# **SIEMENS**

August 2012

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# Use of the application program

| Product family:<br>Product type:<br>Manufacturer: | Lighting<br>Dimmer<br>Siemens   |
|---|---|
| Name:   | Universal dimmer, 1 x 250VA,<br>AC 230V, with mounting bracket<br>UP 525/03       |
| Order no:   | 5WG1 525-2AB03  |
| Name:   | Universal dimmer, 1 x 250VA,<br>AC 230V, without mounting<br>bracket<br>UP 525/13 |
| Order no.:  | 5WG1 525-2AB13  |
| Product family:<br>Product type:<br>Manufacturer: | Room controller<br>Lighting<br>Siemens  |
| Name:   | Universal dimmer (module),<br>1 x 250VA, AC 230V<br>RS 525/23                     |
| Order no.:  | 5WG1 525-2AB23  |
|   |   |

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# 1. Functional description

The application program "07 B0 A1 Universal dimmer 982C01" can be used for the KNX devices listed above. These devices are briefly described in the next sections.

The UP 525/03 Universal Dimmer with mounting frame is a KNX device with one dimmer output and a Bus Transceiver Interface (BTI). The device is installed in a flushmount wall box (60 mm $\emptyset$ , depth 60 mm). The bus is connected via a bus terminal block. The actuator electronics are supplied via the bus voltage.

DELTA bus wall switches or other application units (bus device) with BTI interface are plugged onto the BTI interface of the actuator. Any bus device, which can be slipped onto a bus coupling unit (BTM) UP 117, may be slipped onto this actuator.

The UP 525/13 Universal Dimmer is a KNX device with one dimmer output. The device is installed in a flush-mount wall box (60 mm Ø, depth 60 mm) or an installation box. The bus is connected via a bus terminal block. The actuator electronics are supplied via the bus voltage.

The RS 525/23 Universal Dimmer is a KNX device with one dimmer output. The device is installed in an AP 118 Control Module Box or an AP 641 Room Control Box. The bus is connected via a bus terminal block. The actuator electronics are supplied via the bus voltage.

These devices share the following features.

The device can switch and dim resistive loads (e.g. incandescent lamps, high voltage halogen lamps), capacitive loads (e.g. low voltage halogen lamps with intermediate electronic transformers), or inductive loads (e.g. low voltage halogen lamps with intermediate conventional transformers).

The actuator output may be set to one of the following operating modes:

- Normal mode
- 1-level time switch mode
- 2-level time switch mode
- Flashing

Dependent on the selected operating mode, objects for the functions switching, dimming brighter / darker and dimming value are available for the actuator output.

Furthermore, if required, time-limited switching instead of permanent switching on can be enabled for each channel via an optional "Night mode" object (e.g. for lighting while cleaning), if need be with a warning before switching off by multiple switching the output on and off (flashing).

Dependent on the configuration, additional objects are available for the output channel for the functions locking and status request.

The following schema shows the named features in a logical overview.



Schematic design of a dimming actuator channel

The application program includes optional a switching cycle and operating hours count with threshold monitoring for each output and an integrated 8-bit scene control, in which each output can be incorporated into up to 8 scenes.

# Switching on / off

When a switching "ON" telegram is received, a parameter determines if the output channel is set to a preset dimming value, the dimming value on switching off or the last received dimming value. Switching "OFF" telegrams always result in switching the channel off. A parameter determines whether the output channel jumps to the preset switching on value respectively to the off value 0% or in what time it will be dimmed to the relevant value.

#### Dimming brighter / darker

The dimming time from 0% to 100% is set via a parameter. On receiving a start dimming command the actuator channel changes the brightness in the desired direction with the speed configured for dimming brighter/darker. If a stop command is received before the dimming action is completed, then dimming is stopped and the dimming value reached is maintained. Another parameter determines if the output can be switched on or off via dimming brighter / darker.

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# Dimming value (8 bit)

Via the object "A, Dimming value" the channel output can be set to the received dimming value. It is configurable, whether the channel output jumps to the dimming value respectively in what time it will be dimmed to the relevant value. Another parameter determines if and under which conditions the output can be switched on or off via dimming value.

#### Status Switching (1 bit)

A parameter in the parameter window "Functions, Objects" determines if an object is available for the channel to read the current switching status of the channel and/or automatically send the status on change of value.

# Status dimming value (8 bit)

A parameter in the parameter window "Functions, Objects" determines if an object is available for the channel to read the current dimming value of the channel and/or automatically send the dimming value on change of value. To limit the number of telegrams generated by dimming brighter/darker, the period between two dimming value status telegrams can be set via the parameter "Delay status objects".

#### Minimum dimming value

A minimum dimming value can be configured. When dimming darker the channel can only be dimmed to the configured minimum value. Further dimming darker only results in turning the channel off if this is enabled via the configuration.

If a dimming value lower than the minimum dimming value is received, the channel is only dimmed darker to the minimum dimming value. If the value "0" is received, the lighting is turned off, if this is enabled by the configuration.

#### Maximum dimming value

The configurable maximum dimming value for the channel can be used to limit the dimming range, The maximum dimming value cannot be exceeded by dimming brighter or by a received dimming value that is higher than the maximum value.

#### Night mode (time-limited lighting for cleaning)

Night mode can be enabled respectively disabled via an optionally selectable object (1 bit). If night mode is enabled for the channel then the channel can only be switched on for a limited time (time-limited lighting for cleaning). If night mode is enabled while the channel is on, then the dimming value of the channel is set to the maximum dimming value. If night mode is disabled while the channel is on, then the dimming value of the channel is left unchanged. The timer period for night mode is configured via a parameter.

# Warning before switch-off

The parameter with the same name in the parameter window "Functions, Objects" determines whether the channel, when operating in night mode or 1-level time switch mode, shall signal an imminent automatic switching off about 30 seconds before timeout of the configured "on" period by reducing the brightness (dimming to 50% of the current value). This is to warn the room user and allow him to operate the light switch and thus extend the "on" period by the configured value before the lighting is turned off and leaves him in the dark.

# 8-bit scene control

The parameter with the same name in the parameter window "Functions, Objects" determines whether the 8bit scene control in the actuator is enabled for the channel. If it is enabled, a communication object "8-bit scene" and a parameter window "8-bit scenes" are added. Via the parameter window "8-bit scenes" the channel can be incorporated individually in up to 8 scenes.

#### Protection against over-load / short-circuit

After about 5 seconds in an over-load condition the universal dimmer turns itself off permanently. At the earliest 2 minutes after an over-load or short-circuit tripping the dimmer may be turned on again. First send an "off" or a "dimming value =0" command to turn the device off and then turn it on again by sending an "on" or a "dimming value > 0" command.

In a short-circuit condition the dimmer turns the load off for 3 seconds and automatically tries to switch the output on to the currently set dimming value once within 1 minute. If the short-circuit condition still persists the output is turned off permanently.

Turn the output on again by following the instructions for a permanently turned off output in an over-load condition.

#### Protection against over-temperature

In case the maximum permissible temperature is exceeded the dimmer dims down to the minimal dimming value. If after 2 minutes the dimmer has cooled down sufficiently, it automatically dims back to the currently set dimming value. If after 2 minutes the maximum permissible over-temperature is still exceeded, the output is turned off permanently.

Turn the output on again by following the instructions for a permanently turned off output in an over-load condition.

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# Immunity to ripple control signals and electrical grid frequency fluctuations

In the ex-factory settings the influence of ripple control signals is compensated to reduce flickering of the lamp. This measure increases the influence of electrical grid frequency fluctuations on the brightness of the lamp. A mostly undisturbed operation for an electrical system without a synchronous connection to the electrical grid can be achieved when the ripple control compensation is disabled via the associated parameter. The dimmer becomes less sensible to frequency fluctuations in the electrical system. Yet, ripple control signals will lead to an in-

# Behavior on bus voltage failure / recovery

On bus voltage failure the current switching status and dimming values are saved for restoration on bus voltage recovery.

On bus voltage recovery the configured actions are executed and, if applicable, new status values are reported.

#### **Building site function**

creased flickering of the load.

The building site function provided ex-factory enables switching the building site lighting on and off via bus wall switches and actuators, even if these devices have not yet been commissioned with ETS.

#### Behavior on unloading the application program

When the application program is unloaded with ETS the device does not function.

# Resetting the device to ex-factory settings

When the programming button is pressed for more than 20 seconds the device is reset to the ex-factory settings. All configuration settings are lost. The building site function is re-activated.

# 2. Communication objects

Maximum number of group addresses:120Maximum number of assignments:120

#### Note

The number and names of communication objects visible can vary depending on the parameter settings.

The application program already has been loaded in the factory.

The device is configured and commissioned with Engineering Tool Software (ETS) version ETS v3.0f or higher. With the ETS (Engineering Tool Software) the specific parameters and addresses are assigned appropriately, and downloaded into the device.

The following list shows all objects of the device. Which objects are visible and linkable to group addresses is defined via the functions assigned to the inputs. The objects and associated parameter settings are described with the functions.

| Nr. | Object name                             | Function          | Number<br>of bits | Flags |
|-----|---|-------------------|-------------------|-------|
| 1   | A, 8-bit scene                          | recall / safe     | 1 byte            | CW    |
| 2   | A, Locking                              | On / Off          | 1 bit             | CW    |
| 3   | A, Night mode                           | On / Off          | 1 bit             | CW    |
| 4   | A, Switching                            | On / Off          | 1 bit             | CW    |
| 5   | A, Dimming                              | brighter / darker | 4 bit             | CW    |
| 6   | A, Dimming value                        | 8-bit value       | 1 byte            | CW    |
| 8   | A, Status switching                     | On / Off          | 1 bit             | CRT   |
| 9   | A, Status dimming value                 | 8-bit value       | 1 byte            | CRT   |
| 10  | A, Switching cycle counter              | 4-byte value      | 4 byte            | CR    |
| 11  | A, Switching cycle threshold            | 4-byte value      | 4 byte            | CRW   |
| 12  | A, Switching cycle threshold<br>overrun | 1 = Yes / 0 = No  | 1 bit             | CRT   |
| 13  | A, Operating hours counter              | 4-byte value      | 4 byte            | CR    |
| 14  | A, Operating hours threshold            | 4-byte value      | 4 byte            | CRW   |
| 15  | A, Operating hours threshold<br>overrun | 1 = Yes / 0 = No  | 1 bit             | CRT   |

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# 3. Functions (Objects, Parameters)

The actuator output can be configured individually with the following partial functions:

- Operating mode Normal mode
- Operating mode 1-level time switch mode
- Operating mode 2-level time switch mode
- Operating mode Flashing
- Night mode
- Locking
- Status messaging
- Number of switching cycles with or without threshold monitoring
- Number of operating hours with or without threshold monitoring
- 8-bit scene control

The following sections describe the functions, which can be configured for each channel, including the associated objects and parameter settings.

#### Note

The number and names of the parameter windows in the ETS menues may vary as they are controlled via parameter settings.

Another parameter window may appear if due to dynamically added parameters the space in the first parameter window is exhausted.

# **Operating mode: Normal Mode**

In the operating mode "Normal mode" an additional night mode object can be added. When night mode is set via the night mode object then the behavior of the channel is similar to the 1-level time switch mode. The "on" period can be retriggered via the objects scene, switching, dimming brighter/darker or dimming value. When the "on" period has expired then the channel is turned off or, in case the "warning before turning off" is enabled, the dimming value is set to 50% of the last dimming value. If this value is below the minimum dimming value then the minimum dimming value is assumed. When the night mode object value is set to OFF (=0) then the timer mode is disabled.



# <u>Objects</u>

| Obj  | Object name  | Function             | Туре       | Flag   |  |
|--|--|----------------------|------------|--------|--|
| Obj  | Object name  | Tunction             | туре       | Tiay   |  |
| 4  | A, Switching   | On / Off             | 1 bit      | CW     |  |
| Via this object the telegrams are received to switch the load connected to the respective channel on or off.   |  |                      |            |        |  |
| 5  | A, Dimming   | brighter /<br>darker | 4 bit      | CW     |  |
|  | Via this object the dimming telegrams for the relevant channel are received. |                      |            |        |  |
| 6  | A, Dimming value   | 8-bit value          | 1 byte     | CW     |  |
| Via this object telegrams with a dimming value for the channel are received.   |  |                      |            |        |  |
| If the received dimming value is below the minimum dimming value the behavior of the channel is determined by the parameter "switching via dimming value". |  |                      |            |        |  |
| The c  | limming time for dimming   | to the dimmi         | ng value d | epends |  |

The dimming time for dimming to the dimming value depends on the parameter "dimming time for setting dimming value from 0% to 100%".

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# Parameter "A Functions, Objects"

| Operating mode                          | Normal Mode               | _        |
|---|---------------------------|----------|
| 8-bit scene control                     | No                        |          |
| Night mode                              | No                        | -        |
| Counting of switching cycles            | No                        | <u>•</u> |
| Counting of operating hours             | No                        | <u> </u> |
| Behaviour on KNX power voltage failure  | no change                 |          |
| Behaviour on KNX power voltage recovery | as before voltage failure | •        |
| Status object switching                 | No                        | <u>•</u> |
| Status object dimming                   | No                        | <u> </u> |
| Blocking object                         | No                        | •        |

This parameter window offers selection of the base function (normal mode, 1-level timer mode, 2-level timer mode, flashing) and of further functions of this actuator output channel. This includes,

-whether an 8-bit scene control shall be added,

- -whether a night mode object shall be added for this output channel,
- whether the switching cycles of this output channel shall be counted with or without an upper threshold,
- whether the operating hours for this output channel shall be counted with or without an upper threshold.
- whether a status object for switching or dimming value shall be added for this output channel,
- whether a locking object shall be added for this output channel,
- how the output channel shall behave on bus voltage failure and bus voltage recovery.

The parameter "Operating mode" is set to "Normal mode".

| Parameter      | Settings  |
|----------------|---|
| Operating mode | Normal mode<br>1-level time switch mode<br>2-level time switch mode |
|                | Flashing  |

This parameter sets whether the channel is to work as a "normal" dimming channel or in 1-level timer mode, which can be switched on only via a switching, dimming, dimming value or scene recall command and is switched off automatically after the end of the configured on-time or whether it is to work in 2-level timer mode or whether it is to "flash".

A 2-level timer mode is to be set for corridor and stairwell lighting if complete switching off of the lighting after the ontime 1 has elapsed is to be avoided. A 2-level timer mode is also set for control of colored lighting effects.

If "1-level timer mode" is selected, then the parameter "ON period 1  $\,$ 

(in minutes)" is also displayed. If a switching, dimming, dimming value or scene recall command is received again while 1-

#### Technical manual

# Parameter Settings

level timer mode and on period 1 are running, then the timer is reset to its initial value and the on-time extended accordingly.

After the configured "on" period has expired, the output channel, if the warning function is enabled (via the parameter "warning before switching off"), is dimmed to 50% of the current value. This is to warn the room user and allow him to operate the light switch and thus extend the "on" period by the configured value before the lighting is turned off. If 50% of the current dimming value are below the minimum dimming value then the minimum dimming value is assumed.

If "2-level timer mode" is selected, then the three parameters "ON period 1 (in minutes)", "ON period 2 (in minutes)" and "Dimming value during ON period 2 (in percent)" are also shown. Whereas dimming reverts to 0% at the end of a 1-level timer mode, in 2-level timer mode it will be dimmed at the end of the first ON period to the "dimming value during ON period 2" which can be above or below the previous dimming value. Dimming reverts to 0% at the end of the 2-level timer mode.

There is no warning before switching off In 2-level time switch mode.

If "Flashing" is selected, then the two parameters "ON period Flashing (1...255 seconds)" and "OFF period Flashing (1...255 seconds)" are shown additionally, which define the blinking behavior. The switching object of the channel is used to start and end blinking.

The dimming value during the "on" period is determined by the parameter "maximum dimming value". The objects scene, dimming, and dimming value and the associated parameters are not visible in the operating mode "flashing"

| Behavior on bus voltage       | switch off;               |
|-------------------------------|---------------------------|
| failure                       | switch on to maximum dim- |
|                               | ming value;               |
|                               | no change                 |
| This parameter determines the |                           |

nel (dimmer output) on bus voltage failure:

"no change" = On bus voltage failure the dimming value of the channel does not change.

"switch on to maximum dimming value" = On bus voltage failure the channel is switched on to the maximum dimming value.

"switch off" = On bus voltage failure the channel is switched off.

| Behavior on bus voltage re- | switch off;                 |
|-----------------------------|-----------------------------|
| covery                      | switch on;                  |
|                             | switch on to "dimming value |
|                             | on bus voltage recovery";   |
|                             | as before voltage failure   |
|                             |                             |

On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory. This allows restoring the states at bus voltage failure on bus voltage recovery.

This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:

"switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).

"switch on": On bus voltage recovery the channel is switched on permanently (to the switching on value).

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# 07 B0 A1 Switch actuator 982C01

| irameter   | Settings  |                       |
|--|---|-----------------------|
| 5  | on bus voltage recovery": a   |                       |
| •  | n bus voltage recovery" app   |                       |
| •  | the value set by that param   |                       |
| annel does not change.   | failure the dimming value o   | i the                 |
|  | he state at bus voltage failu   | ire is                |
| stored.  |   |                       |
| alue on bus voltage recov-   | 100   |                       |
| y [0100%]  | (0100)  |                       |
|  | the parameter "behavior on  |                       |
|  | switch on to "dimming valu  | e on                  |
| s voltage recover" ".<br>is parameter determines t   | he dimming value to be se   | t on                  |
| •  | alue is limited by the minir  |                       |
| d maximum dimming value  |   | num                   |
| <u>_</u>   |   |                       |
| other parameters are co  | overed in the sections  |                       |
| Night mode   |   |                       |
| Locking  |   |                       |
| Lociting   |   |                       |
| Status messaging   |   |                       |
|  |   |                       |
| Switching cycle counter  |   |                       |
| Switching cycle counter  |   |                       |
| Switching cycle counter<br>Operating hours counter   |   |                       |
| Switching cycle counter<br>Operating hours counte<br>Scene control   |   |                       |
| Switching cycle counter<br>Operating hours counte<br>Scene control   |   |                       |
| Switching cycle counter<br>Operating hours counte<br>Scene control<br>rameter "A, Dimming"   |   | ×                     |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br>rameter "A, Dimming"  | ir  | •                     |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br><b>Cameter "A, Dimming"</b><br>ad adaptation: Dimmer operation according to<br>appensation ripple control   | Automatic detection of load type  |                       |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br><b>cameter "A, Dimming"</b><br>ad adaptation: Dimmer operation according to<br>mpensation ripple control<br>minum dimming value [150%]  | Automatic detection of load type Yes  | Ţ                     |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br><b>rameter "A, Dimming"</b><br>ad adaptation: Dimmer operation according to<br>mpensation ripple control<br>minum dimming value [150%]<br>winum dimming value [10100%]  | IT Automatic detection of load type Yes 1   | •                     |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br><b>cameter "A, Dimming"</b><br>ad adaptation: Dimmer operation according to<br>mpensation ripple control<br>mum dimming value [150%]<br>winum dimming value [1100%]<br>ming time for switching On/Off [0255 seconds]  | Pres  | •                     |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br><b>cameter "A, Dimming"</b><br>ad adaptation: Dimmer operation according to<br>mpensation ripple control<br>mum dimming value [150%]<br>winum dimming value [1100%]<br>anning time for switching On/Off [0255 seconds]<br>anning time for diming darker / bighter<br>No % to 100% [0255 seconds]  | IT Automatic detection of load type Yes 1 1 100 0   | •                     |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br><b>cameter "A, Dimming"</b><br>ad adaptation: Dimmer operation according to<br>mpensation ripple control<br>nimum dimming value [150%]<br>ximum dimming value [1100%]<br>nming time for switching On/Off [0255 seconds]<br>nming time for switching On/Off [0255 seconds]<br>noing time for switching On/Off [0255 seconds]<br>noing time for setting dimming value<br>n 0% to 100% [0255 seconds]  | Yes<br>1<br>100<br>0<br>5   | •                     |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br><b>cameter "A, Dimming"</b><br>ad adaptation: Dimmer operation according to<br>mpensation ripple control<br>minum dimming value [150%]<br>winum dimming value [10100%]<br>mining time for switching Dn/Dff [0255 seconds]<br>mining time for switching Dn/Dff [0255 seconds]<br>mining time for switching Dn/Dff [0255 seconds]<br>mining time for setting dimming value<br>n0% to 100% [0255 seconds]<br>mining time for setting dimming value<br>n0% to 100% [0255 seconds]   | IT Automatic detection of load type Yes 1 1 100 0 5 0 0   | •                     |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br>ameter "A, Dimming"<br>ad adaptation: Dimmer operation according to<br>mpensation ripple control<br>mum dimming value [150%]<br>winum dimming value [10100%]<br>winum dimming value [10100%]<br>ming time for switching On/Off [0255 seconds]<br>aming time for switching On/Off [0255 seconds]<br>aming time for setting dimming value<br>no% to 100% [0255 seconds]<br>ming value<br>itch On value [1100%]  | IT Automatic detection of load type Yes 1 1 100 0 5 0 switch On value according to parameter  | •<br>•<br>•<br>•<br>• |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br><b>rameter "A, Dimming"</b><br>ad adaptation: Dinner operation according to<br>mpensation ripple control<br>minum dimming value [150%]<br>sxinum dimming value [1100%]<br>ming time for switching 0n/0ff [0255 seconds]<br>ming time for switching 0n/0ff [0255 seconds]<br>atting value<br>ming value [1100%]<br>atting value<br>witch 0n value [1100%]   | Automatic detection of load type         Yes         1         100         5         0         5         0         switch On value according to parameter         100   |                       |
| Status messaging<br>Switching cycle counter<br>Operating hours counter<br>Scene control<br>rameter "A, Dimming"<br>ad adaptation: Dimmer operation according to<br>mpensation ripple control<br>nimum dimming value [150%]<br>aximum dimming value [150%]<br>aximum dimming value [1100%]<br>mining time for switching 0n/0ff [0255 seconds]<br>mining time for switching 0n/0ff [0255 seconds]<br>atting value<br>witch 0n value [1100%]<br>witching off via dimming darker<br>witching on via dimming bighter<br>witching via dimming value | Automatic detection of load type         Yes         1         100         5         0         switch On value according to parameter         100         100         ves   |                       |
| Switching cycle counter<br>Operating hours counter<br>Scene control<br>mathematical according to<br>mathematical according to<br>meneration ripple control<br>ninum dimming value [150%]<br>assimum dimming value [1100%]<br>mining time for switching 0n/0ff [0255 seconds]<br>mining time for switching 0n/0ff [0255 seconds]<br>mining time for switching don/0ff [0255 seconds]<br>arting value<br>witch On value [1100%]<br>witching off via dimming darker<br>witching on via dimming bighter  | Automatic detection of load type         Yes         1         100         0         5         0         switch On value according to parameter         100         Yes         100         Yes         Yes         Yes         Yes |                       |

