

# EAE MONA SWITCH V2



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## Product Order Codes

|          |                          |
|----------|--------------------------|
| MN-B-S01 | MONA 1 BUTTON SW. BLACK  |
| MN-W-S01 | MONA 1 BUTTON SW. WHITE  |
| MN-B-S02 | MONA 2 BUTTON SW. BLACK  |
| MN-W-S02 | MONA 2 BUTTON SW. WHITE  |
| MN-B-S03 | MONA 3 BUTTON SW. BLACK  |
| MN-W-S03 | MONA 3 BUTTON SW. WHITE  |
| MN-B-S04 | MONA 4 BUTTON SW. BLACK  |
| MN-W-S04 | MONA 4 BUTTON SW. WHITE  |
| MN-B-S05 | MONA 5 BUTTON SW. BLACK  |
| MN-W-S05 | MONA 5 BUTTON SW. WHITE  |
| MN-B-S06 | MONA 6 BUTTON SW. BLACK  |
| MN-W-S06 | MONA 6 BUTTON SW. WHITE  |
| MN-B-S07 | MONA 7 BUTTON SW. BLACK  |
| MN-W-S07 | MONA 7 BUTTON SW. WHITE  |
| MN-B-S08 | MONA 8 BUTTON SW. BLACK  |
| MN-W-S08 | MONA 8 BUTTON SW. WHITE  |
| MN-B-S09 | MONA 9 BUTTON SW. BLACK  |
| MN-W-S09 | MONA 9 BUTTON SW. WHITE  |
| MN-B-S10 | MONA 10 BUTTON SW. BLACK |
| MN-W-S10 | MONA 10 BUTTON SW. WHITE |
| MN-B-S11 | MONA 11 BUTTON SW. BLACK |
| MN-W-S11 | MONA 11 BUTTON SW. WHITE |
| MN-B-S12 | MONA 12 BUTTON SW. BLACK |
| MN-W-S12 | MONA 12 BUTTON SW. WHITE |

## 1. General

Mona KNX switches offer a wide range of functional flexibility up to 12 programmable buttons. Mona switches can be programmed for control lighting, shutter/blind drivers, speakers, make scene calls and mimic panic buttons. Each button can be programmed independently for a different function.

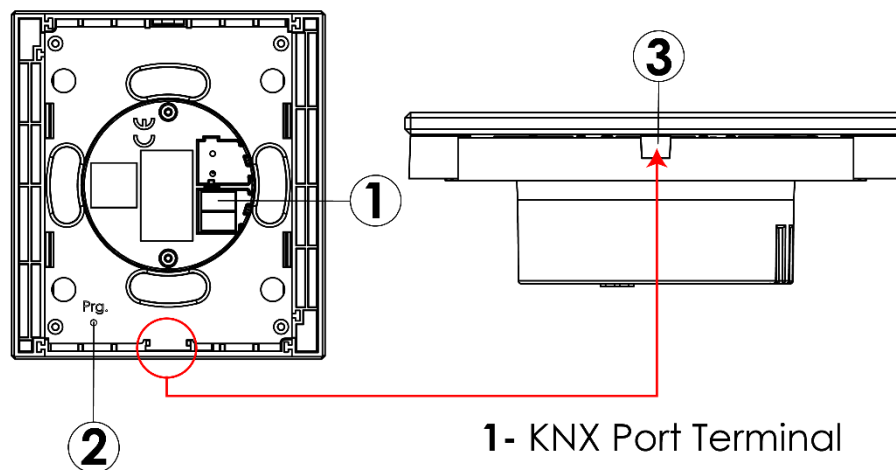
## 2. Device Technology

### 2.1. Button Definitions



1. Programmable Buttons (up to 12 push buttons)

### 2.2. Connection Diagram

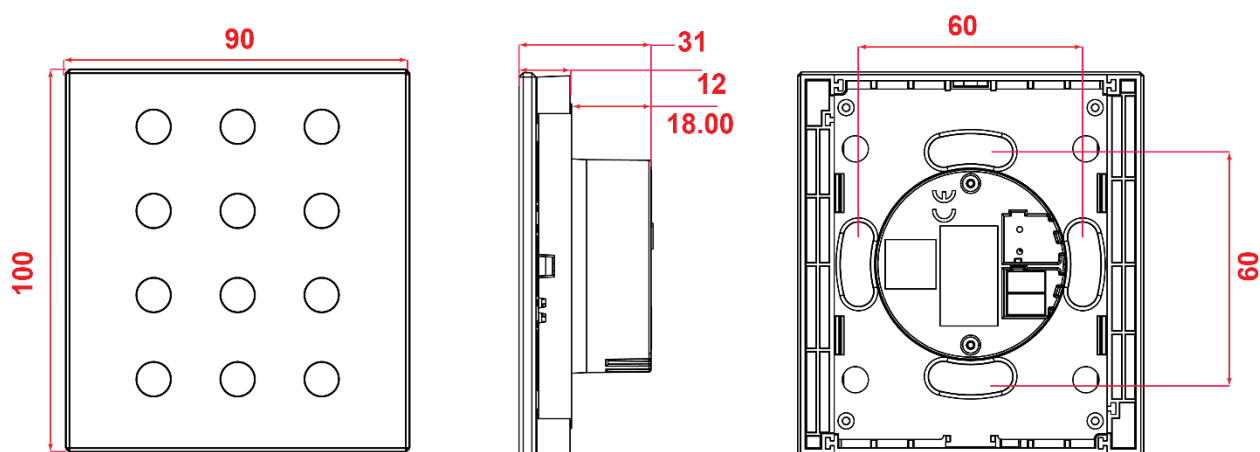


- 1- KNX Port Terminal
- 2- Programming Button
- 3- Programming LED

## 2.3. Technical Data

|                              |                                                                  |                                |
|------------------------------|------------------------------------------------------------------|--------------------------------|
| <b>Protection Grade</b>      | IP 20                                                            | EN 60529                       |
| <b>Safety Class</b>          | II                                                               | EN 61140                       |
| <b>Operating Voltage</b>     | Voltage                                                          | 21V... 30V DC, via the KNX bus |
|                              | Current drawn from bus                                           | < 25 mA                        |
| <b>Connections</b>           | KNX                                                              | Bus Connection                 |
| <b>Operating Temperature</b> | Ambient                                                          | -5 °C + 45 °C                  |
|                              | Storage                                                          | -25 °C + 55 °C                 |
| <b>Humidity</b>              | Max. Air humidity condensation                                   | 95% no moisture                |
| <b>Dimensions</b>            | Front Side                                                       | 90 x 100 mm                    |
|                              | Side- Surface mounted part                                       | 12 mm                          |
|                              | Side- Flush mounted part                                         | 18.8 mm                        |
| <b>Box Material</b>          | Surface : Glass                                                  |                                |
|                              | Flush Mount Part : Polycarbonate                                 |                                |
| <b>CE</b>                    | In accordance with the EMC guideline and low voltage directives. |                                |

## 2.4. Dimensions



### 3. Communication Object Table

| No                                                                            | Object Name                                                                                                                                                                                                      | Function                          | Data Point Type    | Flags |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------|-------|
| 0                                                                             | In operation                                                                                                                                                                                                     | [0, 1]                            | 1 bit DPT 1.017    | CT    |
| 1,<br>7,<br>13,<br>19,<br>25,<br>31,<br>37,<br>43,<br>49,<br>55,<br>61,<br>67 | Button 1...12 [Press]                                                                                                                                                                                            | Switching --> On/Off              | 1 bit DPT 1.001    | CT    |
|                                                                               | Button 1...12 [Release]                                                                                                                                                                                          | Switching <-> On/Off & Status     | 1 bit DPT 1.001    | CWT   |
|                                                                               | Button 1...12 [Press/Release]                                                                                                                                                                                    |                                   |                    |       |
|                                                                               | Button 1...12 [Short Press]                                                                                                                                                                                      | Dimming --> On/Off                | 1 bit DPT 1.001    | CT    |
|                                                                               |                                                                                                                                                                                                                  | Dimming <-> On/Off & Status       | 1 bit DPT 1.001    | CWT   |
|                                                                               | Button 1...12 [Long Press]                                                                                                                                                                                       | Shutter <-> Up/Down               | 1 bit DPT 1.008    | CWT   |
|                                                                               | Button 1...12 [Press]                                                                                                                                                                                            |                                   |                    |       |
|                                                                               | Button 1...12 [Release]                                                                                                                                                                                          |                                   |                    |       |
|                                                                               | Button 1...12 [Short Press 1]<br>Button 1...12 [Double Press 1]<br>Button 1...12 [Triple Press 1]<br>Button 1...12 [Long Press 1]<br>Button 1...12 [Long Press Repeat 1]<br>Button 1...12 [Long Press Release 1] | Value --> 1-bit                   | 1 bit DPT 1.001    | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 1-bit HVAC Control Mode | 1 bit DPT 1.100    | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value <-> 1-bit toggle            | 1 bit DPT 1.001    | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 2-bit priority control  | 2 bit DPT 2.001    | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 4-bit dimming control   | 4 bit DPT 3.007    | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 4-bit blind control     | 4 bit DPT 3.008    | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 1-byte unsigned         | 1 Byte DPT 5.010   | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 1-byte signed           | 1 Byte DPT 6.010   | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 1-byte HVAC Mode        | 1 Byte DPT 20.102  | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 1-byte percentage       | 1 Byte DPT 5.001   | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value <-> 1-byte counter/sequence | 1 Byte DPT 5.010   | CWT   |
|                                                                               |                                                                                                                                                                                                                  | Value --> 1-byte scene activate   | 1 Byte DPT 18.001  | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 1-byte scene learn      | 1 Byte DPT 18.001  | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 2-byte unsigned         | 2 Byte DPT 7.001   | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 2-byte signed           | 2 Byte DPT 8.001   | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 2-byte float            | 2 Byte DPT 9.001   | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 3-byte color            | 3 Byte DPT 232.600 | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 4-byte unsigned         | 4 Byte DPT 12.001  | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 4-byte signed           | 4 Byte DPT 13.001  | CT    |
|                                                                               |                                                                                                                                                                                                                  | Value --> 4-byte float            | 4 Byte DPT 14.005  | CT    |

