# Programming Manual

# Surface GRMS Module


**Document Version:** 1.1

**Last Revision:** 23.01.2026

**Product Code:** CR-SFS-xx-KNX-GRMS

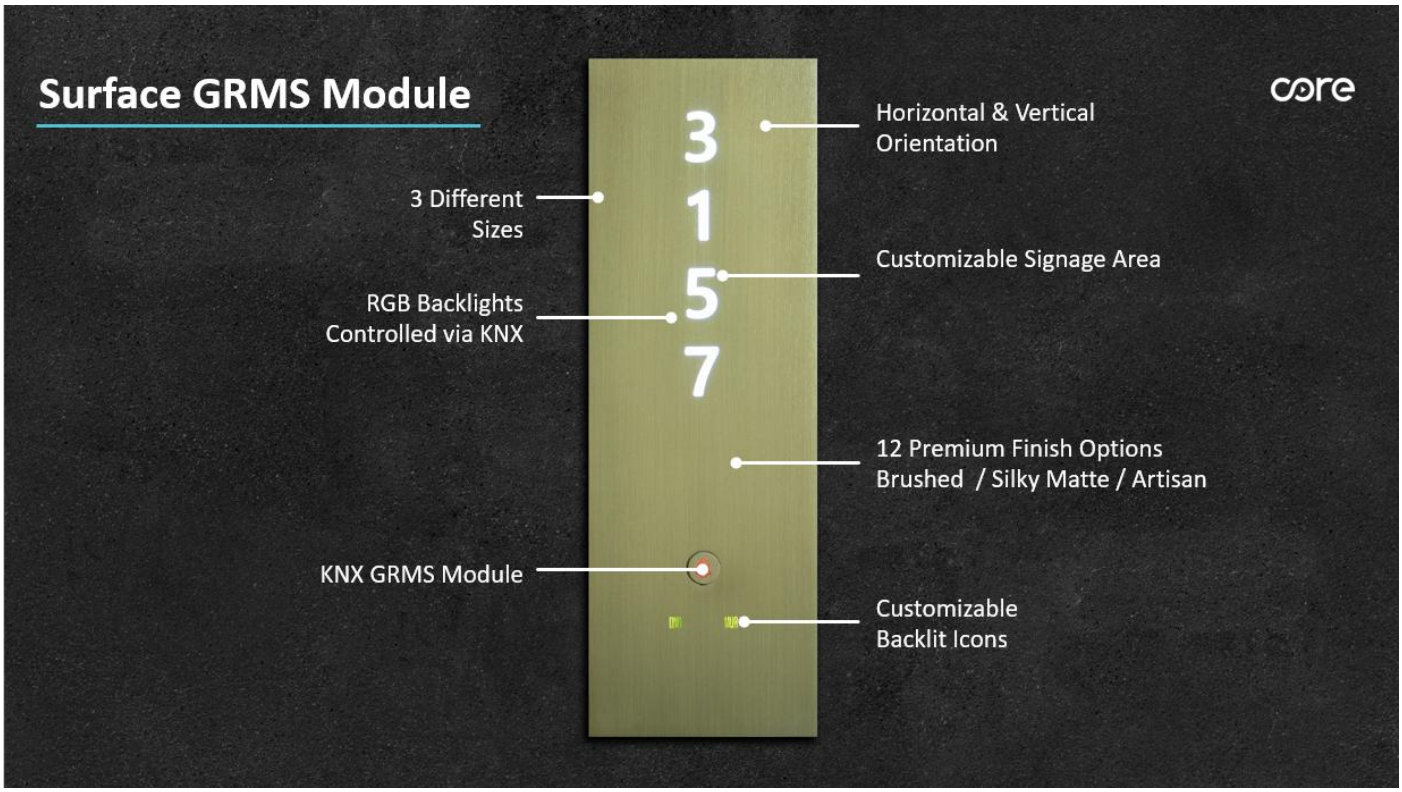
## Table Of Contents

# 1. Presentation

A minimalist, Italian-standard modular switch series designed forKNX systems. Combines multiple functions in a single frame withflexible configurations.

Features customizable RGB lighting, 3 size options, 12 premiumfinishes, and CNC-crafted quality—where technology meetscraftsmanship.

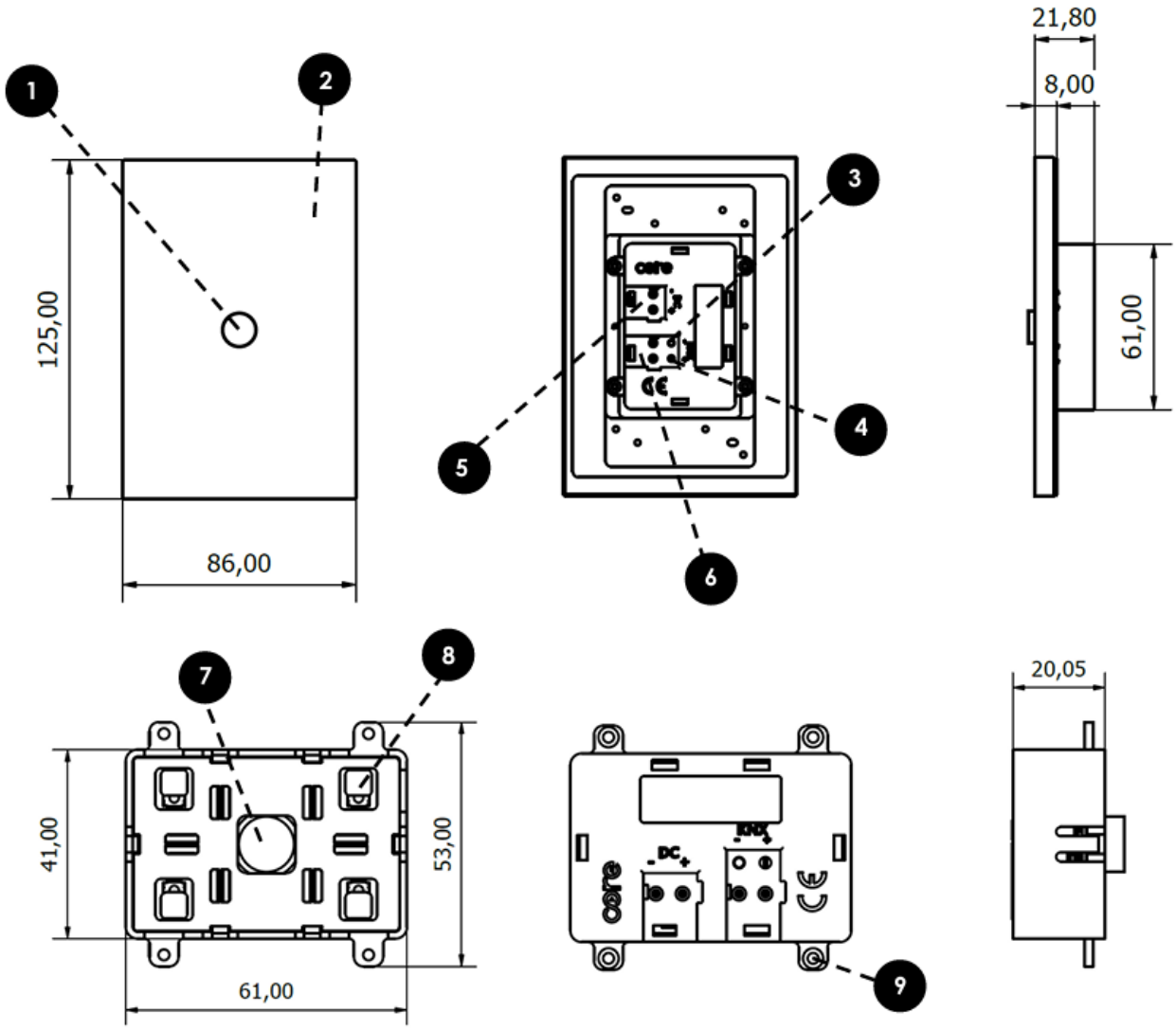
## 1.1. Main Features



## 1.2. Dimensions

### 1x3M GRMS Module

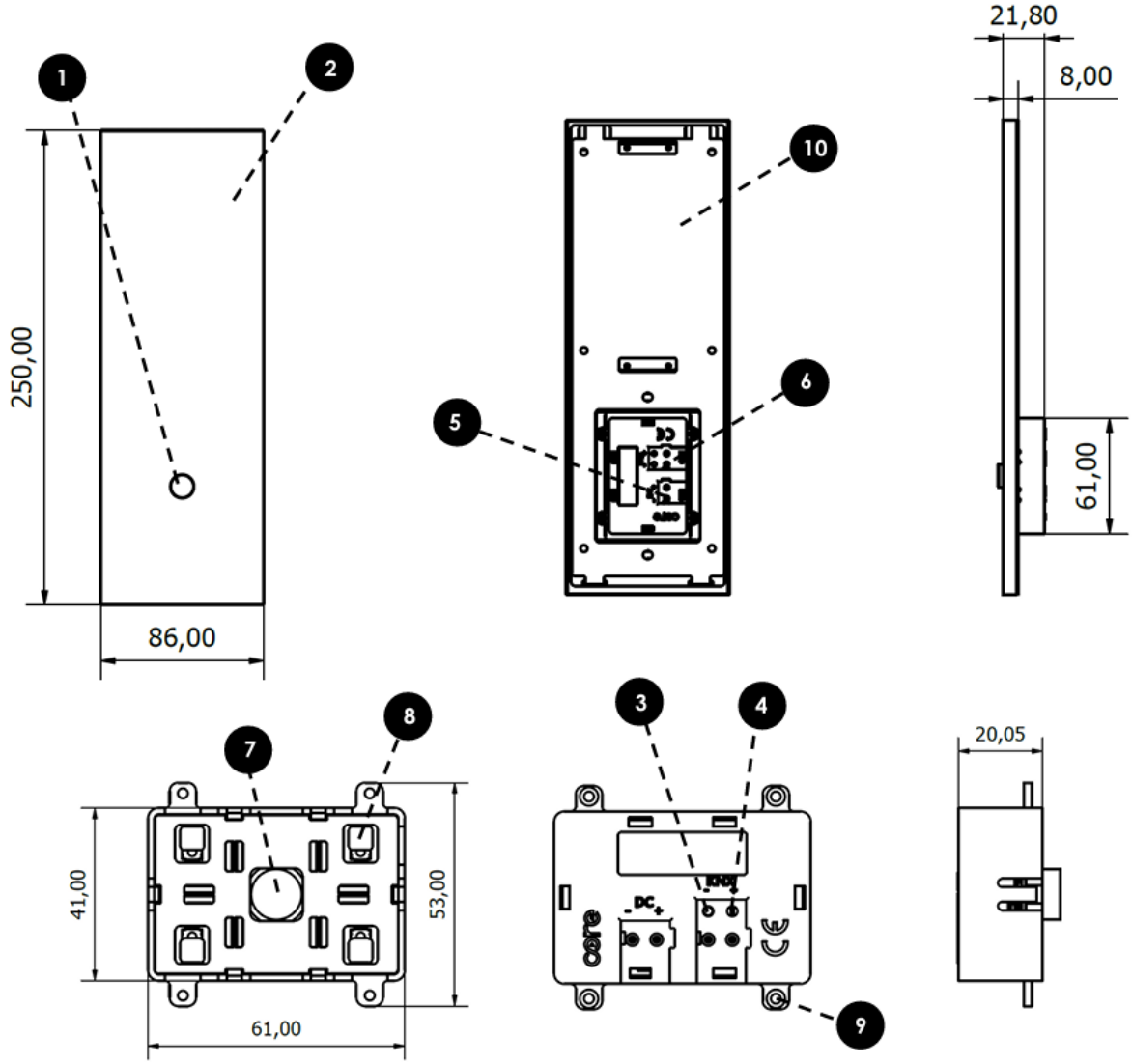
Dimensional drawing (all dimensions are in mm)




