EAE MONA CARD HOLDER

Contents

Product Order Codes

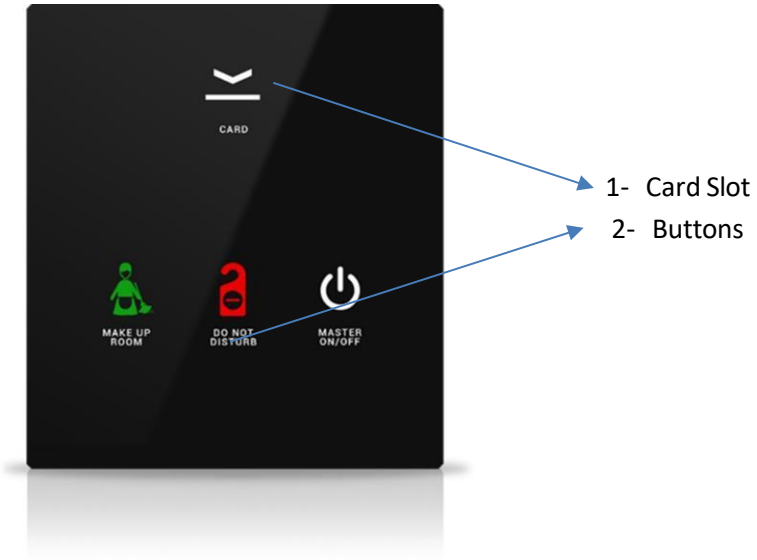
MN-B-CH01	MONA 1 BUTTON CARD HOLDER BLACK
MN-W-CH01	MONA 1 BUTTON CARD HOLDER WHITE
MN-B-CH02	MONA 2 BUTTON CARD HOLDER BLACK
MN-W-CH02	MONA 2 BUTTON CARD HOLDER WHITE
MN-B-CH03	MONA 3 BUTTON CARD HOLDER BLACK
MN-W-CH03	MONA 3 BUTTON CARD HOLDER WHITE
MN-B-CH04	MONA 4 BUTTON CARD HOLDER BLACK
MN-W-CH04	MONA 4 BUTTON CARD HOLDER WHITE
MN-B-CH05	MONA 5 BUTTON CARD HOLDER BLACK
MN-W-CH05	MONA 5 BUTTON CARD HOLDER WHITE
MN-B-CH06	MONA 6 BUTTON CARD HOLDER BLACK
MN-W-CH06	MONA 6 BUTTON CARD HOLDER WHITE

1. General

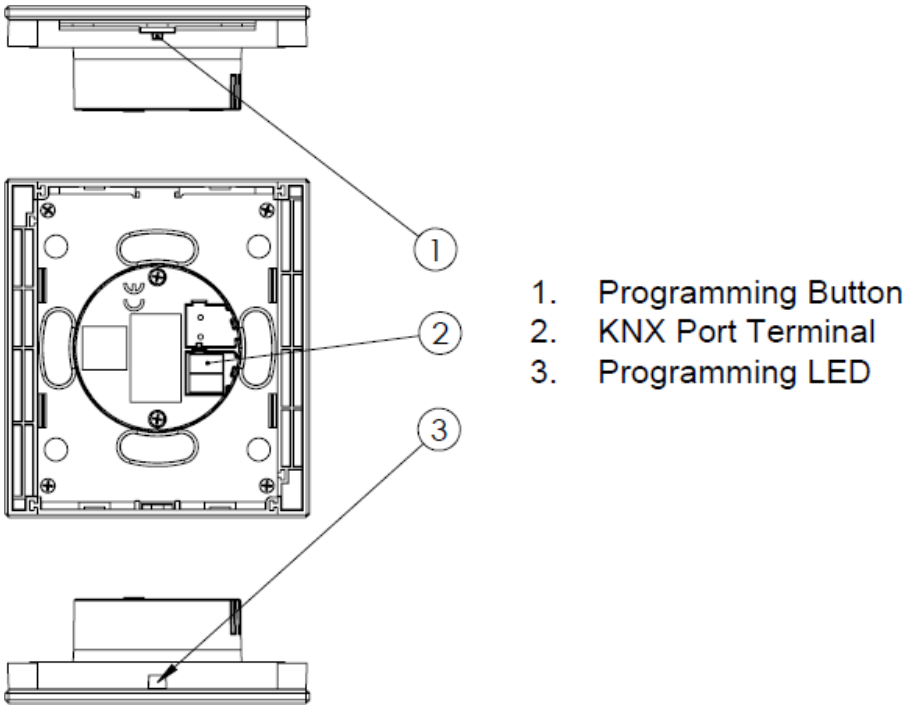
Mona KNX Card Holder is intended to be used for energy saving purposes in hotel guest rooms. Customer-set scenarios can be realized with a single touch when entering or leaving your room and you can experience safety and comfort together thanks to the RF-ID card holder you use at the entrances.