| No                                                                            | Object Name                          | Function                           | Data Point Type    | Flags |
|-------------------------------------------------------------------------------|--------------------------------------|------------------------------------|--------------------|-------|
| 2,<br>8,<br>14,<br>20,<br>26,<br>32,<br>38,<br>44,<br>50,<br>56,<br>62,<br>68 | Button 1...12 [Long Press]           | Dimming --> Dim [+/-]              | 4 bit DPT 3.007    | CT    |
|                                                                               | Button 1...12 [Press]                | Shutter <--> Stop                  | 1 bit DPT 1.017    | CWT   |
|                                                                               | Button 1...12 [Release]              |                                    |                    |       |
|                                                                               | Button 1...12 [Short Press]          | Shutter <--> Stop/Adjust           | 1 bit DPT 1.007    | CWT   |
|                                                                               |                                      | Value --> 1-bit                    | 1 bit DPT 1.001    | CT    |
|                                                                               |                                      | Value --> 1-bit HVAC Control Mode  | 1 bit DPT 1.100    | CT    |
|                                                                               |                                      | Value <--> 1-bit toggle            | 1 bit DPT 1.001    | CT    |
|                                                                               |                                      | Value --> 2-bit priority control   | 2 bit DPT 2.001    | CT    |
|                                                                               |                                      | Value --> 4-bit dimming control    | 4 bit DPT 3.007    | CT    |
|                                                                               |                                      | Value --> 4-bit blind control      | 4 bit DPT 3.008    | CT    |
|                                                                               |                                      | Value --> 1-byte unsigned          | 1 Byte DPT 5.010   | CT    |
|                                                                               |                                      | Value --> 1-byte signed            | 1 Byte DPT 6.010   | CT    |
|                                                                               | Button 1...12 [Short Press 2]        | Value --> 1-byte HVAC Mode         | 1 Byte DPT 20.102  | CT    |
|                                                                               | Button 1...12 [Double Press 2]       | Value --> 1-byte percentage        | 1 Byte DPT 5.001   | CT    |
|                                                                               | Button 1...12 [Triple Press 2]       | Value <--> 1-byte counter/sequence | 1 Byte DPT 5.010   | CWT   |
|                                                                               | Button 1...12 [Long Press 2]         | Value --> 1-byte scene activate    | 1 Byte DPT 18.001  | CT    |
|                                                                               | Button 1...12 [Long Press Repeat 2]  | Value --> 1-byte scene learn       | 1 Byte DPT 18.001  | CT    |
|                                                                               | Button 1...12 [Long Press Release 2] | Value --> 2-byte unsigned          | 2 Byte DPT 7.001   | CT    |
|                                                                               |                                      | Value --> 2-byte signed            | 2 Byte DPT 8.001   | CT    |
|                                                                               |                                      | Value --> 2-byte float             | 2 Byte DPT 9.001   | CT    |
|                                                                               |                                      | Value --> 3-byte color             | 3 Byte DPT 232.600 | CT    |
|                                                                               |                                      | Value --> 4-byte unsigned          | 4 Byte DPT 12.001  | CT    |
|                                                                               |                                      | Value --> 4-byte signed            | 4 Byte DPT 13.001  | CT    |
|                                                                               |                                      | Value --> 4-byte float             | 4 Byte DPT 14.005  | CT    |

| No                                                                             | Object Name                                                                                                                                                                                                      | Function                           | Data Point Type    | Flags |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------|-------|
| 3,<br>9,<br>15,<br>21,<br>27,<br>33,<br>39,<br>45,<br>51,<br>57,<br>63,<br>69  | Button 1...12 [Double Press]                                                                                                                                                                                     | Dimming --> Rel. Dim [+/-]         | 4 bit DPT 3.007    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Dimming --> Abs. Dim [%]           | 1 Byte DPT 5.001   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Dimming <--> Abs. Dim [%]          | 1 Byte DPT 5.001   | CWT   |
|                                                                                |                                                                                                                                                                                                                  | Dimming --> Color Temperature      | 2 Byte DPT 7.600   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Dimming <--> Color Temperature     | 2 Byte DPT 7.600   | CWT   |
|                                                                                | Button 1...12                                                                                                                                                                                                    | Shutter <-- Top Position           | 1 bit DPT 1.002    | CW    |
|                                                                                | Button 1...12 [Short Press 3]<br>Button 1...12 [Double Press 3]<br>Button 1...12 [Triple Press 3]<br>Button 1...12 [Long Press 3]<br>Button 1...12 [Long Press Repeat 3]<br>Button 1...12 [Long Press Release 3] | Value --> 1-bit                    | 1 bit DPT 1.001    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-bit HVAC Control Mode  | 1 bit DPT 1.100    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value <--> 1-bit toggle            | 1 bit DPT 1.001    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 2-bit priority control   | 2 bit DPT 2.001    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 4-bit dimming control    | 4 bit DPT 3.007    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 4-bit blind control      | 4 bit DPT 3.008    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte unsigned          | 1 Byte DPT 5.010   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte signed            | 1 Byte DPT 6.010   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte HVAC Mode         | 1 Byte DPT 20.102  | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte percentage        | 1 Byte DPT 5.001   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value <--> 1-byte counter/sequence | 1 Byte DPT 5.010   | CWT   |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte scene activate    | 1 Byte DPT 18.001  | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte scene learn       | 1 Byte DPT 18.001  | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 2-byte unsigned          | 2 Byte DPT 7.001   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 2-byte signed            | 2 Byte DPT 8.001   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 2-byte float             | 2 Byte DPT 9.001   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 3-byte color             | 3 Byte DPT 232.600 | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 4-byte unsigned          | 4 Byte DPT 12.001  | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 4-byte signed            | 4 Byte DPT 13.001  | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 4-byte float             | 4 Byte DPT 14.005  | CT    |
| 4,<br>10,<br>16,<br>22,<br>28,<br>34,<br>40,<br>46,<br>52,<br>58,<br>64,<br>70 | Button 1...12 Status                                                                                                                                                                                             | Switching <-- On/Off Status        | 1 bit DPT 1.001    | CW    |
|                                                                                |                                                                                                                                                                                                                  | Dimming <-- On/Off Status          | 1 bit DPT 1.001    | CW    |
|                                                                                |                                                                                                                                                                                                                  | Shutter <-- Bottom Position        | 1 bit DPT 1.002    | CW    |
|                                                                                | Button 1...12 [Short Press 4]<br>Button 1...12 [Double Press 4]<br>Button 1...12 [Triple Press 4]<br>Button 1...12 [Long Press 4]<br>Button 1...12 [Long Press Repeat 4]<br>Button 1...12 [Long Press Release 4] | Value --> 1-bit                    | 1 bit DPT 1.001    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-bit HVAC Control Mode  | 1 bit DPT 1.100    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value <--> 1-bit toggle            | 1 bit DPT 1.001    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 2-bit priority control   | 2 bit DPT 2.001    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 4-bit dimming control    | 4 bit DPT 3.007    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 4-bit blind control      | 4 bit DPT 3.008    | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte unsigned          | 1 Byte DPT 5.010   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte signed            | 1 Byte DPT 6.010   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte HVAC Mode         | 1 Byte DPT 20.102  | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte percentage        | 1 Byte DPT 5.001   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value <--> 1-byte counter/sequence | 1 Byte DPT 5.010   | CWT   |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte scene activate    | 1 Byte DPT 18.001  | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 1-byte scene learn       | 1 Byte DPT 18.001  | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 2-byte unsigned          | 2 Byte DPT 7.001   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 2-byte signed            | 2 Byte DPT 8.001   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 2-byte float             | 2 Byte DPT 9.001   | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 3-byte color             | 3 Byte DPT 232.600 | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 4-byte unsigned          | 4 Byte DPT 12.001  | CT    |
|                                                                                |                                                                                                                                                                                                                  | Value --> 4-byte signed            | 4 Byte DPT 13.001  | CT    |