1. Button Metal Part (Sold Separately)
2. Frame (Sold Separately)
3. KNX Programming Button
4. KNX Programming Led
5. Auxiliary Power Connector (Not used)
6. KNX Connector
7. Button with RGB Led
8. RGB Leds
9. Screw Holes

**2x3M GRMS Module**

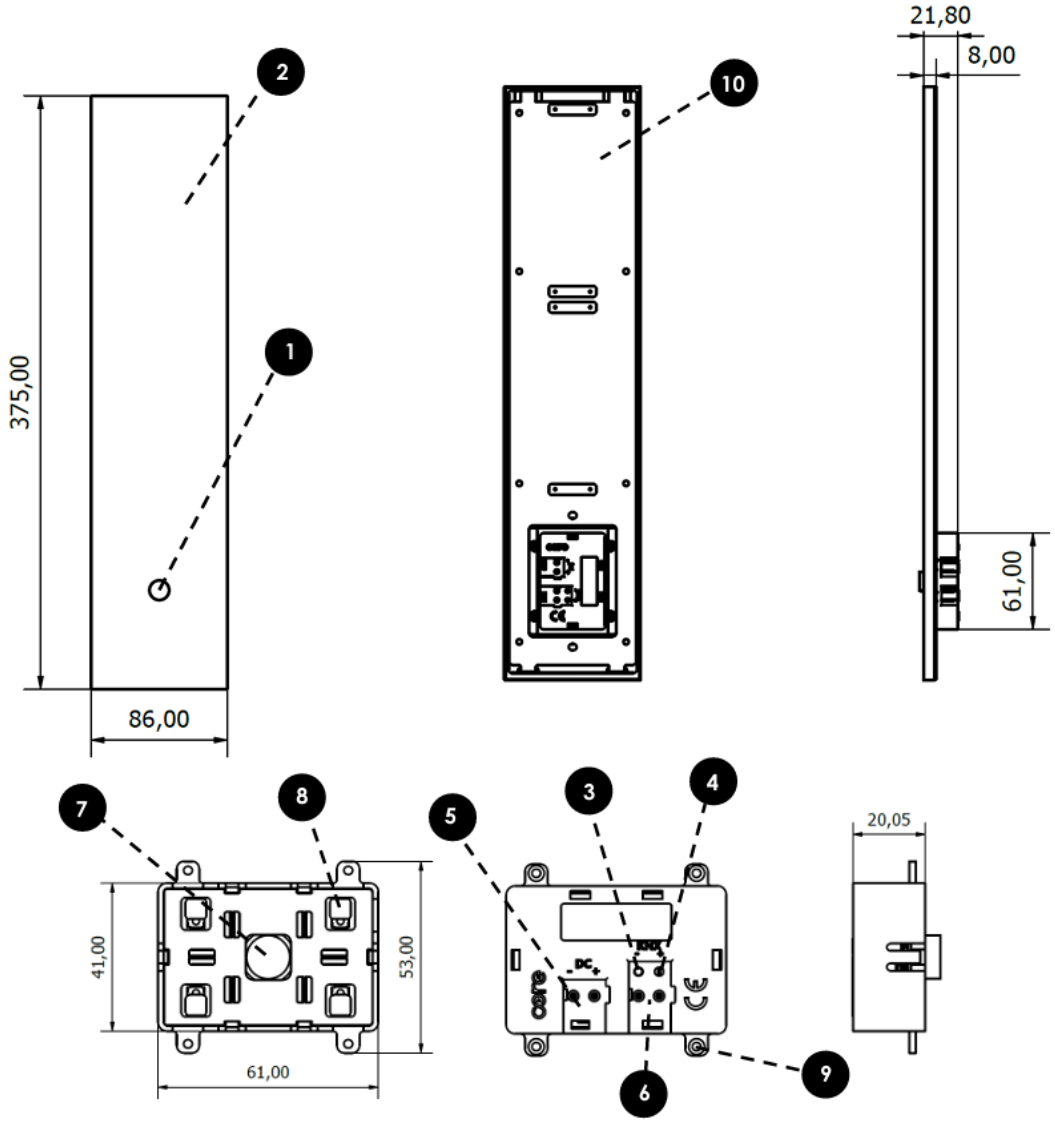
Dimensional drawing (all dimensions are in mm)




1. Button Metal Part (Sold Separately)
2. Frame (Sold Separately)
3. KNX Programming Button
4. KNX Programming Led
5. Auxiliary Power Connector
6. KNX Connector
7. Button with RGB Led
8. RGB Leds
9. Screw Holes
10. Metal Support

### 3x3M GRMS Module

Dimensional drawing (all dimensions are in mm)




1. Button Metal Part (Sold Separately)
2. Frame (Sold Separately)
3. KNX Programming Button
4. KNX Programming Led
5. Auxiliary Power Connector
6. KNX Connector
7. Button with RGB Led
8. RGB Leds
9. Screw Holes
10. Metal Support

## 2. Technical Specification

### 1x3M GRMS Module

| | |
|---|---|
| **Dimensions (Frame):** | 125mm X 86mm X 8mm |
| **Dimensions (Electronic Part):** | 61mm X 41mm X 20mm |
| **Casing Material:** | Aluminium, Brass, Nickel, Copper and Aged Brass depending on the finish selection |
| **Power:** | 30 VDC - from KNX Bus Line |
| **Consumption:** | < 12 mA from KNX Bus-line |
| **Connectivity:** | KNX-TP |
| **Programming Tool:** | ETS |
| **Installation:** | Italian Standard In Wall Box, 3M size and more |
| **Operating Temperature:** | 0°C / +45°C |
| **Storage Temperature:** | -10°C / +55°C |
| **Relative Humidity:** | 95% not condensing |
| **Certification:** | Device complies with Electromagnetic Compatibility Directive(2014/30/EU). Tests carried out according to EN55032:2015 and EN55035:2017. |

### 2x3M GRMS Module

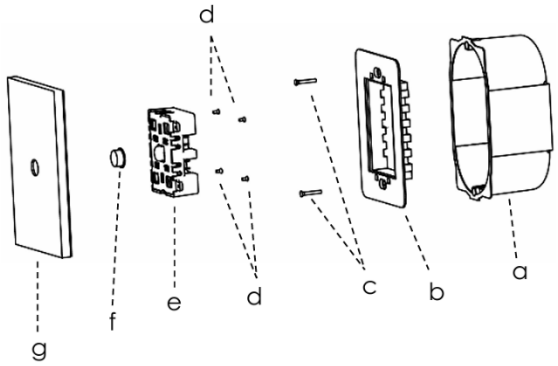
| | |
|---|---|
| **Dimensions (Frame):** | 250mm X 86mm X 8mm |
| **Dimensions (Electronic Part):** | 61mm X 41mm X 20mm |
| **Casing Material:** | Aluminium, Brass, Nickel, Copper and Aged Brass depending on the finish selection |
| **Power:** | 12-30 VDC - via KNX Auxiliary Power Supply or Separate Power Supply |
| **Consumption:** | < 20 mA from KNX Auxiliary Power Supply, 0,6 Watt<br>< 12 mA from KNX Bus-line |
| **Connectivity:** | KNX-TP |
| **Programming Tool:** | ETS |
| **Installation:** | Italian Standard Installation box for Flush-mounting, 3M size<br>(Dry wall installation box is not recommended for perfect alignment on the wall) |
| **Operating Temperature:** | 0°C / +45°C |
| **Storage Temperature:** | -10°C / +55°C |
| **Relative Humidity:** | 95% not condensing |
| **Certification:** | Device complies with Electromagnetic Compatibility Directive(2014/30/EU). Tests carried out according to EN55032:2015 and EN55035:2017. |