This parameter window is used to set the behavior of the corresponding actuator output channel in "Normal mode".

| Parameter   | Settings                        |  |  |
|---|---------------------------------|--|--|
| Load adaptation: Dimmer Op-   | Automatic detection of load     |  |  |
| erating according to  | type;                           |  |  |
|   | Leading edge principle;         |  |  |
|   | Trailing edge principle         |  |  |
| This parameter sets the type of lo  | ad matching.                    |  |  |
| With automatic load adaptation,   | the device checks the type of   |  |  |
| load when the mains voltage   |                                 |  |  |
| whether to select leading or trailing   | ng edge control.                |  |  |
| If the load type cannot be un   |                                 |  |  |
| automatic load adaptation can be  |                                 |  |  |
| mode manually fixed by setting t<br>ciple" or "trailing edge principle"   |                                 |  |  |
| the operation of dimmable energy  |                                 |  |  |
| Note: With energy-saving lamps,   |                                 |  |  |
| that you do not set this mode to "  | Automatic load adaptation",     |  |  |
| but to "leading edge control" or "t   | railing edge control as rec-    |  |  |
| ommended by the manufacturer  |                                 |  |  |
| Compensation ripple control   | No;                             |  |  |
|   | Yes                             |  |  |
| This parameter determines if ripp   |                                 |  |  |
| the device shall automatically be<br>compensated ripple control signa   |                                 |  |  |
| cause flickering of the lamp.   | is on the mains power may       |  |  |
| Minimum dimming value   | 1                               |  |  |
| [150%]  | (150)                           |  |  |
| This parameter sets the minimum   |                                 |  |  |
| be under-run when "dimming dar  |                                 |  |  |
| down to the minimum dimming v   | •                               |  |  |
| If the parameter "Switching off   |                                 |  |  |
| "Yes", then a "Dimming darker" v<br>ming value means that the chan  |                                 |  |  |
| 5   |                                 |  |  |
| If the parameter "Switching via o<br>dimming value < min. dimming   |                                 |  |  |
| below the minimum dimming val   |                                 |  |  |
| be switched off.  | ac means that the channel will  |  |  |
| If the parameter "Switching via di  | mming value" is set to "Switch- |  |  |
| ing On and switching Off possible   | e", then a dimming value below  |  |  |
| the minimum dimming value mea   | ans that the channel will be    |  |  |
| switched off.   | 100                             |  |  |
| Maximum dimming value<br>[10100%]   | <b>100</b><br>(10100)           |  |  |
| This parameter sets the maximum   |                                 |  |  |
| be exceeded (i.e. in any case dim   |                                 |  |  |
| maximum dimming value).   |                                 |  |  |
| When dimming brighter this is on  | ly possible up to the maximum   |  |  |
| dimming value.  | dinauna dinamaina usulus is sa  |  |  |
| If a dimming value above the maximum dimming value is re-<br>ceived then the output channel is only dimmed to the maximum |                                 |  |  |
| dimming value.  | only unified to the maximum     |  |  |
| Dimming time for switching  | 0                               |  |  |
| On/Off [0255 seconds]   | (0255)                          |  |  |
| This parameter determines if the  |                                 |  |  |
| tively the OFF value 0% are "jumped" to (dimming time = 0) or in what time it will be dimmed to the relevant value.       |                                 |  |  |
| what time it will be dimmed to the relevant value.<br>If the channel is not switched off from 100% to 0% respectively     |                                 |  |  |
| switched on from 0% to 100% then the dimming time is propor-  |                                 |  |  |
| tionally adjusted to the difference of the old and new dimming  |                                 |  |  |
| values.   | 5                               |  |  |

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| Parameter   | Settings                           | Parameter                       |
|---|------------------------------------|---------------------------------|
| Dimming time for dimming  | 5                                  | Switching or                    |
| darker / brighter from  | (1255)                             | brighter                        |
| 0%-100% [1255 seconds]  |                                    |                                 |
| This parameter determines the ti                                  |                                    | If switching                    |
| formed from 0% to 100% (or from                                   | n 100% to 0%) with manual          | relative dimn                   |
| (relative) dimming.   |                                    | "Yes". In this                  |
| If the channel is not dimmed from                                 |                                    | jumped to t                     |
| 100% to 0% then the dimming ti                                    |                                    | brighter to t                   |
| the difference of the old and new                                 | 5 1 5                              | figured dimm                    |
| on the difference the time for rea                                |                                    | Switching vi                    |
| Dimming time for setting  | 0                                  |                                 |
| dimming value from 0100%<br>[0255 seconds]                        | (0255)                             |                                 |
| This parameter determines whet                                    | har a now dimming value, is to     |                                 |
| be jumped to (dimming time = $0$                                  |                                    |                                 |
| dimmed from 0% to 100% (or fro                                    |                                    |                                 |
| If the channel is not dimmed from                                 |                                    |                                 |
| 100% to 0% then the dimming ti                                    | 1                                  |                                 |
| the difference of the old and new                                 |                                    | If switching                    |
| on the difference the time for rea                                | 5 1 5                              | dimming val                     |
|   | Dimming value at switching off;    | mum dimmir                      |
|   | switch on value according to       | dimming val                     |
|   | parameter;                         | switched on                     |
|   | last received dimming value        | value with th                   |
| This parameter defines to which                                   | ch value this channel is to be     | ting. If the re                 |
| "jumped" or dimmed on receiv                                      | /ing a telegram with an "ON"       | ming value,                     |
| switching command.  |                                    | dimming valu                    |
| If the setting "dimming value at                                  | switching OFF" is selected, then   | If the channe                   |
| it switches to the last dimming v                                 | alue before switching off. If the  | dimming val<br>gram with a      |
| channel is switched off by a dim                                  | 5                                  | leads to dim                    |
| dimming value or by a dimmin                                      |                                    | ming value s                    |
| dimming value or by a limited of                                  |                                    | then to swit                    |
| for cleaning in night mode), the                                  | 5 5 5                              | ming value s                    |
| at that last dimming value in ea                                  |                                    | If this param                   |
| value at switching OFF" is bene<br>room, where pressing the switc |                                    | sible", then t                  |
| switches to the dimming value a                                   |                                    | value is $\geq$ the             |
| switch briefly a second time dim                                  |                                    | the received                    |
| value.  | s of jumps to the max anning       | If the param                    |
| The setting "last received dimmir                                 | ng value" is for example needed    | dimming val                     |
| for constant brightness contro                                    | 5 , 1                              | the channel of                  |
| switched off by dimming values                                    |                                    | value, the ch                   |
| controller which are below the m                                  |                                    | is switched o                   |
| on by a dimming value above it                                    | t. The parameter "Switching via    | ON delay [0.                    |
| dimming value n" must also be s                                   | et to "not possible" for this.     |                                 |
| Switch On value [1100%]   | 100                                |                                 |
|   | (1100)                             | This paramet                    |
| This parameter is only visible if t                               |                                    | acts only on t<br>The default s |
| set to "switch on value according                                 |                                    | immediately.                    |
| This parameter determines the d                                   |                                    |                                 |
| when an "on" switching commar                                     |                                    | OFF delay<br>[0600 seco         |
| Switching off via dimming   | No                                 | [0000 seco                      |
| darker  | Yes                                | This paramet                    |
| If the channel is to be switched                                  | I off in the switched on status by | acts only on t                  |
| dimming to a value below the                                      |                                    | The default s                   |
| this parameter must be set to "Ye                                 | se"                                | immediately.                    |
| this parameter must be set to Te                                  | · •                                |                                 |

Settings n via dimming No Yes on is to be possible in the off state by receiving a ning value "brighter", this parameter must be set to s case, the channel is always switched on first, the minimum dimming value and then dimmed he received relative dimming value using the conning time for dimming brighter / darker. a dimming value not possible; On if dimming value >= min. dimming value; Off if dimming value < min. dimming value; Switching On and switching Off possible; On if dimming value > 0% / Off if dimming value = 0% on in the off state shall be possible by receiving a ue, which is the same as or greater than the mining value, then this parameter must be set to "ON if lue  $\geq$  min. dimming value". The channel is then and either jumped or dimmed to the dimming ne configured dimming time for dimming value seteceived dimming value is below the minimum dimthen the channel remains off. Switching off via ue setting is impossible with this setting. el is switched on and this parameter is set to "OFF if ue < min. dimming value", then receiving a teledimming value < the minimum dimming value ming (with the configured dimming time for dimsetting) down to the minimum dimming value and ching off of the channel. Switching on with dimetting is impossible with this setting. eter is set to "switching ON and switching OFF poshe channel is switched on if the received dimming e minimum dimming value and it is switched off if dimming value is < min. dimming value. eter is set to "ON if dimming value > 0% / OFF if ue = 0%", then any dimming value > 0% switches on. If the dimming value is below the min. dimming annel is set to the min. dimming value. The channel ff only after receipt of a dimming value 0%. ..600 seconds] 0 (0...600) ter sets the wanted ON delay time. A set ON delay the object "Switching". setting "0" means that ON commands are executed 0 onds] (0...600)er sets the wanted OFF delay time. A set OFF delay the object "Switching".

he default setting "0" means that OFF commands are executed mmediately.

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#### Operating mode: 1-level time switch mode

The "on" period can be triggered and retriggered via the objects scene, switching, dimming brighter/darker or dimming value. When the "on" period has expired then the channel is turned off or, in case the "warning before turning off" is enabled, the dimming value is set to 50% of the last dimming value. If this value is below the minimum dimming value then the minimum dimming value is assumed.



# **Objects**

|  |                  | :                    | -      | -    |
|--|------------------|----------------------|--------|------|
| Obj  | Object name      | Function             | Туре   | Flag |
| 4  | A, Switching     | On / Off             | 1 bit  | CW   |
| Via this object the telegrams are received to switch the load connected to the respective channel on or off.   |                  |                      |        |      |
| 5  | A, Dimming       | brighter /<br>darker | 4 bit  | CW   |
| Via this object the dimming telegrams for the relevant channel are received.   |                  |                      |        |      |
| 6  | A, dimming value | 8-bit value          | 1 byte | CW   |
| Via this object telegrams with a dimming value for the channel are received.   |                  |                      |        |      |
| If the received dimming value is below the minimum dimming value the behavior of the channel is determined by the parameter "switching via dimming value". |                  |                      |        |      |
| The dimming time for dimming to the dimming value depends<br>on the parameter "dimming time for setting dimming value<br>from 0% to 100%".                 |                  |                      |        |      |

### Parameter "A Functions, Objects"

| Operating mode                              | 1-level time switch mode  | •        |
|---|---------------------------|----------|
| 8-bit scene control                         | No                        | <u>•</u> |
| Warning before switching Off [0255 seconds] | 30                        | ÷        |
| Counting of switching cycles                | No                        | <u>·</u> |
| Counting of operating hours                 | No                        |          |
| Behaviour on KNX power voltage failure      | no change                 | <u>.</u> |
| Behaviour on KNX power voltage recovery     | as before voltage failure | <u>.</u> |
| Status object switching                     | No                        | <u>-</u> |
| Status object dimming                       | No                        | _        |
| Blocking object                             | No                        | •        |

This parameter window offers selection of the base function (normal mode, 1-level timer mode, 2-level timer mode, flashing) and of further functions of this actuator output channel. This includes,

- -whether an 8-bit scene control shall be added,
- whether the switching cycles of this output channel shall be counted with or without an upper threshold,
- whether the operating hours for this output channel shall be counted with or without an upper threshold.
- whether a status object for switching or dimming value shall be added for this output channel,
- whether a locking object shall be added for this output channel,
- how the output channel shall behave on bus voltage failure and bus voltage recovery.

The parameter "Operating mode" is set to "1-level time switch mode".

| Parameter   | Settings  |  |
|---|---|--|
| Operating mode  | Normal mode<br>1-level time switch mode<br>2-level time switch mode<br>Flashing   |  |
| This parameter sets whether the channel is to work as a "nor-<br>mal" dimming channel or in 1-level timer mode, which can be<br>switched on only via a switching, dimming, dimming value or<br>scene recall command and is switched off automatically after<br>the end of the configured on-time or whether it is to work in<br>2-level timer mode or whether it is to "flash". |   |  |
| A 2-level timer mode is to be s<br>lighting if complete switching of<br>time 1 has elapsed is to be avoi<br>also set for control of colored ligh<br>If "1-level timer mode" is selected<br>riod 1 (in minutes)" is also displa<br>dimming value or scene recall<br>while 1-level timer mode and on<br>the timer is reset to its initial valu<br>accordingly.                    | f of the lighting after the on-<br>ded. A 2-level timer mode is<br>ting effects.<br>I, then the parameter "ON pe-<br>yed. If a switching, dimming,<br>command is received again<br>n period 1 are running, then |  |