| No                                                                             | Object Name                                                       | Function                                   | Data Point Type                                        | Flags             |
|--------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------|-------------------|
| 5,<br>11,<br>17,<br>23,<br>29,<br>35,<br>41,<br>47,<br>53,<br>59,<br>65,<br>71 | Button 1...12 LED Status                                          | [0, 1]                                     | 1 bit DPT 1.001                                        | CW                |
| 6,<br>12,<br>18,<br>24,<br>30,<br>36,<br>42,<br>48,<br>54,<br>60,<br>66,<br>72 | Button 1...12 Lock                                                | 0=Unlock; 1=Lock                           | 1 bit DPT 1.001                                        | CRW               |
|                                                                                | Button 1...12 Lock (T)                                            | 0=Lock; 1=Unlock                           | 1 bit DPT 1.001                                        | CRWT              |
| 73                                                                             | Cleaning Mode                                                     | 0=Disable; 1=Enable<br>0=Enable; 1=Disable | 1 bit DPT 1.003<br>1 bit DPT 1.006                     | CW                |
| 74                                                                             | LED Custom Color                                                  | 0=R,1=Y,2=G,3=C,4=B,5=M,6=W                | 1 Byte DPT 5.010                                       | CRW(T)            |
|                                                                                | LED Custom Color [+/-]                                            | .<>R<>Y<>G<>C<>B<>M<>W<>.                  | 1 bit DPT 1.007                                        | CW                |
| 75                                                                             | LED Brightness Custom Level                                       | 0=Off, 1...7                               | 1 Byte DPT 5.010                                       | CRW(T)            |
|                                                                                | LED Brightness Custom Level [%]                                   | 0%=0(Off); [0,4...100]% = 1...7            | 1 Byte DPT 5.001                                       | CRW(T)            |
|                                                                                | LED Brightness Custom Level Raw [%]                               | 0%=Off; [0,4...100]%                       | 1 Byte DPT 5.001                                       | CRW(T)            |
| 79                                                                             | Day/Night                                                         | 0=Day; 1=Night<br>0=Night; 1=Day           | 1 bit DPT 1.001<br>1 bit DPT 1.006                     | CW                |
| 80                                                                             | Proximity                                                         | 0=Absence; 1=Presence                      | 1 bit DPT 1.011                                        | CT<br>CW<br>CWT   |
|                                                                                |                                                                   | BIT6: 0=Presence; 1=Absence                | 1 Byte DPT 26.001                                      | CT<br>CW<br>CWT   |
| 89...<br>104                                                                   | IN1, IN2/OUT15, IN3/OUT14, ...<br>IN15/OUT2, OUT1 (Logic Block 1) | Input                                      | 1 bit DPT 1.002<br>2 bit DPT 2.002<br>1 Byte DPT 5.010 | CRW<br>CRW<br>CRW |
|                                                                                |                                                                   | Output                                     | 1 bit DPT 1.002<br>2 bit DPT 2.002<br>1 Byte DPT 5.010 | CRT<br>CRT<br>CRT |
| 105<br>...<br>120                                                              | IN1, IN2/OUT15, IN3/OUT14, ...<br>IN15/OUT2, OUT1 (Logic Block 2) | Input                                      | 1 bit DPT 1.002<br>2 bit DPT 2.002<br>1 Byte DPT 5.010 | CRW<br>CRW<br>CRW |
|                                                                                |                                                                   | Output                                     | 1 bit DPT 1.002<br>2 bit DPT 2.002<br>1 Byte DPT 5.010 | CRT<br>CRT<br>CRT |

## 4. Parameters and Communication Objects

### 4.1. General

General parameters include;

- |                                 |                   |                |
|---------------------------------|-------------------|----------------|
| 1. In Operation Function        | 4. Cleaning Mode  | 7. Diagnostics |
| 2. Telegram Limitation          | 5. Touch Feedback |                |
| 3. First Telegram Sending Delay | 6. Logic Blocks   |                |

#### 4.1.1. Parameters

| Parameter                                      | Settings                                                       | Description                                                                                                                                                                                           |
|------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERAL                                        |                                                                |                                                                                                                                                                                                       |
| In Operation Telegram                          | checked/ <b>unchecked</b>                                      | In operation can be used to ensure that device is alive and connected to KNX line.                                                                                                                    |
| In Operation Value                             | 0/1                                                            | Visible when "In Operation Telegram" checked. Selected value will be sent as device alive operation.                                                                                                  |
| In Operation Sending Interval                  | 10... <b>300</b> ...65535 s                                    | Visible when "In Operation Telegram" checked. Cyclic time period for sending in operation value.                                                                                                      |
| Telegram Limiter                               | checked/ <b>unchecked</b>                                      | Limits the number of telegrams to send in certain time period.                                                                                                                                        |
| Telegram Limit Period Duration                 | <b>50ms</b> , 100ms, ..., 30s, 1min                            | Visible when "Telegram Limiter" checked. Determine the period for sending telegram.                                                                                                                   |
| Maximum Telegram Count in Period               | 1...255                                                        | Visible when "Telegram Limiter" checked. Maximum number of telegrams to send in telegram limit period duration.                                                                                       |
| Telegram Transmission Delay                    | 1...255                                                        | This parameter is used to set delay for sending the first telegram when device powered on.                                                                                                            |
| Cleaning Mode                                  | checked/ <b>unchecked</b>                                      | This parameter is used to lock the keys during cleaning the device. When locked device can be cleaned properly.                                                                                       |
| SWITCH                                         |                                                                |                                                                                                                                                                                                       |
| Switch Configuration                           | 1...12 Button                                                  | Button count of device.                                                                                                                                                                               |
| Status LED "Operation Indication" Duration     | 0.3, <b>0.75</b> , 1.5, 2.25, 3 s                              | This parameter is used to select the LEDs ON duration when status LEDs used as operation indication with buttons.                                                                                     |
| Touch Feedback                                 | checked/ <b>unchecked</b>                                      | This parameter is used to activate the indication of switches in case of touch. (Switch Buttons only)                                                                                                 |
| Touch Feedback Max Duration ( x0.1 s )         | <b>0</b> ...255                                                | This parameter is used to determine the Status LED ON duration after touch and release                                                                                                                |
| Feedback Color                                 | <b>Red</b> , Yellow, Green, Cyan, Blue, Magenta, White, Custom | This parameter is used to define the color of Status LED while its switch button touched/released. <b>Feedback Color</b> will be active as <b>Touch Feedback Max Duration</b> after releasing button. |
| Exit feedback immediately on Status LED update | checked/ <b>unchecked</b>                                      | This parameter is used to select the way of Touch Feedback Color change to Switch Status color.                                                                                                       |

| Parameter        | Settings                     | Description                                         |
|------------------|------------------------------|-----------------------------------------------------|
| LOGIC BLOCKS     |                              |                                                     |
| Logic Blocks     | <b>None</b> , 1, 2           | This parameter is used to select logic block count. |
| DIAGNOSTICS      |                              |                                                     |
| Firmware Version | <b>Read Firmware Version</b> | Device Firmware version will be shown.              |
| Hardware Type    |                              | Device Hardware type will be shown.                 |
| Uptime           | <b>Read Uptime</b>           | Device up time since the device energized.          |

#### 4.1.2. Communication Objects

| No                                                                                                                                                     | Object Name                                                       | Function            | Data Point Type  | Flags |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------|------------------|-------|
| 0                                                                                                                                                      | In operation                                                      | [0, 1]              | 1 bit DPT 1.017  | CT    |
| In operation value (0,1) selected through “In operation bit” parameter will be sent via the group address which is linked to this communication object |                                                                   |                     |                  |       |
| 73                                                                                                                                                     | Cleaning Mode                                                     | 0=Disable; 1=Enable | 1 bit DPT 1.003  | CW    |
|                                                                                                                                                        |                                                                   | 0=Enable; 1=Disable | 1 bit DPT 1.006  |       |
| This object is used to activate lock for all buttons on device.                                                                                        |                                                                   |                     |                  |       |
| 146<br>...<br>161                                                                                                                                      | IN1, IN2/OUT15, IN3/OUT14, ...<br>IN15/OUT2, OUT1 (Logic Block 1) | Input               | 1 bit DPT 1.002  | CRW   |
|                                                                                                                                                        |                                                                   |                     | 2 bit DPT 2.002  | CRW   |
|                                                                                                                                                        |                                                                   |                     | 1 Byte DPT 5.010 | CRW   |
|                                                                                                                                                        |                                                                   | Output              | 1 bit DPT 1.002  | CRT   |
|                                                                                                                                                        |                                                                   |                     | 2 bit DPT 2.002  | CRT   |
|                                                                                                                                                        |                                                                   |                     | 1 Byte DPT 5.010 | CRT   |
| 162<br>...<br>177                                                                                                                                      | IN1, IN2/OUT15, IN3/OUT14, ...<br>IN15/OUT2, OUT1 (Logic Block 2) | Input               | 1 bit DPT 1.002  | CRW   |
|                                                                                                                                                        |                                                                   |                     | 2 bit DPT 2.002  | CRW   |
|                                                                                                                                                        |                                                                   |                     | 1 Byte DPT 5.010 | CRW   |
|                                                                                                                                                        |                                                                   | Output              | 1 bit DPT 1.002  | CRT   |
|                                                                                                                                                        |                                                                   |                     | 2 bit DPT 2.002  | CRT   |
|                                                                                                                                                        |                                                                   |                     | 1 Byte DPT 5.010 | CRT   |
| These objects are able to control logic processes.                                                                                                     |                                                                   |                     |                  |       |

## 4.2. LED Brightness

This function is used to dim the buttons according to Bright (ON) and Dark (OFF) dim levels. Additionally, the buttons can be dimmed with another methods such as Ambient Light or Proximity dim.