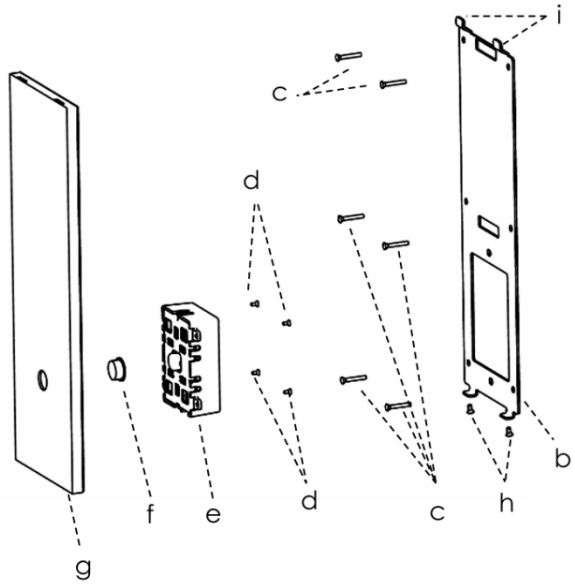
### 3x3M GRMS Module

| | |
|---|---|
| **Dimensions (Frame):** | 375mm X 86mm X 8mm |
| **Dimensions (Electronic Part):** | 61mm X 41mm X 20mm |
| **Casing Material:** | Aluminium, Brass, Nickel, Copper and Aged Brass depending on the finish selection |
| **Power:** | 12-30 VDC - via KNX Auxiliary Power Supply or Separate Power Supply |
| **Consumption:** | < 40 mA from KNX Auxiliary Power Supply, 1,2 Watt<br>< 12 mA from KNX Bus-line |
| **Connectivity:** | KNX-TP |
| **Programming Tool:** | ETS |
| **Installation:** | Italian Standard Installation box for Flush-mounting, 3M size<br>(Dry wall installation box is not recommended for perfect alignment on the wall) |
| **Operating Temperature:** | 0°C / +45°C |
| **Storage Temperature:** | -10°C / +55°C |
| **Relative Humidity:** | 95% not condensing |
| **Certification:** | Device complies with Electromagnetic Compatibility Directive(2014/30/EU). Tests carried out according to EN55032:2015 and EN55035:2017. |

## 2.1. Installation

### 2.1.1. Mounting




a) Wall mounting box

b) Mounting support (sold separately)

c) Support fixing screws

d) Electronic part fixing screws

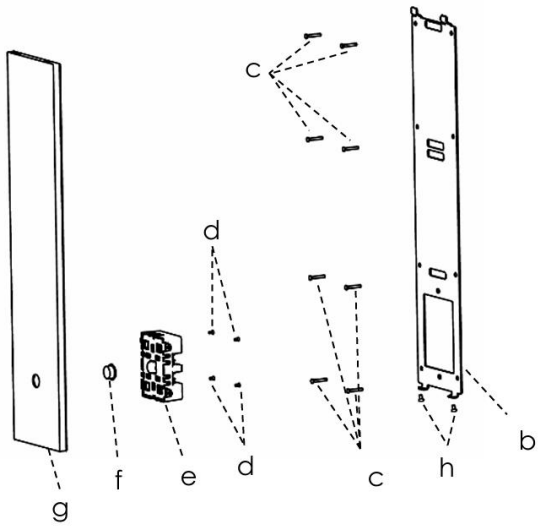
e) Electronic part

f) Metal Buttons (sold separately)

g) Frame (sold separately)

h) Frame fixing screws

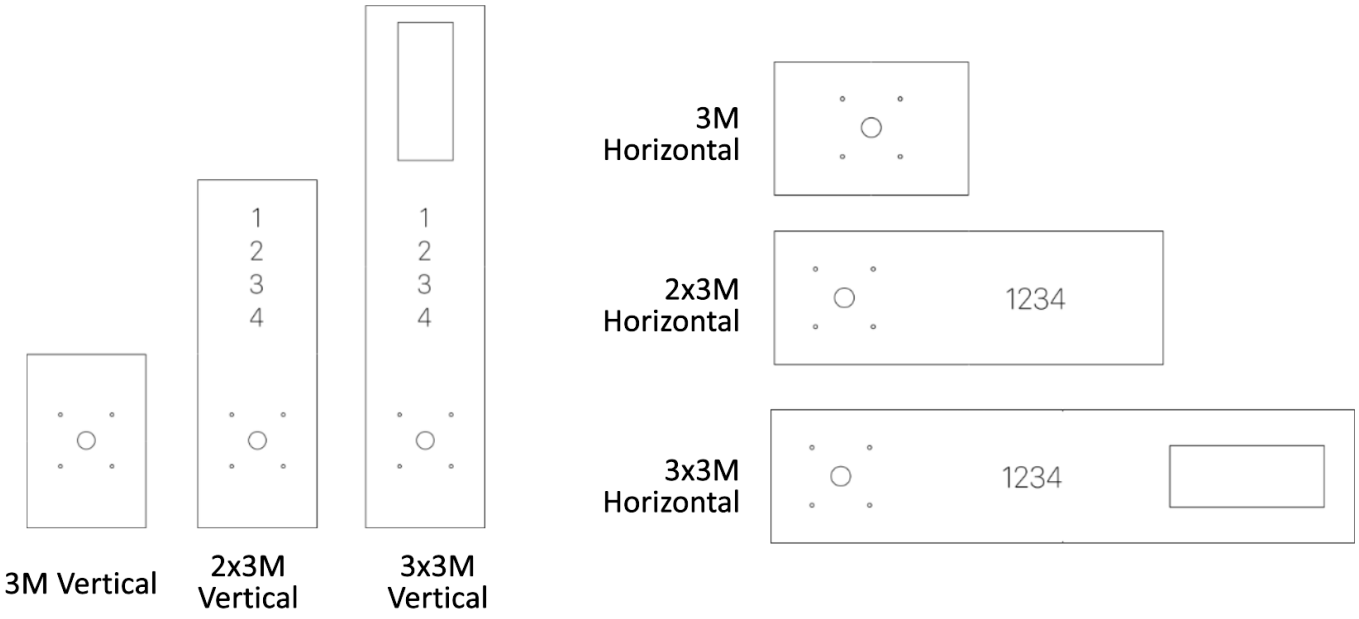
i) Frame hooks



The installation of the device requires the following steps:

1. Place the mounting support (b) on the wall mounting box and fix with screws (c)
2. Place metal buttons (f) on the electronic part (e)
3. Fit the frame (g) to the electronic part (e)
4. Mount the screws (d) to fix the electronic part (e) to the frame (g)
5. Connect KNX cable to the device. Check that polarity is correct
6. Hang the device on to the hooks (i) on the metal support using the two holes at the top of the frame
7. Press and keep the device parallel to the wall and mount the screws (h)