2. Device Technology

2.1. Button Definitions



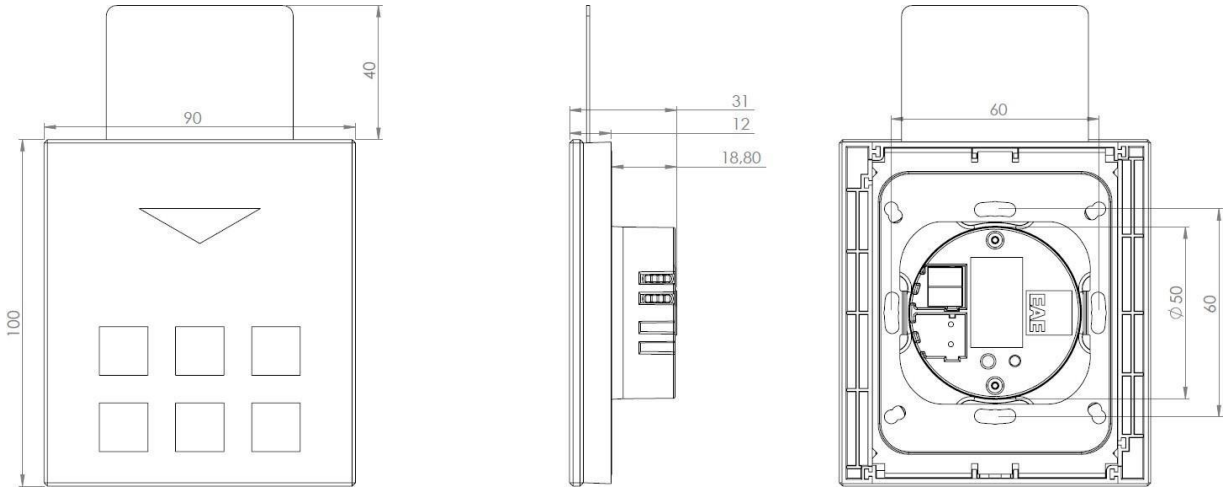
2.2. Connection Diagram



2.3. Technical Data

Protection Grade	IP 20	EN 60 529
Safety Class	II	EN 61 140
Operating Voltage	Voltage	21V… 30V DC, via the KNX bus
	Current drawn from bus	< 25 mA
Connections	KNX	Bus Connection
Installation	Flush Mounted	
Operating elements	LED (red) LED (RGB) Supported Card Type Unsupported Card Type	KNX phys. Address Prog. LED Status LED Mifare 13.56 MHz card - Mifare Classic - Mifare Plus - Mifare Ultralight - Mifare Desfire - Mifare Ultralight C
Operating Temperature	Ambient Storage	-5° C + 45° C -25° C + 55° C
Humidity	Max. Air humidity condensation	85% no moisture
Dimensions	Front Side	90 x 100 mm
	Side- Surface mounted part	12 mm
	Side- Flush mounted part	18.8 mm
Weight	100 g	
Material	Surface : Glass Flush Mount Part : Polycarbonate	
Color	Front Side – Glass – Black or White Flush mounted part – Polycarbonate - Black	
CE	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, 7, 13, 19, 25, 31	Button 1…6 [Press] Button 1…6 [Release] Button 1…6 [Press/Release]	Switching --> On/Off	1 bit DPT 1.001	CT
		Switching <-> On/Off & Status	1 bit DPT 1.001	CWT
	Button 1…6 [Short Press]	Dimming --> On/Off	1 bit DPT 1.001	CT
		Dimming <-> On/Off & Status	1 bit DPT 1.001	CWT
	Button 1…6 [Long Press] Button 1…6 [Press] Button 1…6 [Release]	Shutter <-> Up/Down	1 bit DPT 1.008	CWT
	Button 1…6 [Short Press 1] Button 1…6 [Double Press 1] Button 1…6 [Triple Press 1] Button 1…6 [Long Press 1] Button 1…6 [Long Press Repeat 1] Button 1…6 [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, 8, 14, 20, 26, 32	Button 1...6 [Long Press]	Dimming --> Dim [+/-]	4 bit DPT 3.007	CT
	Button 1...6 [Press] Button 1...6 [Release]	Shutter <-> Stop	1 bit DPT 1.017	CWT
	Button 1...6 [Short Press]	Shutter <-> Stop/Adjust	1 bit DPT 1.007	CWT
	Button 1...6 [Short Press 2] Button 1...6 [Double Press 2] Button 1...6 [Triple Press 2] Button 1...6 [Long Press 2] Button 1...6 [Long Press Repeat 2] Button 1...6 [Long Press Release 2]	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
3, 9, 15, 21, 27, 33	Button 1…6 [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…6	Shutter <-- Top Position	1 bit DPT 1.002	CW
	Button 1…6 [Short Press 3] Button 1…6 [Double Press 3] Button 1…6 [Triple Press 3] Button 1…6 [Long Press 3] Button 1…6 [Long Press Repeat 3] Button 1…6 [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, 10, 16, 22, 28, 34	Button 1…6 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…6 [Short Press 4] Button 1…6 [Double Press 4] Button 1…6 [Triple Press 4] Button 1…6 [Long Press 4] Button 1…6 [Long Press Repeat 4] Button 1…6 [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, 11, 17, 23, 29, 35	Button 1…6 LED Status	[0, 1]	1 bit DPT 1.001	CW
