber function offers 2 different dimming times each for switching on and off via object. If this function is activated, a new parameter page appears, which is explained in section "Dimmer 1 - 4: Slumber function".

Lock function

The disable function can be activated or deactivated here. This function is available in both functions "Dimmer" and "Staircase function". If this functionality is activated, a new parameter page appears for further configuration, which is explained in more detail in section "Dimmer 1 - 4: Lock function".

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6.5.2 Dimmer 1 – 4: Dimmer

Object Dimming on/off

| I.1.1 KNX IO 534 CV (4D) > Cha | nnel 1: Dimmer > Dimmer 1: Dimmer | |
|---------------------------------------|-----------------------------------------------------|------------------------------|
| Description | Object Dimming on/off | Oisabled O Enabled |
| General settings | Behavior on ON telegram (when dimmer is off) | Dimm to fix value |
| Logic / Timer | Behavior on ON telegram (when dimmer is on) | Dimm to fix value |
| - Channel 1: Dimmer | Dimming value on ON telegram | 100 - 9 |
| Dimmer 1: General | Fade time on ON telegram (related to 100%) | 00:00:00 hh:mm:ss |
| Dimmer 1: Dimmer | Behavior on OFF telegram | ○ No reaction |
| Dimmer 1: Dimming curve | Dimming value on OFF telegram | 0 * 9 |
| Dimmer 1: Sequencer | Behavior on 2nd OFF telegram | No reaction Switch off |
| - Channel 2: Dimmer | Fade time on OFF telegram (related to 100%) | 00:00:00 hh:mm:ss |
| Channel 3: Dimmer | Day/night switching | Switch on day/night telegram |
| Channel 4: Dimmer | Dimming value on ON telegram (night) | 50 \$ |
| | Dimming value on OFF telegram (night) | 0 * 9 |
| | Fade time for day/night switching (related to 100%) | 00:00:04 hh:mm:ss |
| | Object Dimming rel. | Disabled Enabled |
| | Object Dimming value | Disabled Enabled |
| | Object RGB value | Disabled Enabled |

The following objects are available for switching the dimmers if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|------------------------------------------|----------|-------|-----------|
| GO 171 Dimmer 1: Dimming on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 231 Dimmer 2: Dimming on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 291 Dimmer 3: Dimming on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 351 Dimmer 4: Dimming on/off – Switch | 1.001 | 1 bit | From KNX |

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Behavior on ON telegram (when dimmer is off)

If the dimmer is switched off, this parameter can be used to configure the behavior when switching on via object 171, 231, 291 or 351.

The choices are:

- No reaction
- Dimm to fix value
- Dimm to last value before switching off

Behavior on ON telegram (when dimmer is on)

If the dimmer is already switched on, this parameter can be used to configure the behavior in the event of a renewed ON telegram via object 171, 231, 291 or 351.

The choices are:

- No reaction
- Dimm to fix value
- Dimm to fix value if higher than actual

Dimming value on ON telegram

With suitable parameterisation, this value is activated with an ON telegram via object 171, 231, 291 or 351.

Fade time on ON telegram (related to 100%)

This dimming time is active when an ON telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Behavior on OFF telegram

This parameter describes the behavior of the dimmer in the event of an OFF telegram via object 171, 231, 291 or 351.

The choices are:

- No reaction
- Dimm to fix value

Dimming value on OFF telegram

With suitable parameterisation, this value is activated with an OFF telegram via object 171, 231, 291 or 351.



Behavior on 2nd OFF telegram

This parameter describes the behavior of the dimmer when a 2nd OFF telegram is received via object 171, 231, 291 or 351.

The choices are:

- No reaction
- Switch off

The 2nd OFF telegram must follow the 1st OFF telegram within 1 second in order to be evaluated. If the current dimming value is equal to or lower than the parameterised dimming value for the OFF telegram, switching off takes place with the 1st OFF telegram.

Fade time on OFF telegram (related to 100%)

This dimming time is active when an OFF telegram is received. The time period is related to a complete dimming process from 0 - 100 %.

Day/night switching

When using this function, the following objects are visible for switching from day/night mode:

| Group object | Type KNX | Size | Direction |
|-------------------------------------|----------|-------|-----------|
| GO 175 Dimmer 1: Day/Night – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 235 Dimmer 2: Day/Night – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 295 Dimmer 3: Day/Night – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 355 Dimmer 4: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram to object 175, 235, 295 or 355, night mode with an ON telegram. The device is in day mode after restart.



In addition, it can be determined when the dimming values become active after telegram via object 175, 235, 295 or 355 are available for selection:

- Disabled
- Switch on day/night telegram Immediately after day/night switching is received, dimming is set to the active dimming value in accordance with the last ON/OFF switching received via object 171, 231, 291 or 351.
- Switch on next on/off telegram
 The currently active dimming value is not used until the next ON/OFF switching via object 171, 231, 291 or 351.

There is a separate switch-on and switch-off value in the parameters for night mode, in day mode the always visible dimming values are used.

Dimming value on ON telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an ON telegram via object 171, 231, 291 or 351 and suitable parameterisation.

Dimming value on OFF telegram (night) (only with active day/night switching)

If the dimmer is in night mode, this value is activated with an OFF telegram via object 171, 231, 291 or 351 and suitable parameterisation.

Fade time for day/night switching (related to 100%)

(only with active day/night switching)

This dimming time is only active if switching is used with day/night switching. If switching is used with the next on/off telegram, the regular dimming time of the respective on or off telegram is active. The time period is related to a complete dimming process from 0 - 100 %.



Object Dimming rel.

| Description | Object Dimming on/off | Disabled | Enabled |
|-------------------------|-----------------------------------------------------------------|------------|-----------|
| General settings | Ohiot Dimerico al | O Nicelard | Frahlad |
| Logic / Timer | Object Dimming rel. Minimal dimming value while | O Disabled | Enabled |
| Channel 1: Dimmer | dimming with object | 0 | |
| | Maximal dimming value while dimming with object | 100 | |
| Dimmer 1: General | Fade time while dimming brighter | | |
| Dimmer 1: Dimmer | with object (related to 100%) | 00:00:04 | hh:mm:ss |
| Dimmer 1: Dimming curve | Fade time while dimming darker with object (related to 100%) | 00:00:04 | hh:mm:ss |
| Dimmer 1: Sequencer | | | |
| Channel 2: Dimmer | Object Dimming value | O Disabled |) Enabled |
| Channel 3: Dimmer | Object RGB value | O Disabled | Enabled |

The following objects are available for dimming via relative dimming commands if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------|----------|--------|-----------|
| GO 172 Dimmer 1: Dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 232 Dimmer 2: Dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 292 Dimmer 3: Dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 352 Dimmer 4: Dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |

Minimal dimming value while dimming with object

This parameter can be used to set which minimum dimming value can be reached via relative dimming. If the current dimming value is below the minimum value, the brightness cannot be reduced via object 172, 232, 292 or 352.