### 2.1.2. Combination Examples

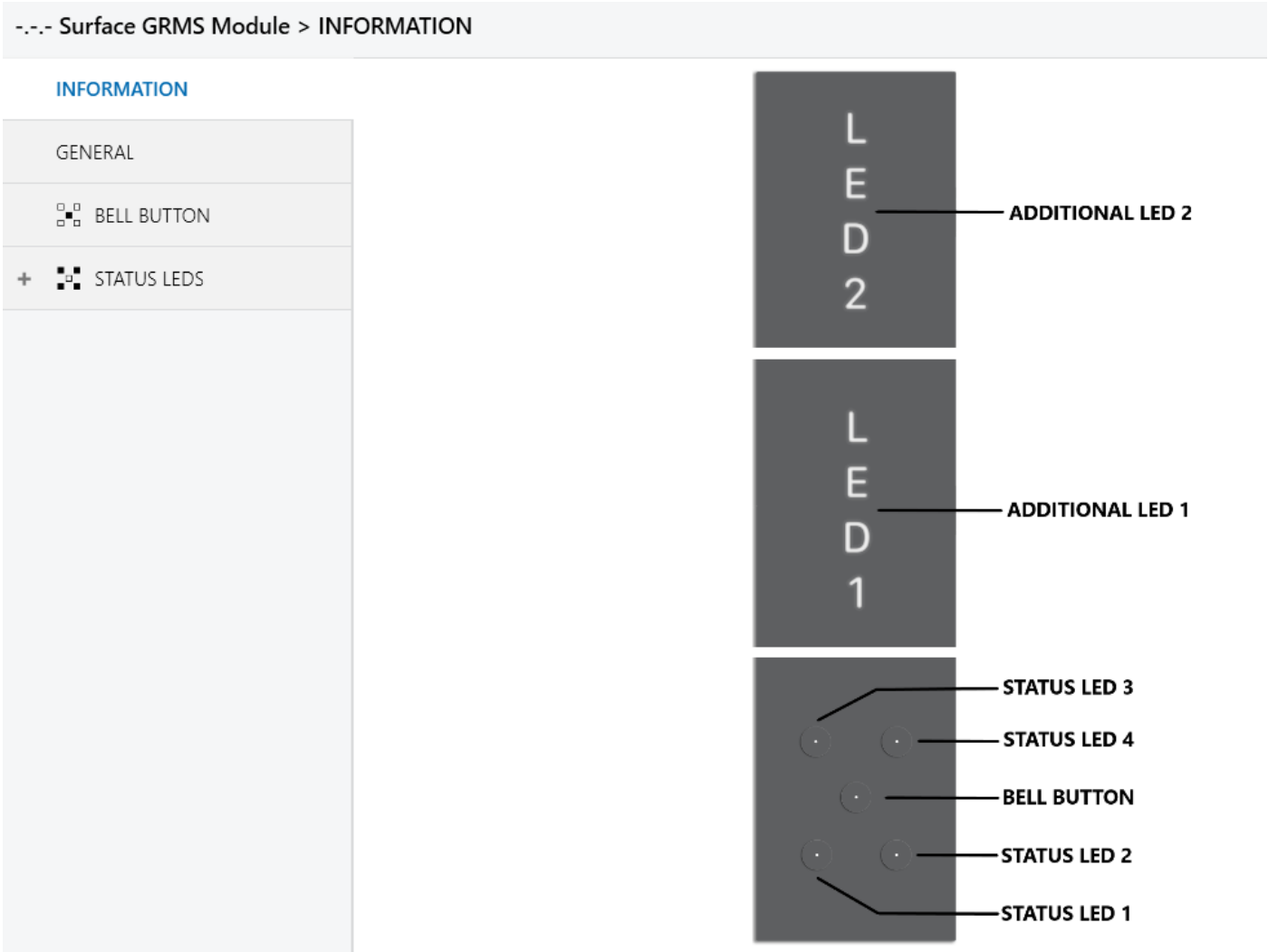


# 3. ETS Parameters

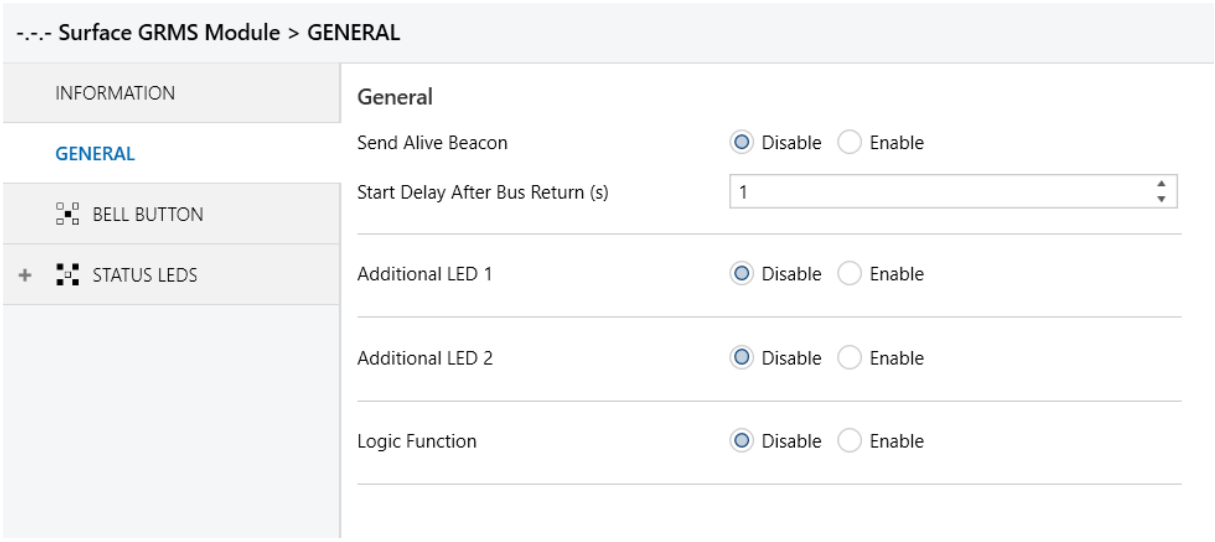
Core Surface GRMS Module is fully compatible KNX device that must be configured and set up using the standard KNX configuration tool ETS. The ETS database for this device can be downloaded from ETS online catalogue.

## 3.1. INFORMATION

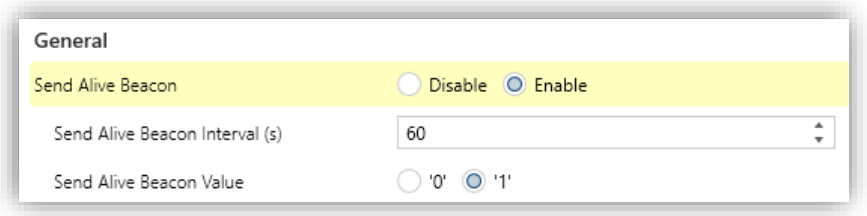
The positions of the leds and bell button are shown in this parameter



## 3.2. GENERAL




**Send Alive Beacon**

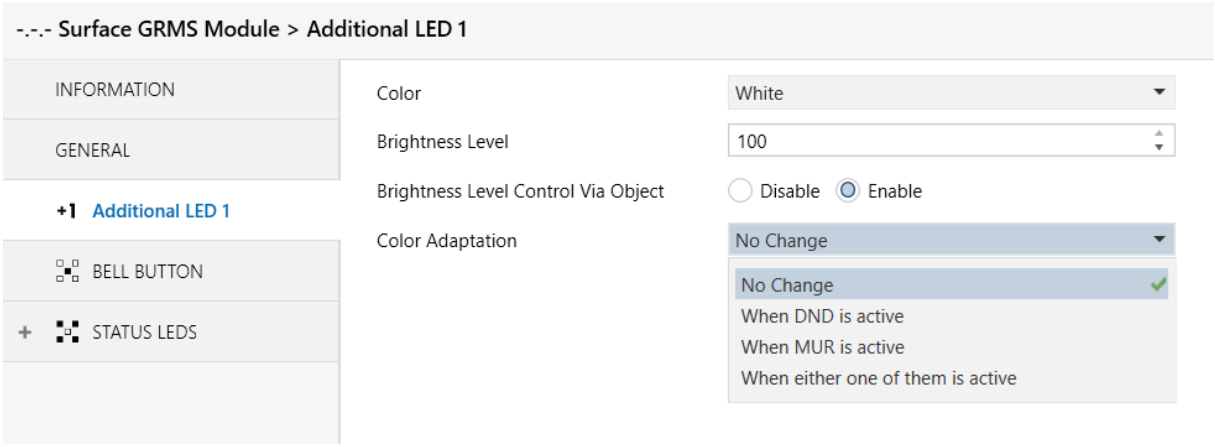



Parameter used to observe that the device and the application are running. It is disabled by default. When activated, Object Number 1 "General – Alive Beacon" will send selected value with defined time interval. [0-65535 s]

**Start Delay After Bus Return (s)**

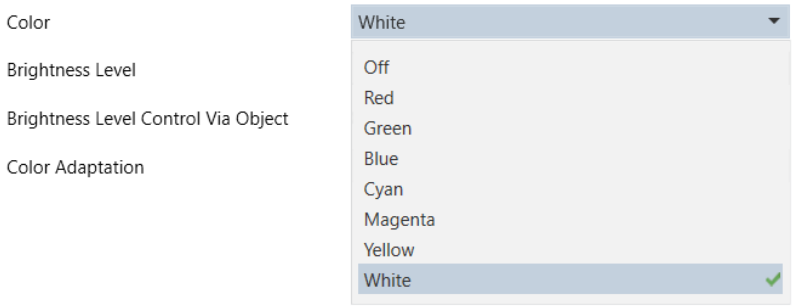
The parameter defines the behaviour of the switch after bus power return. The delay time determines the period between bus voltage recovery and the point after which telegrams can be sent. [0-65535 s]

### 3.2.1. Additional LED 1



Additional LED 1 tab contains Led color and brightness level.

**Color**



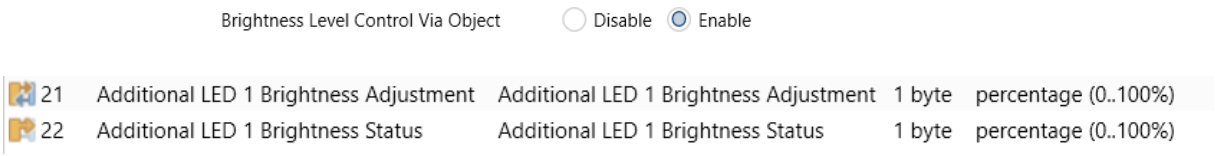

Additional LED color can be defined with this parameter

**Brightness Level**

Brightness level can be defined between %0 - %100.

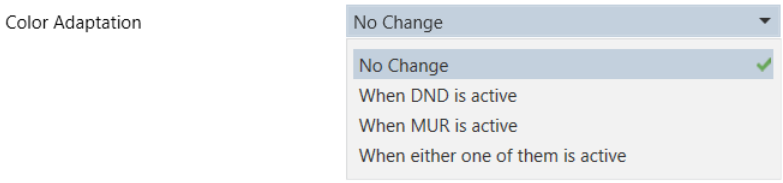
**Brightness Level Control via Object**

It enables receiving from KNX bus of the brightness level of LED.

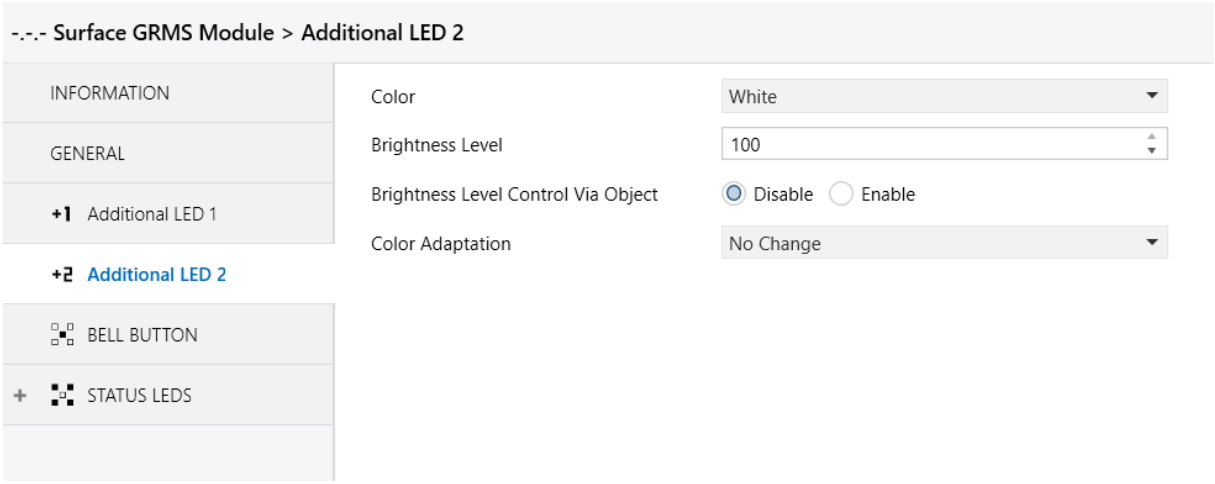



**Color Adaption**

It is possible to change the color of additional led to DND color when DND is activated and/or MUR color when MUR is activated. When DND or MUR are not activated, it turns back to its selected color.

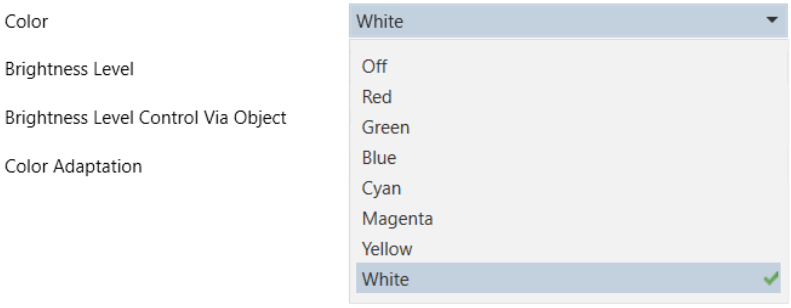


## 3.2.2. Additional LED 2




Additional LED 2 tab contains Led color and brightness level.