After the configured "on" period has expired, the output chan-

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| Parameter   | Sattings  | Parameter   | Sattings   |  |
|---|---|---|--|--|
|   | Settings  | Parameter   | Settings   |  |
| "warning before switching or<br>rent value. This is to warn the<br>erate the light switch and the<br>configured value before the<br>the current dimming value as<br>value then the minimum dim<br>If "2-level timer mode" is sel<br>"ON period 1 (in minutes)",<br>"Dimming value during ON<br>shown. Whereas dimming re-<br>timer mode, in 2-level time<br>end of the first ON period t<br>period 2" which can be abov<br>value. Dimming reverts to 0<br>mode.<br>There is no warning before st<br>mode.<br>If "Flashing" is selected, there<br>Flashing (1255 seconds)" as<br>seconds)" are shown addition<br>behavior. The switching object<br>and end blinking.<br>The dimming value during the<br>parameter "maximum di<br>dimming, and dimming value<br>are not visible in the operating<br><b>Warning before switching of</b><br><b>[0255 seconds]</b><br>This parameter determines f<br>1-level time switch mode, the | n is enabled (via the parameter<br>ff"), is dimmed to 50% of the cur-<br>te room user and allow him to op-<br>hus extend the "on" period by the<br>elighting is turned off. If 50% of<br>are below the minimum dimming<br>ming value is assumed.<br>lected, then the three parameters<br>"ON period 2 (in minutes)" and<br>period 2 (in percent)" are also<br>werts to 0% at the end of a 1-level<br>r mode it will be dimmed at the<br>to the "dimming value during ON<br>we or below the previous dimming<br>% at the end of the 2-level timer<br>witching off In 2-level time switch<br>n the two parameters "ON period<br>and "OFF period Flashing (1255<br>onally, which define the blinking<br>ect of the channel is used to start<br>the "on" period is determined by<br>mming value". The objects scene,<br>ue and the associated parameters<br>ing mode "flashing" | <ul> <li>nel (dimmer output) on bus voltage re off permanently (off state, 0% "switch on": On bus voltage r on permanently (to the switch switch on to "dimming value or The output is switched on to "no change" = On bus voltage channel does not change. "as before voltage failure": Th restored.</li> <li>Value on bus voltage recovery" is set to "sbus voltage recovery" is set to a sbus voltage recovery". This parameter is visible, if t voltage recovery" is set to and maximum dimming value</li> <li>The other parameters are constrained to the other parameter set of the other parameter other set of the other parameter set of the other parameter set of the other parameter set of the other parameters are constrained to the other set of the other set of</li></ul> | bltage recovery:<br>recovery the channel is sw<br>).<br>ecovery the channel is sw<br>ing on value).<br>on bus voltage recovery" ap<br>the value set by that para<br>failure the dimming value<br>the state at bus voltage fail<br>(0100)<br>the parameter "behavior of<br>switch on to "dimming va<br>he dimming value to be<br>alue is limited by the mir<br>s. | itched<br>a new<br>pears.<br>meter.<br>of the<br>lure is<br>on bus<br>lue on<br>set on           |
| the brightness (50% of the cu   |   | <u> </u>  |  |  |
|   |   |   |  |  |
| When the room user operate  | es the light switch then the light-   | Load adaptation: Dimmer operation according to  | Automatic detection of load type   |  |
| When the room user operate<br>ing is turned on for the perio  |   | Load adaptation: Dimmer operation according to<br>compensation ripple control   | Automatic detection of load type   | •  |
| When the room user operate  | es the light switch then the light-   | compensation ripple control   |  |  |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.   | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-  | compensation ripple control<br>Minimum dimming value [150%]   | Yes  | •  |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage  | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;   | compensation ripple control.<br>Minimum dimming value [150%]<br>Maximum dimming value [10100%]  | Yes<br>1<br>100  | •  |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure   | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b>   | compensation ripple control.<br>Minimum dimming value [150%]<br>Maximum dimming value [10100%]<br>Dimming time for switching Dr/Off [0255 seconds]  | <br> Yes<br> 1<br> 100<br> 0   | •<br>•   |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure   | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-  | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [10100%]<br>Dimming time for switching On/Off [0255 seconds]<br>Dimming time for dimming darker / brighter<br>from 0% to 100% [0255 seconds]   | Yes 1 100 0 5  | •  |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage  | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-  | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [10100%]<br>Dimming time for switching On/Otf [0255 seconds]<br>Dimming time for dimming darker / brighter<br>from 0% to 100% [0255 seconds]<br>Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]   | Yes 1 100 0 5 0  | •<br>•<br>•  |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage<br>channel does not change.  | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-<br>voltage failure:<br>e failure the dimming value of the  | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [10100%]<br>Dimming time for switching On/Off [0255 seconds]<br>Dimming time for switching On/Off [0255 seconds]<br>Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]<br>Starting value   | Yes 1 100 0 5 0 switch On value according to parameter   | •<br>47<br>49<br>49<br>49<br>49<br>49  |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage<br>channel does not change.<br>"switch on to maximum dime  | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-<br>voltage failure:<br>e failure the dimming value of the<br>ming value" = On bus voltage fail-  | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [10100%]<br>Dimming time for switching On/Otf [0255 seconds]<br>Dimming time for dimming darker / brighter<br>from 0% to 100% [0255 seconds]<br>Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]   | Yes 1 100 0 5 0 switch On value according to parameter 100   | •<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4 |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage<br>channel does not change.<br>"switch on to maximum dime  | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-<br>voltage failure:<br>e failure the dimming value of the  | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [10100%]<br>Dimming time for switching On/Off [0255 seconds]<br>Dimming time for switching On/Off [0255 seconds]<br>Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]<br>Starting value   | Yes 1 100 0 5 0 switch On value according to parameter   | •<br>47<br>49<br>49<br>49<br>49<br>49  |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage<br>channel does not change.<br>"switch on to maximum dimu<br>ure the channel is switched<br>value.   | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-<br>voltage failure:<br>e failure the dimming value of the<br>ming value" = On bus voltage fail-  | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [150%]<br>Dimming time for switching Drv/Off [0255 seconds]<br>Dimming time for dimming darker / brighter<br>from 0% to 100% [0255 seconds]<br>Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]<br>Starting value<br>Switch On value [1100%]   | Yes 1 100 0 5 0 switch On value according to parameter 100   | •<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4 |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage<br>channel does not change.<br>"switch on to maximum dimu<br>ure the channel is switched<br>value.   | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-<br>voltage failure:<br>e failure the dimming value of the<br>ming value" = On bus voltage fail-<br>d on to the maximum dimming   | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [150%]<br>Dimming time for switching Dr/Off [0255 seconds]<br>Dimming time for dimming darker / brighter<br>from 0% to 100% [0255 seconds]<br>Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]<br>Starting value<br>Switch On value [1100%]<br>Switching off via dimming darker  | Yes 1 100 0 5 0 switch On value according to parameter 100 Yes   |  |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage<br>channel does not change.<br>"switch on to maximum dimu<br>ure the channel is switched<br>value.<br>"switch off" = On bus voltage  | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-<br>voltage failure:<br>e failure the dimming value of the<br>ming value" = On bus voltage fail-<br>d on to the maximum dimming<br>ge failure the channel is switched   | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [150%]<br>Dimming time for switching On/Off [0255 seconds]<br>Dimming time for dimming darker / brighter<br>from 0% to 100% [0255 seconds]<br>Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]<br>Starting value<br>Switch On value [1100%]<br>Switching off via dimming darker<br>Switching on via dimming bighter  | Yes 1 100 0 5 0 switch On value according to parameter 100 Yes Yes   | •<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4 |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage<br>channel does not change.<br>"switch on to maximum dimu<br>ure the channel is switcher<br>value.<br>"switch off" = On bus voltage<br>off.  | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-<br>voltage failure:<br>e failure the dimming value of the<br>ming value" = On bus voltage fail-<br>d on to the maximum dimming<br>ge failure the channel is switched<br>- switch off;<br>switch on;  | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [150%]<br>Dimming time for switching On/Off [0255 seconds]<br>Dimming time for dimming darker / brighter<br>from 0% to 100% [0255 seconds]<br>Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]<br>Starting value<br>Switch On value [1100%]<br>Switching off via dimming brighter<br>Switching on via dimming brighter<br>Switching via dimming value  | Yes       Yes       1       100       0       5       0       switch On value according to parameter       100       Yes       Yes       On if dimming value >= min. dimming value   | •<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4<br>4 |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage<br>channel does not change.<br>"switch on to maximum dimu<br>ure the channel is switcher<br>value.<br>"switch off" = On bus voltage<br>off.<br>Behavior on bus voltage re-<br>covery<br>On bus voltage failure the c<br>ming values of all channels a<br>This allows restoring the sta   | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-<br>voltage failure:<br>e failure the dimming value of the<br>ming value" = On bus voltage fail-<br>d on to the maximum dimming<br>ge failure the channel is switched   | compensation ripple control<br>Minimum dimming value [150%]<br>Maximum dimming value [150%]<br>Dimming time for switching Dn/Off [0255 seconds]<br>Dimming time for dimming darker / brighter<br>from 0% to 100% [0255 seconds]<br>Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]<br>Starting value<br>Switch On value [1100%]<br>Switching off via dimming darker<br>Switching off via dimming value<br>ON delay [0600 seconds]  | Yes           1           100           0           5           0           switch On value according to parameter           100           Yes           Yes           On if dimming value >= min. dimming value           0           0           0           0           0           0           0           0   | •<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•      |
| When the room user operate<br>ing is turned on for the perio<br>level switch time mode.<br>Behavior on bus voltage<br>failure<br>This parameter determines t<br>nel (dimmer output) on bus v<br>"no change" = On bus voltage<br>channel does not change.<br>"switch on to maximum dimu<br>ure the channel is switcher<br>value.<br>"switch off" = On bus voltage<br>off.<br>Behavior on bus voltage re-<br>covery<br>On bus voltage failure the c<br>ming values of all channels a<br>This allows restoring the sta<br>voltage recovery.  | es the light switch then the light-<br>d configured for night mode or 1-<br>switch off;<br>switch on to maximum dim-<br>ming value;<br><b>no change</b><br>he behavior of the actuator chan-<br>voltage failure:<br>e failure the dimming value of the<br>ming value" = On bus voltage fail-<br>d on to the maximum dimming<br>ge failure the channel is switched<br>- switch off;<br>switch on;<br>switch on to "dimming value<br>on bus voltage recovery";<br><b>as before voltage failure</b><br>current switching states and dim-<br>are saved in non-volatile memory.  | compensation ripple control<br>Minimum dimming value [1502]<br>Maximum dimming value [1502]<br>Maximum dimming value [1502]<br>Dimming time for switching Dr/Off [0255 seconds]<br>Dimming time for switching Dr/Off [0255 seconds]<br>Dimming time for switching value<br>from 02 to 1002 [0255 seconds]<br>Starting value<br>Switch On value [11002]<br>Svitching off via dimming darker<br>Switching on via dimming value<br>ON delay [0600 seconds]<br>OFF-delay [0600 seconds]<br>This parameter window is u<br>corresponding actuator ou  | Yes           1           100           0           5           0           switch On value according to parameter           100           Yes           Yes           On if dimming value >= min. dimming value           0           0           0           0           0           0           0           0   | • • • • • • • • • • • • • • • • • • •  |

# 07 B0 A1 Switch actuator 982C01

| Parameter   | Settings                        |   | Parameter  | Settings                         |
|---|---------------------------------|---|--|----------------------------------|
| Load adaptation: Dimmer Op-   | Automatic detection of load     |   | switched on from 0% to 100% the                                      |                                  |
| erating according to  | type;                           |   | tionally adjusted to the difference                                  | e of the old and new dimming     |
|   | Leading edge principle;         |   | values.  |                                  |
|   | Trailing edge principle         |   | Dimming time for dimming   | 5                                |
| This parameter sets the type of lo                                      | 5                               |   | darker / brighter from<br>0%-100% [1255 seconds]                     | (1255)                           |
| With automatic load adaptation,   |                                 |   | This parameter determines the tir                                    | ne in which dimming is per-      |
| load when the mains voltage whether to select leading or traili         |                                 |   | formed from 0% to 100% (or from                                      |                                  |
| If the load type cannot be ur   |                                 |   | (relative) dimming.  | - /                              |
| automatic load adaptation can be  |                                 |   | If the channel is not dimmed from                                    |                                  |
| mode manually fixed by setting t  |                                 |   | 100% to 0% then the dimming tir                                      |                                  |
| ciple" or "trailing edge principle"                                     |                                 |   | the difference of the old and new                                    |                                  |
| the operation of dimmable energ   |                                 |   | on the difference the time for rea<br>Dimming time for setting       | 0                                |
| Note: With energy-saving lamps,   | we recommend in principle       |   | dimming value from 0100%   | (0255)                           |
| that you do not set this mode to '                                      |                                 |   | [0255 seconds]   | (0233)                           |
| but to "leading edge control" or "t<br>ommended by the manufacturer     |                                 |   | This parameter determines wheth                                      | her a new dimming value is to    |
| Compensation ripple control   | No;                             |   | be jumped to (dimming time = 0)                                      | or in what time it will be       |
| compensation upple control  | Yes                             |   | dimmed from 0% to 100% (or fro                                       |                                  |
| This parameter determines if ripp                                       |                                 | 1 | If the channel is not dimmed from                                    |                                  |
| the device shall automatically be                                       | compensated. Not or falsely     |   | 100% to 0% then the dimming tir<br>the difference of the old and new |                                  |
| compensated ripple control signa  | ls on the mains power may       |   | on the difference the time for rea                                   |                                  |
| cause flickering of the lamp.   | -                               |   | Starting value   | Dimming value at switching       |
| Minimum dimming value   | <b>1</b><br>(150)               |   | 5  | off;                             |
| [150%]  | (150)                           |   |  | switch on value according        |
| This parameter sets the minimum   | dimming value which cannot      |   |  | to parameter;                    |
| be under-run when "dimming dar  |                                 |   |  | last received dimming value      |
| down to the minimum dimming   |                                 |   | This parameter defines to whic<br>"jumped" or dimmed on receiv       |                                  |
| If the parameter "Switching off   | via dimming darker" is set to   |   | switching command.   | ing a telegram with an ON        |
| "Yes", then a "Dimming darker" v  |                                 |   | If the setting "dimming value at s                                   | witching OFF" is selected ther   |
| ming value means that the chan  |                                 |   | it switches to the last dimming v                                    |                                  |
| If the parameter "Switching via o                                       |                                 |   | channel is switched off by a dimr                                    |                                  |
| dimming value < min. dimming below the minimum dimming va               |                                 |   | dimming value or by a dimmin   |                                  |
| be switched off.  |                                 |   | dimming value or by a limited o<br>for cleaning in night mode), ther |                                  |
| If the parameter "Switching via di                                      | mming value" is set to "Switch- |   | at that last dimming value in ea                                     |                                  |
| ing On and switching Off possible                                       |                                 |   | value at switching OFF" is bene                                      |                                  |
| the minimum dimming value me  | ans that the channel will be    |   | room, where pressing the switch                                      |                                  |
| switched off.   | I                               |   | switches to the dimming value at                                     |                                  |
| Maximum dimming value   | 100                             |   | switch briefly a second time dims                                    | s or jumps to the max. dimming   |
| [10100%]  | (10100)                         |   | value.<br>The setting "last received dimmir                          | a value 1 or 2" is for example   |
| This parameter sets the maximum   | n dimming value, which cannot   |   | needed for constant brightness of                                    |                                  |
| be exceeded (i.e. in any case dim                                       |                                 |   | be switched off by dimming val                                       |                                  |
| maximum dimming value).   |                                 |   | ness controller which are below                                      | the minimum and not to be        |
| When dimming brighter this is or  | ly possible up to the maximum   |   | switched on by a dimming va  |                                  |
| dimming value.  |                                 |   | "Switching via dimming value n"                                      | must also be set to "not possi-  |
| If a dimming value above the max<br>ceived then the output channel is   |                                 |   | ble" for this.<br>Switch On value [1100%]                            | 100                              |
| dimming value.  | sony unimed to the maximum      |   | Switch On value [1100%]  | <b>100</b><br>(1100)             |
| Dimming time for switching  | 0                               |   |  | (1100)                           |
| On/Off [0255 seconds]   | (0255)                          |   | This parameter is only visible if th                                 | ne parameter "Starting value" is |
|   |                                 |   | set to "switch on value according                                    | to parameter".                   |
| This parameter determines if the  |                                 |   | This parameter determines the di                                     |                                  |
| tively the OFF value 0% are "jump                                       |                                 |   | when an "on" switching comman  | d is received.                   |
| what time it will be dimmed to the lift the channel is not switched off |                                 |   |  |                                  |
| in the channel is not switched Off                                      | from 100 % to 0% respectively   | 1 |  |                                  |
|   |                                 |   |  |                                  |