Maximal dimming value while dimming with object

This parameter can be used to set which maximum dimming value can be reached via relative dimming. If the current dimming value is above the maximum value, the brightness cannot be increased via object 172, 232, 292 or 352.

Fade time while dimming brighter with object (related to 100%)

This dimming time is active when the brightness is increased via relative dimming with object 172, 232, 292 or 352. The time period is related to a complete dimming process from 0 - 100 %.



Fade time while dimming darker with object (related to 100%)

This dimming time is active when the brightness is reduced via relative dimming with object 172, 232, 292 or 352. The time period is related to a complete dimming process from 0 - 100 %.

Object Dimming value

| 1.1. | .1 KNX IO 534 CV (4D) > Chani | nel 1: Dimmer > Dimmer 1: Dimmer | | | | | |
|------|-------------------------------|-------------------------------------------------------------------|------------|--------|----------|--------|---|
| | Description | Object Dimming on/off | O Disabled | 🔵 Enab | led | | |
| | General settings | Object Dimming rel. | Disabled | C Enab | led | | |
| | Logic / Timer | | Undered . | | | | |
| - | Channel 1: Dimmer | Object Dimming value | O Disabled | 🔘 Enab | led | | |
| | Dimmer 1: General | Minimal dimming value for changing dimming value by object | 10 | | | * | % |
| | Dimmer 1: Dimmer | Switch off dimmer with telegram value 0% | O Disabled | 🔘 Enab | led | | |
| | Dimmer 1: Dimming curve | Maximal dimming value for changing dimming value by object | 100 | | | ÷ T | % |
| | Dimmer 1: Sequencer | Fade time while dimming brighter with object (related to 100%) | 00:00:04 | | hh:mm:ss | | |
| + | Channel 2: Dimmer | Fade time while dimming darker with object (related to 100%) | 00:00:04 | | hh:mm:ss | | |
| + | Channel 3: Dimmer | | | | | | |
| + | Channel 4: Dimmer | Object RGB value | O Disabled | 🔵 Enab | led | | |

The following objects are used to control the dimmer via dimming value if they have been activated via parameters:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------|----------|--------|-----------|
| GO 173 Dimmer 1: Dimming abs. – Set value | 5.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 233 Dimmer 2: Dimming abs. – Set value | 5.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 293 Dimmer 3: Dimming abs. – Set value | 5.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 353 Dimmer 4: Dimming abs. – Set value | 5.001 | 1 byte | From KNX |

Minimal dimming value for changing dimming value by object

This parameter can be used to configure which minimum dimming value can be reached via object 173, 233, 293 or 353. If a value below the minimum value is received, the dimmer is controlled with the minimum value. If a value > 0 % is set here, the parameter **Switch off dimmer with telegram value 0%** is also visible.

Switch off dimmer with telegram value 0%

(only with "Minimal dimming value for changing dimming value by object" > 0 %)

Here you can select whether the dimmer is switched off when a dimming value of 0 % is received.



Maximal dimming value for changing dimming value by object

This parameter can be used to configure which maximum dimming value can be reached via object 173, 233, 293 or 353. If a value above the maximum value is received, the dimmer is controlled with the maximum value.

Fade time while dimming brighter with object (related to 100%)

This dimming time is active if the brightness is increased when values are received via object 173, 233, 293 or 353. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while dimming darker with object (related to 100%)

This dimming time is active if the brightness is reduced when values are received via object 173, 233, 293 or 353. The time period is related to a complete dimming process from 0 - 100 %.

Object RGB value

| 1.1.1 KNX IO 534 CV (4D) > Cha | annel 1: Dimmer > Dimmer 1: Dimmer | | | | |
|------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------|--------|--|--|
| Description | Object Dimming on/off | Disabled Enabled | | | |
| General settings | Object Dimming rel. | Disabled Enabled | | | |
| Logic / Timer | | | | | |
| - Channel 1: Dimmer | Object Dimming value | Disabled Enabled | | | |
| Dimmer 1: General | Object RGB value | Oisabled O Enabled | | | |
| Dimmer 1: Dimmer | RGB value usage | Use brightness (max. value of red, green, blue) | | | |
| Dimmer 1: Dimming curve Dimmer 1: Sequencer | Minimal value for changing color by object | 0 | ▲ ⊽ | | |
| Dininer I. sequencer | Maximal value for changing color by object | 255 | ⊥ ▼ | | |
| + Channel 2: Dimmer | Fade time while dimming brighter | 00.00.04 | | | |
| + Channel 3: Dimmer | with object (related to 100%) | 00:00:04 hh:mm:ss | | | |
| + Channel 4: Dimmer | Fade time while dimming darker with object (related to 100%) | 00:00:04 hh:mm:ss | | | |
| | | | | | |

To control the dimmer via RGB color value, the following objects are available if activated via parameters:

| Group object | Type KNX | Size | Direction |
|----------------------------------------------|----------|---------|-----------|
| GO 174 Dimmer 1: RGB color value – Set value | 232.600 | 3 bytes | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 234 Dimmer 2: RGB color value – Set value | 232.600 | 3 bytes | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 294 Dimmer 3: RGB color value – Set value | 232.600 | 3 bytes | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 354 Dimmer 4: RGB color value – Set value | 232.600 | 3 bytes | From KNX |

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RGB value usage

Here you can set how a received RGB color value is to be processed:

- Use red part The 1st byte of the RGB value (red) is used to control the brightness of the dimmer.
- Use green part The 2nd byte of the RGB value (green) is used to control the brightness of the dimmer.
- Use blue part
 The 3rd byte of the RGB value (blue) is used to control the brightness of the dimmer.
- Use white (min. value of red, green, blue)
 The smallest value of the 3 bytes is used to control the brightness of the dimmer.
- Use brightness (max. value of red, green, blue)
 The largest value of the 3 bytes is used to control the brightness of the dimmer.