### 4.2.1. Parameters

| Parameter                             | Setting                                                               | Description                                                                                                                          |
|---------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| BRIGHTNESS LEVELS                     |                                                                       |                                                                                                                                      |
| Bright Level                          | 0 = OFF, 1, 2, 3, 4, 5, 6, 7                                          | The bright dim level can be set.                                                                                                     |
| Dark Level                            | 0 = OFF, 1, 2, 3, 4, 5, 6, 7                                          | The dark dim level can be set.                                                                                                       |
| Custom Level                          | 0 = OFF, 1, 2, 3, 4, 5, 6, 7                                          | The custom dim level can be set.                                                                                                     |
| Custom Level Object                   | checked/ <b>unchecked</b>                                             | This parameter is used to activate custom level com objects to change custom dim level interactively.                                |
| Object DPT                            | <b>Enumerated</b> ,<br>Scaling [%] Level,<br>Scaling [%] Raw          | This parameter will be shown If <b>Custom Level Objects</b> are <b>Enabled</b> . Custom dim level can be changed with these objects. |
| Object Feedback                       | <b>None</b> ,<br>After KNX bus recovery only,<br>On change,<br>Always | This parameter is used to transmit status value of Custom Level brightness.                                                          |
| Value after KNX bus recovery          | Reset, <b>Keep</b>                                                    | This parameter is used to send custom brightness level after bus voltage return.                                                     |
| STATUS LEDS AUTO-DIM (Bright -> Dark) |                                                                       |                                                                                                                                      |
| Ambient Light Dim                     | <b>unchecked</b> / checked / *Detection Disabled                      | Auto dim switch status leds to darker according to Day/Night state.                                                                  |
| Proximity Dim                         | <b>unchecked</b> / checked / *Detection Disabled                      | Auto dim switch status leds to darker according to touch to the buttons.                                                             |

### 4.2.2. Communication Objects

| No                                                                 | Object Name                         | Function                      | Data Point Type   | Flags  |
|--------------------------------------------------------------------|-------------------------------------|-------------------------------|-------------------|--------|
| 79                                                                 | Day/Night                           | 0=Day; 1=Night                | 1 bit DPT 1.001   | CW     |
|                                                                    |                                     | 0=Night; 1=Day                | 1 bit DPT 1.006   |        |
| Day or night mode can be selected via object.                      |                                     |                               |                   |        |
| 80                                                                 | Proximity                           | 0=Absence; 1=Presence         | 1 bit DPT 1.011   | CT     |
|                                                                    |                                     |                               |                   | CW     |
|                                                                    |                                     |                               |                   | CWT    |
|                                                                    |                                     | BIT6: 0=Presence; 1=Absence   | 1 Byte DPT 26.001 | CT     |
|                                                                    |                                     |                               |                   | CW     |
|                                                                    |                                     |                               |                   | CWT    |
| Proximity information value will be sent/received via object.      |                                     |                               |                   |        |
| 75                                                                 | LED Brightness Custom Level         | 0=Off, 1...7                  | 1 Byte DPT 5.010  | CRW(T) |
|                                                                    | LED Brightness Custom Level [%]     | 0%=0(Off); [0,4...100]%=1...7 | 1 Byte DPT 5.001  | CRW(T) |
|                                                                    | LED Brightness Custom Level Raw [%] | 0%=Off; [0,4...100]%          | 1 Byte DPT 5.001  | CRW(T) |
| Custom Brightness level for Status LEDs can be changed via object. |                                     |                               |                   |        |

## 4.3. LED Color

### 4.3.1. Parameters

| Parameter                    | Setting                                                      | Description                                                                                                                                                       |
|------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CUSTOM COLOR                 |                                                              |                                                                                                                                                                   |
| Custom Color                 | Red, Yellow, Green, Cyan, Blue, Magenta, White               | This parameter is used to select the type of color changes for custom color option.                                                                               |
| Custom Color Object          | checked/ <b>unchecked</b>                                    | This parameter allows to change Custom Color via com object.                                                                                                      |
| Object DPT                   | <b>Enumerated</b> , Step [+/-]                               | This parameter will be shown If <b>Custom Color Object is Enabled</b> . Custom color can be changed with these objects.                                           |
| Object Feedback              | <b>None</b> , After KNX bus recovery only, On change, Always | This parameter is shown if <b>Custom Color &gt; Object DPT</b> is selected as <b>Enumerated</b> . It is used to transmit status value of Custom Level brightness. |
| Value after KNX bus recovery | Reset, <b>Keep</b>                                           | This parameter is used to send custom brightness level after bus voltage return.                                                                                  |

### 4.3.2. Communication Objects

| No                                                                  | Object Name            | Function                          | Data Point Type  | Flags  |
|---------------------------------------------------------------------|------------------------|-----------------------------------|------------------|--------|
| 74                                                                  | LED Custom Color       | 0=R, 1=Y, 2=G, 3=C, 4=B, 5=M, 6=W | 1 Byte DPT 5.010 | CRW(T) |
|                                                                     | LED Custom Color [+/-] | .<>R<>Y<>G<>C<>B<>M<>W<>.         | 1 bit DPT 1.007  | CW     |
| Custom Color for Status LEDs can be changed via object.             |                        |                                   |                  |        |
| R: Red, Y: Yellow, G: Green, C: Cyan, B: Blue, M: Magenta, W: White |                        |                                   |                  |        |

## 4.4. Cleaning Mode

This function allows to lock the all buttons on device for unwanted control during cleaning.

### 4.4.1. Parameters

| Parameter                                         | Settings                                                  | Description                                                                                                                                                                                                                       |
|---------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enter Cleaning Mode with                          | <b>Object only</b><br>Object & Button Long Press          | This parameter is used to select button locking method.                                                                                                                                                                           |
| IF <b>Object Only</b> Selected                    |                                                           |                                                                                                                                                                                                                                   |
| DPT Cleaning Mode Object                          | <b>0 = Disable; 1 = Enable</b><br>0 = Enable; 1 = Disable | This parameter is used to determine the object type for cleaning mode object.                                                                                                                                                     |
| LED Feedback                                      | <b>All On/Off Toggle</b><br>All On<br>Color Showcase      | This parameter is used to determine LED Feedback when Cleaning mode activated.<br>All On/Off Toggle: All LEDs blinking<br>All On: All LEDs fixed<br>Color Showcase: All LEDs color changes every 2 s.                             |
| Color                                             | <b>Red</b> , Yellow, Green, Cyan, Blue, Magenta, White    | All LEDs color when Cleaning Mode activated.                                                                                                                                                                                      |
| Timeout                                           | <b>0...65535</b> s                                        | This parameter determines the Cleaning Mode active duration. 0(zero) : Always Active                                                                                                                                              |
| Exit Cleaning Mode by Long Pressing               | <b>No</b><br>Any Button                                   | Cleaning Mode deactivation method.<br>If <b>No</b> selected: Mode can be deactivated via object only.<br>If: <b>Any Button</b> selected: Mode can be deactivated touching long to any button as <b>Long Press Duration</b> below. |
| Long Press Duration                               | 5... <b>50</b> ...100 x0.1 s                              | It is used to determine long press duration for any button to deactivate Cleaning Mode.                                                                                                                                           |
| IF <b>Object &amp; Button Long Press</b> Selected |                                                           |                                                                                                                                                                                                                                   |
| DPT Cleaning Mode Object                          | <b>0 = Disable; 1 = Enable</b><br>0 = Enable; 1 = Disable | This parameter is used to determine the object type for cleaning mode object.                                                                                                                                                     |
| LED Feedback                                      | <b>All On/Off Toggle</b><br>All On<br>Color Showcase      | This parameter is used to determine LED Feedback when Cleaning mode activated.<br>All On/Off Toggle: All LEDs blinking<br>All On: All LEDs fixed<br>Color Showcase: All LEDs color changes every 2 s.                             |
| Color                                             | <b>Red</b> , Yellow, Green, Cyan, Blue, Magenta, White    | All LEDs color when Cleaning Mode activated.                                                                                                                                                                                      |
| Timeout                                           | <b>0...65535</b> s                                        | This parameter determines the Cleaning Mode active duration. 0(zero) : Always Active                                                                                                                                              |
| Long Press Button                                 | <b>Button 1...6</b>                                       | Assign a button to activate Cleaning Mode.                                                                                                                                                                                        |
| Long Press Duration                               | 5... <b>50</b> ...100 x0.1 s                              | It is used to determine long press duration for any button to deactivate Cleaning Mode.                                                                                                                                           |
| Exit Cleaning Mode by Long Pressing               | No<br><b>Same Button</b><br>Any Button                    | Cleaning Mode deactivation type can be selected here.                                                                                                                                                                             |

#### 4.4.2. Communication Objects

| No                                                                                              | Object Name   | Function            | Data Point Type | Flags |
|-------------------------------------------------------------------------------------------------|---------------|---------------------|-----------------|-------|
| 73                                                                                              | Cleaning Mode | 0=Disable; 1=Enable | 1 bit DPT 1.003 | CW    |
|                                                                                                 |               | 0=Enable; 1=Disable | 1 bit DPT 1.006 |       |
| This object activates the Cleaning Mode to prevent unwanted control during cleaning the device. |               |                     |                 |       |



## 4.5. Sensors

These parameters are used to select Ambient Light dimming or Proximity dim.

### 4.5.1. Ambient Light

This function allows the LED dimming change according to Day or Night time via own com object.

#### 4.5.1.1. Parameters

| Parameter                              | Setting                                         | Description                                                                   |
|----------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------|
| AMBIENT LIGHT (Day/Night)              |                                                 |                                                                               |
| Ambient Light Detection                | <b>unchecked</b> / checked                      | This parameter activates auto-dim according to Day and Night states.          |
| Day/Night Source                       | Object (External)                               | Day/Night states are changing via a group object.                             |
| DPT Day/Night Object                   | <b>0 = Day; 1 = Night</b><br>0 = Night; 1 = Day | This parameter determines the object value for Day and Night.                 |
| Day/Night State after KNX Bus Recovery | <b>Reset</b> / Keep                             | This parameter is used select the Ambient Light state after KNX bus recovery. |

#### 4.5.1.2. Communication Objects

| No                                                                                                                                                 | Object Name | Function       | Data Point Type | Flags |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------|-----------------|-------|
| 79                                                                                                                                                 | Day/Night   | 0=Day; 1=Night | 1 bit DPT 1.001 | CW(T) |
|                                                                                                                                                    |             | 0=Night; 1=Day | 1 bit DPT 1.006 |       |
| This object switches Day and Night information thru com object. Device LEDs will be dimmed UP or DOWN If Ambient Light dim is properly configured. |             |                |                 |       |

## 4.5.2. Proximity

This function is used to dim the LEDs when device not using for a certain time.