6, 12, 18, 24, 30, 36	Button 1…6 Lock	0=Unlock; 1=Lock 0=Lock; 1=Unlock	1 bit DPT 1.001	CRW
	Button 1…6 Lock (T)		1 bit DPT 1.001	CRWT
37	Cleaning Mode	0=Disable; 1=Enable	1 bit DPT 1.003	CW
		0=Enable; 1=Disable	1 bit DPT 1.006	
38	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
39	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)
43	Day/Night	0=Day; 1=Night	1 bit DPT 1.001	CW
		0=Night; 1=Day	1 bit DPT 1.006	
44	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
53	Card status	-	1 bit DPT 1.002	CT
54	Card insertion lock	-	1 bit DPT 1.003	CRW
55	Card insertion object 1	-	1 bit DPT 1.001 1 Byte DPT 5.010 2 Byte DPT 7.001	CT
56	Card insertion object 2			
57	Card insertion object 3			
58	Card insertion object 4			
59	Card insertion object 5			
60	Card removal object 1	-	1 bit DPT 1.001 1 Byte DPT 5.010 2 Byte DPT 7.001	CT
61	Card removal object 2			
62	Card removal object 3			
63	Card removal object 4			
64	Card removal object 5			
65	Card holder scene	-	1 Byte DPT 18.001	CT
66… 81	IN1, IN2/OUT15, IN3/OUT14, … 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
82… 97	IN1, IN2/OUT15, IN3/OUT14, … 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

4. Parameters and Communication Objects

4.1. General

General parameters include;

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

4.1.1. Parameters

Parameter	Settings	Description
GENERAL		
In Operation Telegram	checked/**unchecked**	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…**300**…65535 s	Visible when "In Operation Telegram" checked. Cyclic time period for sending in operation value.
Telegram Limiter	checked/**unchecked**	Limits the number of telegrams to send in certain time period.
Telegram Limit Period Duration	**50ms**, 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/**unchecked**	This parameter is used to lock the keys during cleaning the device. When locked device can be cleaned properly.
SWITCH		
Switch Configuration	**1**…6 Button	Button count of device.
Status LED "Operation Indication" Duration	0.3, **0.75**, 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/**unchecked**	This parameter is used to activate the indication of switches in case of touch. (Switch Buttons only)
Touch Feedback Max Duration (x0.1 s)	**0**…255	This parameter is used to determine the Status LED ON duration after touch and release
Feedback Color	**Red,** Yellow, Green, Cyan, Blue, Magenta, White, Custom	This parameter is used to define the color of Status LED while its switch button touched/released. ***Feedback Color*** will be active as ***Touch Feedback Max Duration*** after releasing button.
Exit feedback immediately on Status LED update	checked/**unchecked**	This parameter is used to select the way of Touch Feedback Color change to Switch Status color.