Minimal value for changing color by object

This parameter can be used to configure which minimum dimming value can be set via object 174, 234, 294 or 354. If a value below the minimum value is received, the dimmer is controlled with the minimum value.

Maximal value for changing color by object

This parameter can be used to configure which maximum dimming value can be set via object 174, 234, 294 or 354. If a value above the maximum value is received, the dimmer is controlled with the maximum value.

Fade time while dimming brighter with object (related to 100%)

This dimming time is active if the brightness is increased when values are received via object 174, 234, 294 or 354. The time period is related to a complete dimming process from 0 - 100 %.

Fade time while dimming darker with object (related to 100%)

This dimming time is active if the brightness is reduced when values are received via object 174, 234, 294 or 354. The time period is related to a complete dimming process from 0 - 100 %.

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1.1.1 KNX IO 534 CV (4D) > Channel 1: Dimmer > Dimmer 1: Staircase function Dimming value on switching on staircase Description ÷ % 100 function (day) General settings Dimming value on switching on staircase \$ % 50 function (night) Logic / Timer Fade time for switching on 00:00:01 hh:mm:ss (related to 100%) Channel 1: Dimmer Delay time of staircase function 10 min -Reaction on ON telegram Switch on O Switch to switch-off delay Dimmer 1: General Dimmer 1: Staircase function Delay time retriggerable 🔵 Disabled 🔘 Enabled Dimmer 1: Dimming curve 30 s • Orientation light after delay time Dimmer 1: Sequencer ÷ Dimming value while orientation light 20 Fade time for orientation light 00:00:10 hh:mm:ss + Channel 2: Dimmer (related to 100%) Reaction on OFF telegram Ignore -Channel 3: Dimmer ÷ Dimming value on switching off staircase \$ % 0 + Channel 4: Dimmer function (day) Dimming value on switching off staircase ÷ % 10 function (night) Fade time for switching off 00:01:00 hh:mm:ss (related to 100%)

6.5.3 Dimmer 1 – 4: Staircase function

A staircase function with optional orientation light can be implemented via this parameter page. The staircase function can be overridden by the disable function. It has the following objects:

| Group object | Type KNX | Size | Direction |
|-----------------------------------------------|----------|-------|-----------|
| GO 171 Dimmer 1: Staircase function – Trigger | 1.010 | 1 bit | From KNX |
| GO 175 Dimmer 1: Day/Night – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 231 Dimmer 2: Staircase function – Trigger | 1.010 | 1 bit | From KNX |
| GO 235 Dimmer 2: Day/Night – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 291 Dimmer 3: Staircase function – Trigger | 1.010 | 1 bit | From KNX |
| GO 295 Dimmer 3: Day/Night – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 351 Dimmer 4: Staircase function – Trigger | 1.010 | 1 bit | From KNX |
| GO 355 Dimmer 4: Day/Night – Switch | 1.001 | 1 bit | From KNX |

Day mode is triggered with an OFF telegram to object 175, 235, 295 or 355, night mode with an ON telegram. The device is in day mode after restart.



Dimming value on switching on staircase function (day)

This value is used in day mode when the staircase function is switched on via an ON telegram to object 171, 231, 291 or 351.

Dimming value on switching on staircase function (night)

This value is used in night mode if the staircase function is switched on via an ON telegram to object 171, 231, 291 or 351.

Fade time for switching on (related to 100%)

This dimming time is active when the staircase function is switched on via an ON telegram to object 171, 231, 291 or 351. The time period is related to a complete dimming process from 0 - 100 %.

Delay time of staircase function

After the delay time has elapsed, the dimmer is dimmed to the switch-off or orientation light value, depending on the parameter setting.

Reaction on ON telegram

This parameter determines the behavior after switching on the staircase function via ON telegram to object 171, 231, 291 or 351: In the setting "Switch on", the channel remains switched on after ON telegram until the delay time is started via OFF telegram. In the "Switch to switch-off delay" setting, the channel goes immediately into the delay time after the ON telegram.

Delay time retriggerable

If it is set that the delay time is started with an ON telegram, this parameter determines whether only the 1st ON telegram to object 171, 231, 291 or 351 restarts the delay time, or also each subsequent ON telegram.

If it is set that the overshoot time is started with an OFF telegram, this parameter determines whether only the 1st OFF telegram to object 171, 231, 291 or 351 restarts the overshoot time, or also each further one if the staircase function is already in the overshoot time.



Orientation light after delay time

This parameter can be used to set whether the dimmer dims to the switch-off value or to the orientation light after the end of the delay time, as well as the duration of the orientation light.

To choose from:

- Disabled
- ∎ 1s
- 2 s
- ∎ 5s
- 10 s
- 30 s
- 1 min
- 2 min
- 5 min
- 10 min
- 20 min
- 30 min
- 1h
- 2 h
- Without timelimit

Dimming value while orientation light

This value is dimmed to at the end of the delay time if orientation light is used.

Fade time for orientation light (related to 100%)

This dimming time is active when the staircase function dims to orientation light. The time period is related to a complete dimming process from 0 - 100 %.

Reaction on OFF telegram

Here you can set how the staircase function behaves in the event of an Off telegram. The following options are available:

Ignore

No reaction of the channel in case of off telegram.

- Switch off
 Switches to switch-off value from the parameters.
- Switch to switch-off delay
 The delay time is started with an OFF telegram.
- Switch to orientation light The orientation light phase is started with an OFF telegram.
- Switch to orientation light/switch off
 With the 1st OFF telegram the orientation light phase is started, with the 2nd OFF telegram it is dimmed to the switch-off value.

Dimming value on switching off staircase function (day)

This value is dimmed in day mode if the staircase function is switched off after the delay time or via an OFF telegram to object 171, 231, 291 or 351.



Dimming value on switching off staircase function (night)

This value is dimmed in night mode if the staircase function is switched off after the delay time or via an OFF telegram to object 171, 231, 291 or 351.