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August 2012

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| Switching off via dimming darker         No Yes           If the channel is to be switched off in the switched on status by dimming to a value below the minimum dimming value, then this parameter must be set to "Yes".           Switching on via dimming brighter         No Yes           If switching on is to be possible in the off state by receiving a relative dimming value "brighter", this parameter must be set to "Yes".           Switching on is to be possible in the off state by receiving a relative dimming value "brighter", this parameter must be set to "Yes".           Switching on is to be possible in the off state by receiving a relative dimming value and then dimmed brighter to the received relative dimming value using the configured dimming true for dimming value and then dimming value;           Switching on in the off state shall be possible;         On if dimming value > min. dimming value;           Switching on in the off state shall be possible by receiving a dimming value, which is the same as or greater than the minimum dimming value, then this parameter must be set to "ON if dimming value, which is the same as or greater than the minimum dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching off via dimming value setting is impossible with this setting.           If the channel is switched on and this parameter is set to "OFF if dimming value setting is impossible with this setting.           If the channel is switched on if the received dimming value is below the minimum dimming value setting is impossible with this setting.           If the channel is switched on if the received dimming value is below the minimum dimming value  | Parameter  | Settings                     |  |  |
|---|--|------------------------------|--|--|
| If the channel is to be switched off in the switched on status by dimming to a value below the minimum dimming value, then this parameter must be set to "Yes".         Switching on via dimming brighter       No Yes         If switching on is to be possible in the off state by receiving a relative dimming value "brighter", this parameter must be set to "Yes". In this case, the channel is always switched on first, jumped to the minimum dimming value 1 and then dimmed brighter to the received relative dimming value using the configured dimming traine for dimming brighter / darker.         Switching via dimming value       not possible;         On if dimming value >= min. dimming value;       Switching on in the off state shall be possible y receiving a dimming value, which is the same as or greater than the minimum dimming value, then this parameter must be set to "ON if dimming value = 0%.         If switching on in the off state shall be possible by receiving a dimming value, then this parameter must be set to "ON if dimming value exits in jumped or dimmed to the dimming value, which is the same as or greater than the minimum dimming value, then the channel is settor.         If the received dimming value is below the minimum dimming value exits is impossible with this setting.       If the channel is impossible with this setting.         If the channel is switched on and this parameter is set to "OFF if dimming value exiting is impossible with this setting.       If the parameter is set to "Switching OFF possible; then the channel is switched on if the received dimming value 1 and the is switched off if the received dimming value 1 and it is switched off if the received dimming value is a low switches.         If this parameter is  |  | No                           |  |  |
| dimming to a value below the minimum dimming value, then<br>this parameter must be set to "Yes".         Switching on via dimming<br>brighter       No<br>Yes         If switching on is to be possible in the off state by receiving a<br>relative dimming value "brighter", this parameter must be set to<br>"Yes". In this case, the channel is always switched on first,<br>jumped to the minimum dimming value 1 and then dimmed<br>brighter to the received relative dimming value using the con-<br>figured dimming time for dimming brighter / darker.         Switching via dimming value       not possible;<br>On if dimming value >= min.<br>dimming value;<br>Switching on and switching<br>Off possible;<br>On if dimming value > 0% /<br>Off if dimming value > 0% /<br>If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value, then this parameter must be set to "ON if<br>dimming value, then the channel remains off. Switching off via<br>dimming value, then the channel remains off. Switching off via<br>dimming value, then the channel remains off. Switching off via<br>dimming value setting is impossible with this setting.<br>If the channel is switched on and this parameter is set to "OFF if<br>dimming value setting is impossible with this setting.         If the channel is impossible with this setting.         If the channel is switched on and this parameter is set to "OFF if<br>dimming value setting is impossible with this setting.         If the parameter is set to "ON if dimming value 1 and<br>then to switching off of the channel. Switching OFF pos-<br>sible", then the channel is switched on if the received dimming<br>value is the minimum dimming value   | darker   | Yes                          |  |  |
| dimming to a value below the minimum dimming value, then<br>this parameter must be set to "Yes".         Switching on via dimming<br>brighter       No<br>Yes         If switching on is to be possible in the off state by receiving a<br>relative dimming value "brighter", this parameter must be set to<br>"Yes". In this case, the channel is always switched on first,<br>jumped to the minimum dimming value 1 and then dimmed<br>brighter to the received relative dimming value using the con-<br>figured dimming time for dimming brighter / darker.         Switching via dimming value       not possible;<br>On if dimming value >= min.<br>dimming value;<br>Switching on and switching<br>Off possible;<br>On if dimming value > 0% /<br>Off if dimming value > 0% /<br>If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value, then this parameter must be set to "ON if<br>dimming value, then the channel remains off. Switching off via<br>dimming value, then the channel remains off. Switching off via<br>dimming value, then the channel remains off. Switching off via<br>dimming value setting is impossible with this setting.<br>If the channel is switched on and this parameter is set to "OFF if<br>dimming value setting is impossible with this setting.         If the channel is impossible with this setting.         If the channel is switched on and this parameter is set to "OFF if<br>dimming value setting is impossible with this setting.         If the parameter is set to "ON if dimming value 1 and<br>then to switching off of the channel. Switching OFF pos-<br>sible", then the channel is switched on if the received dimming<br>value is the minimum dimming value   |  |                              |  |  |
| this parameter must be set to "Yes".         Switching on via dimming brighter       No Yes         If switching on is to be possible in the off state by receiving a relative dimming value "brighter", this parameter must be set to "Yes". In this case, the channel is always switched on first, jumped to the minimum dimming value 1 and then dimmed brighter to the received relative dimming value using the configured dimming time for dimming brighter / darker.         Switching via dimming value       not possible;         On if dimming value >= min. dimming value;       Off if dimming value >= min. dimming value;         Switching on in the off state shall be possible by receiving a dimming value, which is the same as or greater than the minimum dimming value, which is the same as or greater than the minimum dimming value, then this parameter must be set to "ON if dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching off via dimming value < min. dimming value, then the channel remains off. Switching off via dimming value < min. dimming value, then the channel remains off. Switching off via dimming value < the minimum dimming value last to dimming value < the minimum dimming value last to dimming value < the minimum dimming value last to "OFF if dimming value setting is impossible with this setting.  |  |                              |  |  |
| Switching on via dimming<br>brighter       No<br>Yes         If switching on is to be possible in the off state by receiving a<br>relative dimming value "brighter", this parameter must be set to<br>"Yes". In this case, the channel is always switched on first,<br>jumped to the minimum dimming value 1 and then dimmed<br>brighter to the received relative dimming value using the con-<br>figured dimming time for dimming brighter / darker.         Switching via dimming value       not possible;<br>On if dimming value >= min.<br>dimming value;<br>Switching on and switching<br>Off possible;<br>On if dimming value >= 0% /<br>Off if dimming value = 0% /<br>Off if dimming value set to "ON if<br>dimming value, then the same as or greater than the mini-<br>mung value, then the channel remains off. Switching off via<br>dimming value setting is impossible with this setting.         If the channel is switched on and this parameter is set to "OFF if<br>dimming value setting is impossible with this setting.         If the channel is switched on and this parameter is set to "OFF if<br>dimming value setting is impossible with this setting.         If the channel is switched on if the received dimming value<br>leads to dimming (with the configured dimming time for dim-<br>ming value setting off of the channel. Switching OFF pos-<br>sible", then the channel is switched on if the received dimming<br>value is ≥ the minimum dimming value = 0% / OFF if<br>dimming value = 0%, then any dimming  |  |                              |  |  |
| brighter         Yes           If switching on is to be possible in the off state by receiving a relative dimming value "brighter", this parameter must be set to "Yes". In this case, the channel is always switched on first, jumped to the minimum dimming value 1 and then dimmed brighter to the received relative dimming value using the configured dimming time for dimming brighter / darker.           Switching via dimming value         not possible;           On if dimming value < min. dimming value, switching Ou and switching Off possible; On if dimming value < 0% / Off if dimming value = 0%.   |  |                              |  |  |
| If switching on is to be possible in the off state by receiving a relative dimming value "brighter", this parameter must be set to "Yes". In this case, the channel is always switched on first, jumped to the minimum dimming value 1 and then dimmed brighter to the received relative dimming value 1 and then dimmed brighter to the received relative dimming value 1 and then dimmed brighter to the received relative dimming value 1 and then dimmed brighter to the received relative dimming value 1 and then dimmed brighter to the received relative dimming value 1 and then dimmed brighter to the received relative dimming value 1 and then dimmed brighter to the received relative dimming value;         Switching via dimming value       not possible;         On if dimming value > = min. dimming value;       Off if dimming value > min. dimming value;         Off if dimming value > 0% /       Off if dimming value > 0% /         If switching on in the off state shall be possible by receiving a dimming value, which is the same as or greater than the minimum dimming value, then this parameter must be set to "ON if dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching of the dimming value < min. dimming value, then this parameter is set to "OFF if dimming value < min. dimming value, then the same as or greater than the miniming value setting. If the channel is switched on and this parameter is set to "OFF if dimming value < min. dimming value, then this setting.  |  |                              |  |  |
| relative dimming value "brighter", this parameter must be set to<br>"Yes". In this case, the channel is always switched on first,<br>jumped to the minimum dimming value 1 and then dimmed<br>brighter to the received relative dimming value using the con-<br>figured dimming time for dimming brighter / darker.<br>Switching via dimming value<br>Not possible;<br>On if dimming value >= min.<br>dimming value;<br>Switching on and switching<br>Off jossible;<br>On if dimming value < min.<br>dimming value;<br>Switching on and switching<br>Off possible;<br>On if dimming value = 0%<br>If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value, then this parameter must be set to "ON if<br>dimming value ≥ min. dimming value". The channel is then<br>switched on and either jumped or dimmed to the dimming<br>value with the configured dimming tue is below the minimum dim-<br>ming value, then the channel remains off. Switching off via<br>dimming value, then the channel remains off. Switching off via<br>dimming value, then the configured dimming value is below the minimum dim-<br>ming value, then the channel remains off. Switching off via<br>dimming value < min. dimming value", then receiving a tele-<br>gram with a dimming value < the minimum dimming value<br>leads to dimming (with the configured dimming tue 1 and<br>then to switching off of the channel. Switching OFF pos-<br>sible", then the channel is switched on if the received dimming<br>value setting is impossible with this setting.<br>If this parameter is set to "Switching ON and switching OFF pos-<br>sible", then the channel is switched on if the received dimming<br>value is ≥ the minimum dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% switches<br>the channel is set to the min. dimming value > 0% switches<br>the channel is set to the min. dimming value > 0% switches<br>the channel is set to the min. dimming value > 0% switches<br>the channel is set to the min. dimming value > 0% switches<br>the channel is set to the min. dimming v     | 11   |                              |  |  |
| "Yes". In this case, the channel is always switched on first, jumped to the minimum dimming value 1 and then dimmed brighter to the received relative dimming value using the configured dimming time for dimming brighter / darker. Switching via dimming value          Not possible;       On if dimming value >= min. dimming value;         Switching on in the off state shall be possible by receiving a dimming value, which is the same as or greater than the minimum dimming value, then this parameter must be set to "ON if dimming value ≥ min. dimming value ≥ min. dimming value ≥ min. dimming value. The channel is then switched on and either jumped or dimmed to the dimming value setting. If the received dimming value, is below the minimum dimming value setting is impossible with this setting. If the channel is switched on and this parameter is set to "OFF if dimming value setting is impossible with this setting. If the channel is switched on and this parameter is set to "OFF if dimming value setting is impossible with this setting. If the channel is switched on and this parameter is set to "OFF if dimming value setting is mpossible with this setting. If the channel is switched on and this parameter is set to "OFF if dimming value setting is mpossible with this setting. If the parameter is set to "Switching ON and switching OFF possible", then the channel is switched on if the received dimming value is a minimum dimming value = 0%. ON period 1 15 (1255) This parameter is visible if the operating mode "1-level switch time mode" or "2-level switch time mode" is selected. This parameter determines the ON period respectively the ON period 1 in 2-level switch time mode. If during the "or" period a command is received via the objects scene, switching, dimming vialue, and the timer for the "on" period 1 mereio a command is received via the objects scene, switching, dimming vial  | If switching on is to be possible in the off state by receiving a  |                              |  |  |
| jumped to the minimum dimming value 1 and then dimmed<br>brighter to the received relative dimming value using the con-<br>figured dimming time for dimming brighter / darker.<br>Switching via dimming value<br>Not possible;<br>On if dimming value >= min.<br>dimming value;<br>Switching On and switching<br>Off jossible;<br>On if dimming value > 0% /<br>Off if dimming value > 0% /<br>If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value, then this parameter must be set to "ON if<br>dimming value ≥ min. dimming value". The channel is then<br>switched on and either jumped or dimmed to the dimming<br>value with the configured dimming time for dimming value set-<br>ting. If the received dimming value is below the minimum dim-<br>ming value setting is impossible with this setting.<br>If the channel is switched on and this parameter is set to "OFF if<br>dimming value < min. dimming value", then receiving a tele-<br>gram with a dimming value < the minimum dimming value<br>leads to dimming (with the configured dimming time for dim-<br>ming value setting) down to the minimum dimming value 1<br>and then to switching off of the channel. Switching ofF pos-<br>sible", then the channel is switched on if the received dimming<br>value setting is impossible with this setting.<br>If this parameter is set to "Switching ON and switching OFF pos-<br>sible", then the channel is switched on if the received dimming<br>value = 0%", then any dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% switches<br>the channel is set to the min. dimming value > 0% switches<br>the channel is set to "ON if dimming value > 0% switches<br>the channel is set to the min. dimming value > 0% switches<br>the channel is set to the min. dimming value > 0% switches<br>the channel is set to the min. dimming value > 0% switches<br>the channel is set to the min. dimming value > 0% switches<br>the chann |  |                              |  |  |
| brighter to the received relative dimming value using the configured dimming time for dimming brighter / darker.         Switching via dimming value       not possible;         On if dimming value >= min. dimming value;       Off if dimming value >= min. dimming value;         Switching on and switching       Off if dimming value >= 0%         If switching on in the off state shall be possible by receiving a dimming value, which is the same as or greater than the minimum dimming value, then this parameter must be set to "ON if dimming value ≥ min. dimming value". The channel is then switched on and either jumped or dimmed to the dimming value, with the configured dimming time for dimming value setting. If the received dimming value is below the minimum dimming value, then the channel remains off. Switching off via dimming value < min. dimming value", then receiving a telegram with a dimming value < the minimum dimming value         If the channel is switched on and this parameter is set to "OFF if dimming value setting) down to the minimum dimming value 1 and then to switching off of the channel. Switching on with dimming value setting is impossible with this setting.         If this parameter is set to "Switching ON and switching OFF possible", then the channel is switched on if the received dimming value = 0% / the nany dimming value > 0% / OFF if dimming value = 0%; then any dimming value > 0% / OFF if dimming value = 0%; then any dimming value > 0% switches the channel is set to the min. dimming value > 0% switches the channel is set to the min. dimming value > 0% / OFF if dimming value = 0%; then any dimming value > 0% switches the channel is set to the min. dimming value 0%.         ON period 1       15       11255 <td< td=""><td colspan="3"></td></td<>   |  |                              |  |  |
| figured dimming time for dimming brighter / darker.         Switching via dimming value       not possible;         On if dimming value >= min. dimming value;         Off if dimming value;         Switching On and switching         Off possible;         On if dimming value > 0% /         Off if dimming value = 0%         If switching on in the off state shall be possible by receiving a         dimming value, which is the same as or greater than the minimum dimming value, then the tip upped or dimmed to the dimming value setting. If the received dimming value 's below the minimum dimming value setting. If the received dimming value is below the minimum dimming value, then the channel remains off. Switching off via dimming value < min. dimming value', then receiving a telegram with a dimming value < the minimum dimming value leads to dimming (with the configured dimming time for dimming value setting) down to the minimum dimming value 1 and then to switching off of the channel. Switching OFF possible", then the channel is switched on if the received dimming value is ≥ the minimum dimming value 1 and it is switched off if the received dimming value = 0%, 'then any dimming value > 0% / OFF if dimming value = 0%, 'then any dimming value > 0% switches the channel is set to "ON if dimming value > 0% switches the channel is   |  |                              |  |  |
| Switching via dimming value       not possible;         On if dimming value;       Of if dimming value;         Off if dimming value;       Off if dimming value;         Switching On and switching       Off possible;         On if dimming value > 0% /       Off if dimming value > 0% /         If switching on in the off state shall be possible by receiving a       dimming value, which is the same as or greater than the minimum dimming value, then this parameter must be set to "ON if         dimming value, and either jumped or dimmed to the dimming value with the configured dimming time for dimming value setting. If the received dimming value is below the minimum dimming value, then the channel remains off. Switching off via dimming value < min. dimming value", then receiving a telegram with a dimming value < the minimum dimming value leads to dimming (with the configured dimming time for dimming value setting) down to the minimum dimming value 1 and then to switching off of the channel. Switching on with dimming value setting is impossible with this setting.   |  |                              |  |  |
| On if dimming value >= min.<br>dimming value;         Off if dimming value < min.<br>dimming value;         Switching On and switching<br>Off possible;         On if dimming value > 0% /<br>Off if dimming value = 0%         If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value, then this parameter must be set to "ON if<br>dimming value ≥ min. dimming value". The channel is then<br>switched on and either jumped or dimmed to the dimming<br>value with the configured dimming time for dimming value set-<br>ting. If the received dimming value is below the minimum dim-<br>ming value, then the channel remains off. Switching off via<br>dimming value < min. dimming value", then receiving a tele-<br>gram with a dimming value < the minimum dimming value<br>leads to dimming (with the configured dimming time for dim-<br>ming value setting) down to the minimum dimming value<br>leads to dimming (with the configured dimming value<br>leads to dimming walue < the minimum dimming value<br>land<br>then to switching off of the channel. Switching on with dim-<br>ming value setting is impossible with this setting.<br>If this parameter is set to "ON if dimming value 1 and<br>then to switching off of the channel. Switching OFF pos-<br>sible", then the channel is switched on if the received dimming<br>value is ≥ the minimum dimming value 1 and it is switched off if<br>the parameter is set to "ON if dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0%.         ON period 1       15<br>(1255)         This parameter is visible if the operating mode "1-level switch<br>time mode"  |  |                              |  |  |
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| dimming value;<br>Switching On and switching<br>Off possible;<br>On if dimming value > 0% /<br>Off if dimming value > 0% /<br>Off if dimming value = 0%If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value, then this parameter must be set to "ON if<br>dimming value $\geq$ min. dimming value". The channel is then<br>switched on and either jumped or dimmed to the dimming<br>value with the configured dimming time for dimming value set-<br>ting. If the received dimming value is below the minimum dim-<br>ming value, then the channel remains off. Switching off via<br>dimming value < the minimum dimming value setting is impossible with this setting.   |  |                              |  |  |
| Switching On and switching<br>Off possible;<br>On if dimming value > 0% /<br>Off if dimming value = 0%If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value, then this parameter must be set to "ON if<br>dimming value $\geq$ min. dimming value". The channel is then<br>switched on and either jumped or dimmed to the dimming<br>value with the configured dimming time for dimming value set-<br>ting. If the received dimming value is below the minimum dim-<br>ming value, then the channel remains off. Switching off via<br>dimming value esting is impossible with this setting.If the channel is switched on and this parameter is set to "OFF if<br>dimming value < min. dimming value", then receiving a tele-<br>gram with a dimming value < the minimum dimming value<br>leads to dimming (with the configured dimming time for dim-<br>ming value setting) down to the minimum dimming value 1 and<br>then to switching off of the channel. Switching on with dim-<br>ming value setting is impossible with this setting.If this parameter is set to "Switching ON and switching OFF possible", then the channel is switched on if the received dimming<br>value is $\geq$ the minimum dimming value 1 and it is switched off if<br>the received dimming value is < min. dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value 0%.ON period 115<br>(1255)This parameter is visible if the operating mode "1-level switch<br>time mode" or "2-level switch time mode" is selected.This parameter determines the ON period respectively the ON<br>period 1 in 2-level switch time mode.If during the "on" period a command is received via the objects<br>scene, switching, dim   |  | 5                            |  |  |
| Off possible;<br>On if dimming value > 0% /<br>Off if dimming value = 0%If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value, then this parameter must be set to "ON if<br>dimming value $\geq$ min. dimming value". The channel is then<br>switched on and either jumped or dimmed to the dimming<br>value with the configured dimming time for dimming value set-<br>ting. If the received dimming value is below the minimum dim-<br>ming value, then the channel remains off. Switching off via<br>dimming value setting is impossible with this setting.<br>If the channel is switched on and this parameter is set to "OFF if<br>dimming value < min. dimming value", then receiving a tele-<br>gram with a dimming value < the minimum dimming value<br>leads to dimming (with the configured dimming time for dim-<br>ming value setting) down to the minimum dimming value 1 and<br>then to switching off of the channel. Switching on with dim-<br>ming value setting is impossible with this setting.<br>If this parameter is set to "Switching ON and switching OFF pos-<br>sible", then the channel is switched on if the received dimming<br>value is $\geq$ the minimum dimming value 1 and it is switched off if<br>the received dimming value is < min. dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% switches<br>the channel is set to the min. dimming value 0%.ON period 115<br>(1255)This parameter is visible if the operating mode "1-level switch<br>time mode" or "2-level switch time mode" is selected.This parameter determines the ON period respectively the ON<br>period 1 in 2-level switch time mode.If during the "on" period a command is received via the objects<br>scene, switching, dimming brighter/darker or dimming value,<br>then t  |  | 5 ,                          |  |  |
| On if dimming value > 0% /<br>Off if dimming value = 0%If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value, then this parameter must be set to "ON if<br>dimming value $\geq$ min. dimming value". The channel is then<br>switched on and either jumped or dimmed to the dimming<br>value with the configured dimming time for dimming value setting. If the received dimming value is below the minimum dim-<br>ming value, then the channel remains off. Switching off via<br>dimming value setting is impossible with this setting.If the channel is switched on and this parameter is set to "OFF if<br>dimming value < min. dimming value", then receiving a tele-<br>gram with a dimming value < the minimum dimming value<br>leads to dimming (with the configured dimming time for dim-<br>ming value setting) down to the minimum dimming value<br>leads to dimming the configured dimming time for dim-<br>ming value setting is impossible with this setting.If this parameter is set to "switching ON and switching OFF possible", then the channel is switched on if the received dimming<br>value is $\geq$ the minimum dimming value 1 and it is switched off if<br>the received dimming value is < min. dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value 0%.ON period 115<br>(1255)This parameter is visible if the operating mode "1-level switch<br>time mode" or "2-level switch time mode" is selected.This parameter determines the ON period respectively the ON<br>period 1 in 2-level switch time mode.If during the "on" period a command is received via the objects<br>scene, switching, dimming brighter/darker or dimming value,<br>then that command is executed and the timer for the "on" perio  |  |                              |  |  |
| Off if dimming value = 0%If switching on in the off state shall be possible by receiving a<br>dimming value, which is the same as or greater than the mini-<br>mum dimming value $\geq$ min. dimming value". The channel is then<br>switched on and either jumped or dimmed to the dimming<br>value with the configured dimming time for dimming value set-<br>ting. If the received dimming value is below the minimum dim-<br>ming value, then the channel remains off. Switching off via<br>dimming value setting is impossible with this setting.If the channel is switched on and this parameter is set to "OFF if<br>dimming value < min. dimming value", then receiving a tele-<br>gram with a dimming value < the minimum dimming value<br>leads to dimming (with the configured dimming time for dim-<br>ming value setting) down to the minimum dimming value 1 and<br>then to switching off of the channel. Switching OFF pos-<br>sible", then the channel is switched on if the received dimming<br>value is $\geq$ the minimum dimming value 1 and it is switched off if<br>the received dimming value is < min. dimming value > 0% / OFF if<br>dimming value = 0%", then any dimming value > 0% witches<br>the channel is set to the min. dimming value > 0% switches<br>the channel is set to the min. dimming value = 0%.ON period 115<br>(1255)This parameter is visible if the operating mode "1-level switch<br>time mode" or "2-level switch time mode" is selected.<br>This parameter determines the ON period respectively the ON<br>period 1 in 2-level switch time mode.<br>If during the "on" period a command is received via the objects<br>scene, switching, dimming brighter/darker or dimming value,<br>then that command is executed and the timer for the "on" pe-  |  |                              |  |  |
| dimming value, which is the same as or greater than the minimum dimming value, then this parameter must be set to "ON if dimming value $\geq$ min. dimming value". The channel is then switched on and either jumped or dimmed to the dimming value with the configured dimming time for dimming value setting. If the received dimming value is below the minimum dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching off via dimming value, then the channel remains off. Switching off via dimming value < min. dimming value", then receiving a telegram with a dimming value < the minimum dimming value leads to dimming (with the configured dimming time for dimming value setting) down to the minimum dimming value 1 and then to switching off of the channel. Switching on with dimming value setting is impossible with this setting. If this parameter is set to "Switching ON and switching OFF possible", then the channel is switched on if the received dimming value is $\geq$ the minimum dimming value 1 and it is switched off if the received dimming value is $<$ min. dimming value > 0% / OFF if dimming value = 0%", then any dimming value > 0% / OFF if dimming value = 0%", then any dimming value > 0% switches the channel on. If the dimming value is below the min. dimming value, the channel is set to the min. dimming value 0%. ON period 1 [1255 minutes] This parameter is visible if the operating mode "1-level switch time mode" or "2-level switch time mode" is selected. This parameter determines the ON period respectively the ON period 1 in 2-level switch time mode. If during the "on" period a command is received via the objects scene, switching, dimming brighter/darker or dimming value, then that command is executed and the timer for the "on" period 1 in 2-level switch time mode.  |  | Off if dimming value = 0%    |  |  |
| [1255 minutes] (1255)<br>This parameter is visible if the operating mode "1-level switch<br>time mode" or "2-level switch time mode" is selected.<br>This parameter determines the ON period respectively the ON<br>period 1 in 2-level switch time mode.<br>If during the "on" period a command is received via the objects<br>scene, switching, dimming brighter/darker or dimming value,<br>then that command is executed and the timer for the "on" pe-   | If switching on in the off state shall be possible by receiving a dimming value, which is the same as or greater than the minimum dimming value, then this parameter must be set to "ON if dimming value $\geq$ min. dimming value". The channel is then switched on and either jumped or dimmed to the dimming value with the configured dimming time for dimming value setting. If the received dimming value is below the minimum dimming value, then the channel remains off. Switching off via dimming value setting is impossible with this setting. If the channel is switched on and this parameter is set to "OFF if dimming value < min. dimming value", then receiving a telegram with a dimming value < the minimum dimming value leads to dimming (with the configured dimming value 1 and then to switching off of the channel. Switching on with dimming value setting is impossible with this setting. If this parameter is set to "Switching OFF possible", then the channel is switched on if the received dimming value 1. If the parameter is set to "ON the minimum value 1. If the parameter is set to "ON if dimming value 2 0% / OFF if dimming value = 0%", then any dimming value > 0% switches the channel on. If the dimming value is below the min. dimming value, the channel is set to the min. dimming value - 0% switches the channel is set to the min. dimming value - 0% switches the channel is set to the min. dimming value - 0% switches the channel is set to the min. dimming value. The channel |                              |  |  |
| This parameter is visible if the operating mode "1-level switch<br>time mode" or "2-level switch time mode" is selected.<br>This parameter determines the ON period respectively the ON<br>period 1 in 2-level switch time mode.<br>If during the "on" period a command is received via the objects<br>scene, switching, dimming brighter/darker or dimming value,<br>then that command is executed and the timer for the "on" pe-  |  |                              |  |  |
| time mode" or "2-level switch time mode" is selected.<br>This parameter determines the ON period respectively the ON<br>period 1 in 2-level switch time mode.<br>If during the "on" period a command is received via the objects<br>scene, switching, dimming brighter/darker or dimming value,<br>then that command is executed and the timer for the "on" pe-   |  |                              |  |  |
| This parameter determines the ON period respectively the ON period 1 in 2-level switch time mode.<br>If during the "on" period a command is received via the objects scene, switching, dimming brighter/darker or dimming value, then that command is executed and the timer for the "on" pe-   |  |                              |  |  |
| period 1 in 2-level switch time mode.<br>If during the "on" period a command is received via the objects<br>scene, switching, dimming brighter/darker or dimming value,<br>then that command is executed and the timer for the "on" pe-   |  |                              |  |  |
| scene, switching, dimming brighter/darker or dimming value, then that command is executed and the timer for the "on" pe-  |  |                              |  |  |
| then that command is executed and the timer for the "on" pe-  |  |                              |  |  |
|   | scene, switching, dimming brighter/darker or dimming value,  |                              |  |  |
|   |  | and the timer for the on pe- |  |  |

| Parameter  | Settings           |  |
|--|--------------------|--|
| ON delay [0600 seconds]  | <b>0</b><br>(0600) |  |
| This parameter sets the wanted ON delay time. A set ON delay<br>acts only on the object "Switching".<br>The default setting "0" means that ON commands are executed<br>immediately.    |                    |  |
| OFF delay<br>[0600 seconds]  | <b>0</b><br>(0600) |  |
| This parameter sets the wanted OFF delay time. A set OFF delay<br>acts only on the object "Switching".<br>The default setting "0" means that OFF commands are executed<br>immediately. |                    |  |

Technical manual

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August 2012

#### 07 B0 A1 Switch actuator 982C01

#### Operating mode: 2-level time switch mode

The "on" period 1 can be triggered and retriggered via the objects scene, switching, dimming brighter/darker or dimming value. When the "on" period 1 has expired then the channel is dimmed to the dimming value for "on" period 2 in the time "dimming time switching". There is no warning before switching off In 2-level time switch mode. When the timer is retriggered during "on" period 2 then the timer is reset into the "on" period 1.