### 4.5.2.1. Parameters

| Parameter                         | Setting                                               | Description                                                                                                                                             |
|-----------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROXIMITY (Presence/Absence)      |                                                       |                                                                                                                                                         |
| Proximity Detection               | <b>unchecked</b> / checked                            | This parameter activates auto-dim according to proximity state.                                                                                         |
| Proximity Source                  | <b>Button Press</b> , Object, Button Press and Object | This parameter is used select the proximity type.                                                                                                       |
| Presence Timeout                  | 1... <b>10</b> ...255 s                               | This parameter defines the timeout for Presence. When it is reached, the device will be in Absent mode and dimming will be applied.                     |
| Send Proximity Status             | <b>unchecked</b> / checked                            | This parameter is used to send Proximity status via group object.                                                                                       |
| Proximity Object                  | <b>Single Generator</b> , Multi Generator             | This parameter is used to select the sending/receiving type of proximity                                                                                |
| Presence Transmit Repeat Interval | <b>0</b> ...255 s                                     | This parameter is used to determine the repeat interval for proximity status.                                                                           |
| Proximity Generator ID            | <b>1</b> , 2, 3                                       | This parameter will be shown if "Send Proximity Status" function box is checked. It is used for Multi Generator ID assignment. Sends 1-byte object.     |
| Object Monitoring Timeout         | <b>0</b> ...255                                       | This parameter is used to determine the timeout for proximity object receiving. Device will be in Absence mode end of the time if there is no presence. |

### 4.5.2.2. Communication Objects

| No                                                                                       | Object Name | Function                    | Data Point Type   | Flags |
|------------------------------------------------------------------------------------------|-------------|-----------------------------|-------------------|-------|
| 80                                                                                       | Proximity   | 0=Absence; 1=Presence       | 1 bit DPT 1.011   | CT    |
|                                                                                          |             |                             |                   | CW    |
|                                                                                          |             |                             |                   | CWT   |
|                                                                                          |             | BIT6: 0=Presence; 1=Absence | 1 Byte DPT 26.001 | CT    |
|                                                                                          |             |                             |                   | CW    |
|                                                                                          |             |                             |                   | CWT   |
| This object is used between devices to activate/deactivate Proximity dim simultaneously. |             |                             |                   |       |

## 4.6. Switch

Select the desired operation from the “Button N” (N: Button number) parameter in General Tab in ETS Configuration. Push buttons have functions as switch, switch and dim, shutter and value operation. Push buttons are numbered and can be shown in General Tab. Every function enables different parameters and communication objects that will be explained in the following chapters.

| LED Status      | Brightness                                  | Color                                                          |
|-----------------|---------------------------------------------|----------------------------------------------------------------|
| <b>ON</b>       | <b>Bright</b> , Dark, Custom, Max, Min, Off | <b>Red</b> , Yellow, Green, Cyan, Blue, Magenta, White, Custom |
| <b>OFF</b>      | Bright, Dark, Custom, Max, Min, <b>Off</b>  | <b>Red</b> , Yellow, Green, Cyan, Blue, Magenta, White, Custom |
| <b>Disabled</b> | Bright, Dark, Custom, Max, Min, <b>Off</b>  | <b>Red</b> , Yellow, Green, Cyan, Blue, Magenta, White, Custom |

| Parameter                           | Settings                                                                 | Description                                                                                                                                          |
|-------------------------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name                                | Max. 32 Characters                                                       | Button name can be entered optionally. Written characters will be shown on left menu tabs right near of “Button x” tabs. <b>Ex.</b> Button 2 Kitchen |
| BUTTON LOCK                         |                                                                          |                                                                                                                                                      |
| Button Lock Object DPT              | <b>0 = Unlock; 1 = Lock</b><br>0 = Lock; 1 = Unlock                      | Selects object type for lock object.                                                                                                                 |
| Button Lock Object Transmits Status | <b>unchecked</b> / checked                                               | Lock state will be transmitted via Lock Object itself.                                                                                               |
| Lock State after KNX Bus Recovery   | Reset / <b>Keep</b>                                                      | Lock state can be selected after bus return.                                                                                                         |
| LED Function when Locked            | <b>Active</b> / Disable                                                  | Enable or disable LED feedback from the button.                                                                                                      |
| FUNCTION                            |                                                                          |                                                                                                                                                      |
| Button Function                     | <b>No Function</b><br>Switching<br>Dimming<br>Shutter<br>Value Operation | This parameter is used to select button functional according to demands. The functions will be explained below.                                      |

Push buttons also have status LEDs which can be configured to indicate state of the operation that is configured.

### 4.6.1. Switch Function

Selecting “Switch” as “Push Button Function” enables to send 1 bit On(1)/Off(0) telegrams to the group address that is linked to respective communication object. Touching and releasing buttons can be assigned to different commands (On, Off, Toggle and No Command). Status LEDs can be configured to notify the current status of operation directly with buttons or using communication objects for confirmation to show current status.

#### 4.6.1.1.Parameters

| Parameter                     | Settings                                                                                                          | Description                                                          |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Command on Press              | On / Off / <b>Toggle</b> / No command                                                                             | Selects button function when button touched.                         |
| Command on Release            | On / Off / Toggle / <b>No command</b>                                                                             | Selects button function when button released.                        |
| Separate Switch Status Object | checked / <b>unchecked</b>                                                                                        | This parameter defines the additional object to write switch status. |
| Function of LED               | LED Status ON<br>LED Status OFF<br>Operation Indication<br><b>Status Indication</b><br>Inverted Status Indication | This parameter is used to select status LED function of button.      |

#### 4.6.1.2.Communication Objects

| No                                                     | Object Name                   | Function                      | Data Point Type | Flags |
|--------------------------------------------------------|-------------------------------|-------------------------------|-----------------|-------|
| 1, 7, 13, 19,<br>25, 31, 37,<br>43, 49, 55,<br>61, 67  | Button 1...12 [Press]         | Switching --> On/Off          | 1 bit DPT 1.001 | CT    |
|                                                        | Button 1...12 [Release]       | Switching <-> On/Off & Status | 1 bit DPT 1.001 | CWT   |
|                                                        | Button 1...12 [Press/Release] |                               |                 |       |
| 4, 10, 16,<br>22, 28, 34,<br>40, 46, 52,<br>58, 64, 70 | Button 1...12 Status          | Switching <-- On/Off Status   | 1 bit DPT 1.001 | CW    |
| 6, 12, 18,<br>24, 30, 36,<br>42, 48, 54,<br>60, 66, 72 | Button 1...12 Lock            | 0=Unlock; 1=Lock              | 1 bit DPT 1.001 | CRW   |
|                                                        | Button 1...12 Lock (T)        | 0=Lock; 1=Unlock              | 1 bit DPT 1.001 | CRWT  |

## 4.6.2. Dimming Function

When push button function selected as “Switch and Dim” push button can be configured in three different ways to control brightness value.

| Function                            | Short Touch                    | Long Touch                       |
|-------------------------------------|--------------------------------|----------------------------------|
| Darker(Short Touch Off)             | Off (%0)                       | Decrease, (%XX)                  |
| Brighter(Short Touch On)            | On(%100)                       | Increase,(%XX)                   |
| Darker/Brighter(Short Touch Toggle) | Toggle between Darker/Brighter | Decrease, (%XX) / Increase,(%XX) |

%XX values can have different values relative to the “Dimming Type” parameter. “Dimming Type” parameter allows two different types of dimming functionality “Start Stop” and “Step Wise”.

### Dimming - Start Stop Type

When push button touched (and not released) and touched duration exceeds “Long Touch Duration” time “Increase, %100” (When button in Brighter mode) or “Decrease, %100” (When button in Darker mode) dimming level will be send using respective communication object. When button released “Increase, Break” or “Decrease, Break” value will be sent.

### Dimming - Step Wise Type

When push button touched (and not released) and touched duration exceeds “Long Touch Duration” time, a step value level configured in “Step Value” parameter will be send using respective communication object. If button mode is “Darker”, “Decrease, % [Step Value]”, else button mode is “Brighter”, “Increase, % [Step Value]” values will be sent. Until button is released same step value will be send periodically with a time interval defined in “Step Send Interval”.

#### 4.6.2.1. Parameters

| Parameter                        | Settings                                                                                                          | Description                                                                                                                                           |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dim Operation                    | Darker (Short Touch Off)<br>Brighter (Short Touch On)<br><b>Darker/Brighter (Short Touch Toggle)</b>              | Select push button dim operation.<br>(Explained on Chapter 4.4.2)                                                                                     |
| Dim Direction after Switching On | <b>Darker</b> / Brighter                                                                                          | Dim direction can be selected after switching on the light(s).                                                                                        |
| Long Press Duration              | 100ms ... <b>500ms</b> ... 10s                                                                                    | Long Press time to start dimming.                                                                                                                     |
| Dimming Type                     | <b>Start Stop</b> / Step Wise                                                                                     | Select dimming type.<br>(See <a href="#">Chapter 4.6.2</a> )                                                                                          |
| Step Value                       | %100 / %50 / %25 / <b>%12.5</b> /<br>%6.25 / %3.13 / % 1.56                                                       | Visible when <b>Dimming Type</b> is <b>Step Wise</b> .<br>Selects the dimming resolution that will be sending at every " <b>Step Send Interval</b> ". |
| Step Send Interval               | 100ms ... <b>1s</b> ... 10s                                                                                       | Visible when <b>Dimming Type</b> is <b>Step Wise</b> .<br>Selects the time interval to send dimming increase/decrease values periodically.            |
| Separate Switch Status Object    | checked / <b>unchecked</b>                                                                                        | This parameter defines the additional object to write switch status.                                                                                  |
| Function of LED                  | LED Status ON<br>LED Status OFF<br>Operation Indication<br><b>Status Indication</b><br>Inverted Status Indication | This parameter is used to select status LED function of button.                                                                                       |