Parameter	Settings	Description
LOGIC BLOCKS		
Logic Blocks	**None**, 1, 2	This parameter is used to select logic block count.
DIAGNOSTICS		
Firmware Version	**Read Firmware Version**	Device Firmware version will be shown.
Hardware Type		Device Hardware type will be shown.
Uptime	**Read Uptime**	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				
37	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.				
66… 81	IN1, IN2/OUT15, IN3/OUT14, … 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
82… 97	IN1, IN2/OUT15, IN3/OUT14, … 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/**unchecked**	This parameter is used to activate custom level com objects to change custom dim level interactively.
Object DPT	**Enumerated,** Scaling [%] Level, Scaling [%] Raw	This parameter will be shown If ***Custom Level Objects*** are ***Enabled.*** Custom dim level can be changed with these objects.
Object Feedback	**None,** After KNX bus recovery only, On change, Always	This parameter is used to transmit status value of Custom Level brightness.
Value after KNX bus recovery	Reset, **Keep**	This parameter is used to send custom brightness level after bus voltage return.
STATUS LEDS AUTO-DIM (Bright -> Dark)		
Ambient Light Dim	**unchecked** / checked / *Detection Disabled	Auto dim switch status leds to darker according to Day/Night state.
Proximity Dim	**unchecked** / 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
43	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.				
44	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/**unchecked**	This parameter allows to change Custom Color via com object.
Object DPT	**Enumerated,** Step [+/-]	This parameter will be shown If ***Custom Color Object*** *is* ***Enabled.*** Custom olor can be changed with these objects.
Object Feedback	**None,** After KNX bus recovery only, On change, Always	This parameter is shown if **Custom Color** > ***Object DPT*** is selected as ***Enumerated***. It is used to transmit status value of Custom Level brightness.
Value after KNX bus recovery	Reset, **Keep**	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
38	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. Card Holder

Card Holder settings can be done in this page.

4.4.1. Parameters

Parameter	Settings	Description
LED SETTINGS		
Brightness	Bright, Dark, Custom, **Off**	Selects Card Holder indicator brightness level.
Color	**Red**, Yellow, Green, Cyan, Blue, Magenta, White	Selects Card Holder indicator color. This parameter won't be shown If brightness is selected as "Off".
CARD INSERTION EVENT		
Action on Card Insertion	**Do Nothing** Call Scene Send Communication Objects	This parameter is used to select an action when card inserted.
Scene no	**1**…64	This parameter is used to define the scene number.
Action delay	**0**…255 (x0.5 seconds)	This parameter is used to define forced wait time to call scene while card is inserted.
Number of objects	**1**…5	This parameter is used to select the group object count which will be sent after card insertion.
Object 1…5 Size	**1 bit**, 1 Byte, 2 Bytes	Selects object type
Object 1…5 value	1 bit = **0**, 1 1 Byte = **0**…255 2 Bytes = **0**…65535	Selects object value
CARD REMOVAL EVENT		
Action on Card Insertion	**Do Nothing** Call Scene Send Communication Objects	This parameter is used to select an action when card removed.
Scene no	**1**…64	This parameter is used to define the scene number.
Action delay	**0**…255 (x0.5 seconds)	This parameter is used to define forced wait time to call scene while card removed.
Number of objects	**1**…5	This parameter is used to select the group object count which will be sent after card removal.
Object 1…5 Size	**1 bit**, 1 Byte, 2 Bytes	Selects object type
Object 1…5 value	1 bit = **0**, 1 1 Byte = **0**…255 2 Bytes = **0**…65535	Selects object value