Fade time for switching off (related to 100%)

This dimming time is active when the staircase function dims to the OFF value. The time period is related to a complete dimming process from 0 - 100 %.

6.5.4 Dimmer 1 – 4: Dimming curve

| Description | Dimming curve | Linear | |
|-------------------------|------------------------|--------|---|
| General settings | Dimming output at 0% | 0 | |
| | Dimming output at 10% | 10 | |
| Logic / Timer | Dimming output at 20% | 20 | |
| Channel 1: Dimmer | Dimming output at 30% | 30 | |
| channel I. Dimmer | Dimming output at 40% | 40 | |
| Dimmer 1: General | Dimming output at 50% | 50 | |
| Dimmer 1: Dimmer | Dimming output at 60% | 60 | |
| | Dimming output at 70% | 70 | |
| Dimmer 1: Dimming curve | Dimming output at 80% | 80 | |
| Dimmer 1: Sequencer | Dimming output at 90% | 90 | |
| Channel 2: Dimmer | Dimming output at 100% | 100 | |
| channel 2. Diminer | Adjustment of channel | 100 | ÷ |
| Channel 3: Dimmer | | | |
| Channel 4: Dimmer | | | |

This parameter page is used for fine adjustment of the dimmer to different lamps.

output state value.

All parameters on this page only affect the PWM value of the output, not the dimming or

Dimming curve

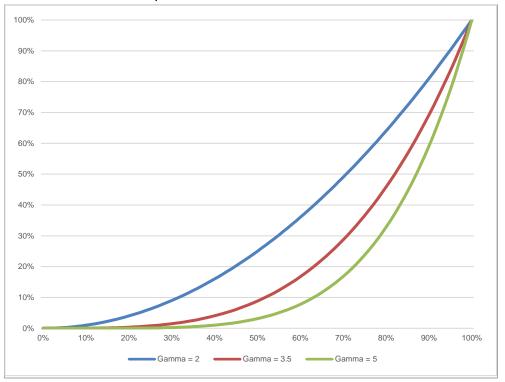
Here you can define which PWM value is output by the dimming output when the dimming channel has reached a certain dimming value. The following are available for selection:

- Linear
- Logarithmic
- User defined



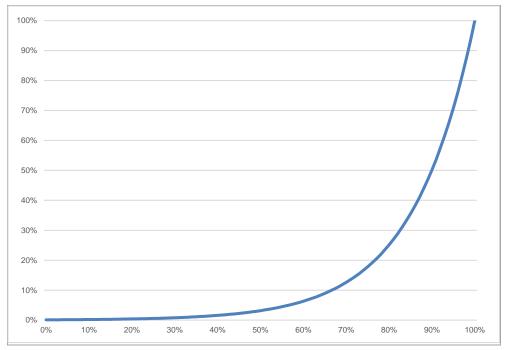
Gamma

Gamma correction according to the formula: PWM value = Dimming value ^{gamma} Gamma can be set via parameter from 1.00 ... 5.00.



DALI

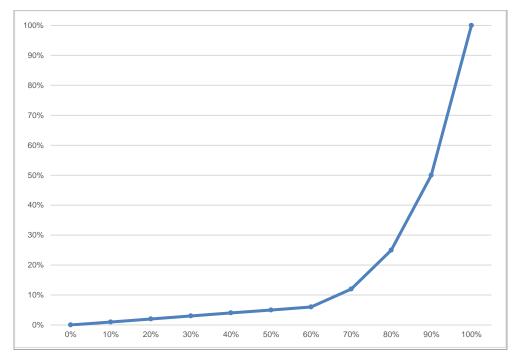
An DALI based function with the formula: $PWM value = 10^{3 - (Dimming value - 1)}$





Dimming output at 0% – 100%

For the dimming curves "Linear", "Logarithmic" and "User defined", these values determine the PWM value of the dimming output at the specified dimming value. Values between the specified points are calculated and output linearly. As an example, the dimming output behaves according to the following graph for dimming curve "Logarithmic":



For the dimming curves "Linear" and "Logarithmic" the output values are fixed, for "User defined" they can be freely configured.



If a dimming value of 0 % is reached, the channel always switches off.

Adjustment of channel

The PWM value calculated by the dimming curve is additionally scaled with this value.

| Descriptio | on | Fade time on activation of scene (related to 100%) | 00:00:04 | hh:mm:ss | |
|------------|-------------------|----------------------------------------------------|---------------|----------|--------|
| General s | ettings | Scene 1 | Dimming value | | • |
| Logic / Ti | mer | Number | 1 | | ; |
| Channel 1 | l: Dimmer | Dimming value | 10 | | * * |
| | | Scene 2 | Learnable | | |
| Dimmer | 1: General | Number | 2 | | ; |
| Dimmer | 1: Dimmer | Scene 3 | Dimming value | | |
| Dimmer | 1: Dimming curve | Number | 3 | | |
| Dimmer | 1: Scene function | Dimming value | 30 | | * |
| Dimmer | 1: Sequencer | Scene 4 | Learnable | | |
| Channel 2 | 2: Dimmer | Number | 4 | | |
| Channel 3 | 3: Dimmer | Scene 5 | No reaction | | |
| | | Scene 6 | No reaction | | |
| Channel 4 | 4: Dimmer | Scene 7 | No reaction | | |
| | | Scene 8 | No reaction | | |
| | | Scene 9 | No reaction | | |
| | | Scene 10 | No reaction | | |
| | | Scene 11 | No reaction | | |
| | | Scene 12 | No reaction | | |
| | | Scene 13 | No reaction | | |
| | | Scene 14 | No reaction | | |
| | | Scene 15 | No reaction | | |

6.5.5 Dimmer 1 – 4: Scene function

If the scene function is activated, the following group objects appear:

| Group object | Type KNX | Size | Direction |
|--------------------------------------|----------|--------|-----------|
| GO 178 Dimmer 1: Scene – Activ./Lrn. | 18.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 238 Dimmer 2: Scene – Activ./Lrn. | 18.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 298 Dimmer 3: Scene – Activ./Lrn. | 18.001 | 1 byte | From KNX |
| | | | |
| Group object | | Sizo | Direction |

| Group object | Type KNX | Size | Direction |
|--------------------------------------|----------|--------|-----------|
| GO 358 Dimmer 4: Scene – Activ./Lrn. | 18.001 | 1 byte | From KNX |

Fade time on activation of scene (related to 100%)

The time period in which the received scene is dimmed is set here. The time period is related to a complete dimming process from 0 - 100 %.