**Color**



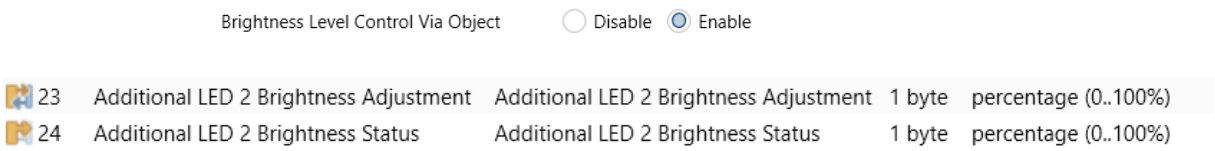

Additional LED color can be defined with this parameter

**Brightness Level**

Brightness level can be defined between %0 - %100.

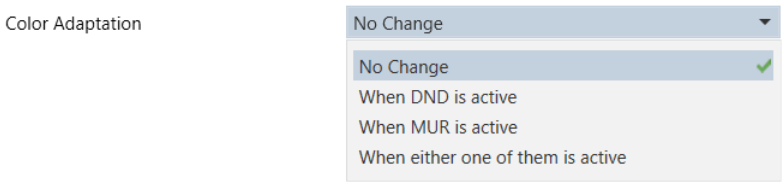
**Brightness Level Control via Object**

It enables receiving from KNX bus of the brightness level of LED.



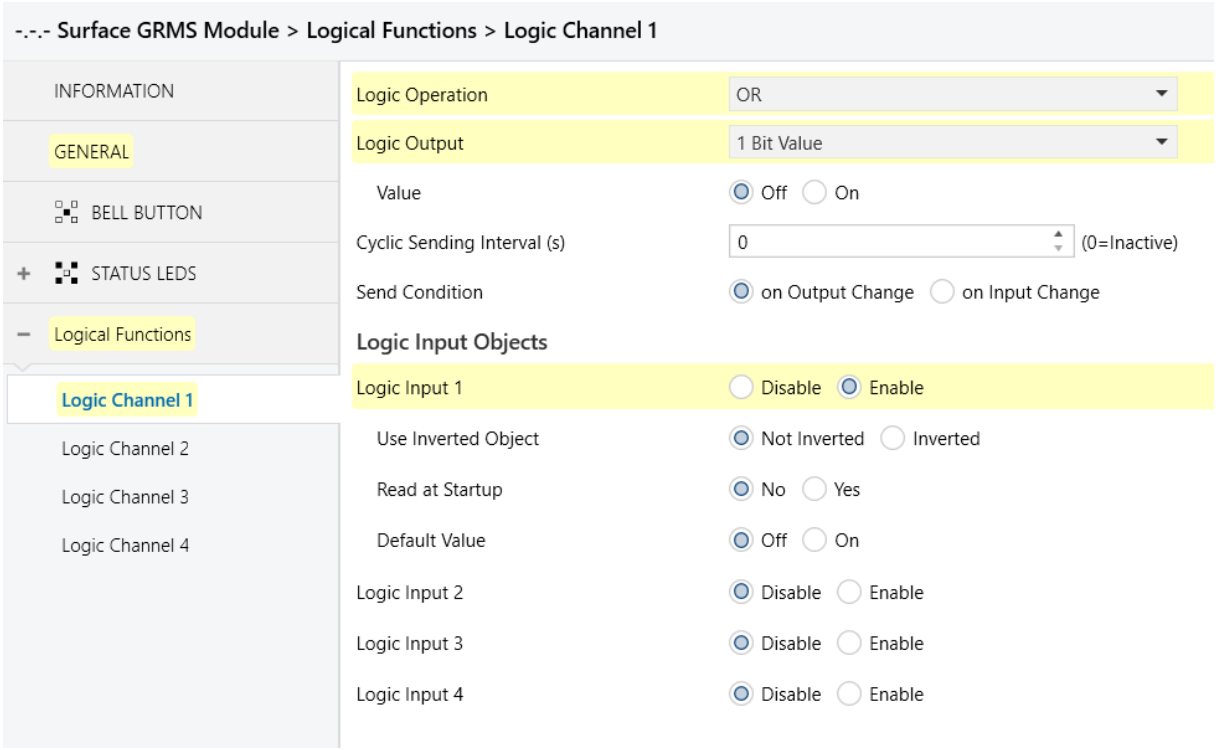

**Color Adaption**

It is possible to change the color of additional led to DND color when DND is activated and/or MUR color when MUR is activated. When DND or MUR are not activated, it turns back to its selected color.




### 3.2.3. Logic Function

Logic function tab contains "Logic channels (4)" which are available with three different logic gates. [OR, AND, XOR]




**Logic operation:** [OR, AND, XOR]

**Logic Output:**
1 bit
1 byte unsigned value
1 byte signed value
1 byte percentage
2 byte unsigned value
2 byte signed value
2 byte floating value

**Cyclic Sending Interval (s):**

The defined output value can be sent cyclic or if the parameter is set to "0", cyclic sending of output value will be inactive

**Send condition:**

[On output change] Output object sends on output change.

[On input change] Output object sends on input change.

**Logic Input Objects: [Logic input 1-4]**

Each logic channel has a maximum of 4 logic input objects.

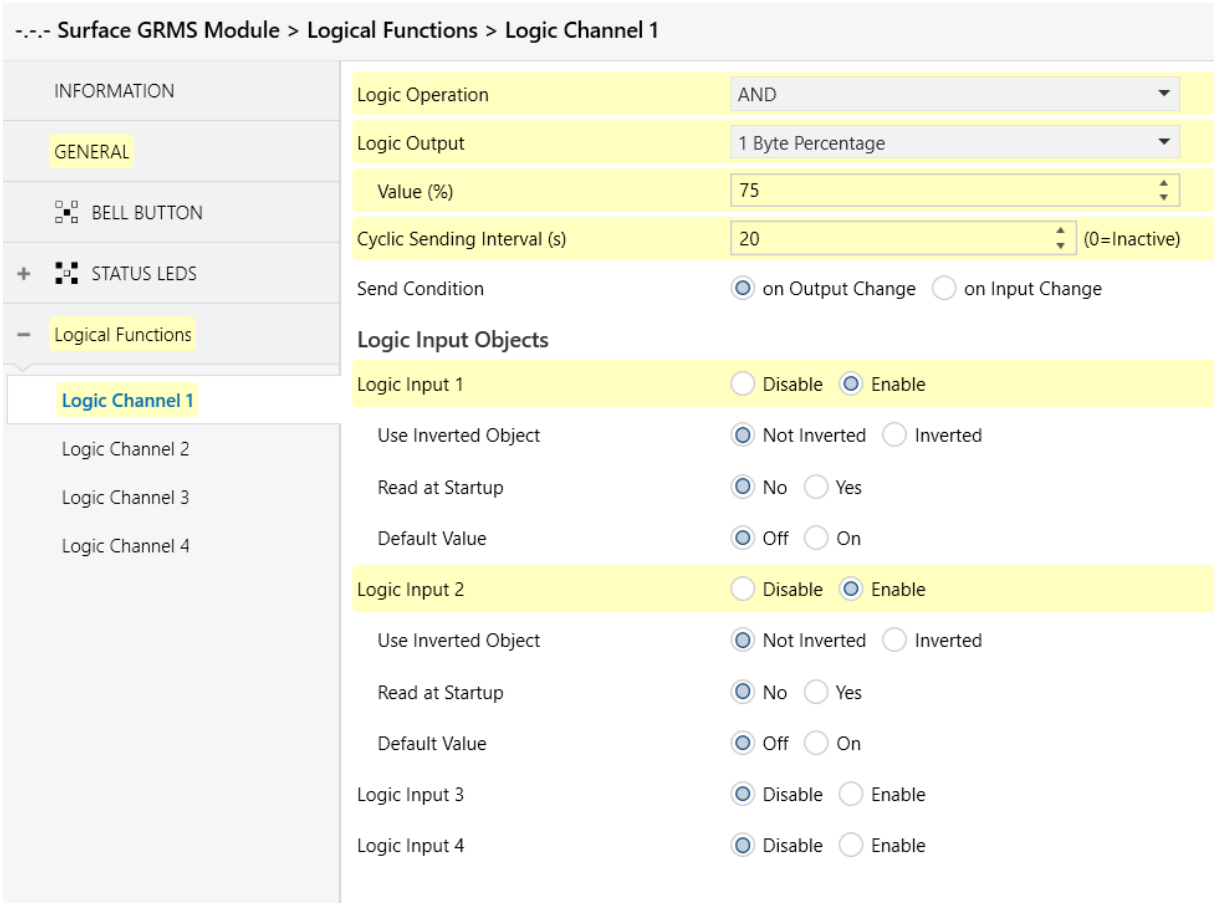
**Logic input 1 [Use inverted Object]:** Object value will be inverted before the processing in the logic gate.

**Logic input 1 [Read at Start-up]:** Object will be read out after switch is power return.

**Logic input 1 [Default value]:** Defines default value of the input object.

Example:

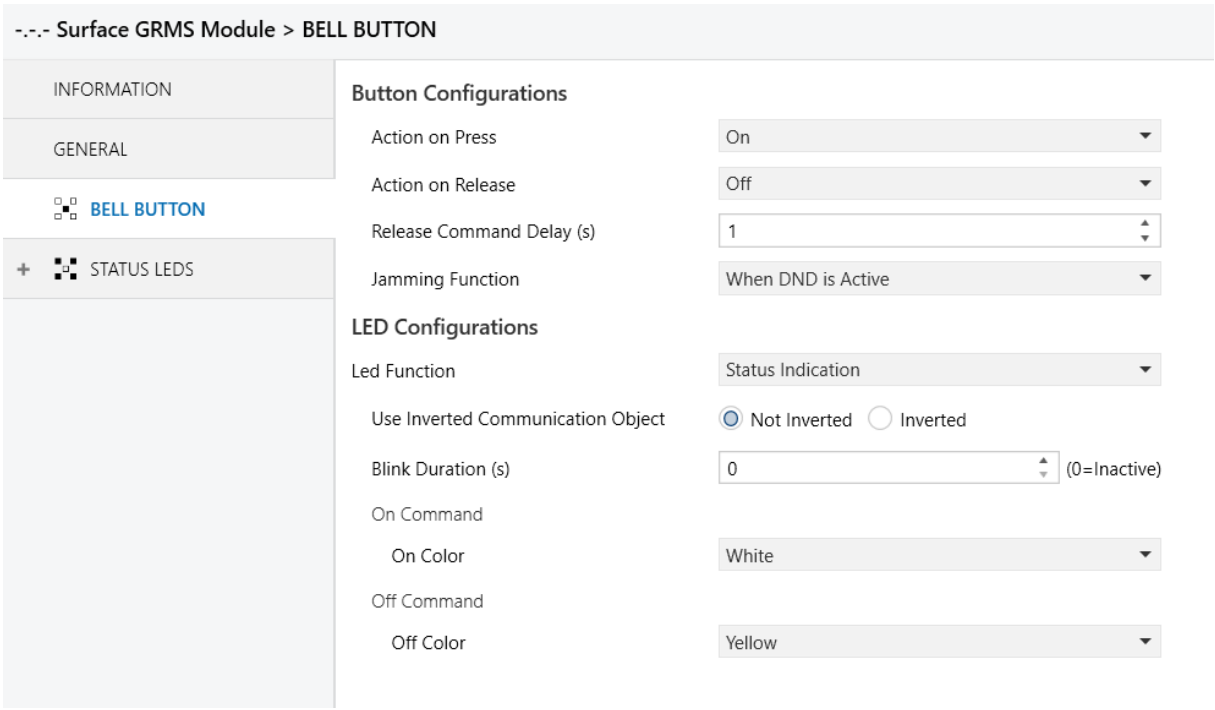
"Input 1" and "Input 2" objects are defined for "AND" logic operation. If both objects are "True" at the same time, then output object will send "1 byte percentage" %75 value for every 20 seconds periodically.