4.4.2. Communication Objects

No	Object Name	Function	Data Point Type	Flags
53	Card status	-	1 bit DPT 1.002	CT
This com object transmits the card state. 0=Attached , 1=Detached				
54	Card insertion lock	-	1 bit DPT 1.003	CRW
This com object blocks the change of card state even if card attached to device.				
55	Card insertion object 1	-	1 bit DPT 1.001 1 Byte DPT 5.010 2 Byte DPT 7.001	CT
56	Card insertion object 2			
57	Card insertion object 3			
58	Card insertion object 4			
59	Card insertion object 5			
This com objects transmit the values as user configured when card is attached to device.				
60	Card removal object 1	-	1 bit DPT 1.001 1 Byte DPT 5.010 2 Byte DPT 7.001	CT
61	Card removal object 2			
62	Card removal object 3			
63	Card removal object 4			
64	Card removal object 5			
This com objects transmit the values as user configured when card is detached from device.				
65	Card holder scene	-	1 Byte DPT 18.001	CT
This com objects transmit the values as user configured when card is attached/detached from device.				

4.5. Cleaning Mode

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

4.5.1. Parameters

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

4.5.2. 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.				

4.6. Sensors

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

4.6.1. Ambient Light

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

4.6.1.1. Parameters

Parameter	Setting	Description
AMBIENT LIGHT (Day/Night)		
Ambient Light Detection	**unchecked** / 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	**0 = Day; 1 = Night** 0 = Night; 1 = Day	This parameter determines the object value for Day and Night.
Day/Night State after KNX Bus Recovery	**Reset** / Keep	This parameter is used select the Ambient Light state after KNX bus recovery.

4.6.1.2. 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.				

4.6.2. Proximity

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

4.6.2.1. Parameters

Parameter	Setting	Description
PROXIMITY (Presence/Absence)		
Proximity Detection	**unchecked** / checked	This parameter activates auto-dim according to proximity state.
Proximity Source	**Button Press**, Object, Button Press and Object	This parameter is used select the proximity type.
Presence Timeout	1…**10**…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	**unchecked** / checked	This parameter is used to send Proximity status via group object.
Proximity Object	**Single Generator**, Multi Generator	This parameter is used to select the sending/receiving type of proximity
Presence Transmit Repeat Interval	**0**…255 s	This parameter is used to determine the repeat interval for proximity status.
Proximity Generator ID	**1**, 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	**0**…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.