Scene 1 – 16

These parameters can be used to configure the reaction of the channel when the respective scene is received.

The choices are:

- No reaction
- Dimming value

The output is switched to the set dimming value if the scene of the corresponding number was received.

Learnable

Here, the current state at the output for the respective scene can be saved with the help of a scene control telegram. Thus, the scene can be adapted by the user without ETS download.

Number

This parameter can be used to assign any scene number between 1 and 64 to the scene. No scene numbers may be assigned twice.

6.5.6 Dimmer 1 – 4: Slumber function

| Description | Target value while switching on slumber function | 100 | | |
|---------------------------------------|--------------------------------------------------------------------|----------|----------|--------|
| General settings | Target value while switching off slumber function | 0 | | * * |
| Logic / Timer | Fade time on 1. ON telegram (1. button press, related to 100%) | 01:00:00 | hh:mm:ss | |
| Channel 1: Dimmer | Fade time on 2. ON telegram (2. button press, related to 100%) | 00:00:01 | hh:mm:ss | |
| Dimmer 1: General Dimmer 1: Dimmer | Fade time on 1. OFF telegram (1. button press, related to 100%) | 01:00:00 | hh:mm:ss | |
| Dimmer 1: Dimmer | Fade time on 2. OFF telegram (2. button press, related to 100%) | 00:00:01 | hh:mm:ss | |
| Dimmer 1: Slumber function | | | | |
| Dimmer 1: Sequencer | | | | |
| Channel 2: Dimmer | | | | |
| Channel 3: Dimmer | | | | |
| Channel 4: Dimmer | | | | |

If the slumber function is selected, the following objects are visible:

| Group object | Type KNX | Size | Direction |
|---------------------------------------------|----------|-------|-----------|
| GO 181 Dimmer 1: Slumber function – Trigger | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 241 Dimmer 2: Slumber function – Trigger | 1.001 | 1 bit | From KNX |



| Group object | Type KNX | Size | Direction |
|---------------------------------------------|----------|-------|-----------|
| GO 301 Dimmer 3: Slumber function – Trigger | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 361 Dimmer 4: Slumber function – Trigger | 1.001 | 1 bit | From KNX |

Target value while switching on slumber function

This value is reached after receipt of an ON telegram via object 181, 241, 301 or 361 at the output of the dimmer after completion of the dimming process.

Target value while switching off slumber function

This value is reached after receipt of an OFF telegram via object 181, 241, 301 or 361 at the output of the dimmer after completion of the dimming process.

Fade time on 1. ON telegram (1. button press, related to 100%)

This dimming time is used to dim to the final value for switching on after pressing the 1st button. The time period is related to a complete dimming process from 0 - 100 %.

Fade time on 2. ON telegram (2. button press, related to 100%)

This dimming time is used to dim to the final value for switching on after the 2nd button is pressed. The time period is related to a complete dimming process from 0 - 100 %.

Fade time on 1. OFF telegram (1. button press, related to 100%)

This dimming time is used to dim to the final value for switching off after the 1st key is pressed. The time period is related to a complete dimming process from 0 - 100 %.

Fade time on 2. OFF telegram (2. button press, related to 100%)

This dimming time is used to dim to the final value for switching off after the 2nd button is pressed. The time period is related to a complete dimming process from 0 - 100 %.



6.5.7 Dimmer 1 – 4: Lock function

| 1.1.1 | KNX IO 534 CV (4D) > Chanr | nel 1: Dimmer > Dimmer 1: Lock functio | on |
|-------|----------------------------|----------------------------------------|---------------------------------------|
| | Description | Polarity of object | O Lock active on 1 C Lock active on 0 |
| | General settings | Behavior on start | ○ No reaction |
| | Logic / Timer | Dimming value | 0 * % |
| | | Behavior at end | Dimm to value 🔹 |
| - | Channel 1: Dimmer | Dimming value | 0 * % |
| Ť | Dimmer 1: General | - | |
| | Dimmer 1: Dimmer | | |
| | Dimmer 1: Dimming curve | | |
| | Dimmer 1: Lock function | | |
| | Dimmer 1: Sequencer | | |
| + | Channel 2: Dimmer | | |
| + | Channel 3: Dimmer | | |
| + | Channel 4: Dimmer | | |

If the lock function is activated, the following objects are active:

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------------|----------|--------|-----------|
| GO 182 Dimmer 1: Lock – Activate | 1.001 | 1 bit | From KNX |
| GO 183 Dimmer 1: Prior. dimming on/off – Switch | 1.001 | 1 bit | From KNX |
| GO 184 Dimmer 1: Prior. dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| GO 185 Dimmer 1: Prior. dimming abs. – Set value | 5.001 | 1 byte | From KNX |

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------------|----------|--------|-----------|
| GO 242 Dimmer 2: Lock – Activate | 1.001 | 1 bit | From KNX |
| GO 243 Dimmer 2: Prior. dimming on/off – Switch | 1.001 | 1 bit | From KNX |
| GO 244 Dimmer 2: Prior. dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| GO 245 Dimmer 2: Prior. dimming abs. – Set value | 5.001 | 1 byte | From KNX |

| Group object | Type KNX | Size | Direction |
|--------------------------------------------------------|----------|--------|-----------|
| GO 302 Dimmer 3: Lock – Enable | 1.001 | 1 bit | From KNX |
| GO 303 Dimmer 3: Prior. dimming on/off – Switch | 1.001 | 1 bit | From KNX |
| GO 304 Dimmer 3: Prior. dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| GO 305 Dimmer 3: Prior. dimming abs. – Set value | 5.001 | 1 byte | From KNX |



| Group object | Type KNX | Size | Direction |
|--------------------------------------------------------|----------|--------|-----------|
| GO 362 Dimmer 4: Lock – Activate | 1.001 | 1 bit | From KNX |
| GO 363 Dimmer 4: Prior. dimming on/off – Switch | 1.001 | 1 bit | From KNX |
| GO 364 Dimmer 4: Prior. dimming rel. – Brighter/Darker | 3.007 | 4 bits | From KNX |
| GO 365 Dimmer 4: Prior. dimming abs. – Set value | 5.001 | 1 byte | From KNX |

If the lock has been activated via group object 182, 242, 302 or 362, other received telegrams for dimmer, automatic mode, slumber, scene function and sequencer are not executed.