| Address | Name | Description | Central | Pass | Data Type | Length | No. | Last Value |
|---|---|---|---|---|---|---|---|---|
| 0/7/3 | Input 1 | | No | No | boolean | 1 bit | 1 | $01 \| True |
| 0/7/4 | Input 2 | | No | No | boolean | 1 bit | 1 | $01 \| True |
| 0/7/5 | Output (1 Byte) | | No | No | percentage (0..100%) | 1 byte | 1 | $BF \| 75% |

## 3.3. BELL BUTTON

### 3.3.1. Button Configurations




**Action on Press**

[On, Off, Toggle] selected data will be sent to KNX bus for each press of button.

**Action on Release**

[On, Off, Toggle] selected data will be sent to KNX bus for each release of button.

**Release Command Delay (s)**

This parameter determines the delay time for sending the selected data when the button is released.

**Jamming Function**

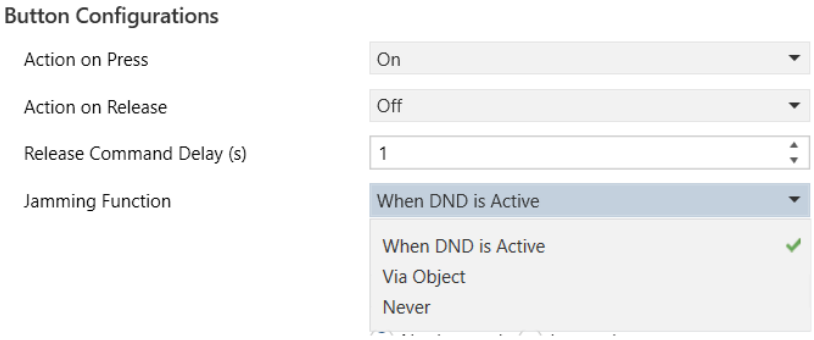
Jamming function is used to block to respective button.

When DND is Active: Jamming function is linked with DND State. When DND is active, bell button is automatically blocked. Button will not work until DND is inactive.

Via Object: Bell Button can be blocked via the jamming object by writing "true or false" data from the bus. Button will not work until it is enabled via jamming object.

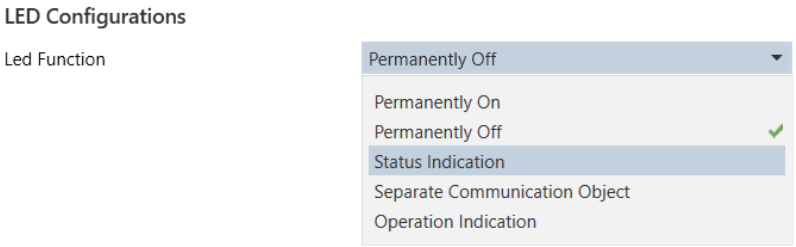
| | | | | |
|---|---|---|---|---|
| 4 | Bell Button | Jamming | 1 bit | enable |

Never: Disables jamming function

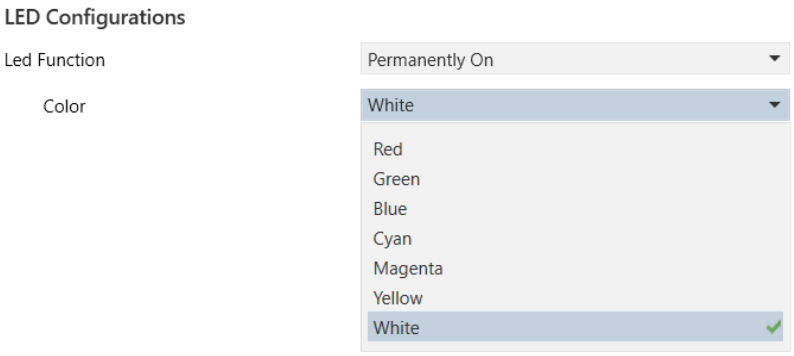



## 3.3.2. Led Configurations

Available functions: Permanently OFF, Permanently ON, Status Indication, Separate Communication Object and Operation Indication.




**Led Function [Permanently ON]:** LED is always ON for selected colour. [Red, Green, Blue, Cyan, Magenta, Yellow, White]

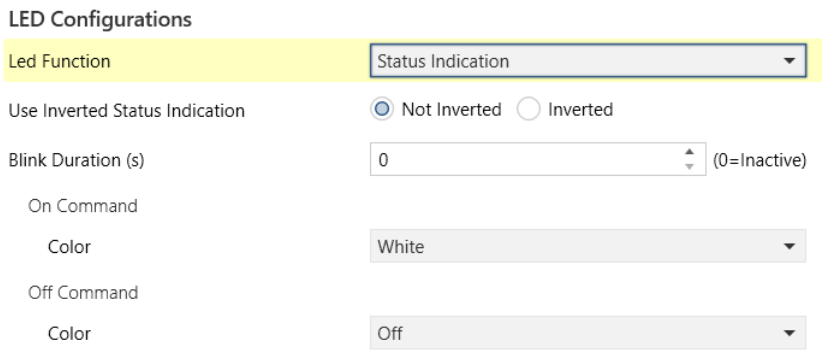



**Led Function [Permanently OFF]:** LED is always OFF.

**Led Function [Status indication]:** LED colour will change according to status information.

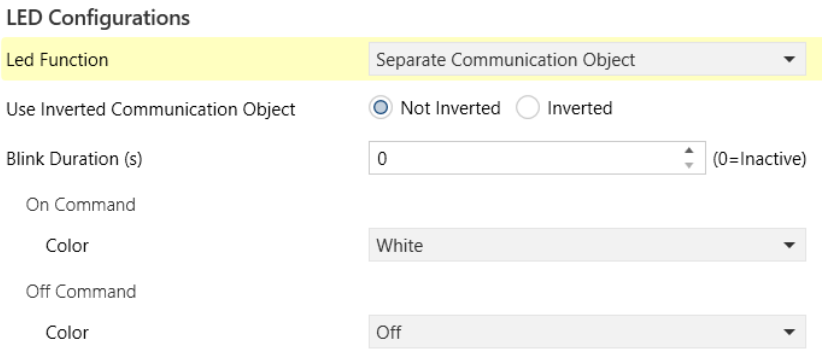
On command [white] – OFF Command [Off]

**Blink duration:** Status LED of the button will blink for the time period selected at "Blink Duration(s)" parameter when "on command" telegram is received by the object "Switch Status". (Blinking interval is fixed.)



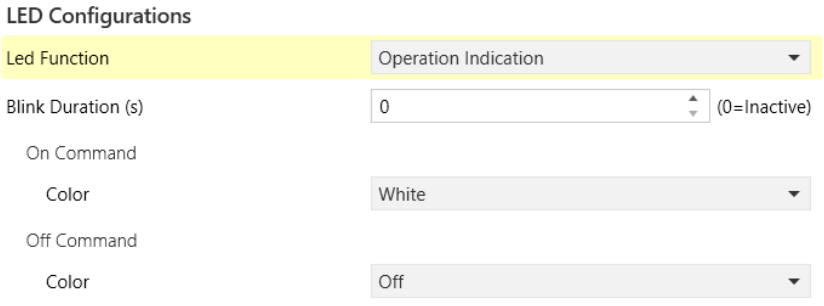

**Led Function [Separate Communication Object]:** LED colour will change according to value received by LED status object.

**Blink duration:** Status LED of the button will blink for the time period selected at "Blink Duration(s)" parameter when "on command" telegram is received by the object "LED". (Blinking interval is fixed.)




**Led Function [Operation indication]:** Status LED of the button will stay on colour selected for "OFF command" until it is pressed. The pressed button will stay on colour selected for "ON command" until it is released.

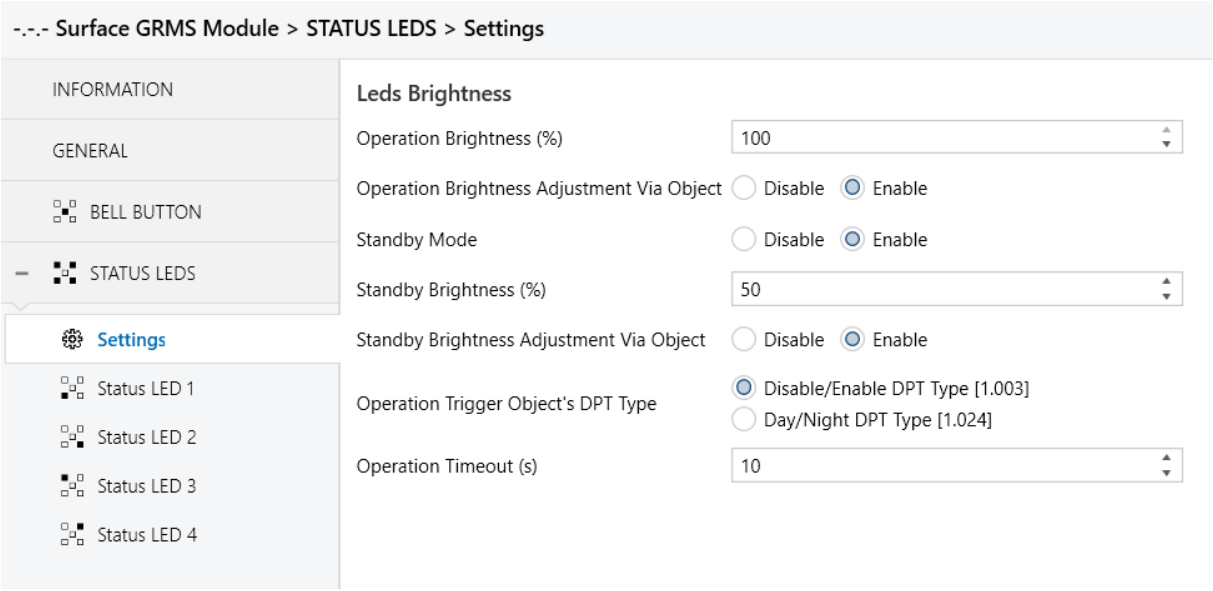
**Blink duration:** Status LED of the pressed button will blink for the time period selected at "Blink Duration(s)" parameter. (Blinking interval is fixed.)