4.6.2.2. 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
ON	**Bright,** Dark, Custom, Max, Min, Off	**Red,** Yellow, Green, Cyan, Blue, Magenta, White, Custom
OFF	Bright, Dark, Custom, Max, Min, **Off**	**Red,** Yellow, Green, Cyan, Blue, Magenta, White, Custom
Disabled	Bright, Dark, Custom, Max, Min, **Off**	**Red,** 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. **Ex.** Button 2 Kitchen
BUTTON LOCK		
Button Lock Object DPT	**0 = Unlock; 1 = Lock** 0 = Lock; 1 = Unlock	Selects object type for lock object.
Button Lock Object Transmits Status	**unchecked** / checked	Lock state will be trasmitted via Lock Object itself.
Lock State after KNX Bus Recovery	Reset / **Keep**	Lock state can be selected after bus return.
LED Function when Locked	**Active** / Disable	Enable or disable LED feedback from the button.
FUNCTION		
Button Function	**No Function** Switching Dimming Shutter 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 / **Toggle** / No command	Selects button function when button touched.
Command on Release	On / Off / Toggle / **No command**	Selects button function when button released.
Separate Switch Status Object	checked / **unchecked**	This parameter defines the additional obtect to write switch status.
Function of LED	LED Status ON LED Status OFF Operation Indication **Status Indication** 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, 25, 31	Button 1…6 [Press] Button 1…6 [Release] Button 1…6 [Press/Release]	Switching --> On/Off	1 bit DPT 1.001	CT
		Switching <-> On/Off & Status	1 bit DPT 1.001	CWT
4, 10, 16, 22, 28, 34,	Button 1…6 Status	Switching <-- On/Off Status	1 bit DPT 1.001	CW
6, 12, 18, 24, 30, 36,	Button 1…6 Lock	0=Unlock; 1=Lock 0=Lock; 1=Unlock	1 bit DPT 1.001	CRW
	Button 1…6 Lock (T)		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) Brighter (Short Touch On) **Darker/Brighter (Short Touch Toggle)**	Select push button dim operation. (Explained on Chapter 4.4.2)
Dim Direction after Switching On	**Darker** / Brighter	Dim direction can be selected after switching on the light(s).
Long Press Duration	100ms … **500ms** … 10s	Long Press time to start dimming.
Dimming Type	**Start Stop** / Step Wise	Select dimming type. (See Chapter 4.6.2)
Step Value	%100 / %50 / %25 / **%12.5** / %6.25 / %3.13 / % 1.56	Visible when **Dimming Type** is **Step Wise**. Selects the dimming resolution that will be sending at every "**Step Send Interval**".
Step Send Interval	100ms … **1s** … 10s	Visible when **Dimming Type** is **Step Wise**. Selects the time interval to send dimming increase/decrease values periodically.
Separate Switch Status Object	checked / **unchecked**	This parameter defines the additional obtect to write switch status.
Function of LED	LED Status ON LED Status OFF Operation Indication **Status Indication** 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, 19, 25,31	Button 1…6 [Short Press]	Dimming --> On/Off	1 bit DPT 1.001	CT
		Dimming <-> On/Off & Status	1 bit DPT 1.001	CWT
2, 8, 14, 20, 26, 32	Button 1…6 [Short Press]	Dimming --> Dim [+/-]	4 bit DPT 3.007	CT
3, 9, 15, 21, 27, 33	Button 1…6 [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, 22, 28, 34	Button 1…6 Status	Dimming <-- On/Off Status	1 bit DPT 1.001	CW
6, 12, 18, 24, 30, 36	Button 1…6 Lock	0=Unlock; 1=Lock	1 bit DPT 1.001	CRW
	Button 1…6 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 / **Toggle**	See Chapter 4.6.3
Control Type	**Venetian Blind** Roller Shutter (button-operation) Roller Shutter (switch-operation)	Selects control type of blinds. **Venetian Blind** function has **Lamella Control** additionally unlike the **Roller Shutter.**
Long Press Duration	100ms … **500ms** … 10s	Wait time for long press action. This parameter will be shown if Control Type is selected as **Venetian Blind.**
Short Press Action on (Roller Shutter Button Operation only)	**Press** / Release	This is used to determine the short action type. **Press:** Short Press action will be executed as soon as you touch the button. **Release:** Short Press action will be executed while releasing button after press.
Function of LED	LED Status ON LED Status OFF Operation Indication **Status and Movement Indication** Inverted Status and Movement Indication 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, 19, 25,31	Button 1…6 [Long Press] Button 1…6 [Press] Button 1…6 [Release]	Shutter <-> Up/Down	1 bit DPT 1.008	CWT
2, 8, 14, 20, 26, 32, 38	Button 1…6 [Press] Button 1…6 [Release]	Shutter <-> Stop	1 bit DPT 1.017	CWT
	Button 1…6 [Short Press]	Shutter <-> Stop/Adjust	1 bit DPT 1.007	CWT
3, 9, 15, 21, 27, 33, 39	Button 1…6 Status	Shutter <-- Top Position	1 bit DPT 1.002	CW
4, 10, 16, 22, 28, 34	Button 1…6 Status	Shutter <-- Bottom Position	1 bit DPT 1.002	CW
6, 12, 18, 24, 30, 36	Button 1…6 Lock	0=Unlock; 1=Lock	1 bit DPT 1.001	CRW
	Button 1…6 Lock (T)	0=Lock; 1=Unlock	1 bit DPT 1.001	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