#### 4.6.2.2. Communication Objects

| No                                                     | Object Name                  | Function                       | Data Point Type  | Flags |
|--------------------------------------------------------|------------------------------|--------------------------------|------------------|-------|
| 1, 7, 13,<br>19, 25, 31,<br>37, 43, 49,<br>55, 61, 67  | Button 1...12 [Short Press]  | Dimming --> On/Off             | 1 bit DPT 1.001  | CT    |
|                                                        |                              | Dimming <--> On/Off & Status   | 1 bit DPT 1.001  | CWT   |
| 2, 8, 14,<br>20, 26, 32,<br>38, 44, 50,<br>56, 62, 68  | Button 1...12 [Short Press]  | Dimming --> Dim [+/-]          | 4 bit DPT 3.007  | CT    |
| 3, 9, 15,<br>21, 27, 33,<br>39, 45, 51,<br>57, 63, 69  | Button 1...12 [Double Press] | Dimming --> Rel. Dim [+/-]     | 4 bit DPT 3.007  | CT    |
|                                                        |                              | Dimming --> Abs. Dim [%]       | 1 Byte DPT 5.001 | CT    |
|                                                        |                              | Dimming <--> Abs. Dim [%]      | 1 Byte DPT 5.001 | CWT   |
|                                                        |                              | Dimming --> Color Temperature  | 2 Byte DPT 7.600 | CT    |
|                                                        |                              | Dimming <--> Color Temperature | 2 Byte DPT 7.600 | CWT   |
| 4, 10, 16,<br>22, 28, 34,<br>40, 46, 52,<br>58, 64, 70 | Button 1...12 Status         | Dimming <-- On/Off Status      | 1 bit DPT 1.001  | CW    |
| 6, 12, 18,<br>24, 30, 36,<br>42, 48, 54,<br>60, 66, 72 | Button 1...12 Lock           | 0=Unlock; 1=Lock               | 1 bit DPT 1.001  | CRW   |
|                                                        | Button 1...12 Lock (T)       | 0=Lock; 1=Unlock               | 1 bit DPT 1.001  | CRW   |



### 4.6.3. Shutter

Selecting “Shutter” for “Push Button Function” enables shutter operation for push buttons. Shutter functions can be configured to control two different shutter operations “Shutter/Venetian Blind” function or “Blind/Roller/Awning” function. In both functions push button can be configured as 3 different button function; Up, Down and Toggle. When push button selected as up or down, that button can only move the blind and lamella to the configured direction. For example, if configured as up button, push button can be used to move the blind up and adjust the lamella down. If push button configured as toggle button, single button can be used to move the blind up – down and adjust lamella up – down.

#### Venetian Blind Function

When “Controller Type” configured as “Shutter/Venetian Blind”, lamella operations of blind control will be enabled as “short press” function of the push button. Also, “Button Function” parameter enables the use of push button 3 different ways;

**Up:** “Long Press” moves the blind upwards; “Short Press” operates two different ways, short pressed while the blind is moving, stops the blind, short pressed while the blind is not moving adjust the lamella position down.

**Down:** “Long Press” moves the blind downwards; “Short Press” operates two different ways, short pressed while the blind is moving, stops the blind, short pressed while the blind is not moving adjust the lamella position up.

**Toggle:** “Long Press” moves the blind upwards or downwards toggling the last “Long Press” action. For example, if last state was up, when push button long pressed, it will send “Down” telegram.

Every time push button long pressed it will toggle its last state. If push button short pressed while the blind is moving upward or downward “Short Press” will stop the blind, if the blind is not moving “Short Press” will adjust the lamella. Lamella adjustment will operate respective to the last state, for example if the last “Long Press” action was up, then lamella will be adjusted down when push button short pressed and if the last “Long Press” action was down, then lamella will be adjusted up when push button short pressed.



## Roller Shutter

When “Controller Type” configured as “Blind/Roller/Awning Function” lamella operations of blind control will be disabled and “short press” will only stop the movement of the blind. “Button Function” parameter enables the use of push button 3 different ways;

**Up:** “Short Press” moves the blind upwards; “Short Press” stops the blind.

**Down:** “Short Press” moves the blind downwards; “Short Press” stops the blind.

**Toggle:** “Short Press” action moves the blind downwards – stops – upwards – stops.

For example, if last state was up, when push button short pressed it will send “Stop” telegram.

Every time push button short pressed it will follow the steps below.

Down -> Stop -> Up -> Stop

Note: If Top or Bottom Position object gets a value “1” and short pressed, blind will be driven opposite way.

#### 4.6.3.1. Parameters

| Parameter                                                       | Settings                                                                                                                                                           | Description                                                                                                                                                                                                                       |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Push Button Function                                            | Up / Down / <b>Toggle</b>                                                                                                                                          | See <a href="#">Chapter 4.6.3</a>                                                                                                                                                                                                 |
| Control Type                                                    | <b>Venetian Blind</b><br>Roller Shutter (button-operation)<br>Roller Shutter (switch-operation)                                                                    | Selects control type of blinds. <b>Venetian Blind</b> function has <b>Lamella Control</b> additionally unlike the <b>Roller Shutter</b> .                                                                                         |
| Long Press Duration                                             | 100ms ... <b>500ms</b> ... 10s                                                                                                                                     | Wait time for long press action. This parameter will be shown if Control Type is selected as <b>Venetian Blind</b> .                                                                                                              |
| Short Press Action on<br>(Roller Shutter Button Operation only) | <b>Press / Release</b>                                                                                                                                             | This is used to determine the short action type.<br><b>Press:</b> Short Press action will be executed as soon as you touch the button.<br><b>Release:</b> Short Press action will be executed while releasing button after press. |
| Function of LED                                                 | LED Status ON<br>LED Status OFF<br>Operation Indication<br><b>Status and Movement Indication</b><br>Inverted Status and Movement Indication<br>Movement Indication | This parameter is used to select status LED function of button.                                                                                                                                                                   |

#### 4.6.3.2. Communication Objects

| No                                                     | Object Name                                                                     | Function                                    | Data Point Type                    | Flags      |
|--------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------|------------------------------------|------------|
| 1, 7, 13,<br>19, 25, 31,<br>37, 43, 49,<br>55, 61, 67  | Button 1...12 [Long Press]<br>Button 1...12 [Press]<br>Button 1...12 [Release]  | Shutter <-> Up/Down                         | 1 bit DPT 1.008                    | CWT        |
| 2, 8, 14, 20,<br>26, 32, 38,<br>44, 50, 56,<br>62, 68  | Button 1...12 [Press]<br>Button 1...12 [Release]<br>Button 1...12 [Short Press] | Shutter <-> Stop<br>Shutter <-> Stop/Adjust | 1 bit DPT 1.017<br>1 bit DPT 1.007 | CWT<br>CWT |
| 3, 9, 15,<br>21, 27, 33,<br>39, 45, 51,<br>57, 63, 69  | Button 1...12 Status                                                            | Shutter <-- Top Position                    | 1 bit DPT 1.002                    | CW         |
| 4, 10, 16,<br>22, 28, 34,<br>40, 46, 52,<br>58, 64, 70 | Button 1...12 Status                                                            | Shutter <-- Bottom Position                 | 1 bit DPT 1.002                    | CW         |
| 6, 12, 18,<br>24, 30, 36,<br>42, 48, 54,<br>60, 66, 72 | Button 1...12 Lock<br>Button 1...12 Lock (T)                                    | 0=Unlock; 1=Lock<br>0=Lock; 1=Unlock        | 1 bit DPT 1.001<br>1 bit DPT 1.001 | CRW<br>CRW |

#### 4.6.4. Value Operation

Push button can be configured to send predefined values from different Data Types. Additionally, long, short or double press actions can be selected for each Value transmitting individually. Up to 4 value can be sent via one button.

##### 4.6.4.1. Parameters

| Parameter | Settings                                                                                                                                                                                                     |                                                                                                                                                                                                | Description                                                        |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| Value 1   | None / <b>Short Press</b> / Double Press / Triple / Long Press (Start) / Long Press Repeat / Long Press Release (Stop)                                                                                       |                                                                                                                                                                                                | Value transmitting methods can be selected.                        |
| Value 2   | <b>None</b> / Short Press / Double Press / Triple / Long Press (Start) / Long Press Repeat / Long Press Release (Stop)                                                                                       |                                                                                                                                                                                                |                                                                    |
| Value 3   |                                                                                                                                                                                                              |                                                                                                                                                                                                |                                                                    |
| Value 4   |                                                                                                                                                                                                              |                                                                                                                                                                                                |                                                                    |
| Data Type | 1-bit<br>1-bit HVAC control mode<br>1-bit toggle<br>2-bit priority control<br>4-bit dimming control<br>4-bit blind control<br>1-byte unsigned<br>1-byte signed<br>1-byte HVAC opr. mode<br>1-byte percentage | 1-byte counter/sequence<br>1-byte scene activate<br>1-byte scene learn<br>2-byte unsigned<br>2-byte signed<br>2-byte float<br>3-byte color<br>4-byte unsigned<br>4-byte signed<br>4-byte float | Data type can be selected individually for each Value field.       |
| Value     | <b>0/1</b>                                                                                                                                                                                                   |                                                                                                                                                                                                | Visible when “Data Type” selected as “1 bit value”.                |
|           | <b>Cool</b> / Heat                                                                                                                                                                                           |                                                                                                                                                                                                | Visible when “Data Type” selected as “1 bit HVAC C. Mode”.         |
|           | <b>00b No Priority, OFF</b> / 01b No Priority, ON<br>10b Priority, OFF / 11b Priority, ON                                                                                                                    |                                                                                                                                                                                                | Visible when “Data Type” selected as “2 bit priority control”.     |
|           | <b>Decrease, Break</b> / Decrease, 100 % ... 1%<br>Increase, Break / Increase, 100% ... 1%                                                                                                                   |                                                                                                                                                                                                | Visible when “Data Type” selected as “4 bit dimming control”.      |
|           | <b>Up, Break</b> / Up, 100 % ... 1%<br>Down, Break / Down, 100% ... 1%                                                                                                                                       |                                                                                                                                                                                                | Visible when “Data Type” selected as “4 bit blind control”.        |
|           | <b>0...255</b>                                                                                                                                                                                               |                                                                                                                                                                                                | Visible when Data Type is selected as “1-byte unsigned”            |
|           | <b>-128...0...127</b>                                                                                                                                                                                        |                                                                                                                                                                                                | Visible when Data Type is selected as “1-byte signed”              |
|           | <b>Auto</b> / Comfort / Standby / Economy / Building Protection                                                                                                                                              |                                                                                                                                                                                                | Visible when Data Type is selected as “1-byte HVAC operating mode” |
|           | <b>0...100 %</b>                                                                                                                                                                                             |                                                                                                                                                                                                | Visible when Data Type is selected as “1-byte percentage”          |
|           | <b>0...65535</b>                                                                                                                                                                                             |                                                                                                                                                                                                | Visible when Data Type is selected as “2-byte unsigned”            |
|           | <b>–32768...0...32767</b>                                                                                                                                                                                    |                                                                                                                                                                                                | Visible when Data Type is selected as “2-byte signed”              |
|           | <b>–671088...0...670760</b>                                                                                                                                                                                  |                                                                                                                                                                                                | Visible when Data Type is selected as “2-byte float”               |
| Parameter | Settings                                                                                                                                                                                                     |                                                                                                                                                                                                | Description                                                        |