#### **Objects**

| Obj  | Object name   | Function  | Туре         | Flag            |
|--|---|---|--------------|-----------------|
| 4  | A, Switching  | On / Off  | 1 bit        | CW              |
| Via this object the telegrams are received to switch the load connected to the respective channel on or off. |   |   |              |                 |
| 5  | A, Dimming  | brighter /<br>darker                            | 4 bit        | CW              |
| Via this object the dimming telegrams for the relevant channel are received.                                 |   |   |              |                 |
| -  |   |   | 4 1 1        |                 |
| 6  | A, Dimming value  | 8-bit value                                     | 1 byte       | CW              |
| Via th<br>are re<br>If the<br>value  | A, Dimming value<br>his object telegrams with a<br>eceived.<br>e received dimming value i<br>e the behavior of the cha<br>eter "switching via dimming | dimming valu<br>s below the m<br>nnel is deterr | ie for the c | hannel<br>mming |

The dimming time for dimming to the dimming value depends on the parameter "dimming time for setting dimming value from 0% to 100%".

# Parameter "A Functions, Objects"

| Operating mode                          | 2-level time switch mode  | -        |
|---|---------------------------|----------|
| 8-bit scene control                     | No                        | <u>.</u> |
| Counting of switching cycles            | No                        | <u>.</u> |
| Counting of operating hours             | No                        | •        |
| Behaviour on KNX power voltage failure  | no change                 | •        |
| Behaviour on KNX power voltage recovery | as before voltage failure |          |
| Status object switching                 | No                        |          |
| Status object dimming                   | No                        |          |
| Blocking object                         | No                        | -        |

This parameter window offers selection of the base function (normal mode, 1-level timer mode, 2-level timer mode, flashing) and of further functions of this actuator output channel. This includes,

- -whether an 8-bit scene control shall be added, - whether the switching cycles of this output channel
- shall be counted with or without an upper threshold,
- whether the operating hours for this output channel shall be counted with or without an upper threshold.
- whether a status object for switching or dimming value shall be added for this output channel,
- whether a locking object shall be added for this output channel,
- how the output channel shall behave on bus voltage failure and bus voltage recovery.

The parameter "Operating mode" is set to "2-level time switch mode".

| Parameter      | Settings   |
|----------------|--|
| Operating mode | <b>Normal mode</b><br>1-level time switch mode<br>2-level time switch mode<br>Flashing |

This parameter sets whether the channel is to work as a "normal" dimming channel or in 1-level timer mode, which can be switched on only via a switching, dimming, dimming value or scene recall command and is switched off automatically after the end of the configured on-time or whether it is to work in 2-level timer mode or whether it is to "flash".

A 2-level timer mode is to be set for corridor and stairwell lighting if complete switching off of the lighting after the ontime 1 has elapsed is to be avoided. A 2-level timer mode is also set for control of colored lighting effects.

If "1-level timer mode" is selected, then the parameter "ON period 1  $\,$ 

(in minutes)" is also displayed. If a switching, dimming, dimming value or scene recall command is received again while 1level timer mode and on period 1 are running, then the timer is reset to its initial value and the on-time extended accordingly.

After the configured "on" period has expired, the output chan-

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| Parameter   | Settings   | Parameter  |
|---|--|--|
| nel, if the warning function is<br>"warning before switching off")<br>rent value. This is to warn the re-<br>erate the light switch and thus<br>configured value before the lig<br>the current dimming value are<br>value then the minimum dimmi<br>If "2-level timer mode" is select<br>"ON period 1 (in minutes)", "C<br>"Dimming value during ON period<br>shown. Whereas dimming revert<br>timer mode, in 2-level timer m<br>end of the first ON period to t<br>period 2" which can be above of<br>value. Dimming reverts to 0% a<br>mode.<br>There is no warning before switt<br>mode.<br>If "Flashing" is selected, then th<br>Flashing (1255 seconds)" and | s enabled (via the parameter<br>, is dimmed to 50% of the cur-<br>oom user and allow him to op-<br>extend the "on" period by the<br>ghting is turned off. If 50% of<br>below the minimum dimming<br>ng value is assumed.<br>ed, then the three parameters<br>DN period 2 (in minutes)" and<br>eriod 2 (in percent)" are also<br>ts to 0% at the end of a 1-level<br>hode it will be dimmed at the<br>he "dimming value during ON<br>or below the previous dimming<br>at the end of the 2-level timer<br>ching off In 2-level time switch<br>he two parameters "ON period<br>I "OFF period Flashing (1255 | <ul> <li>channel doer</li> <li>"as before virestored.</li> <li>Value on buiction of the second of th</li></ul> |
| seconds)" are shown additiona<br>behavior. The switching object<br>and end blinking.<br>The dimming value during the  | Ily, which define the blinking of the channel is used to start   | <u>Parameter ,</u>   |
| the parameter "maximum dimn<br>dimming, and dimming value a   | ning value". The objects scene,  | Load adaptation: Dimr  |
| are not visible in the operating r  | node "flashing"  | compensation ripple co   |
| Behavior on bus voltage<br>failure  | switch off;  | Minimum dimming valu   |
| failure   | switch on to maximum dim-<br>ming value;   | Maximum dimming val  |
|   | no change  | Dimming time for switc   |
| This parameter determines the<br>nel (dimmer output) on bus volt<br>"no change" = On bus voltage fa<br>channel does not change.<br>"switch on to maximum dimmir<br>ure the channel is switched of<br>value.<br>"switch off" = On bus voltage f  | tage failure:<br>hilure the dimming value of the<br>ng value" = On bus voltage fail-<br>n to the maximum dimming   | Dimming time for dimm<br>from 0% to 100% [0.2.2<br>Dimming time for a for all2<br>from 0% to 100% [0.2.2<br>Starting value<br>Switch On value [11]<br>Switching off via dimmi<br>Switching on via dimmi  |
| off.  |  | Switching via dimming  |
| Behavior on bus voltage re-<br>covery<br>On bus voltage failure the curr<br>ming values of all channels are<br>This allows restoring the states   | saved in non-volatile memory.  | ON period 1 [1255 m<br>ON period 2 [1255 m<br>Dimming value during<br>ON delay (0600 seco<br>OFF-delay (0600 seco  |
| voltage recovery.<br>This parameter determines the<br>nel (dimmer output) on bus volt<br>"switch off": On bus voltage rec<br>off permanently (off state, 0%).<br>"switch on": On bus voltage rec<br>on permanently (to the switchir<br>switch on to "dimming value or<br>parameter "dimming value on I<br>The output is switched on to th<br>"no change" = On bus voltage fa  | behavior of the actuator chan-<br>tage recovery:<br>covery the channel is switched<br>covery the channel is switched<br>ag on value).<br>In bus voltage recovery": a new<br>bus voltage recovery" appears.<br>The value set by that parameter.   | This parame<br>correspondii<br>switch mode   |

| Parameter   | Settings                        |
|---|---------------------------------|
| channel does not change.<br>"as before voltage failure": The<br>restored. | state at bus voltage failure is |
| Value on bus voltage recov-   | 100                             |
| ery [0100%]   | (0100)                          |
| This parameter is visible, if th  | e parameter "behavior on bus    |
| voltage recovery" is set to " sw  | itch on to "dimming value on    |
| bus voltage recover" ".   | -                               |
| This parameter determines the   | dimming value to be set on      |

eter determines the dimming value to be set on recovery. This value is limited by the minimum um dimming values.

parameters are covered in the sections

- node
- nessaging
- ng cycle counter
- ng hours counter
- ontrol

# "A, Dimming"

| Load adaptation: Dimmer operation according to                               | Automatic detection of load type          | •        |
|--|---|----------|
| compensation ripple control  | Yes                                       | •        |
| Minimum dimming value [150%]   | 1   | ÷        |
| Maximum dimming value [10100%]   | 100                                       | ÷        |
| Dimming time for switching On/Off [0255 seconds]                             | 0   | ÷        |
| Dimming time for dimming darker / brighter<br>from 0% to 100% (0255 seconds) | 5   | ÷        |
| Dimming time for setting dimming value<br>from 0% to 100% [0255 seconds]     | 0   | <u>.</u> |
| Starting value   | switch On value according to parameter    | •        |
| Switch On value [1100%]  | 100                                       | <u>.</u> |
| Switching off via dimming darker   | Yes                                       | •        |
| Switching on via dimming brighter  | Yes                                       | •        |
| Switching via dimming value  | On if dimming value >= min. dimming value | •        |
| ON period 1 [1255 minutes]   | 15  | <u>÷</u> |
| ON period 2 [1255 minutes]   | 15  | -        |
| Dimming value during ON period 2 [0100%]                                     | 50  | •        |
| ON delay [0600 seconds]  | 0   | ÷        |
| OFF-delay [0600 seconds]   | 0   | ÷        |

eter window is used to set the behavior of the ing actuator output channel in "2-level time le".

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| Parameter   | Settings                        |   | Parameter  | Settings                         |
|---|---------------------------------|---|--|----------------------------------|
| Load adaptation: Dimmer Op-   | Automatic detection of load     |   | switched on from 0% to 100% the                                      |                                  |
| erating according to  | type;                           |   | tionally adjusted to the difference                                  | e of the old and new dimming     |
|   | Leading edge principle;         |   | values.  |                                  |
|   | Trailing edge principle         |   | Dimming time for dimming   | 5                                |
| This parameter sets the type of lo                                      | 5                               |   | darker / brighter from<br>0%-100% [1255 seconds]                     | (1255)                           |
| With automatic load adaptation,   |                                 |   | This parameter determines the tir                                    | ne in which dimming is per-      |
| load when the mains voltage whether to select leading or traili         |                                 |   | formed from 0% to 100% (or from                                      |                                  |
| If the load type cannot be ur   |                                 |   | (relative) dimming.  | - /                              |
| automatic load adaptation can be  |                                 |   | If the channel is not dimmed from                                    |                                  |
| mode manually fixed by setting t  |                                 |   | 100% to 0% then the dimming tir                                      |                                  |
| ciple" or "trailing edge principle"                                     |                                 |   | the difference of the old and new                                    |                                  |
| the operation of dimmable energ   |                                 |   | on the difference the time for rea<br>Dimming time for setting       | 0                                |
| Note: With energy-saving lamps,   | we recommend in principle       |   | dimming value from 0100%   | (0255)                           |
| that you do not set this mode to '                                      |                                 |   | [0255 seconds]   | (0233)                           |
| but to "leading edge control" or "t<br>ommended by the manufacturer     |                                 |   | This parameter determines wheth                                      | her a new dimming value is to    |
| Compensation ripple control   | No;                             |   | be jumped to (dimming time = 0)                                      | or in what time it will be       |
| compensation upple control  | Yes                             |   | dimmed from 0% to 100% (or fro                                       |                                  |
| This parameter determines if ripp                                       |                                 | 1 | If the channel is not dimmed from                                    |                                  |
| the device shall automatically be                                       | compensated. Not or falsely     |   | 100% to 0% then the dimming tir<br>the difference of the old and new |                                  |
| compensated ripple control signa  | ls on the mains power may       |   | on the difference the time for rea                                   |                                  |
| cause flickering of the lamp.   | -                               |   | Starting value   | Dimming value at switching       |
| Minimum dimming value   | <b>1</b><br>(150)               |   | 5  | off;                             |
| [150%]  | (150)                           |   |  | switch on value according        |
| This parameter sets the minimum   | dimming value which cannot      |   |  | to parameter;                    |
| be under-run when "dimming dar  |                                 |   |  | last received dimming value      |
| down to the minimum dimming   |                                 |   | This parameter defines to whic<br>"jumped" or dimmed on receiv       |                                  |
| If the parameter "Switching off   | via dimming darker" is set to   |   | switching command.   | ing a telegram with an ON        |
| "Yes", then a "Dimming darker" v  |                                 |   | If the setting "dimming value at s                                   | witching OFF" is selected ther   |
| ming value means that the chan  |                                 |   | it switches to the last dimming v                                    |                                  |
| If the parameter "Switching via o                                       |                                 |   | channel is switched off by a dimr                                    |                                  |
| dimming value < min. dimming below the minimum dimming va               |                                 |   | dimming value or by a dimmin   |                                  |
| be switched off.  |                                 |   | dimming value or by a limited o<br>for cleaning in night mode), ther |                                  |
| If the parameter "Switching via di                                      | mming value" is set to "Switch- |   | at that last dimming value in ea                                     |                                  |
| ing On and switching Off possible                                       |                                 |   | value at switching OFF" is bene                                      |                                  |
| the minimum dimming value me  | ans that the channel will be    |   | room, where pressing the switch                                      |                                  |
| switched off.   | 1                               |   | switches to the dimming value at                                     |                                  |
| Maximum dimming value   | 100                             |   | switch briefly a second time dims                                    | s or jumps to the max. dimming   |
| [10100%]  | (10100)                         |   | value.<br>The setting "last received dimmir                          | a value 1 or 2" is for example   |
| This parameter sets the maximum   | n dimming value, which cannot   |   | needed for constant brightness of                                    |                                  |
| be exceeded (i.e. in any case dim                                       |                                 |   | be switched off by dimming val                                       |                                  |
| maximum dimming value).   |                                 |   | ness controller which are below                                      | the minimum and not to be        |
| When dimming brighter this is or  | ly possible up to the maximum   |   | switched on by a dimming va  |                                  |
| dimming value.  |                                 |   | "Switching via dimming value n"                                      | must also be set to "not possi-  |
| If a dimming value above the max<br>ceived then the output channel is   |                                 |   | ble" for this.<br>Switch On value [1100%]                            | 100                              |
| dimming value.  | sony unimed to the maximum      |   | Switch On value [1100%]  | <b>100</b><br>(1100)             |
| Dimming time for switching  | 0                               |   |  | (1100)                           |
| On/Off [0255 seconds]   | (0255)                          |   | This parameter is only visible if th                                 | ne parameter "Starting value" is |
|   |                                 |   | set to "switch on value according                                    | to parameter".                   |
| This parameter determines if the  |                                 |   | This parameter determines the di                                     |                                  |
| tively the OFF value 0% are "jump                                       |                                 |   | when an "on" switching comman  | d is received.                   |
| what time it will be dimmed to the lift the channel is not switched off |                                 |   |  |                                  |
| in the channel is not switched Off                                      | from 100 % to 0% respectively   | 1 |  |                                  |
|   |                                 |   |  |                                  |

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| Parameter   | Settings                                      | Para         |
|---|---|--------------|
| Switching off via dimming   | No  | ON           |
| darker  | Yes   | [1           |
| If the channel is to be switched o  | off in the switched on status by              | This<br>time |
| dimming to a value below the r  |   | This         |
| this parameter must be set to "Ye   |   | time         |
| Switching on via dimming  | No  | lf du        |
| brighter  | Yes   | scen         |
|   |   | ther         |
| If switching on is to be possible   |   | is re        |
| relative dimming value "brighter"<br>"Yes". In this case, the channe  |   | Dim          |
| jumped to the minimum dimmi   |   | peri         |
| brighter to the received relative   |   | This         |
| figured dimming time for dimmir   |   | ON J<br>The  |
| Switching via dimming value   | not possible;                                 | 2-lev        |
|   | On if dimming value >= min.                   | 210          |
|   | dimming value;                                | 1            |
|   | Off if dimming value < min.<br>dimming value; |              |
|   | dimming value;<br>Switching On and switching  | 2            |
|   | Off possible;                                 | Brightness   |
|   | On if dimming value > 0% /                    | ght          |
|   | Off if dimming value = 0%                     | Bri          |
| If switching on in the off state s  |   |              |
| dimming value, which is the san   |   |              |
| mum dimming value, then this p dimming value $\geq$ min. dimming  |   |              |
| switched on and either jumped   |   |              |
| value with the configured dimmi   |   | Swit         |
| ting. If the received dimming val   | ON  |              |
| ming value, then the channel  | [0  |              |
| dimming value setting is impossil   |   |              |
| If the channel is switched on and   | This  |              |
| dimming value < min. dimming<br>gram with a dimming value <   | acts  |              |
| leads to dimming (with the con-   | The<br>imm                                    |              |
| ming value setting) down to the minimum dimming value 1 and   |   | OFF          |
| then to switching off of the ch   | [0  |              |
| ming value setting is impossible v  | with this setting.                            |              |
| If this parameter is set to "switch   |   | This         |
| sible", then the channel is switch  |   | acts         |
| value is $\geq$ the minimum dimming   | The<br>imm                                    |              |
| the received dimming value is < min. dimming value 1.<br>If the parameter is set to "ON if dimming value > $0\%$ / OFF if |   |              |
| dimming value = $0\%$ ", then any dimming value > $0\%$ / OFF if  |   |              |
| the channel on. If the dimming v  |   |              |
| value, the channel is set to the m  |   |              |
| is switched off only after receipt of   | of a dimming value 0%.                        |              |
| ON period 1   | 15  |              |
| [1255 minutes]  | (1255)  |              |
| This parameter is visible if the o  |   |              |
| time mode" or "2-level switch tim   |   |              |
| This parameter determines the ON period respectively the ON period 1 in 2-level switch time mode.                         |   |              |
| If during the "on" period a command is received via the objects   |   |              |
| scene, switching, dimming brighter/darker or dimming value,   |   |              |
| then that command is executed   |   |              |
| riod is retriggered.  |   | l I          |

| Parameter  | Settings                           |  |  |
|--|------------------------------------|--|--|
| ON period 2  | 15                                 |  |  |
| [1255 minutes]   | (1255)                             |  |  |
|  | operating mode "2-level switch     |  |  |
| time mode" is selected.  | - ON paried 2 in 2 level switch    |  |  |
| time mode.   | e ON period 2 in 2-level switch    |  |  |
|  | nmand is received via the objects  |  |  |
|  | ighter/darker or dimming value,    |  |  |
|  | d, the timer for the "on" period 1 |  |  |
| is retriggered and the 2-level sv  | vitch time is started again.       |  |  |
| Dimming value during ON  | 50                                 |  |  |
| period 2 [0100%]   | (0100)                             |  |  |
| -  | dimming value to be used during    |  |  |
| ON period 2 in 2-level switch tir  |                                    |  |  |
| The diagram below shows an e   | example of the dimming curve in    |  |  |
| 2-level switch time mode.  | -                                  |  |  |
| time 6   | 1 time                             |  |  |
| 6.0  | ng time for                        |  |  |
| Switch-or time 1 dimmi   | ing value Switch-on time 2         |  |  |
| 8 1  |                                    |  |  |
| the the test of te |                                    |  |  |
| 46   | Brightness                         |  |  |
|  |                                    |  |  |
|  |                                    |  |  |
|  |                                    |  |  |
|  |                                    |  |  |
| Time   |                                    |  |  |
| Switch-on telegram   |                                    |  |  |
| ON delay   | 0                                  |  |  |
| [0600 seconds]   | (0600)                             |  |  |
|  |                                    |  |  |
|  | d ON delay time. A set ON delay    |  |  |
| acts only on the object "Switchi   |                                    |  |  |
| The default setting "0" means that ON commands are executed  |                                    |  |  |
| immediately. OFF delay OFF delay   |                                    |  |  |
| [0600 seconds]   | OFF delay<br>[0600 seconds]        |  |  |
|  |                                    |  |  |
| This parameter sets the wanted OFF delay time. A set OFF delay   |                                    |  |  |
| acts only on the object "Switching".   |                                    |  |  |
| The default setting "0" means that OFF commands are executed   |                                    |  |  |
| immediately.   |                                    |  |  |
|  |                                    |  |  |
|  |                                    |  |  |

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#### **Operating mode: Flashing**

In operating mode "Flashing" only the switching object is enabled, via which the flashing mode can be switched on and off. Via parameter settings the objects for counting of switching cycles, counting of operating hours, switching status and locking can be enabled. The following additional parameters are available: Behavior on bus voltage failure and recovery, maximum and minimum dimming value, dimming time for switching and the on and off period when flashing.