<table>
<tr><th>Parameter</th><th colspan="2">Settings</th><th>Description</th></tr>
<tr><td>Value 1</td><td colspan="2">None / Short Press / Double Press / Triple / Long Press (Start) / Long Press Repeat / Long Press Release (Stop)</td><td rowspan="4">Value transmitting methods can be selected.</td></tr>
<tr><td>Value 2</td><td colspan="2" rowspan="3">None / Short Press / Double Press / Triple / Long Press (Start) / Long Press Repeat / Long Press Release (Stop)</td></tr>
<tr><td>Value 3</td></tr>
<tr><td>Value 4</td></tr>
<tr><td>Data Type</td><td>1-bit
1-bit HVAC control mode
1-bit toggle
2-bit priority control
4-bit dimming control
4-bit blind control 1-byte unsigned 1-byte signed
1-byte HVAC opr. mode
1-byte percentage</td><td>1-byte counter/sequence
1-byte scene activate 1-byte scene learn 2-byte unsigned
2-byte signed 2-byte float 3-byte color 4-byte unsigned
4-byte signed 4-byte float</td><td>Data type can be selected individually for each Value field.</td></tr>
<tr><td rowspan="12">Value</td><td colspan="2">0/1</td><td>Visible when “Data Type” selected as “1 bit value”.</td></tr>
<tr><td colspan="2">Cool / Heat</td><td>Visible when “Data Type” selected as “1 bit HVAC C. Mode”.</td></tr>
<tr><td colspan="2">00b No Priority, OFF / 01b No Priority, ON
10b Priority, OFF / 11b Priority, ON</td><td>Visible when “Data Type” selected as “2 bit priority control”.</td></tr>
<tr><td colspan="2">Decrease, Break / Decrease, 100 % … 1%
Increase, Break / Increase, 100% … 1%</td><td>Visible when “Data Type” selected as “4 bit dimming control”.</td></tr>
<tr><td colspan="2">Up, Break / Up, 100 % … 1%
Down, Break / Down, 100% … 1%</td><td>Visible when “Data Type” selected as “4 bit blind control”.</td></tr>
<tr><td colspan="2">0…255</td><td>Visible when Data Type is selected as “1-byte unsigned”</td></tr>
<tr><td colspan="2">-128…0…127</td><td>Visible when Data Type is selected as “1-byte signed”</td></tr>
<tr><td colspan="2">Auto / Comfort / Standby / Economy / Building Protection</td><td>Visible when Data Type is selected as “1-byte HVAC operating mode”</td></tr>
<tr><td colspan="2">0…100 %</td><td>Visible when Data Type is selected as “1-byte percentage”</td></tr>
<tr><td colspan="2">0…65535</td><td>Visible when Data Type is selected as “2-byte unsigned”</td></tr>
<tr><td colspan="2">–32768…0…32767</td><td>Visible when Data Type is selected as “2-byte signed”</td></tr>
<tr><td colspan="2">–671088…0…670760</td><td>Visible when Data Type is selected as “2-byte float”</td></tr>
</table>

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 LED Status OFF **Operation Indication** Status Indication 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 ***Function of LED*** selected as ***Status Indication.*** This parameter activate blinking instead of fixed lighting if LED Status com object state is **ON.**
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, 19, 25, 31	Button 1...6 [Short Press 1...4] Button 1...6 [Double Press 1...4] Button 1...6 [Triple Press 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, 20, 26, 32		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, 21, 27, 33	Button 1...6 [Long Press 1...4] Button 1...6 [Long Press Repeat 1...4] Button 1...6 [Long Press Release 1...4]	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, 22, 28, 34		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, 23, 29, 35	Button 1...6 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, 24, 30, 36	Button 1...6 Lock	0=Unlock; 1=Lock 0=Lock; 1=Unlock	1 bit DPT 1.001	CRW
	Button 1...6 Lock(T)		1 bit DPT 1.006	CRW (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 2 Input / 14 Output 3 Input / 13 Output 4 Input / 12 Output 5 Input / 11 Output 6 Input / 10 Output 7 Input / 9 Output 8 Input / 8 Output 9 Input / 7 Output 10 Input / 6 Output 11 Input / 5 Output 12 Input / 4 Output 13 Input / 3 Output 14 Input / 2 Output **15 Input / 1 Output**	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. (Optional)	Any name can be defined for each Input. Name will be shown in ETS Parameters and Group Objects page.
Data Type	**1-bit** / 2-bit / 1-byte	Logic Input Data Type can be selected.
Preprocess (if Data Type : 2-bit) (if Data Type : 1-byte)	**Passthrough**, NOT, always True, always False, equal, NOT equal, in range, NOT in range, matches any of two, NOT matches any of two, bits SET, NOT bits SET, bits CLEAR, NOT bits CLEAR, thresholds, NOT thresholds	Passthrough: Input will be proccessed as it is. 0 is OFF, 1…255 is ON NOT: Input will be reverted. 0 is ON, 1…255 is OFF always True: Process will always be True regardless to input value. always False: Process will always be False regardless to input value. equal: If the Input value is equal to ETS written value, the result will be “True”. NOT equal: If the Input value is NOT equal to ETS written value, the result will be “True”. in range: If the Input value is in range between written values on ETS, the result will be “True”. NOT in range: If the Input value is NOT in range between written values on ETS, the result will be “True”. matches any of two: If the Input value matches with the any of values on ETS, the result will be “True”. NOT matches any of two: If the Input value does NOT match with the any of values on ETS, the result will be “True”. bits SET: If all masked bits of the Input Value is set, the result will be “True”. NOT bits SET: If all masked bits of the input value is set, the result will be “False” bits CLEAR: If all masked bits of the Input Value is clear, the result will be “True”. NOT bits CLEAR: If all masked bits of the Input Value is clear, the result will be “False”. thresholds: Input value must be; equal or greater than “True if > =” value for result “True”. equal or lower than “False < =” value fo result “False. NOT thresholds: Input value must be; equal or greater than “True if > =” value for result “False”. equal or lower than “False < =” value fo result “True”.