|                              |                                                                                                                   |                                                                                                                                                                                                       |
|------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value                        | #000000...#FFFFFF                                                                                                 | Visible when Data Type is selected as "3-byte color"                                                                                                                                                  |
|                              | 0...4294967295                                                                                                    | Visible when Data Type is selected as "4-byte unsigned"                                                                                                                                               |
|                              | -2147483648...0...2147483647                                                                                      | Visible when Data Type is selected as "4-byte signed"                                                                                                                                                 |
|                              | -1E+38...0...1E+38                                                                                                | Visible when Data Type is selected as "4-byte float"                                                                                                                                                  |
| Begin                        | 0/1                                                                                                               | Visible when Data Type is selected as "1-bit toggle"                                                                                                                                                  |
|                              | 0...255                                                                                                           | Visible when Data Type is selected as "1-byte counter/sequence"                                                                                                                                       |
| End                          | 0...255                                                                                                           |                                                                                                                                                                                                       |
| Step                         | 0...1...255                                                                                                       |                                                                                                                                                                                                       |
| Step Direction               | Up / Down                                                                                                         |                                                                                                                                                                                                       |
| Counting Sequence            | Cyclic / Non-Cyclic                                                                                               |                                                                                                                                                                                                       |
| Scene                        | 1...64                                                                                                            | Visible when Data Type is selected as "1-byte scene activate"                                                                                                                                         |
|                              |                                                                                                                   | Visible when Data Type is selected as "1-byte scene learn"                                                                                                                                            |
| Multi Press Timeout          | 20...200 x10 ms                                                                                                   | Double or Triple press action time period.                                                                                                                                                            |
| Long Press Duration          | 100ms...500ms...10s                                                                                               | Select time period for long press operation                                                                                                                                                           |
| Repeat [Long Press] Telegram | checked / unchecked                                                                                               | Visible if any Long Press action selected. Long Press values will be sent cyclically depends on interval unless releasing.                                                                            |
| Long Press Repeat Interval   | 100ms...200ms...10s                                                                                               | This parameter is used to set interval timing for long press repeating.                                                                                                                               |
| Function of LED              | LED Status ON<br>LED Status OFF<br><b>Operation Indication</b><br>Status Indication<br>Inverted Status Indication | This parameter is used to select status LED function of button.                                                                                                                                       |
| LED Blinking when Status ON  | checked / unchecked                                                                                               | This parameter is visible when <b>Function of LED</b> selected as <b>Status Indication</b> . This parameter activate blinking instead of fixed lighting if LED Status com object state is <b>ON</b> . |
| Show Infor                   | checked / unchecked                                                                                               | This parameter activates notes how the button actions work.                                                                                                                                           |

#### 4.6.4.1. Communication Objects

| No                                                                                                                                                                                                                                 | Object Name                                                                                                                                                                                                                              | Function                           | Data Point Type    | Flags      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------|------------|
| 1, 7, 13,<br>19, 25,31,<br>37, 43, 49,<br>55, 61, 67                                                                                                                                                                               | Button 1...12 [Short Press 1...4]<br>Button 1...12 [Double Press 1...4]<br>Button 1...12 [Triple Press 1...4]<br>Button 1...12 [Long Press 1...4]<br>Button 1...12 [Long Press Repeat 1...4]<br>Button 1...12 [Long Press Release 1...4] | Value --> 1-bit                    | 1 bit DPT 1.001    | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 1-bit HVAC Control Mode  | 1 bit DPT 1.100    | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value <--> 1-bit toggle            | 1 bit DPT 1.001    | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 2-bit priority control   | 2 bit DPT 2.001    | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 4-bit dimming control    | 4 bit DPT 3.007    | CT         |
| 2, 8, 14,<br>20, 26, 32,<br>38, 44, 50,<br>56, 62, 68                                                                                                                                                                              |                                                                                                                                                                                                                                          | Value --> 4-bit blind control      | 4 bit DPT 3.008    | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 1-byte unsigned          | 1 Byte DPT 5.010   | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 1-byte signed            | 1 Byte DPT 6.010   | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 1-byte HVAC Mode         | 1 Byte DPT 20.102  | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 1-byte percentage        | 1 Byte DPT 5.001   | CT         |
| 3, 9, 15,<br>21, 27, 33,<br>39, 45, 51,<br>57, 63, 69                                                                                                                                                                              |                                                                                                                                                                                                                                          | Value <--> 1-byte counter/sequence | 1 Byte DPT 5.010   | CWT        |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 1-byte scene activate    | 1 Byte DPT 18.001  | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 1-byte scene learn       | 1 Byte DPT 18.001  | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 2-byte unsigned          | 2 Byte DPT 7.001   | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 2-byte signed            | 2 Byte DPT 8.001   | CT         |
| 4, 10, 16,<br>22, 28, 34,<br>40, 46, 52,<br>58, 64, 70                                                                                                                                                                             |                                                                                                                                                                                                                                          | Value --> 2-byte float             | 2 Byte DPT 9.001   | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 3-byte color             | 3 Byte DPT 232.600 | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 4-byte unsigned          | 4 Byte DPT 12.001  | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 4-byte signed            | 4 Byte DPT 13.001  | CT         |
|                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                          | Value --> 4-byte float             | 4 Byte DPT 14.005  | CT         |
| 5, 11, 17,<br>23, 29, 35,<br>41, 47, 53,<br>59, 65, 71                                                                                                                                                                             | Button 1...12 LED Status                                                                                                                                                                                                                 | [0,1]                              | 1 bit DPT 1.001    | CW         |
| Confirmation for On/Off switch telegrams will be received from this communication object. If these communications object visible, it must link to an appropriate group address. Otherwise status LEDs will not function correctly. |                                                                                                                                                                                                                                          |                                    |                    |            |
| 6, 12, 18,<br>24, 30, 36,<br>42, 48, 54,<br>60, 66, 72                                                                                                                                                                             | Button 1...12 Lock                                                                                                                                                                                                                       | 0=Unlock; 1=Lock                   | 1 bit DPT 1.001    | CRW        |
|                                                                                                                                                                                                                                    | Button 1...12 Lock(T)                                                                                                                                                                                                                    | 0=Lock; 1=Unlock                   | 1 bit DPT 1.006    | CRW<br>(T) |
| Push button can be locked/unlocked via this object. Additionally, Switch Lock status can be taken via same object.                                                                                                                 |                                                                                                                                                                                                                                          |                                    |                    |            |

## 4.7. Logic Block 1...2

### 4.7.1. I/O Configuration

Logic Input and Output counts should be selected in this page.

| Parameter  | Setting                                                                                                                                                                                                                                                                                                                                                   | Description                                           |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| I/O Config | 1 Input / 15 Output<br>2 Input / 14 Output<br>3 Input / 13 Output<br>4 Input / 12 Output<br>5 Input / 11 Output<br>6 Input / 10 Output<br>7 Input / 9 Output<br>8 Input / 8 Output<br>9 Input / 7 Output<br>10 Input / 6 Output<br>11 Input / 5 Output<br>12 Input / 4 Output<br>13 Input / 3 Output<br>14 Input / 2 Output<br><b>15 Input / 1 Output</b> | Logic Input and Output configuration can be selected. |