In addition to the disable object, 3 priority objects become visible when the disable function is activated, with which the dimmer can be controlled independently of the disable. In this way, it is possible to set an initial state without influencing other functions.

Example of priority objects:

At events in public buildings or in restaurants, the buttons can be disabled after regular operation by means of the disable object. This makes it possible to block buttons that are accessible to unauthorised persons during the lecture or concert in order to prevent unintentional switching. Nevertheless, the organiser can, if necessary, control the individual lamps with the help of the priority object without lifting the lock.

Polarity of object

The object's mode of action can be used to set how the lock is to be activated – either by receiving a 1 or by receiving a 0.

The choices are:

- Lock active on 1
- Lock active on 0

Behavior on start

Here you can configure the state that is set when the lock is activated at the output.

The choices are:

- No reaction
- Dimm to value

The state of the output can be further changed by the priority objects.



Behavior at end

Here you can configure the state that is set when the lock is deactivated at the output.

The choices are:

- No reaction
- Dimm to value
- State before lock Here the original state before activation of the lock is restored. Telegrams received during the lock are ignored.
- State without lock

Here the state of the last received telegram is restored. This means that the received telegrams are taken into account during the lock. Thus, when the lock is deactivated, the state of the last received telegram is set.

6.5.8 Dimmer 1 – 4: Sequencer

| Description | Steps of sequencer | 3 | ÷ |
|-------------------------|---------------------------------------|-----------------------------------|---------|
| General settings | Resume sequence after man. operation | After off-time | • |
| Logic / Timer | Off-time | 00:30:00 hh:mm:ss | |
| Channel 1: Dimmer | Step after man. operation | Active step | • |
| channer i Diminier | Polartity of object "Sequence on/off" | Switch on with 0 Switch on with 1 | |
| Dimmer 1: General | Behavior on switching on | Step 1 | • |
| Dimmer 1: Dimmer | Behavior on switching off | Complete actual step | • |
| Dimmer 1: Dimming curve | | | |
| Dimmer 1: Sequencer | Step 1: | Step 1 | |
| Channel 2: Dimmer | Start by time | Disabled Start by time of day | |
| | Start by ON/OFF telegram | Disabled Enabled | |
| Channel 3: Dimmer | Start by scene number | Disabled Enabled | |
| Channel 4: Dimmer | Action | Brightness | • |
| | Brightness | 100 | ÷. T |
| | Fade time | 00:00:00 hh:mm:ss | |
| | Step 2: | Step 2 | |
| | Start by time | Start after last trigger | |
| | Start time | 00:00:01 hh:mm:ss | |
| | Start by ON/OFF telegram | Disabled Enabled | |
| | Start by scene number | Disabled Enabled | |
| | Action | Brightness | • |
| | Brightness | 10 | * |
| | Fade time | 00:00:00 hh:mm:ss | |
| | Step 3: | Step 3 | |
| | Start by time | Start after last trigger | |
| | Start time | 00:00:01 hh:mm:ss | |
| | Start by ON/OFF telegram | Disabled Enabled | |
| | Start by scene number | Disabled Enabled | |
| | Action | Start loop | |
| | Start loop at | Step 1 Step 2 | |
| | Limitation of loops | Unlimited Limited | |

The sequencer can be used to create complex sequence programs consisting of up to 32 individual steps for the dimmer channel. The activation of the individual steps is possible at the following start conditions:

- At a fixed time
- After a waiting time to a previous step
- Via on/off telegram
- On receipt of a parameterized scene number

When a step is activated, a value can be dimmed or a scene number can be sent. In addition, a step or an entire step sequence can be repeated cyclically.

The following objects are available for general control of the sequencer:

| Group object | Type KNX | Size | Direction |
|----------------------------------------------------|----------|-------|-----------|
| GO 193 Dimmer 1: Sequence suspend – Suspend/Resume | 1.001 | 1 bit | From KNX |
| GO 194 Dimmer 1: Sequence on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 253 Dimmer 2: Sequence suspend – Suspend/Resume | 1.001 | 1 bit | From KNX |
| GO 254 Dimmer 2: Sequence on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 313 Dimmer 3: Sequence suspend – Suspend/Resume | 1.001 | 1 bit | From KNX |
| GO 314 Dimmer 3: Sequence on/off – Switch | 1.001 | 1 bit | From KNX |

| Group object | Type KNX | Size | Direction |
|----------------------------------------------------|----------|-------|-----------|
| GO 373 Dimmer 4: Sequence suspend – Suspend/Resume | 1.001 | 1 bit | From KNX |
| GO 374 Dimmer 4: Sequence on/off – Switch | 1.001 | 1 bit | From KNX |



Polarity of objects 193, 253, 313 and 373: 1 =Suspend / 0 =Resume

The following parameters determine the general behavior of the sequencer:

Steps of sequencer

Number of steps (0 ... 32) to be used.

Resume sequence after man. operation

A sequence that is switched on can always be interrupted or continued via object 193, 253, 313 or 373; an ON telegram interrupts the sequence, an OFF telegram continues it.

A sequence is also interrupted after manual operation, i.e. after commands for dimmer, automatic mode, slumber or scene function.



In addition, this parameter determines how an interrupted sequence can still be continued, is available for selection:

- Only by object
 The sequence can only be continued via object 193, 253, 313 or 373.
- After off-time The sequence is continued after the set blocking time.
- On next activated step The sequence is continued at the next activated step. The next step can be activated via object or time-controlled.

Off-time

Only visible if the sequence is to be continued after off-time, this blocking time can be configured with this.

Step after man. operation

This step is executed when resuming after manual operation, the function of the set step is always executed, regardless of its other set start conditions.

Polarity of object "Sequence on/off"

This parameter can be used to set which telegram value can be used to switch the sequence on and off via object 194, 254, 314 or 374. If the sequence is switched off, any further activation of a step is blocked.