# **Objects**

| Obj   | Object name  | Function | Туре  | Flag |
|---|--------------|----------|-------|------|
| 4   | A, Switching | On / Off | 1 bit | CW   |
| Via this object the switching telegrams are received. |              |          |       |      |

# Parameter "A Functions, Objects"

| Operating mode                          | Flashing                  | -        |
|---|---------------------------|----------|
| Counting of switching cycles            | No                        |          |
| Counting of operating hours             | No                        | <u>•</u> |
| Behaviour on KNX power voltage failure  | no change                 | <u>·</u> |
| Behaviour on KNX power voltage recovery | as before voltage failure | <u>-</u> |
| Status object switching                 | No                        | <u> </u> |
| Blocking object                         | No                        | -        |

This parameter window offers selection of the base function (normal mode, 1-level timer mode, 2-level timer mode, flashing) and of further functions of this actuator output channel. This includes,

- whether the switching cycles of this output channel shall be counted with or without an upper threshold,
- whether the operating hours for this output channel shall be counted with or without an upper threshold.

- whether a status object for switching or dimming value shall be added for this output channel,
- whether a locking object shall be added for this output channel,
- how the output channel shall behave on bus voltage failure and bus voltage recovery.

The parameter "Operating mode" is set to "Flashing".

| Parameter  | Settings  |  |  |
|--|---|--|--|
| Operating mode   | Normal mode<br>1-level time switch mode<br>2-level time switch mode<br>Flashing   |  |  |
| This parameter sets whether the<br>mal" dimming channel or in 1-lev<br>switched on only via a switching,<br>scene recall command and is swi<br>the end of the configured on-tim<br>2-level timer mode or whether it i  | el timer mode, which can be<br>dimming, dimming value or<br>tched off automatically after<br>e or whether it is to work in  |  |  |
| A 2-level timer mode is to be set for corridor and stairwell lighting if complete switching off of the lighting after the on-<br>time 1 has elapsed is to be avoided. A 2-level timer mode is also set for control of colored lighting effects.<br>If "1-level timer mode" is selected, then the parameter "ON pe-   |   |  |  |
| riod 1<br>(in minutes)" is also displayed. It<br>ming value or scene recall commu-<br>level timer mode and on period 7<br>is reset to its initial value and th<br>ingly.   | and is received again while 1-<br>I are running, then the timer<br>ne on-time extended accord-  |  |  |
| After the configured "on" period I<br>nel, if the warning function is<br>"warning before switching off"), i<br>rent value. This is to warn the roc<br>erate the light switch and thus e<br>configured value before the ligh<br>the current dimming value are b<br>value then the minimum dimming<br>If "2-level timer mode" is selected<br>"ON period 1 (in minutes)", "ON<br>"Dimming value during ON per<br>shown. Whereas dimming reverts | enabled (via the parameter<br>s dimmed to 50% of the cur-<br>om user and allow him to op-<br>xtend the "on" period by the<br>ting is turned off. If 50% of<br>elow the minimum dimming<br>g value is assumed.<br>d, then the three parameters<br>period 2 (in minutes)" and<br>iod 2 (in percent)" are also |  |  |
| timer mode, in 2-level timer mode<br>end of the first ON period to the<br>period 2" which can be above or<br>value. Dimming reverts to 0% at<br>mode.  | de it will be dimmed at the<br>e "dimming value during ON<br>below the previous dimming   |  |  |
| There is no warning before switch<br>mode.<br>If "Flashing" is selected, then the<br>Flashing (1255 seconds)" and "<br>seconds)" are shown additionally<br>behavior. The switching object o  | e two parameters "ON period<br>OFF period Flashing (1255<br>y, which define the blinking  |  |  |
| and end blinking.<br>The dimming value during the "<br>the parameter "maximum dimmi<br>dimming, and dimming value ar<br>are net visible in the energiating   | ng value". The objects scene,<br>id the associated parameters   |  |  |

are not visible in the operating mode "flashing"

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| ming value;<br>no change       no change         This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage failure the dimming value of the channel os not change.       "Memory and the channel is switched on to the maximum dimming value of the channel is switched on to the maximum dimming value.         "switch off" = On bus voltage failure the channel is switched off.       Switch off;<br>switch or;<br>as before voltage failure and dimming values of all channels are saved in non-volatile memory.<br>This allows restoring the states at bus voltage failure on bus voltage recovery:<br>"switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).         "switch off": On bus voltage recovery the channel is switched on permanently (off state, 0%).       This parameter determines the behavior of the actuator channel is switched on permanently (off state, 0%).         "switch off": On bus voltage recovery the channel is switched on permanently (off state, 0%).       This prameter is visible, if the parameter "behavior on bus voltage recover):<br>"switch off": On bus voltage recover the channel is switched on permanently (off state, 0%).         "switch off": On bus voltage recover is visible, if the parameter "behavior on bus voltage recover):<br>"switch off".       100         This parameter determines the dimming value to be set on bus voltage recover).       Note: that y but the minimum and maximum dimming values.         This parameter sare covered in the sections       Night mode         Status messaging       Switching cycle counter         Scene control       Scene control  | Parameter                        | Settings                          | Param           |
|---|----------------------------------|-----------------------------------|-----------------|
| ming value;<br>no change       no change         This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage failure:<br>"no change" = On bus voltage failure the dimming value of the<br>channel does not change.       "witch of the actuator channel<br>switch of the actuator channel is switched<br>off.         Switch off" = On bus voltage failure the channel is switched<br>off.       switch off;<br>switch off" = On bus voltage failure the channel is switched<br>off.       This pr<br>switch off" = On bus voltage re-<br>covery         On bus voltage failure the current switching states and dim-<br>ming values of all channels are saved in non-volatile memory.<br>This allows restoring the states at bus voltage failure on bus<br>voltage recovery.       Parain<br>switch off": On bus voltage recovery the channel is switched<br>on permanently (off state, 0%).         "switch off": On bus voltage recovery the channel is switched<br>on permanently (off state, 0%).       This pr<br>witch off'' on bus voltage recovery the channel is switched<br>on permanently (off state, 0%).         "switch off": On bus voltage recovery is<br>sestored.       100<br>(0100)         This parameter is visible, if the parameter "behavior on bus<br>voltage recovery".       Note:<br>the ot<br>switch on to "dimming value on<br>bus voltage recovery.         This parameter determines the dimming value to be set on<br>bus voltage recovery".       Note:<br>the ot<br>comp<br>of Locking         Status messaging       Switching cycle counter       This p<br>Scene control         Scene control       Scene control  | Behavior on bus voltage          | switch off;                       |                 |
| Ino change           This parameter determines the behavior of the actuator chan-<br>nel (dimmer output) on bus voltage failure:<br>"no change" = On bus voltage failure the dimming value of the<br>channel does not change.<br>"switch on to maximum dimming value" = On bus voltage fail-<br>ure the channel is switched on to the maximum dimming<br>value.         Image: This provide the channel is switched<br>off.           Behavior on bus voltage re-<br>covery         switch on;<br>as before voltage failure         This provide the current switching states and dim-<br>ming values of all channels are saved in non-volatile memory.<br>This allows restoring the states at bus voltage failure on bus<br>voltage recovery.         Parameter load<br>mode           On bus voltage failure the current switching states and dim-<br>ming values of all channels are saved in non-volatile memory.<br>This allows restoring the states at bus voltage failure on bus<br>voltage recovery.         Parameter load<br>mode           Switch off: On bus voltage recovery the channel is switched<br>on permanently (toft state, 0%).<br>"switch off: On bus voltage recovery the channel is switched<br>on permanently (to the switching on value).<br>"as before voltage failure": The state at bus voltage failure is<br>restored.         This pro-<br>(0100)           This parameter is visible, if the parameter "behavior on bus<br>voltage recovery".         Note:<br>the o<br>bus voltage recovery. This value is limited by the minimum<br>and maximum dimming values.         Note:<br>that y           The other parameters are covered in the sections<br>D Night mode         Night mode         Comming<br>causes           Status messaging         Switching cycle counter         This p<br>"res",<br>ming<br>if the<br>dimming<br>below  | failure                          | switch on to maximum dim-         | Load adap       |
| This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage failure:       Memory         "no change" = On bus voltage failure the dimming value of the channel does not change.       On bus voltage failure the dimming value of the channel is switched on to the maximum dimming value.       Items         "switch on to maximum dimming value" = On bus voltage failure the channel is switched ont the maximum dimming value.       This procession         "switch off" = On bus voltage failure the channel is switched off.       Switch off; switch on; as before voltage failure         On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory. This allows restoring the states at bus voltage failure on bus voltage recovery.       Paran Load (memory).         This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:       "with load whet is switched on permanently (off state, 0%).         "switch off": On bus voltage recovery the channel is switched on permanently (off state, 0%).       (0100)         This parameter determines the behavior on bus voltage failure is restored.       (0100)         This parameter is visible, if the parameter , behavior on bus voltage failure is restored.       (0100)         This parameter determines the dimming value on bus voltage recovery. This value is limited by the minimum and maximum dimming values.       Nide the dimming value on bus voltage recovery.         This parameter determines the dimming value to be set on bus voltage recovery. This value is limit   |                                  | 5                                 | compensal       |
| This parameter output) on bus voltage failure: "no change" = On bus voltage failure the dimming value of the channel does not change. "workton off" = On bus voltage failure the dimming value. "switch off" = On bus voltage failure the channel is switched off. Behavior on bus voltage recovery switch off" = On bus voltage recovery: Switch off: Switch off: Subsch off: <  |                                  | 2                                 |                 |
| <ul> <li>"no change" = On bus voltage failure the dimming value of the channel does not change.</li> <li>"switch on to maximum dimming value" = On bus voltage failure the channel is switched on to the maximum dimming value.</li> <li>"switch off" = On bus voltage failure the channel is switched off.</li> <li>Behavior on bus voltage recovery as before voltage failure</li> <li>On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory. This allows restoring the states at bus voltage failure on bus voltage recovery.</li> <li>This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:</li> <li>"switch on": On bus voltage recovery the channel is switched on permanently (off state, 0%).</li> <li>"switch on": On bus voltage recovery the channel is switched on permanently (to the switching on value).</li> <li>"as before voltage failure": The state at bus voltage failure is restored.</li> <li>Value on bus voltage recover 100</li> <li>(0100)</li> <li>This parameter determines the dimming value to be set on bus voltage recovery.</li> <li>This suitage recovery. This value is limited by the minimum and maximum dimming values.</li> <li>This parameter sare covered in the sections</li> <li>Night mode</li> <li>Locking</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> </ul>  |                                  |                                   |                 |
| channel does not change.       Immediate         "switch on to maximum dimming value" = On bus voltage failure       Immediate         "switch off" = On bus voltage failure the channel is switched off.       Immediate         Behavior on bus voltage recovery       switch off; switch on; as before voltage failure       Immediate         On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory.       Immediate       Immediate         On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory.       Immediate       Immediate         This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:       "mis witch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).       "mis parameter is visible, if the parameter "behavior on bus voltage recover".         "as before voltage failure": The state at bus voltage failure is restored.       Immediate       Not         Value on bus voltage recover       100       (0100)       If the or mode ciple*         voltage recover?.       is switch on to "dimming value on bus voltage recover."       Not         This parameter determines the dimming value to be set on bus voltage recover.       Not       Not         Dis parameter is visible, if the parameter "behavior on bus voltage recover."       Not       Not         This parameter determines the dimm  |                                  | 5                                 | Maximum         |
| <ul> <li>"switch on to maximum dimming value" = On bus voltage failure the channel is switched on to the maximum dimming value.</li> <li>"switch off" = On bus voltage failure the channel is switched off.</li> <li>Behavior on bus voltage reasson in non-volatile memory.</li> <li>This aparameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:</li> <li>"switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).</li> <li>"switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).</li> <li>"switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).</li> <li>"switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).</li> <li>"switch on": On bus voltage recovery the channel is switched off permanently (off state, 0%).</li> <li>"switch on": On bus voltage recovery the channel is switched off permanently (off state, 0%).</li> <li>"switch on": On bus voltage recovery the channel is switched off permanently (off state, 0%).</li> <li>"switch on": On bus voltage recovery the channel is switched on permanently (to the switching on value).</li> <li>"as before voltage failure": The state at bus voltage failure is restored.</li> <li>Value on bus voltage recover to (0100)</li> <li>This parameter determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.</li> <li>The other parameters are covered in the sections</li> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> </ul>   | 5 5                              | andre the anning value of the     | Dimming ti      |
| value.       "switch off" = On bus voltage failure the channel is switched off.         Behavior on bus voltage recovery       switch off; switch on; as before voltage failure         On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory. This allows restoring the states at bus voltage failure on bus voltage recovery.       Parar         This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:       "switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).       This parameter is visible if the parameter subus voltage failure is restored.         Value on bus voltage recover       100       [contook]       If the parameter is visible, if the parameter subehavior on bus voltage recover?         This parameter is visible, if the parameter subehavior on bus voltage recover?       100       [contook]         This parameter determines the dimming value to be set on bus voltage recover?       Night mode       [contook]         D Night mode       Locking       Status messaging       Switching cycle counter         Scene control       This figure       This figure       [figure         This graining figure       Scene control       [figure   |                                  | ng value" = On bus voltage fail-  | ON period       |
| "switch off" = On bus voltage failure the channel is switched<br>off.       This properties of the pr           | ure the channel is switched o    | on to the maximum dimming         | OFF period      |
| off.       switch off;<br>switch or;<br>as before voltage failure       For every         On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory.<br>This allows restoring the states at bus voltage failure on bus voltage recovery.<br>This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery the channel is switched<br>off permanently (off state, 0%).<br>"switch on": On bus voltage recovery the channel is switched<br>on permanently (to the switching on value).<br>"as before voltage failure": The state at bus voltage failure is<br>restored.       This pr<br>mode         Value on bus voltage recov-<br>bus voltage recovery"       100<br>(0100)       Night mode         This parameter determines the dimming value to be set on<br>bus voltage recovery".<br>This parameter determines the dimming value to be set on<br>bus voltage recovery".<br>This value is limited by the minimum<br>and maximum dimming values.       This pr<br>the off.         The other parameters are covered in the sections       This pr<br>comp<br>cause<br>Status messaging       Scene control         Night mode       Locking       Scene control       This pr<br>comp<br>cause  | , and of                         |                                   |                 |
| Both       correspondent         Behavior on bus voltage recovery       switch off;<br>switch on;<br>as before voltage failure       correspondent         On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory.<br>This allows restoring the states at bus voltage failure on bus<br>voltage recovery.       Parat         This parameter determines the behavior of the actuator chan-<br>nel (dimmer output) on bus voltage recovery:<br>"switch off": On bus voltage recovery the channel is switched<br>off permanently (off state, 0%).       This prime         "switch off": On bus voltage recovery the channel is switched<br>on permanently (to the switching on value).       With<br>load         "as before voltage failure": The state at bus voltage failure is<br>restored.       If the<br>autor         Value on bus voltage recovery       100<br>(0100)       Note:<br>that y         This parameter is visible, if the parameter "behavior on bus<br>voltage recovery" is set to "switch on to "dimming value on<br>bus voltage recover".       Note:<br>that y         This parameter determines the dimming value to be set on<br>bus voltage recover".       Note:<br>that y         Dug the mode       Locking       This p<br>cause         Status messaging       Switching cycle counter       This p<br>be ur<br>down         Scene control       This p<br>be ur<br>down       This p<br>cause  | -                                | failure the channel is switched   | This pa         |
| covery       switch on;<br>as before voltage failure       model         On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory.<br>This allows restoring the states at bus voltage failure on bus<br>voltage recovery.       Pararition         This allows restoring the states at bus voltage failure on bus<br>voltage recovery.       This restored         "switch off": On bus voltage recovery the channel is switched<br>on permanently (off state, 0%).       This restored.         Value on bus voltage recovery the channel is switched<br>on permanently (to the switching on value).       If the<br>autor<br>model         "as before voltage failure": The state at bus voltage failure is<br>restored.       If the<br>parameter is visible, if the parameter "behavior on bus<br>voltage recovery" is set to "switch on to "dimming value on<br>bus voltage recover".       Note:<br>that y         This parameter determines the dimming value to be set on<br>bus voltage recover. This value is limited by the minimum<br>and maximum dimming values.       This for<br>completer the dimming value to be set on<br>bus voltage recover. This value is limited by the minimum<br>and maximum dimming values.       This for<br>completer the dimming value to<br>be set on<br>bus to coking         Status messaging       Switching cycle counter       This for<br>completer the dimming<br>cause         Scene control       This for<br>be urn<br>down   |                                  | and the large of the              | corres          |
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| On bus voltage failure the current switching states and dimming values of all channels are saved in non-volatile memory.       Paran         This allows restoring the states at bus voltage failure on bus voltage recovery.       This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:       This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:         "switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).       "This parameter is switched off permanently (to the switching on value).         "as before voltage failure": The state at bus voltage failure is restored.       100         Value on bus voltage recovery       [0100)         This parameter is visible, if the parameter ,behavior on bus voltage recovery."       Note: that off the output on bus voltage recovery.         This parameter determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.       Note: that to omminimize the sections         D Night mode       Comp         D Locking       Scene control         Scene control       This parameter   | covery                           |                                   |                 |
| ming values of all channels are saved in non-volatile memory.         This allows restoring the states at bus voltage failure on bus voltage recovery.         This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:         "switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).         "switch off": On bus voltage recovery the channel is switched on permanently (to the switching on value).         "as before voltage failure": The state at bus voltage failure is restored.         Value on bus voltage recover       100         (0100)       (0100)         This parameter is visible, if the parameter ,behavior on bus voltage recover" is set to , switch on to "dimming value on bus voltage recover".       Note: that you but to be set on bus voltage recover.         This parameter determines the dimming value to be set on bus voltage recover.       This parameter determines the dimming value to be set on bus voltage recover.         The other parameters are covered in the sections       This gauge         Status messaging       Switching cycle counter         Operating hours counter       Scene control  | On bus voltage failure the cur   |                                   | Param           |
| This allows restoring the states at bus voltage failure on bus voltage recovery.       Evature         This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:       ""         "switch off": On bus voltage recovery the channel is switched on permanently (off state, 0%).       "This parameter switched on permanently (to the switching on value).         "as before voltage failure": The state at bus voltage failure is restored.       100         Value on bus voltage recovery is set to a switch on to "diaming value on bus voltage recovery" is set to a switch on to "diaming value on bus voltage recovery".       Note: the on the voltage recovery is set to a switch on to "diaming value on bus voltage recovery".         This parameter determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.       This for the diamine value.         The other parameters are covered in the sections       Night mode         Status messaging       Status messaging         Scene control       This for the diamine value is be ur down         If the diamine value is be ur down       This for the diamine value   |                                  |                                   | Load a          |
| voltage recovery.         This parameter determines the behavior of the actuator channel (dimmer output) on bus voltage recovery:         "switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).         "switch on": On bus voltage recovery the channel is switched on permanently (to the switching on value).         "as before voltage failure": The state at bus voltage failure is restored.         Value on bus voltage recovery       100         (0100)       (0100)         This parameter is visible, if the parameter "behavior on bus voltage recovery" is set to " switch on to "dimming value on bus voltage recovery."       Note: that the or summer and maximum dimming values.         The other parameters are covered in the sections       Night mode         Locking       Status messaging         Status messaging       Scene control         This per determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.       This per determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.  |                                  |                                   | eratin          |
| nel (dimmer output) on bus voltage recovery:       "switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).         "switch on": On bus voltage recovery the channel is switched on permanently (to the switching on value).       "with load on permanently (to the switching on value).         "as before voltage failure": The state at bus voltage failure is restored.       100         Value on bus voltage recover/ (0100)       (0100)         This parameter is visible, if the parameter "behavior on bus voltage recover/" is set to " switch on to "dimming value on bus voltage recovery. This value is limited by the minimum and maximum dimming values.       Note: that y but the gameter were the set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.         The other parameters are covered in the sections       Night mode         Deperating hours counter       Operating hours counter         Deperating hours counter       Scene control   | 5                                |                                   |                 |
| <ul> <li>"switch off": On bus voltage recovery the channel is switched off permanently (off state, 0%).</li> <li>"switch on": On bus voltage recovery the channel is switched on permanently (to the switching on value).</li> <li>"as before voltage failure": The state at bus voltage failure is restored.</li> <li>Value on bus voltage recov-</li> <li>(0100)</li> <li>This parameter is visible, if the parameter "behavior on bus voltage recovery" is set to " switch on to "dimming value on bus voltage recover" ".</li> <li>This parameter determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.</li> <li>The other parameters are covered in the sections</li> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> </ul>   |                                  |                                   |                 |
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| <ul> <li>"switch on": On bus voltage recovery the channel is switched on permanently (to the switching on value).</li> <li>"as before voltage failure": The state at bus voltage failure is restored.</li> <li>Value on bus voltage recover (0100)</li> <li>This parameter is visible, if the parameter "behavior on bus voltage recovery" is set to " switch on to "dimming value on bus voltage recover".</li> <li>This parameter determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.</li> <li>The other parameters are covered in the sections</li> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> </ul>   | 5                                | 5                                 | With a          |
| on permanently (to the switching on value).<br>"as before voltage failure": The state at bus voltage failure is<br>restored.<br>Value on bus voltage recov-<br>ery [0100%]<br>This parameter is visible, if the parameter "behavior on bus<br>voltage recovery" is set to " switch on to "dimming value on<br>bus voltage recover".<br>This parameter determines the dimming value to be set on<br>bus voltage recovery. This value is limited by the minimum<br>and maximum dimming values.<br>The other parameters are covered in the sections<br>Night mode<br>Locking<br>Status messaging<br>Switching cycle counter<br>Operating hours counter<br>Scene control<br>This parameter<br>the dimming<br>f the<br>"Yes",<br>ming<br>If the<br>"Yes",  |                                  |                                   | load v          |
| <ul> <li>"as before voltage failure": The state at bus voltage failure is restored.</li> <li>Value on bus voltage recovery 100 (0100)</li> <li>This parameter is visible, if the parameter "behavior on bus voltage recovery" is set to " switch on to "dimming value on bus voltage recover".</li> <li>This parameter determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.</li> <li>The other parameters are covered in the sections</li> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> <li>This parameter of the dimming value to be set on the sections</li> <li>This parameters are covered in the sections</li> <li>This parameters are covered in the sections</li> <li>If the dimming values.</li> </ul>   |                                  |                                   | wheth           |
| Value on bus voltage recov-<br>ery [0100%]       100<br>(0100)         This parameter is visible, if the parameter "behavior on bus<br>voltage recovery" is set to " switch on to "dimming value on<br>bus voltage recover".       Note:<br>the o         This parameter determines the dimming value to be set on<br>bus voltage recovery. This value is limited by the minimum<br>and maximum dimming values.       Note:<br>that y<br>but to<br>omm         The other parameters are covered in the sections       This parameters are covered in the sections         Night mode       Status messaging         Switching cycle counter       Operating hours counter         Operating hours counter       This p<br>be ur<br>down         Scene control       This p<br>be ur<br>down   | "as before voltage failure": The | e state at bus voltage failure is | If the          |
| ery [0100%]       (0100)         This parameter is visible, if the parameter "behavior on bus voltage recover," is set to " switch on to "dimming value on bus voltage recover,".       Note: the one of the parameter determines the dimming value to be set on bus voltage recover, This value is limited by the minimum and maximum dimming values.         The other parameters are covered in the sections       Night mode         Locking       Status messaging         Switching cycle counter       Operating hours counter         Operating hours counter       This per counter         Scene control       This per counter   |                                  |                                   |                 |
| <ul> <li>This parameter is visible, if the parameter "behavior on bus voltage recovery" is set to "switch on to "dimming value on bus voltage recover".</li> <li>This parameter determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.</li> <li>The other parameters are covered in the sections</li> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> </ul>   | -                                |                                   |                 |
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| <ul> <li>This parameter determines the dimming value to be set on bus voltage recovery. This value is limited by the minimum and maximum dimming values.</li> <li>The other parameters are covered in the sections</li> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> </ul>   |                                  |                                   | Note:           |
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| <ul> <li>bus voltage recovery. This value is limited by the minimum and maximum dimming values.</li> <li>The other parameters are covered in the sections</li> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> <li>This pe ur down If the minimum for the section of the dimming below</li> </ul>   |                                  | e dimming value to be set on      | but to          |
| The other parameters are covered in the sections<br>Night mode<br>Locking<br>Status messaging<br>Switching cycle counter<br>Operating hours counter<br>Scene control<br>This p<br>be ur<br>dowr<br>If the<br>"Yes",<br>ming<br>If the<br>dimm<br>belov  |                                  |                                   | omme            |
| <ul> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> </ul> This per undown if the dimministration of the sections of the dimministration of the dimministration of the sections of the dimministration of the dimministration of the sections of the dimministration of the sections of the dimministration of the dimministration of the sections of the dimministration of the diministration of the diministration of the diministration of th | and maximum dimming values.      |                                   | Comp            |
| <ul> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> </ul> This per undown if the dimministration of the sections of the dimministration of the dimministration of the sections of the dimministration of the dimministration of the sections of the dimministration of the sections of the dimministration of the dimministration of the sections of the dimministration of the diministration of the diministration of the diministration of th |                                  |                                   | This ne         |
| <ul> <li>Night mode</li> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> <li>This p be ur down if the "Yes", ming if the dimm below</li> </ul>  | •                                | vered in the sections             |                 |
| <ul> <li>Locking</li> <li>Status messaging</li> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> <li>This p be ur dowr If the "Yes", ming If the dimm below</li> </ul>  |                                  |                                   | compe           |
| <ul> <li>Switching cycle counter</li> <li>Operating hours counter</li> <li>Scene control</li> <li>This p<br/>be ur<br/>dowr<br/>If the<br/>"Yes",<br/>ming<br/>If the<br/>dimm<br/>belov</li> </ul>   | 5                                |                                   | cause           |
| <ul> <li>Operating hours counter</li> <li>Scene control</li> <li>This p<br/>be un<br/>down<br/>If the<br/>"Yes",<br/>ming<br/>If the<br/>dimm<br/>below</li> </ul>  | 00                               |                                   | Minim           |
| <ul> <li>Scene control</li> <li>This p<br/>be un<br/>down<br/>If the<br/>"Yes",<br/>ming<br/>If the<br/>dimm<br/>belov</li> </ul>   | ÷ •                              |                                   | [150            |
| be un<br>down<br>If the<br>"Yes",<br>ming<br>If the<br>dimm<br>belov  |                                  |                                   |                 |
| dowr<br>If the<br>"Yes",<br>ming<br>If the<br>dimm<br>belov   | Scene control                    |                                   | This pa         |
| If the<br>"Yes",<br>ming<br>If the<br>dimm<br>belov   |                                  |                                   | be und          |
| "Yes",<br>ming<br>If the<br>dimm<br>belov   |                                  |                                   | down            |
| ming<br>If the<br>dimm<br>belov   |                                  |                                   |                 |
| If the<br>dimm<br>belov   |                                  |                                   |                 |
| dimm<br>belov   |                                  |                                   |                 |
| belov   |                                  |                                   |                 |
|   |                                  |                                   |                 |
|   |                                  |                                   | below<br>be swi |