Preprocess (if Data Type : 1-bit)	**Passthrough**, NOT, always True, always False	Passthrough: Input will be proccessed as it is. NOT: Input will be reverted. always True: Process will always be True regardless to input value. always False: Process will always be False regardless to input value.
Initial State	**False** / True	This parameter is used to select initial value of related input when device energized(or reset).
State after KNX bus recovery	**Initial** / 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/**unchecked**	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/**unchecked**	This parameter is used to select Logic Input(s) which needs for reletad Output operation.
STATE	checked/**unchecked**	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 **not** shown anywhere.
Data Type	**1-bit** / 2-bit / 1-byte	Output operation data type can be selected individually.
Operation	**Passthrough (unary)** NOT (unary) AND NAND OR NOR XOR XNOR Sum is 1 NOT Sum is 1 Sum is 0 or 1 NOT Sum is 0 or 1 All 0's or All 1's NOT All 0's or All 1's	Passthrough: It should be used with single operand only. Result will be the same as related operand value. NOT: It should be used with single operand only. Result will be reverted according to related operand value. AND: Selected Inputs will be multiplied consecutively and result value will be sent after. NAND: Selected Inputs will be multiplied consecutively and result value will be sent as inverted after. OR: Selected Inputs will be summed consecutively and result value will be sent after. NOR: Selected Inputs will be summed consecutively and result value will be sent as inverted after. XOR: Selected inputs will be summed according to EX-OR gate and result value will be sent after. XNOR: Selected inputs will be summed according to EX-OR gate and result value will be sent as inverted after. Sum is 1: 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: 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 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 "True". If 2 or more inputs are "True", the result will be "False". 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

Parameter	Settings	Description
Operation (continues...)	Settings (continues…)	"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	**operand update** operand update with blocking condition operand update with set/reset STATE input select	operand update: Output will be processed If any operand value changed. operand update with blocking condition: Output won't be processed regardless to operand change, if blocking operand is active. operand update with set/reset STATE: 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: 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	**unchecked**/checked	This function is used to send output state after unblocking.
Send value when expression is	False True **True or False**	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** / 01b No Priority, ON / 10b Priority, OFF / 11b Priority, ON	
True Value (2-bit)	00b No Priority, OFF / **01b No Priority, ON** / 10b Priority, OFF / 11b Priority, ON	
Send only on change	**unchecked**/checked	This function is used select the type of output sending.
Send initial state after KNX bus recovery	**unchecked**/checked	This function is used to send initial state of related output after KNX bus recovery.
Initial state	**False** / True	This parameter is used to select initial value of related output when device energized(or reset).
State after KNX bus recovery	**Initial** / Last	This parameter is used to select the related output state after KNX bus recovery.
Timer	**none** delayed sending periodical sending state hold timeout	delayed sending: This parameter is used to determine delay for output sending. periodical sending: This parameter is used to send the output state cyclically. state hold timeout: This parameter allows to keep the state in case of state changes.