## 3.4. STATUS LEDS

Status LEDs can be customized with icons such as DND, MUR, presence, laundry…etc. according to needs of projects.

### 3.4.1. Settings

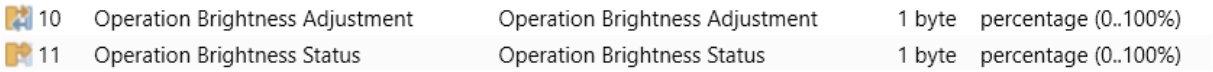



**Operation Brightness (%)**

Brightness level can be defined between %0 - %100 for LEDs.


**Operation Brightness Adjustment via Object**

It enables receiving from KNX bus of the brightness level of LEDs.

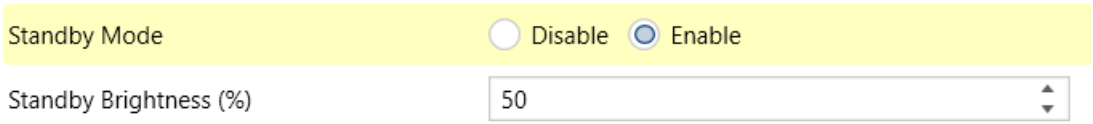



**Standby Mode**

Through the standby mode it is possible to keep the Surface GRMS Module in a stand-by state, setting a level of brightness of the LEDs and reactivate the back lightings only in operation or triggered via KNX bus.

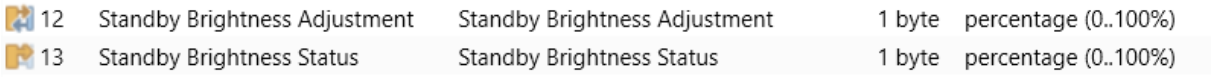
**Standby Brightness (%)**

Brightness level in standby state can be defined between %0 - %100 for LEDs.



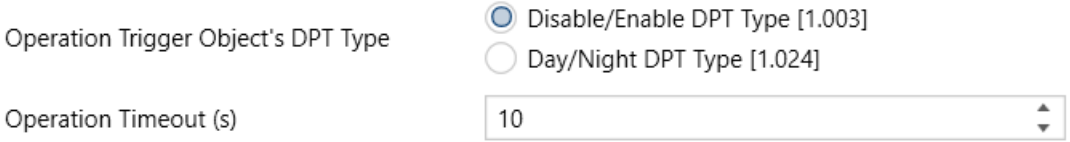

**Standby Brightness Adjustment via Object**

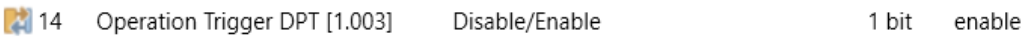
It enables receiving from KNX bus of the brightness level of LEDs in standby state.




**Operation Trigger Object's DPT Type**

Disable/Enable DPT Type [1.003]

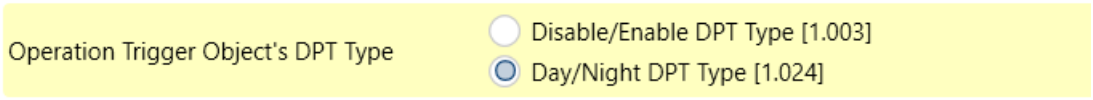


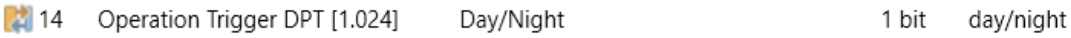




When a button is pressed or "enable" telegram (1) is received by the object from KNX bus, brightness level of LEDs switches to operation brightness level until the end of operation timeout. When operation timeout is over, brightness level of LEDs will be dimmed to standby brightness level.

"disable" telegram (0) has no function for the object "Operation Trigger DPT [1.003]"

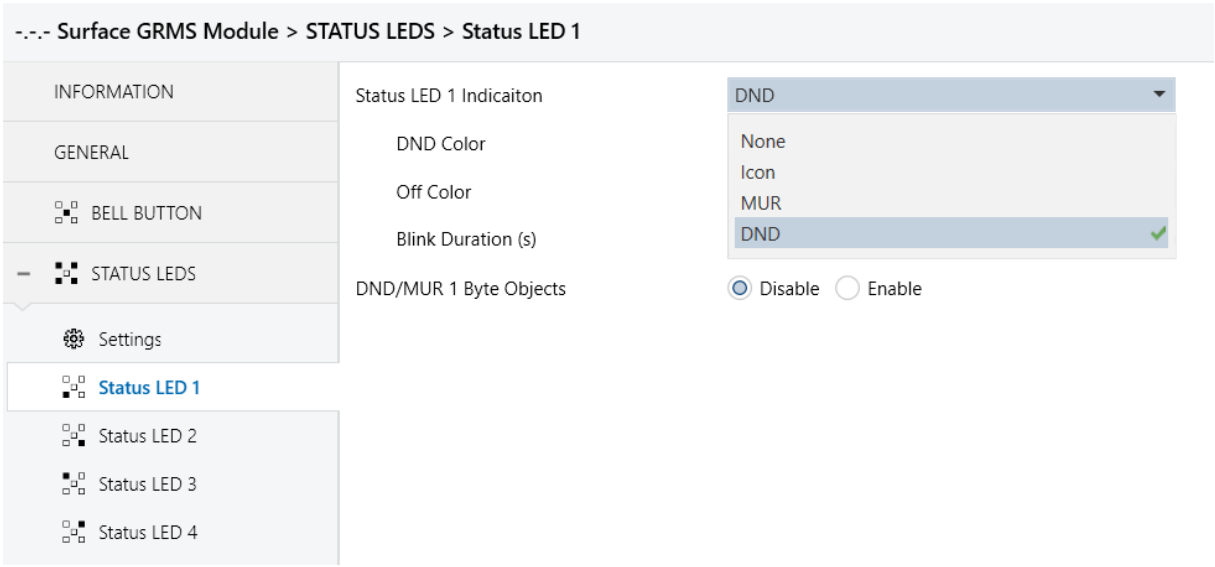
Day/Night DPT Type [1.024]




When "day" telegram (0) is received by the object from KNX bus, brightness level of LEDs switches to operation brightness level and when "night" telegram (1) is received by the object from KNX bus brightness level of LEDs switches to standby brightness level. There is no timeout for this function.

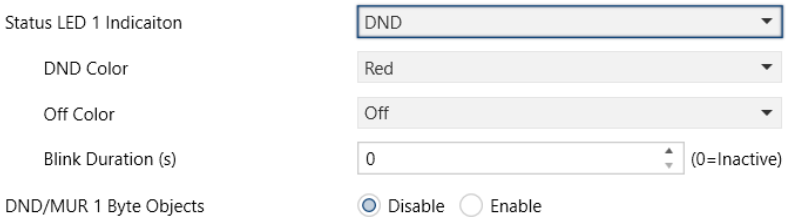
## 3.4.2. Status LED 1-2-3-4




**Status Led Indication**

Indication can be selected as None, Icon, MUR or DND.

### 3.4.2.1. DND




When selected, DND can be activated or inactivated from KNX bus via the object "DND 1 Bit Control".

| | | | | |
|---|---|---|---|---|
| 17 | DND 1 Bit Control | DND 1 Bit Control | 1 bit | switch |
| 18 | DND 1 Bit Status | DND 1 Bit Status | 1 bit | switch |

DND Color: the color of LED when DND is active.

Off Color: the colour of LED when DND is inactive.

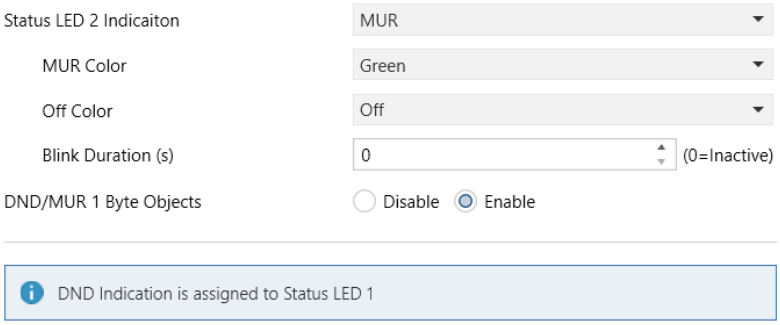
Blink Duration (s): Status LED will blink for the time period selected at "Blink Duration(s)" parameter when DND is activated. (Blinking interval is fixed.)

DND/MUR 1 Byte Objects: When enabled, DND/MUR can be controlled via the object "DND/MUR 1 Byte Control".

| | | | |
|---|---|---|---|
| 15 | DND/MUR 1 Byte Control | 0-OFF; 1-DND; 2-MUR | 1 byte |
| 16 | DND/MUR 1 Byte Status | 0-OFF; 1-DND; 2-MUR | 1 byte |

When DND is activated via KNX bus, MUR will become inactive automatically.