# eter "A, Dimming"

| Load adaptation: Dimmer operation according to   | Automatic detection of load type | •        |
|--|----------------------------------|----------|
| compensation ripple control                      | Yes                              | •        |
| Minimum dimming value [150%]                     | 1                                | <u>÷</u> |
| Maximum dimming value [10100%]                   | 100                              | ÷        |
| Dimming time for switching On/Off [0255 seconds] | 0                                | <u>.</u> |
| ON period Flashing [1255 seconds]                | 1                                | *        |
| OFF period Flashing [1255 seconds]               | 1                                | ÷        |

arameter window is used to set the behavior of the conding actuator output channel in "flashing

| Parameter   | Settings   |  |  |  |
|---|--|--|--|--|
| Load adaptation: Dimmer Op-<br>erating according to   | Automatic detection of load<br>type;<br>Leading edge principle;<br>Trailing edge principle   |  |  |  |
| This parameter sets the type of lo  |  |  |  |  |
| With automatic load adaptation,<br>load when the mains voltage<br>whether to select leading or traili   | With automatic load adaptation, the device checks the type of<br>load when the mains voltage is switched on and decides<br>whether to select leading or trailing edge control.           |  |  |  |
| If the load type cannot be un<br>automatic load adaptation can be<br>mode manually fixed by setting t<br>ciple" or "trailing edge principle"<br>the operation of dimmable energ | e deactivated and the operating<br>he mode to "leading edge prin<br>'. Primarily, this is required for   |  |  |  |
| <u>Note</u> : With energy-saving lamps, that you do not set this mode to  | Note: With energy-saving lamps, we recommend in principle that you do not set this mode to "Automatic load adaptation", but to "leading edge control" or "trailing edge control" as rec- |  |  |  |
| Compensation ripple control No;   |  |  |  |  |
|   | Yes  |  |  |  |
| This parameter determines if ripp<br>the device shall automatically be<br>compensated ripple control signa<br>cause flickering of the lamp.                                     | compensated. Not or falsely  |  |  |  |
| Minimum dimming value<br>[150%]   | <b>1</b><br>(150)  |  |  |  |
| This parameter sets the minimum dimming value , which cannot<br>be under-run when "dimming darker" (i.e. it can only be dimmed<br>down to the minimum dimming value ).          |  |  |  |  |
| If the parameter "Switching off via dimming darker" is set to "Yes", then a "Dimming darker" value below the minimum dimming value means that the channel will be switched off. |  |  |  |  |
| "Yes", then a "Dimming darker" v  |  |  |  |  |
| "Yes", then a "Dimming darker" v  | nel will be switched off.<br>dimming value" is set to "Off i<br>value", then a dimming value   |  |  |  |

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| Parameter   | Settings              |  |  |
|---|-----------------------|--|--|
| Maximum dimming value<br>[10100%]   | <b>100</b><br>(10100) |  |  |
| This parameter sets the maximum dimming value, which cannot<br>be exceeded (i.e. in any case dimming is only possible to the<br>maximum dimming value).<br>When dimming brighter this is only possible up to the maximum<br>dimming value.<br>If a dimming value above the maximum dimming value is re-<br>ceived then the output channel is only dimmed to the maximum<br>dimming value.                         |                       |  |  |
| Dimming time for switching<br>On/Off [0255 seconds]   | <b>0</b><br>(0255)    |  |  |
| This parameter determines if the configured ON value respec-<br>tively the OFF value 0% are "jumped" to (dimming time = 0) or in<br>what time it will be dimmed to the relevant value.<br>If the channel is not switched off from 100% to 0% respectively<br>switched on from 0% to 100% then the dimming time is propor-<br>tionally adjusted to the difference of the old and new dimming<br>values.            |                       |  |  |
| ON period Flashing<br>[1255 seconds]  | <b>1</b><br>(1255)    |  |  |
| This parameter determines the desired "on" flashing period.<br>Flashing is started and stopped via the object "Switching on/off".<br>The parameter "dimming time for switching on/off" determines<br>if the configured ON value is "jumped" to (dimming time = 0) or<br>in what time it will be dimmed to the relevant value.<br>Dimming to the ON value may extend the lifetime of the lamp in<br>flashing mode. |                       |  |  |
| OFF period Flashing<br>[1255 seconds]   | <b>1</b><br>(1255)    |  |  |
| This parameter determines the desired "off" flashing period.<br>The flashing frequency can be derived from the ON and OFF pe-<br>riods.   |                       |  |  |

#### Night mode

# **Objects**

This additional object is visible.

| Obj  | Object name   | Function | Туре  | Flag |
|--|---------------|----------|-------|------|
| 3  | A, Night mode | On / Off | 1 bit | CW   |
| This object is visible if the parameter "night mode" is set to |               |          |       |      |
| "Yes"  | -             |          |       |      |

This object serves to enable or disable "Night mode" for the corresponding channel via the bus. This object can also be sent by a pushbutton, a timer or a building management system, for example. If a logical 1 is received, then the corresponding output is switched to night mode.

In "Night mode" the channel can no longer be switched on permanently, but only for a limited time (for example, lighting for cleaning for 30 minutes). If the parameter "Warning before switching OFF" (see "Functions, Objects" parameter window) is set to "Yes", then after the configured time, the dimming value of the channel is set first to 50% of the prior value for safety reasons and then within about 30 seconds it is dimmed darker and the channel switched off. This lets a user of the room know the end of the ON time, and by pressing the light switch again, the lighting will be left ON for a further 30 minutes, for example.

If the "Night Mode" object is not used with a channel, then this channel can be switched on permanently.

### Parameter "A Functions, Objects"

| Operating mode                              | Normal Mode               | • |
|---|---------------------------|---|
| 8-bit scene control                         | No                        | • |
| Night mode                                  | Yes                       | • |
| ON period during night mode [1255 minutes]  | 30                        | * |
| Warning before switching Off [0255 seconds] | 30                        | ÷ |
| Counting of switching cycles                | No                        | • |
| Counting of operating hours                 | No                        | • |
| Behaviour on KNX power voltage failure      | no change                 | • |
| Behaviour on KNX power voltage recovery     | as before voltage failure | • |
| Status object switching                     | No                        | • |
| Status object dimming                       | No                        | • |
| Blocking object                             | No                        | • |

| Parameter Settings  |                                |  |
|---|--------------------------------|--|
| Night mode No;  |                                |  |
| _   | Yes                            |  |
| This parameter determines if the lighting can only be switched<br>on for a limited period at night (e.g. as lighting for cleaning) or |                                |  |
| if it can still be switched on permanently (night mode = No). If  |                                |  |
| "night mode = Yes" is selected then an object "night mode   |                                |  |
| On/Off" is added to enable or disa  | ble night mode via the bus and |  |

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| Parameter  | Settings                         |  |  |
|--|----------------------------------|--|--|
| the following parameter appears.   |                                  |  |  |
| ON period during night mode<br>[1255 minutes]  | <b>30</b><br>(1255)              |  |  |
| This parameter is visible if the po  |                                  |  |  |
| "Yes".   | indificter inglit mode is set to |  |  |
| This parameter determines how  | v long the channel shall be      |  |  |
| switched on during night mode.   |                                  |  |  |
| If during the "on" period a comm   |                                  |  |  |
| scene, switching, dimming brig<br>then that command is executed  |                                  |  |  |
| riod is retriggered.   | and the time for the off pe-     |  |  |
| After the configured "on" period   | has expired, the output chan-    |  |  |
| nel, if the warning function is ena  |                                  |  |  |
| ing before switching off"), is dim   |                                  |  |  |
| lue for 30 seconds. This is to wa  |                                  |  |  |
| minent switching off. By operation<br>is immediately dimmed to the sw  |                                  |  |  |
| is retriggered.  | intering on value and the timer  |  |  |
| Warning before switching Off   | 30                               |  |  |
| [0255 Seconds]   | (0255)                           |  |  |
| This parameter is only visible if the parameter "night mode" is  |                                  |  |  |
| set to "Yes" or the parameter "Operating mode" is set to "1-level  |                                  |  |  |
| switch time mode".   |                                  |  |  |
| This parameter determines for a channel in night mode or in 1-   |                                  |  |  |
| level time switch mode, how long after the timer has expired an imminent switching off shall be signaled by reducing the bright- |                                  |  |  |
| ness (50% of the current dimming value).   |                                  |  |  |
| When the room user operates th   |                                  |  |  |
| is turned on for the period config   |                                  |  |  |

#### Locking

If the locking object of a channel is set then the values of the objects switching, dimming, dimming value, scene and night mode are not evaluated or transmitted. The object values are updated though.

This means:

- Scenes are not saved or recalled when locking is enabled.
- Switching or dimming commands are not executed.
- A received dimming value is saved and may be used the next time the channel is switched on (parameter setting: switching on "to the last dimming value received")
- When the locking object is reset (value 0) the previously received switching/dimming commands are not executed.
- Already started timers continue running while the locking object is enabled and result in switching / dimming actions when the timer period expires. Timers are not retriggered when locking is enabled.

# **Objects**

This additional object is visible.

| Obj   | Object name  | Function  | Туре   | Flag   |
|---|--|---|--|--|
| 2   | A, Locking   | On / Off  | 1 bit  | CW   |
| set to<br>This of<br>respondent<br>object<br>mode<br>upda<br>Alreat<br>ject it<br>the t | object is only visible if th<br>o "Yes".<br>object is used to lock (disa<br>onding channel.<br>e locking object of a chanr<br>ets switching, dimming, di<br>e are not evaluated or trai<br>ted though.<br>dy started timers continue<br>s enabled and result in swi<br>imer period expires. Timer<br>is enabled. | ,<br>ble) or release<br>nel is set then<br>imming value,<br>nsmitted. The<br>e running whil<br>itching / dimm | (enable) t<br>the values<br>scene an<br>object val<br>e the lock<br>ing action | he cor-<br>of the<br>d night<br>ues are<br>ing ob-<br>s when |

Parameter "A Functions, Objects"

switch time mode.

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| Operating mode                          | Normal Mode               | • |
|---|---------------------------|---|
| 8-bit scene control                     | No                        | • |
| Night mode                              | No                        | • |
| Counting of switching cycles            | No                        | • |
| Counting of operating hours             | No                        | • |
| Behaviour on KNX power voltage failure  | no change                 | • |
| Behaviour on KNX power voltage recovery | as before voltage failure | • |
| Status object switching                 | No                        | • |
| Status object dimming                   | No                        | • |
| Blocking object                         | Yes                       | • |

| Parameter   | Settings           |  |
|---|--------------------|--|
| Blocking object   | <b>No</b> ;<br>Yes |  |
|   | Yes                |  |
| If this parameter is set to "Yes" then a locking object is added,<br>which allows locking or releasing switching and dimming of the<br>channel. |                    |  |

# Status messaging

The status objects for switching and dimming value contain the current output status of the actuator channel. If the current dimming value is zero (0) then the switching status is also set to zero (OFF).

In the operating mode flashing the value of the switching status object is set to 1 (ON) as long as flashing is on. If flashing is switched off the value is set to OFF.

The bus load generated by automatically sending status object values on change of state or on bus voltage recovery can be limited with the two parameters "Transmission blocking period for status objects after bus voltage recovery" and "Delay status objects". Both parameters affect all status objects of the channel. With e.g. a delayed sending of 0.2 seconds, if the switching status was transmitted, the status of the dimming value is sent the earliest after 0.2 seconds.

Only for the status object "dimming value" an additional parameter "Idle period" is visible to limit an unnecessarily high bus load due to dimming value status telegrams directly following each other during a dimming action.