## 4.7.2. Inputs

### 4.7.2.1. IN1...15

| Parameter                                                       | Settings                                                                                                                                                                                                                                                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name                                                            | 32 chracters are allowed.<br>(Optional)                                                                                                                                                                                                                               | Any name can be defined for each Input. Name will be shown in ETS Parameters and Group Objects page.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Data Type                                                       | <b>1-bit</b> / 2-bit / 1-byte                                                                                                                                                                                                                                         | Logic Input Data Type can be selected.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Preprocess<br>(if Data Type : 2-bit)<br>(if Data Type : 1-byte) | <b>Passthrough,</b><br>NOT,<br>always True,<br>always False,<br>equal,<br>NOT equal,<br>in range,<br>NOT in range,<br>matches any of two,<br>NOT matches any of two,<br>bits SET,<br>NOT bits SET,<br>bits CLEAR,<br>NOT bits CLEAR,<br>thresholds,<br>NOT thresholds | <p><u>Passthrough</u>: Input will be processed as it is.<br/>0 is OFF, 1...255 is ON</p> <p><u>NOT</u>: Input will be reverted.<br/>0 is ON, 1...255 is OFF</p> <p><u>always True</u>: Process will always be True regardless to input value.</p> <p><u>always False</u>: Process will always be False regardless to input value.</p> <p><u>equal</u>: If the Input value is equal to ETS written value, the result will be "True".</p> <p><u>NOT equal</u>: If the Input value is NOT equal to ETS written value, the result will be "True".</p> <p><u>in range</u>: If the Input value is in range between written values on ETS, the result will be "True".</p> <p><u>NOT in range</u>: If the Input value is NOT in range between written values on ETS, the result will be "True".</p> <p><u>matches any of two</u>: If the Input value matches with the any of values on ETS, the result will be "True".</p> <p><u>NOT matches any of two</u>: If the Input value does NOT match with the any of values on ETS, the result will be "True".</p> <p><u>bits SET</u>: If all masked bits of the Input Value is set, the result will be "True".</p> <p><u>NOT bits SET</u>: If all masked bits of the input value is set, the result will be "False"</p> <p><u>bits CLEAR</u>: If all masked bits of the Input Value is clear, the result will be "True".</p> <p><u>NOT bits CLEAR</u>: If all masked bits of the Input Value is clear, the result will be "False".</p> <p><u>thresholds</u>: Input value must be;<br/>equal or greater than "True if &gt; =" value for result "True".<br/>equal or lower than "False &lt; =" value fo result "False".</p> <p><u>NOT thresholds</u>: Input value must be;<br/>equal or greater than "True if &gt; =" value for result "False".<br/>equal or lower than "False &lt; =" value fo result "True".</p> |

|                                      |                                                              |                                                                                                                                                                                                                                                                               |
|--------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Preprocess<br>(if Data Type : 1-bit) | <b>Passthrough</b> ,<br>NOT,<br>always True,<br>always False | <p><u>Passthrough</u>: Input will be processed as it is.</p> <p><u>NOT</u>: Input will be reverted.</p> <p><u>always True</u>: Process will always be True regardless to input value.</p> <p><u>always False</u>: Process will always be False regardless to input value.</p> |
| Initial State                        | <b>False</b> / True                                          | This parameter is used to select initial value of related input when device energized(or reset).                                                                                                                                                                              |
| State after KNX bus recovery         | <b>Initial</b> / Last                                        | This parameter is used to select the related input state after bus voltage recovery.                                                                                                                                                                                          |



### 4.7.3. Outputs

#### 4.7.3.1. OUT1...15

| Parameter   | Settings                             | Description                                                                                                                                                                                                     |
|-------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name        | 32 chracters are allowed. (Optional) | Any name can be defined for each Output. Name will be shown in ETS Parameters and Group Objects page.                                                                                                           |
| Register    | checked/ <b>unchecked</b>            | This function is used to set the chosen output as Input Operand. Result of relevant output can be used as input for another Output.                                                                             |
| OPERANDS    |                                      |                                                                                                                                                                                                                 |
| IN1...IN15  | checked/ <b>unchecked</b>            | This parameter is used to select Logic Input(s) which needs for reletad Output operation.                                                                                                                       |
| STATE       | checked/ <b>unchecked</b>            | This parameter defines the value of result. It can be used as operand in Output operation.                                                                                                                      |
| FUNCTION    |                                      |                                                                                                                                                                                                                 |
| Description | 80 chracters are allowed. (Optional) | Any name can be defined for description of function. Description will <b>not</b> shown anywhere.                                                                                                                |
| Data Type   | <b>1-bit</b> / 2-bit / 1-byte        | Output operation data type can be selected individually.                                                                                                                                                        |
| Operation   | <b>Passthrough (unary)</b>           | <u>Passthrough</u> : It should be used with single operand only. Result will be the same as related operand value.                                                                                              |
|             | NOT (unary)                          | <u>NOT</u> : It should be used with single operand only. Result will be reverted according to related operand value.                                                                                            |
|             | AND                                  | <u>AND</u> : Selected Inputs will be multiplied consecutively and result value will be sent after.                                                                                                              |
|             | NAND                                 | <u>NAND</u> : Selected Inputs will be multiplied consecutively and result value will be sent as inverted after.                                                                                                 |
|             | OR                                   | <u>OR</u> : Selected Inputs will be summed consecutively and result value will be sent after.                                                                                                                   |
|             | NOR                                  | <u>NOR</u> : Selected Inputs will be summed consecutively and result value will be sent as inverted after.                                                                                                      |
|             | XOR                                  | <u>XOR</u> : Selected Inputs will be summed consecutively and result value will be sent after.                                                                                                                  |
|             | XNOR                                 | <u>XNOR</u> : Selected Inputs will be summed consecutively and result value will be sent as inverted after.                                                                                                     |
|             | Sum is 1                             | <u>Sum is 1</u> : If the one of the Input is "True" and rest of all is "False" the result will be "True". If multiple inputs are "True" or all "False", then result will be "False".                            |
|             | NOT Sum is 1                         | <u>NOT Sum is 1</u> : If the one of the Input is "True" and rest of all is "False" the result will be "False". If multiple inputs are "True" or all "False", then result will be "True".                        |
|             | Sum is 0 or 1                        | <u>Sum is 0 or 1</u> : If the one of the input is "True" and rest of all are "False" or all inputs are "False", the result will be "True". If 2 or more inputs are "True", the result will be "False".          |
|             | NOT Sum is 0 or 1                    | <u>NOT Sum is 0 or 1</u> : If the one of the input is "True" and rest of all are "False" or all inputs are "False", the result will be "True". If 2 or more inputs are "True", the result will be "False".      |
|             | All 0's or All 1's                   | <u>All 0's or All 1's</u> : If the one of the input is "True" and rest of all are "False" or all inputs are "False", the result will be "True". If 2 or more inputs are "True", the result will be "False".     |
|             | NOT All 0's or All 1's               | <u>NOT All 0's or All 1's</u> : If the one of the input is "True" and rest of all are "False" or all inputs are "False", the result will be "True". If 2 or more inputs are "True", the result will be "False". |

| Parameter                                 | Settings                                                                                   | Description                                                                                                                                                                                                     |
|-------------------------------------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operation ( continues... )                | Settings (continues...)                                                                    | NOT Sum is 1 or 0: If the one of the input is "True" and rest of all are "False" or all inputs are "False", the result will be "False". If 2 or more inputs are "True", the result will be "True".              |
|                                           |                                                                                            | All 0's or All 1's: If all inputs are "False" or "True", the result will be "True".                                                                                                                             |
|                                           |                                                                                            | NOT All 0's or All 1's: If all inputs are "False" or "True", the result will be "False".                                                                                                                        |
| Trigger                                   | <b>operand update</b>                                                                      | <u>operand update</u> : Output will be processed If any operand value changed.                                                                                                                                  |
|                                           | operand update with blocking condition                                                     | <u>operand update with blocking condition</u> : Output won't be processed regardless to operand change, if blocking operand is active.                                                                          |
|                                           | operand update with set/reset STATE                                                        | <u>operand update with set/reset STATE</u> : This function should be used with STATE operand. This function allows to change the output state according to selected Input or Registered Output(if exist) value. |
|                                           | input select                                                                               | <u>input select</u> : Output will be processed if the selected Input or Registered Output(if exist) has trigger value.                                                                                          |
| Sending blocked when                      | IN1 ... 15 or REG OUT 1...15                                                               | This function is used to block the output sending If selected Input or Registered Output has its selected value.                                                                                                |
| Send pending telegram after unblocking    | <b>unchecked</b> /checked                                                                  | This function is used to send output state after unblocking.                                                                                                                                                    |
| Send value when expression is             | False<br>True<br><b>True or False</b>                                                      | This function is used to send the output result if the Output expression value is as selected.                                                                                                                  |
| False Value (1-bit)                       | 0 / 1                                                                                      |                                                                                                                                                                                                                 |
| True Value (1-bit)                        | 0 / 1                                                                                      |                                                                                                                                                                                                                 |
| False Value (1-byte)                      | 0...255                                                                                    |                                                                                                                                                                                                                 |
| True Value (1-byte)                       | 0...1...255                                                                                |                                                                                                                                                                                                                 |
| False Value (2-bit)                       | 00b No Priority, OFF /<br>01b No Priority, ON /<br>10b Priority, OFF /<br>11b Priority, ON |                                                                                                                                                                                                                 |
| True Value (2-bit)                        | 00b No Priority, OFF /<br>01b No Priority, ON /<br>10b Priority, OFF /<br>11b Priority, ON |                                                                                                                                                                                                                 |
| Send only on change                       | <b>unchecked</b> /checked                                                                  | This function is used select the type of output sending.                                                                                                                                                        |
| Send initial state after KNX bus recovery | <b>unchecked</b> /checked                                                                  | This function is used to send initial state of related output after KNX bus recovery.                                                                                                                           |
| Initial state                             | <b>False</b> / True                                                                        | This parameter is used to select initial value of related output when device energized(or reset).                                                                                                               |
| State after KNX bus recovery              | <b>Initial</b> / Last                                                                      | This parameter is used to select the related output state after KNX bus recovery.                                                                                                                               |
| Timer                                     | <b>none</b>                                                                                | <u>delayed sending</u> : This parameter is used to determine delay for output sending.                                                                                                                          |
|                                           | delayed sending                                                                            |                                                                                                                                                                                                                 |
|                                           | periodical sending                                                                         | <u>periodical sending</u> : This parameter is used to send the output state cyclically.                                                                                                                         |
|                                           | state hold timeout                                                                         | <u>state hold timeout</u> : This parameter allows to keep the state in case of state changes.                                                                                                                   |