### 3.4.2.2. MUR




When selected, MUR can be activated or inactivated from KNX bus via the object "MUR 1 Bit Control".

| | | | | |
|---|---|---|---|---|
| 19 | MUR 1 Bit Control | MUR 1 Bit Control | 1 bit | switch |
| 20 | MUR 1 Bit Status | MUR 1 Bit Status | 1 bit | switch |

MUR Color: the color of LED when MUR is active.

Off Color: the colour of LED when MUR is inactive.

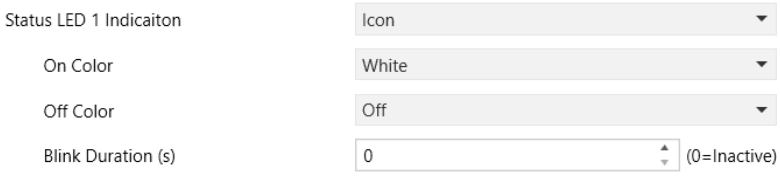
Blink Duration (s): Status LED will blink for the time period selected at "Blink Duration(s)" parameter when MUR is activated. (Blinking interval is fixed.)

DND/MUR 1 Byte Objects: When enabled, DND/MUR can be controlled via the object "DND/MUR 1 Byte Control".

| | | | |
|---|---|---|---|
| 15 | DND/MUR 1 Byte Control | 0-OFF; 1-DND; 2-MUR | 1 byte |
| 16 | DND/MUR 1 Byte Status | 0-OFF; 1-DND; 2-MUR | 1 byte |

When MUR is activated via KNX bus, DND will become inactive automatically.

### 3.4.2.3. Icon




When selected, status led can be activated or inactivated from KNX bus via the object "Status LED x".

| | | | | |
|---|---|---|---|---|
| 6 | Status LED 1 | LED | 1 bit | switch |

On Color: the color of LED when related object receives "1" telegram.

Off Color: the colour of LED when related object receives "0" telegram.

Blink Duration (s): Status LED will blink for the time period selected at "Blink Duration(s)" parameter when related object receives "1" telegram. (Blinking interval is fixed.)

## 4. Commissioning

For commissioning the device, the following activities are required:

- Make electrical connections
- Turn on the bus power supply
- Switch the device operation to programming mode
- Download into device the physical address and the configuration with ETS program
- At the end of the download operation of the device returns to normal mode
- Now the device is programmed and ready to use

Configuration and commissioning of the device require the use of ETS4 or later releases. These activities must be carried out according to the design of the building automation system done by a qualified planner.

## 5. Communication Objects

| No | Name | Function text | Object size | Flags | Datapoint types |
|---|---|---|---|---|---|
| 1 | General | Alive Beacon | 1Bit | R-CT-- | [1.17] DPT_Trigger |
| 2 | Bell Button | Switch Status | 1Bit | -WCTU- | [1.1] DPT_Switch |
| 3 | Bell Button | Switch On/Off | 1Bit | R-CT-- | [1.1] DPT_Switch |
| 4 | Bell Button | Jamming | 1Bit | RWCTU- | [1.3] DPT_Enable |
| 5 | Bell Button | LED | 1Bit | -WCTU- | [1.1] DPT_Switch |
| 6 | Status LED 1 | LED | 1Bit | -WCTU- | [1.1] DPT_Switch |
| 7 | Status LED 2 | LED | 1Bit | -WCTU- | [1.1] DPT_Switch |
| 8 | Status LED 3 | LED | 1Bit | -WCTU- | [1.1] DPT_Switch |
| 9 | Status LED 4 | LED | 1Bit | -WCTU- | [1.1] DPT_Switch |
| 10 | Operation Brightness Adjustment | Operation Brightness Adjustment | 1Byte | RWCTU- | [5.1] DPT_Scaling |
| 11 | Operation Brightness Status | Operation Brightness Status | 1Byte | --CT-- | [5.1] DPT_Scaling |
| 12 | Standby Brightness Adjustment | Standby Brightness Adjustment | 1Byte | RWCTU- | [5.1] DPT_Scaling |
| 13 | Standby Brightness Status | Standby Brightness Status | 1Byte | --CT-- | [5.1] DPT_Scaling |
| 14 | Operation Trigger DPT [1.003] | Disable/Enable | 1Bit | RWCTU- | [1.3] DPT_Enable |
| 14 | Operation Trigger DPT [1.024] | Day/Night | 1Bit | RWCTU- | [1.24] DPT_DayNight |
| 15 | DND/MUR 1 Byte Control | 0-OFF; 1-DND; 2-MUR | 1Byte | -WC--- | [5] DPT_5 |
| 16 | DND/MUR 1 Byte Status | 0-OFF; 1-DND; 2-MUR | 1Byte | RWCTU- | [5] DPT_5 |
| 17 | DND 1 Bit Control | DND 1 Bit Control | 1Bit | -WC--- | [1.1] DPT_Switch |

| | | | | | |
|---|---|---|---|---|---|
| 18 | DND 1 Bit Status | DND 1 Bit Status | 1Bit | RWCTU- | [1.1] DPT_Switch |
| 19 | MUR 1 Bit Control | MUR 1 Bit Control | 1Bit | -WC--- | [1.1] DPT_Switch |
| 20 | MUR 1 Bit Status | MUR 1 Bit Status | 1Bit | RWCTU- | [1.1] DPT_Switch |
| 21 | Additional LED 1 Brightness Adjustment | Additional LED 1 Brightness Adjustment | 1Byte | RWCTU- | [5.1] DPT_Scaling |
| 22 | Additional LED 1 Brightness Status | Additional LED 1 Brightness Status | 1Byte | --CT-- | [5.1] DPT_Scaling |
| 23 | Additional LED 2 Brightness Adjustment | Additional LED 2 Brightness Adjustment | 1Byte | RWCTU- | [5.1] DPT_Scaling |
| 24 | Additional LED 2 Brightness Status | Additional LED 2 Brightness Status | 1Byte | --CT-- | [5.1] DPT_Scaling |
| 25 | Logic 1 | Output (1 bit) | 1Bit | R-CT-- | [1.1] DPT_Switch |
| 26 | Logic 1 | Output (1 Byte) | 1Byte | R-CT-- | [5.1] DPT_Scaling |
| 26 | Logic 1 | Output (1 Byte) | 1Byte | R-CT-- | [6.10] DPT_Value_1_Count |
| 26 | Logic 1 | Output (1 Byte) | 1Byte | R-CT-- | [5.10] DPT_Value_1_Ucount |
| 27 | Logic 1 | Output (2 Bytes) | 2Bytes | R-CT-- | [7.1] DPT_Value_2_Ucount |
| 27 | Logic 1 | Output (2 Bytes) | 2Bytes | R-CT-- | [8.1] DPT_Value_2_Count |
| 27 | Logic 1 | Output (2 Bytes) | 2Bytes | R-CT-- | [9.1] DPT_Value_Temp |
| 28 | Logic 1 | Input 1 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 29 | Logic 1 | Input 2 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 30 | Logic 1 | Input 3 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 31 | Logic 1 | Input 4 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 32 | Logic 2 | Output (1 bit) | 1Bit | R-CT-- | [1.1] DPT_Switch |
| 33 | Logic 2 | Output (1 Byte) | 1Byte | R-CT-- | [5.10] DPT_Value_1_Ucount |
| 33 | Logic 2 | Output (1 Byte) | 1Byte | R-CT-- | [6.10] DPT_Value_1_Count |
| 33 | Logic 2 | Output (1 Byte) | 1Byte | R-CT-- | [5.1] DPT_Scaling |
| 34 | Logic 2 | Output (2 Bytes) | 2Bytes | R-CT-- | [7.1] DPT_Value_2_Ucount |
| 34 | Logic 2 | Output (2 Bytes) | 2Bytes | R-CT-- | [8.1] DPT_Value_2_Count |
| 34 | Logic 2 | Output (2 Bytes) | 2Bytes | R-CT-- | [9.1] DPT_Value_Temp |
| 35 | Logic 2 | Input 1 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 36 | Logic 2 | Input 2 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 37 | Logic 2 | Input 3 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 38 | Logic 2 | Input 4 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 39 | Logic 3 | Output (1 bit) | 1Bit | R-CT-- | [1.1] DPT_Switch |
| 40 | Logic 3 | Output (1 Byte) | 1Byte | R-CT-- | [5.10] DPT_Value_1_Ucount |
| 40 | Logic 3 | Output (1 Byte) | 1Byte | R-CT-- | [6.10] DPT_Value_1_Count |
| 40 | Logic 3 | Output (1 Byte) | 1Byte | R-CT-- | [5.1] DPT_Scaling |
| 41 | Logic 3 | Output (2 Bytes) | 2Bytes | R-CT-- | [9.1] DPT_Value_Temp |

| | | | | | |
|---|---|---|---|---|---|
| 41 | Logic 3 | Output (2 Bytes) | 2Bytes | R-CT-- | [8.1] DPT_Value_2_Count |
| 41 | Logic 3 | Output (2 Bytes) | 2Bytes | R-CT-- | [7.1] DPT_Value_2_Ucount |
| 42 | Logic 3 | Input 1 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 43 | Logic 3 | Input 2 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 44 | Logic 3 | Input 3 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 45 | Logic 3 | Input 4 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 46 | Logic 4 | Output (1 bit) | 1Bit | R-CT-- | [1.1] DPT_Switch |
| 47 | Logic 4 | Output (1 Byte) | 1Byte | R-CT-- | [5.1] DPT_Scaling |
| 47 | Logic 4 | Output (1 Byte) | 1Byte | R-CT-- | [6.10] DPT_Value_1_Count |
| 47 | Logic 4 | Output (1 Byte) | 1Byte | R-CT-- | [5.10] DPT_Value_1_Ucount |
| 48 | Logic 4 | Output (2 Bytes) | 2Bytes | R-CT-- | [7.1] DPT_Value_2_Ucount |
| 48 | Logic 4 | Output (2 Bytes) | 2Bytes | R-CT-- | [8.1] DPT_Value_2_Count |
| 48 | Logic 4 | Output (2 Bytes) | 2Bytes | R-CT-- | [9.1] DPT_Value_Temp |
| 49 | Logic 4 | Input 1 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 50 | Logic 4 | Input 2 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 51 | Logic 4 | Input 3 | 1Bit | RWCTU- | [1.2] DPT_Bool |
| 52 | Logic 4 | Input 4 | 1Bit | RWCTU- | [1.2] DPT_Bool |