# <u>Objects</u>

These additional objects are visible.

| Obj   | Object name                  | Function     | Туре   | Flag |
|---|------------------------------|--------------|--------|------|
| 8   | A, Status switching          | On / Off     | 1 bit  | CRT  |
| This object is visible if the parameter "status object switching"<br>is set to "Yes".<br>Depending on the selected parameter setting, this object is<br>used to query the switching status of the channel and if con-<br>figured to send it automatically after a change.<br>The number of dimming value status telegrams can be limited                              |                              |              |        |      |
| with  | the parameter "Delay statu   | us objects". |        |      |
| 9   | A, Status dimming va-<br>lue | 8-bit value  | 1 byte | CRT  |
| This object is visible if the parameter "status object dimming"<br>is set to "Yes".<br>Depending on the selected parameter setting, this object is<br>used to query the current dimming state (dimming value) of<br>the channel and if configured to send it automatically after a<br>change of value.<br>The number of dimming value status telegrams can be limited |                              |              |        |      |
| The number of dimming value status telegrams can be limited<br>with the parameter "Transmission blocking period for status<br>objects after bus voltage recovery".<br>The number of dimming value status telegrams can be limited<br>with the parameter "Delay status objects".   |                              |              |        |      |

Technik-Handbuch

# GAMMA *instabus*

# Application program description

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# Parameter "Module Functions"

| Transmission blocking period for status objects after<br>supply/bus voltage recovery [160 seconds]<br>Delay status objects [010 in 1/10 sec] | 15 **<br>2 **  |
|--|--|
| Parameter  | Settings   |
| Transmission blocking period<br>for status objects after bus<br>voltage recovery [160 sec-<br>onds]  | <b>15</b><br>(160)   |
| covery respectively a new start of   | nmediately after bus voltage re-<br>of the device no unnecessary bus<br>elegrams immediately following   |
| Delay status objects [010 in<br>1/10 sec]  | <b>2</b><br>(010)  |
| applied between two consecut   | delay respectively which delay is<br>ively following status telegrams<br>due to status telegrams immedi- |

# Parameter "A Functions, Objects"

| Operating mode                          | Normal Mode                        | -        |
|---|------------------------------------|----------|
| 8-bit scene control                     | No                                 | <u>.</u> |
| Night mode                              | No                                 | •        |
| Counting of switching cycles            | No                                 | <u>•</u> |
| Counting of operating hours             | No                                 | •        |
| Behaviour on KNX power voltage failure  | no change                          | •        |
| Behaviour on KNX power voltage recovery | as before voltage failure          | •        |
| Status object switching                 | send on change and on read request | •        |
| Status object dimming                   | send on change and on read request | •        |
| Idle Period (in seconds)                | 3                                  | <u>.</u> |
| Blocking object                         | No                                 | -        |

| Parameter  | Settings  |  |  |
|--|---|--|--|
| Status object switching  | send on read request only;<br>send on change and on read<br>request;<br><b>No</b> |  |  |
| This parameter determines if a communication object "status<br>switching" shall be added and when the status object value is to<br>be sent.<br>If "send on change and on read request" is selected, each |   |  |  |
| change of state is transmitted.<br>If "send on read request only" is selected, the status is not sent<br>automatically.  |   |  |  |

| Parameter  | Settings  |  |
|--|---|--|
| Status object dimming  | send on read request only;<br>send on change and on read<br>request;<br><b>No</b> |  |
| This parameter determines if a communication object "status<br>dimming value" shall be added and when the status object value<br>is to be sent.<br>If "send on change and on read request" is selected, each<br>change of state is transmitted.<br>If "send on read request only" is selected, the status is not sent<br>automatically.        |   |  |
| Idle period<br>[160 seconds]   | <b>3</b><br>(160)   |  |
| This parameter is only visible if the parameter "status object<br>dimming value" is set to "send on change".<br>This parameter determines the idle period between dimming<br>value status telegrams to limit an unnecessarily high bus load<br>due to dimming value status telegrams directly following each<br>other during a dimming action. |   |  |

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# 07 B0 A1 Switch actuator 982C01

# Switching cycles counter

Switching cycle counting enables monitoring of the connected load.

The counter is incremented with each change from "Off" to "On". In case of warning before switching off, each switching (flashing) is counted. If switching is configured in case of bus power failure and if with this switching the switching cycle threshold is exceeded, then this is transmitted after bus power recovery.

The object "Exceeding switching cycles threshold" is only transmitted (once) on change of value. If a new threshold is received or the switching cycle counter is reset then the value of the object "Exceeding switching cycles threshold" is only transmitted on change of value of this object.

When the counter object has reached its maximum possible value (4 294 967 295) then its value is retained until it is reset.

The value is reset by writing a value to the object for the (current) switching cycle value.

On bus voltage failure the values of all three objects for switching cycle counting are saved in order to restore them on bus voltage recovery.

The three objects are not reset by a download.

Switching cycle counting is active even if the parameter "Counting of switching cycles" is set to "No".

# **Objects**

These additional objects are visible.

| Obj  | Object name  | Function            | Туре   | Flag |  |
|--|--|---------------------|--------|------|--|
| 10   | A, switching cycle<br>counter  | 4-byte va-<br>lue   | 4 byte | CR   |  |
| This object is visible if the parameter "counting of switching<br>cycles" is not set to "No"<br>Via this object the number of switching cycles for the output<br>channel (1 switching cycle = switch output on and off again)<br>can be read at any time via the bus.                                  |  |                     |        |      |  |
| 11   | A, switching cycle<br>threshold  | 4-byte va-<br>lue   | 4 byte | CRW  |  |
| cycle<br>ing a<br>Via tl<br>the c  | This object is visible if the parameter "counting of switching<br>cycles" is set to "with limit monitoring" or "with limit monitor-<br>ing and automatic notification".<br>Via this object the threshold for the switching cycle count for<br>the output can be sent as an integer value between 1 and<br>4,294,967,295 to the switching actuator via the bus. |                     |        |      |  |
| 12   | A, switching cycle<br>threshold overrun  | 1 = Yes /<br>0 = No | 1 bit  | CRT  |  |
| This object is only available if the parameter "Counting of<br>switching cycles" in the "A Functions, Objects" parameter<br>window is set to "with threshold monitoring" or "with thresh-<br>old monitoring and automatic notification".<br>Via this object the attaining or exceeding of the relevant |  |                     |        |      |  |

| Obj | Object name                                       | Function | Туре | Flag |
|-----|---|----------|------|------|
|     | hing cycle count thresho<br>it can be queried whe |          |      |      |

# Parameter "A Functions, Objects"

| Parameter                    | Settings   |
|------------------------------|--|
| Counting of switching cycles | No;<br>No limit monitoring;<br>with limit monitoring,<br>with limit monitoring and<br>automatic notification |

This parameter enables counting of switching cycles (i.e. how often an output has been switched on and off again) for the corresponding output.

If the parameter is set to "without threshold monitoring", then only the communication object "A Number of switching cycles" is added to this output.

If the parameter is set to "with threshold monitoring", then the communication object "A Threshold for switching cycles", which prescribes a threshold and the communication object "A Exceeding switching cycles threshold", which reports the attaining or exceeding of the prescribed threshold, are also added. If the parameter is set to "with threshold monitoring and auto-

matic notification", then the value of the object "A Exceeding switching cycles threshold" is transmitted automatically.

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#### **Operating hours counter**

Counting operating hours enables monitoring of the connected load.

The operating hours are counted while the switching status of the channel is "On". Counting is active when the relay configured as normally open is closed respectively when the relay configured as normally closed is open. Only full seconds are counted. The value of the object "Operating hours" is incremented by one when 3,600 seconds have been counted.

The object "Exceeding operating hours threshold" is only transmitted (once) on change of value. If a new threshold is received or the operating hours counter is reset then the value of the object "Exceeding operating hours threshold" is only transmitted on change of value of this object. When the counter object has reached its maximum possible value (4 294 967 295) then its value is retained until it is reset.

The value is reset by writing a value to the object for the (current) switching cycle value.

Operating hours cannot be counted on bus voltage failure.

On bus voltage failure the values of all three objects for switching cycle counting are saved in order to restore them on bus voltage recovery.

The three objects are not reset by a download.

Counting operating hours is active even if the parameter "Counting of switching cycles" is set to "No".

# Objects

These additional objects are visible.

| Obj  | Object name  | Function          | Туре   | Flag |
|--|--|-------------------|--------|------|
| 13   | A, Operating hours counter                                       | 4-byte va-<br>lue | 4 byte | CR   |
| This object is visible if the parameter "counting of operating<br>hours" is not set to "No"<br>Via this object the current number of operating hours for the<br>relevant output (i.e. how many hours the output was ON) can<br>be queried via the bus at any time.   |  |                   |        |      |
| 14   | A, Operating hours 4-byte va- 4 byte CRW threshold lue           |                   | CRW    |      |
| This object is visible if the parameter "counting of operating<br>hours" is set to "with threshold monitoring" or "with threshold<br>monitoring and automatic notification".<br>Via these objects the threshold for the operating hours count<br>for the relevant output is sent as an integer value between 1<br>and 4,294,967,295 to the switching actuator via the bus. |  |                   |        |      |
| 15   | 5A, Operating hours<br>threshold overrun1 = Yes /<br>0 = No1 bit |                   | 1 bit  | CRT  |
| This object is only available if the parameter "Counting of op-<br>erating hours" in the "A Functions, Objects" parameter win-<br>dow is set to "with threshold monitoring" or "with threshold   |  |                   |        |      |

| Obj                                     | Object name | Function | Туре | Flag |
|---|-------------|----------|------|------|
| monitoring and automatic notification". |             |          |      |      |

This object reports attaining or exceeding the relevant operating hours count threshold or interrogate via the bus whether a threshold is being exceeded.

# Parameter "A Functions, Objects"

| Parameter                   | Settings  |
|-----------------------------|---|
| Counting of operating hours | <b>No;</b><br>No limit monitoring;<br>with limit monitoring,<br>with limit monitoring and auto-<br>matic notification |

This parameter enables operating hours counting (i.e. for how many hours the output was switched on) for the output channel.

If the parameter is set to "without threshold monitoring", then only the communication object " A Operating hours" is added to this output.

If the parameter is set to "with threshold monitoring", then the communication object "A Threshold for operating hours", which prescribes a thresh-old and the communication object "A Exceeding operating hours threshold", which reports the attaining or exceeding of the prescribed threshold, are also added.

If the parameter is set to "with threshold monitoring and automatic notification", then the value of the object "A Exceeding operating hours threshold" is transmitted automatically.

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#### Scene control

The "8-bit scene recall / save" function enables the user to change the characteristics of a preset scene stored in scene controllers for 8 bit scene control or in actuators with integrated 8 bit scene control, i.e. the user can change brightness levels and switching states of the groups within a scene, without changing the configuration using the ETS.

There is one communication object for transmitting the commands for saving the 8-bit scene and recalling the saved scene using the target scene number.

Before saving a scene the actuators belonging to that scene must be set to the desired light levels and switching states. When receiving a save telegram scene controllers or actuators with 8-bit scene function are commanded to interrogate the current light levels and switching states of the actuators and save these as scene settings.

The scenes refer to the object value of the switching object. When a scene is recalled then the associated value (On / Off) is internally written to the switching object as if an external telegram had been received. The actuator acts as if a switching message had been received via the bus. When a scene is saved the current value of the switching object is saved.

Note: If a scene is recalled before the corresponding values have been saved then there is no reaction to that scene recall.

#### Objects

This additional object is visible.

| Obj                   | Object name  | Function                                     | Туре                                   | Flag                             |
|-----------------------|--|--|--|----------------------------------|
| 1                     | A, 8-bit scene   | call / safe                                  | 1 byte                                 | CW                               |
| scen<br>the r<br>twee | object recalls (i.e. restore<br>e with the number x. Bin<br>number x of the wanted<br>n 1 and 64 (in which the<br>e binary number 0, the d | ts 05 contai<br>scene as a de<br>decimal num | n (in bina<br>cimal nur<br>Iber 1 corr | ry code)<br>nber be-<br>responds |

the binary number 1, etc.). If bit 7 is set to logical 1, then scene x is programmed and if bit 7 is set to logical 0, then scene x is recalled. Bit 6 is currently spare and must be set to logical 0.

# Parameter "A Functions, Objects"

| Parameter  | Settings |
|--|----------|
| 8-bit scene control  | No;      |
|  | Yes      |
| Use this parameter to set whether the 8-bit scene control incor- |          |

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#### Settings

porated in the switching actuator is to be enabled. If so, the corresponding communication object and the parameter window "A Scenes" are added for assignment of up to 8 scene numbers per output.

#### Parameter "A, Scenes"

Parameter

| 8-bit scenes configurable by user        | Yes | •        |
|--|-----|----------|
| Assignment 1 to scene [164] (0=not used) | 0   | ÷        |
| Assignment 2 to scene [164] (0=not used) | 0   | ÷        |
| Assignment 3 to scene [164] (0=not used) | 0   | ÷        |
| Assignment 4 to scene [164] (0=not used) | 0   | ÷        |
| Assignment 5 to scene [164] (0=not used) | 0   | ÷        |
| Assignment 6 to scene [164] (0=not used) | 0   | <u>.</u> |
| Assignment 7 to scene [164] (0=not used) | 0   | ÷        |
| Assignment 8 to scene [164] (0=not used) | 0   | ÷        |

| 8-bit scenes configurable by user        | Yes | •        |
|--|-----|----------|
| Assignment 1 to scene [164] (0=not used) | 6   | <u>.</u> |
| Dimming time [0255 seconds])             | 2   | ÷        |
| Delete saved scene value                 | No  | •        |
| Assignment 2 to scene [164] (0=not used) | 10  | <u>÷</u> |
| Dimming time (0255 seconds))             | 2   |          |
| Delete saved scene value                 | Yes | •        |
| Predefine                                | No  | <u> </u> |
| Assignment 3 to scene [164] (0=not used) | 21  | ÷        |
| Dimming time (0255 seconds))             | 2   | <u>÷</u> |
| Delete saved scene value                 | Yes | <u> </u> |
| Predefine                                | Yes | •        |
| Dimming Value [0100%]                    | 100 | ÷        |
|  |     |          |

| Parameter  | Settings                 |  |
|--|--------------------------|--|
| 8-bit scenes configurable by user  | No;                      |  |
|  | Yes                      |  |
| This parameter determines if scenes  | can be configured by the |  |
| user (via a scene telegram) at run tim   | e.                       |  |
| Assignment 1 to scene [164]  | 0                        |  |
| (0=not used)   | (064)                    |  |
| This parameter assigns the output of the actuator to an 8-bit scene with a number in the range of 1 to 64. "0" means that the specific assignment is not used. |                          |  |
| Note: If a scene is recalled before the corresponding values have  |                          |  |
| been saved then there is no reaction to that scene recall.   |                          |  |
| Dimming time [0255 seconds]  | 2                        |  |
|  | (0255)                   |  |

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| Parameter  | Settings                       |  |
|--|--------------------------------|--|
| This parameter determines the time after which, when the                           |                                |  |
| scene is recalled, dimming from the  | e current dimming value to     |  |
| the new value shall be completed.  |                                |  |
| Delete saved scene value   | No;                            |  |
|  | Yes                            |  |
| If this parameter is set to "No" then a device is retained even after a configu    | 5                              |  |
| If this parameter is set to "Yes" then a   |                                |  |
| device is deleted.   | 5                              |  |
| If the parameter "8-bit scenes configu   | arable by user" is set to "No" |  |
| then this parameter is not visible and   | I the scene already saved in   |  |
| the device is always deleted.  |                                |  |
| Predefine  | No;                            |  |
|  | Yes                            |  |
| If this parameter is set to "No" then t<br>be saved in the installation before the |                                |  |
| If this parameter is set to "Yes" then   |                                |  |
| ing the following parameter "dimming value".                                       |                                |  |
| If the parameter "8-bit scenes configurable by user" is set to "No"                |                                |  |
| then this parameter is not visible and the scene values must al-                   |                                |  |
| ways be preset.  |                                |  |
|  |                                |  |
| Dimming value [0100%]  | 100                            |  |
| Dimming value [0100%]  | <b>100</b><br>(0100)           |  |

and so on until scene assignment 8.



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# 4. Addition

# 4.1 Behavior on bus voltage recovery depending on the operation mode

On bus voltage recovery the parameters for switching on delay / switching off delay are not obeyed. Locking object and night object are set to OFF.

| Parameter: Behavior on bus<br>voltage recovery Operating mode |   | Switching behavior   |
|---|---|--|
| switching off   | Normal mode<br>1-level time switch mode<br>2-level time switch mode<br>Flashing | switch permanently OFF   |
|   | Normal mode   | switch permanently ON  |
| switching on  | 1-level time switch mode<br>2-level time switch mode<br>Flashing                | Start switching on and timer<br>Start switching on and timer<br>Switch flashing ON   |
|   | Normal mode   | set permanently to last dimming value before bus volt-<br>age failure  |
|   | 1-level time switch mode  | Start timer with last dimming value before bus voltage failure   |
| as before voltage failure                                     | 2-level time switch mode  | Start timer with last dimming value before bus voltage failure   |
|   | Flashing  | Switch flashing ON, if ON before bus voltage failure<br>respectively<br>Switch flashing OFF, if OFF before bus voltage failure |
|   | Normal mode   | set permanently to parameter dimming value on bus vol-<br>tage recovery  |
|   | 1-level time switch mode  | Start timer with parameter dimming value on bus volt-<br>age recovery  |
| Parameter dimming value at<br>power voltage recovery          | 2-level time switch mode  | Start timer with parameter dimming value on bus volt-<br>age recovery  |
|   | Flashing  | Switch flashing ON, if ON before bus voltage failure<br>respectively<br>Switch flashing OFF, if OFF before bus voltage failure |

Switching speed is determined by parameter "dimming time for switching".

When switching ON the minimum dimming value is "jumped" to first and then the output is dimmed to the target value with the "dimming time for switching".

When switching OFF the output value is first dimmed to the minimum dimming value with the "dimming time for switching" and then "jumps" to the target value 0.

On bus voltage recovery and with configuration of the status objects "Sending on change of status and cyclically" the status object values are transmitted automatically.

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# 4.2 Behavior on dimming via object "Switching"

Used parameters:

- Starting value
- Dimming time for switching On/Off
- Minimum dimming value
- Maximum dimming value
- ON delay
- OFF delay

The locking object must be set to OFF. After a value was received via the switching object, the switching on delay and switching off delay have to expire first before one of the following evaluations is valid.

| Event: Up-<br>date switch<br>object | Parameter:<br>"Starting val-<br>ue" | Current<br>dimming<br>value | Reaction/switching behavior   |
|-------------------------------------|-------------------------------------|-----------------------------|---|
| ON                                  | Dimming value<br>at switch-off      | 0                           | <ol> <li>jump to minimum dimming value</li> <li>dim to dimming value before switch-off (when dimming value before switch-off &lt; minimum dimming value =&gt; minimum dimming value sustains)</li> </ol>  |
|                                     |                                     | > 0                         | 1. dim to maximum dimming value   |
| ON                                  | Dimming value<br>at switch-on       | 0                           | 1. jump to minimum dimming value<br>2. dim to switch-on value<br>1. dim to switch-on value  |
|                                     | Latest received 0<br>dimming value  |                             | <ol> <li>jump to minimum dimming value</li> <li>dim to last received dimming value (limit accordingly, if it is<br/>higher than maximum dimming value or lower than minimum<br/>dimming value)</li> </ol> |
|                                     |                                     | >0                          | 1. dim to last received dimming value (limit accordingly, if it is<br>higher than maximum dimming value or lower than minimum<br>dimming value)   |
| OFF                                 | n.a (*)                             | 0                           | stays off   |
|                                     | n.a. (*)                            | > 0                         | <ol> <li>dim to minimum dimming value</li> <li>switch off</li> </ol>  |

(\*) n.a. = not applicable

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# 4.3 Graphic representation of starting position at different parameterisation

# 4.3.1 Behaviour at "Switch-on to dimming value at switch-off"



The above figure shows the dimming curves for switching on and switching off via the switching object with the configuration "switching on to dimming value at switching off".

# 4.3.2 Verhalten beim Dimmen über Objekt "relatives Dimmen"

Used parameters

- Switch-on via dimming brighter
- Switch-off via dimming darker
- Dimming time for dimming brighter / darker
- Minimum dimming value
- Maximum dimming value



The above figure shows the dimming curves for switching with the configuration: switching on via dimming = No switching off via dimming = No





The above figure shows the dimming curves for switching with the configuration: switching on via dimming = Yes switching off via dimming = No

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The above figure shows the dimming curves for switching with the configuration:

switching on via dimming = No switching off via dimming = Yes



The above figure shows the dimming curves for switching with the configuration: switching on via dimming = Yes switching off via dimming = Yes

# 4.3.3 Behaviour at dimming via object "dimming value"

Used parameters:

- Switching via dimming value
- Dimming time for dimming value
- Minimum dimming value
- Maximum dimming value



The above figure shows the dimming curves for dimming with dimming value:

parameter "switching via dimming value" = "not possible"



The above figure shows the dimming curves for dimming with dimming value: parameter "switching via dimming value" = "On if dim-

parameter "switching via dimming value" = "On if dimming value >= min. dimming value"

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The above figure shows the dimming curves for dimming with dimming value:

parameter "switching via dimming value" = "Off if dimming value < min. dimming value"



The above figure shows the dimming curves for dimming with dimming value:

parameter "switching via dimming value" = "Switching On and switching Off possible"



The above figure shows the dimming curves for dimming with dimming value:

parameter "switching via dimming value" = "On if dimming value > 0% / Off if dimming value = 0%"

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Space for notes