Behavior on switching on

This determines how the sequencer behaves when switched on via object 194, 254, 314 or 374 is available for selection:

- No reaction
 No function is executed, the sequencer is waiting for steps to be activated.
- Step 1 32

The function of the step is executed (regardless of the other set start conditions of the step), the sequence is then continued according to its configuration from this step.

Switching on also reactivates a sequence interrupted by manual operation.



Behavior on switching off

This determines how the sequencer behaves when switched off via object 194, 254, 314 or 374 is available for selection:

- Complete actual step If the sequencer is in a dimming process, this is still being completed.
- Step 1 32

The function of the step is executed (regardless of the other start conditions set for the step).

 Stop immediately If the sequencer is in a dimming process, this is stopped.

Apart from the set behavior at power off, any further activation of a step after power off is disabled until the sequencer is switched on again via object 194, 254, 314 or 374.

| Step | 1 | - | 32 |
|------|---|---|----|
|------|---|---|----|

| Step 2: | Step 2 | |
|--------------------------|--------------------------|----------|
| Start by time | Start after last trigger | • |
| Start time | 00:00:01 | hh:mm:ss |
| Start by ON/OFF telegram | 🔵 Disabled 🔘 Enab | led |
| Start by scene number | 🔵 Disabled 🔘 Enab | led |
| Start scene | 2 | ▲ ▼ |
| Action | Brightness | • |
| Brightness | 10 | ÷ % |
| Fade time | 00:00:00 | hh:mm:ss |

When a step is activated, its parameters appear for configuration.

You can enter your own name for the step in the text field at the top right with the content "Step x". This designation is used for better orientation of the user and has no influence on the functionality of the step.



Start by time

This parameter is used to configure a time start condition of the step, available for selection:

- Disabled Start condition not used.
- Start by time of day

The time at which the step is to start can be entered here. When using this start condition, the current time must have been received via the following object:

| Group object | Type KNX | Size | Direction |
|------------------------|----------|---------|-----------|
| GO 5 Time of Day – Set | 10.001 | 3 bytes | From KNX |



If no valid time has been specified via object 5, all start conditions at fixed times are not active.



The time is continuously updated by the device through its internal timer, but due to component tolerances there is always a deviation from the actual time. Therefore, the current time should be sent to the device at least twice a day by a precise timer in order to keep the deviation as small as possible.

Start after last trigger

Here you can specify the time interval to wait after the previous activation before executing the step. This start condition is not available for step 1.

Start time

Here either the time or the waiting time can be specified for the execution of the current step, if a timed start condition is used.

Start by ON/OFF telegram

When using this start condition, a separate object is available for each step:

| Group object | Type KNX | Size | Direction |
|----------------------------------------------------------------|----------|-------|-----------|
| GO 195 – 226 Dimmer 1: Sequence Step 1 – 32 on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 255 – 286 Dimmer 2: Sequence Step 1 – 32 on/off – Switch | 1.001 | 1 bit | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 315 – 346 Dimmer 3: Sequence Step 1 – 32 on/off – Switch | 1.001 | 1 bit | From KNX |



| Group object | Type KNX | Size | Direction |
|----------------------------------------------------------------|----------|-------|-----------|
| GO 375 – 406 Dimmer 4: Sequence Step 1 – 32 on/off – Switch | 1.001 | 1 bit | From KNX |

An ON telegram to one of these objects activates the respective step, the sequence is then continued from this step according to its configuration.

An Off telegram also activates this step, but resets the sequence at the same time.

Start by scene number

When this start condition is used, the following object becomes visible:

| Group object | Type KNX | Size | Direction |
|-------------------------------------------------|----------|--------|-----------|
| GO 191 Dimmer 1: Sequence scene – Activate step | 18.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 251 Dimmer 2: Sequence scene – Activate step | 18.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 311 Dimmer 3: Sequence scene – Activate step | 18.001 | 1 byte | From KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 371 Dimmer 4: Sequence scene – Activate step | 18.001 | 1 byte | From KNX |

A telegram with the set scene to one of these objects activates the respective step, the sequence is then continued according to its configuration from this step.

All steps with this start condition are controlled via this object.

Action

When the step is activated, the configured function is executed:

None

No function is executed. This can be used, for example, to implement a switch-on delay of a sequence.

Start loop

The sequence is continued at the selected step. Parameters for the start step of the loop and number of loops become visible.



Send scene number

When using this function, the following objects become visible:

| Group object | Type KNX | Size | Direction |
|----------------------------------------------|----------|--------|-----------|
| GO 192 Dimmer 1: Sequence scene – Send scene | 18.001 | 1 byte | To KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 252 Dimmer 2: Sequence scene – Send scene | 18.001 | 1 byte | To KNX |
| | | | |
| Group object | Type KNX | Size | Direction |
| GO 312 Dimmer 3: Sequence scene – Send scene | 18.001 | 1 byte | To KNX |
| | | | |

| Group object | Type KNX | Size | Direction |
|----------------------------------------------|----------|--------|-----------|
| GO 372 Dimmer 4: Sequence scene – Send scene | 18.001 | 1 byte | To KNX |

A parameter for the sent scene number becomes visible; when the step is activated, this scene number is sent via the respective object.

All steps send the scene number via one of these objects if this function is used for the respective step.

Brightness

Parameters for brightness and fade time become visible. When the step is activated, the dimmer dims from the current value to the specified brightness with the parameterized fade time. This time is related to a complete dimming process from 0 - 100 %.



The fade time must be shorter than or equal to the **start time** or waiting time of the next step in order to achieve the set brightness.



6.6 Logic / Timing

| 1.1.1 KNX IO 534 CV (4D) > | Logic / Timer | | |
|----------------------------|---------------|----------|---|
| Description | Function 1 | Timer | • |
| General settings | Function 2 | Timer | • |
| Logic / Timer | Function 3 | Logic | • |
| | Function 4 | Logic | - |
| + RGB | Function 5 | Disabled | • |
| + Channel 4: Dimmer | Function 6 | Disabled | - |
| + Function 1 | Function 7 | Disabled | • |
| | Function 8 | Disabled | - |
| + Function 2 | Function 9 | Disabled | • |
| + Function 3 | Function 10 | Disabled | • |
| + Function 4 | Function 11 | Disabled | • |
| | Function 12 | Disabled | • |
| | Function 13 | Disabled | • |
| | Function 14 | Disabled | • |
| | Function 15 | Disabled | • |
| | Function 16 | Disabled | • |

Function 1 – 16

These parameters contain the functions timer and logic, whereby all 16 functions are identical.

The following options are available:

Disabled

No parameters and group objects for timer and logic.

Timer

Parameters and group objects for timer are available.

 Logic Parameters and group objects for logic are available.



The functions for timer and logic can be linked to one another by means of the associated group objects. This also allows to create complex structures. For this purpose, the output of a function is set to the same group address as the input of the next function.

6.6.1 Function 1 – 16: Timer

| 1.1.1 KNX IO 534 CV (4D) > Function 1 > Function 1: Timer | | | | | |
|-----------------------------------------------------------|-------------------|----------------|-----------------------|--|--|
| | Description | Function name | | | |
| | General settings | Timer type | Switch-on delay 💌 | | |
| | Logic / Timer | Delay time [s] | 60 + | | |
| + | RGB | Output | Not inverted Inverted | | |
| + | Channel 4: Dimmer | | | | |
| - | Function 1 | | | | |
| | Function 1: Timer | | | | |
| + | Function 2 | | | | |
| + | Function 3 | | | | |
| + | Function 4 | | | | |

Function name (10 characters)

The function name can be chosen freely.

The name is visible in the group object entry in the ETS software. This makes it easier to work with the associated group objects, because the given name is displayed there as a label.



Timer type

Here the type of the timer can be set:

Switch-on delay

The ON telegram (1) received on the input is delayed on the output.

Input: --1-----0-----

| Group object | Type KNX | Size | Direction |
|------------------------------------|----------|-------|-----------|
| Timer – Switch-on delayed – Input | 1.002 | 1 Bit | From KNX |
| Timer – Switch-on delayed – Output | 1.002 | 1 Bit | To KNX |

Switch-off delay

The OFF telegram (0) received on the input is delayed on the output.

Input: --1-----0-----Output: --1-----0---

| Group of | bject | Type KNX | Size | Direction |
|-----------|-----------------------------|----------|-------|-----------|
| Timer – S | Switch-off delayed – Input | 1.002 | 1 Bit | From KNX |
| Timer – S | Switch-off delayed – Output | 1.002 | 1 Bit | To KNX |

Switch-on and -off delay

The ON/OFF telegram (1/0) received on the input is delayed on the output.

Input: --1-----0-----

Output: -- | -T-1----- | -T-0--

| Group object | Type KNX | Size | Direction |
|----------------------------------------|----------|-------|-----------|
| Timer – Switch-on/off delayed – Input | 1.002 | 1 Bit | From KNX |
| Timer – Switch-on/off delayed – Output | 1.002 | 1 Bit | To KNX |

Impulse (staircase)

The ON telegram (1) received on the input is sent on the output. After a delay the output sends the OFF telegram (0).

Input: --1-----0-----

Output: --1-T-0-----

| Group object | Type KNX | Size | Direction |
|--------------------------------------|----------|-------|-----------|
| Timer – Impulse (staircase) – Input | 1.002 | 1 Bit | From KNX |
| Timer – Impulse (staircase) – Output | 1.002 | 1 Bit | To KNX |



Each timer can be stopped by sending the opposite value to its input group object. For example: An already started switch-on timer can be stopped by sending OFF (0) to its input group object.



Delay [s]

This parameter defines the delay when sending at the output.

Output

Via this parameter the sent value on the output can be inverted:

- Not inverted
- Inverted

6.6.2 Function 1 – 16: Logic

| 1.1. | 1.1.1 KNX IO 534 CV (4D) > Function 1 > Function 1: Logic | | | | | |
|------|-----------------------------------------------------------|---------------|----------|---|--|--|
| | Description | Function name | | | | |
| | General settings | Gate type | AND gate | • | | |
| | Logic / Timer | | | | | |
| + | RGB | | | | | |
| + | Channel 4: Dimmer | | | | | |
| - | Function 1 | | | | | |
| | Function 1: Logic | | | | | |
| + | Function 2 | | | | | |
| + | Function 3 | | | | | |
| + | Function 4 | | | | | |

Function name (10 characters)

The function name can be chosen freely.

The name is visible in the group object entry in the ETS software. This makes it easier to work with the associated group objects, because the given name is displayed there as a label.

Gate type

This parameter defines the type of the logic gate:

- And gate The output is triggered ON (1), if both inputs are switched ON (1).
- OR gate The output is triggered ON (1), if one or both inputs are switched ON (1).
- XOR gate The output is triggered ON (1), if the two inputs are not equal.
- NAND gate
 - The output is triggered ON (1), if one or both inputs are switched OFF (0).
- NOR gate

The output is triggered ON (1), if both inputs are switched OFF (0).

XNOR gate

The output is triggered ON (1), if both inputs are equal.

| Group object | Type KNX | Size | Direction |
|------------------------------|----------|-------|-----------|
| Logic – Gate input A – Input | 1.002 | 1 Bit | From KNX |
| Logic – Gate input B – Input | 1.002 | 1 Bit | From KNX |
| Logic – Gate output – Output | 1.002 | 1 Bit | To KNX |



The output transmits when a telegram is received on one of the inputs. A precondition for this is that both inputs are valid (have received at least one telegram). The output sends a 1 if the respective condition is fulfilled, otherwise a 0.

INVERTER

Input ON (1) is converted into output OFF (0). Input OFF (0) is converted into output ON (1).

| Group object | Type KNX | Size | Direction |
|------------------------------|----------|-------|-----------|
| Logic – Gate input – Input | 1.002 | 1 Bit | From KNX |
| Logic – Gate output – Output | 1.002 | 1 Bit | To KNX |



The output transmits when a telegram is received on the input.



WARNING

- The device must be mounted and commissioned by an authorized electrician.
- The prevailing safety rules must be heeded.
- The device must not be opened.
- For planning and construction of electric installations, the relevant guidelines, regulations and standards of the respective country are to be considered.
- The power rating is indicated on the side of the product



ETS6 Database www.weinzierl.de/en/products/534/ets6

Data sheet www.weinzierl.de/en/products/534/datasheet

CE Declaration www.weinzierl.de/en/products/534/ce-declaration

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