EAE ROSA SWITCH

Product Manual Rosa Switch

EAE
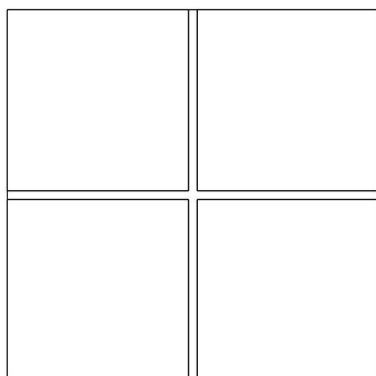TECHNOLOGY

Contents

1. General

Rosa KNX switches offer a wide range of functional flexibility up to 6 programmable buttons.
Rosa 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.
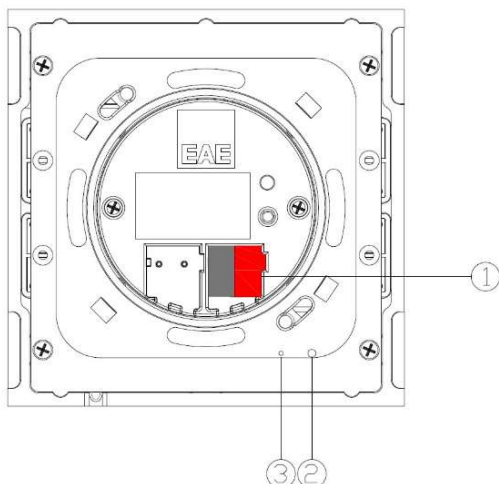
2. Device Technology

2.1   Button Definitions

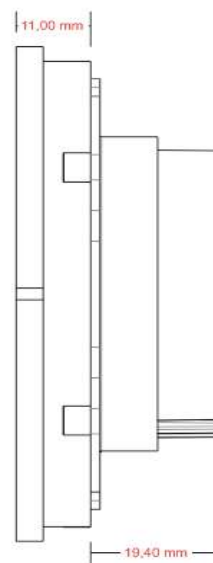Programmable Buttons (up to 6 touch buttons)

2.2   Connection Diagram

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

2.3   Technical Data

Operating Voltage	Voltage	21V… 30V DC, via the KNX bus
	Current drawn from bus	<10mA
Safety Rating Class		IP 20, DIN EN 60529 II EN 61140
Connections	KNX	Bus Connection
Operating Temperature	Ambient	-5° C + 45° C
	Storage	-25° C + 55° C
	Measurement Accuracy	±0,3 °C
Humidity	Max. Air humidity condensation	95% no moisture
Dimensions	Front Side	85 x 85 mm
	Side- Surface mounted part	11 mm
	Side- Flush mounted part	19.4 mm
Weight	73 g	
Box Material	Metal or Glass, polycarbonate	
CE	In accordance with the EMC guideline and low voltage	

2.4   Dimensions

3. Communication Object Table

No.	Object Name	Function	Number of Bits	Flags
0	General, operation	Active	1	CT
1	Rocker 1, switch	On/Off	1	CWT
	Rocker 1, shutter	Up/Down	1	CWT
	Rocker 1, value [0,1]	Send	1	CWT
	Rocker 1, value [0…255]	Send	8	CWT
	Rocker 1, value [0…65535]	Send	16	CWT
	Rocker 1, value [-32768…32768]	Send	32	CWT
	Rocker 1, value [0…4294967295]	Send	64	CWT
	Rocker 1, value.temperature	Send	64	CWT
	TouchButton 1, switch	On/Off	1	CWT
	TouchButton 1, shutter	Up/Down	1	CWT
	TouchButton 1, value [0,1]	On/Off	1	CWT
	TouchButton 1, value [0...255]	Send	8	CWT
	TouchButton 1, value [0..65535]	Send	16	CWT
	TouchButton 1, value [-32768…32768]	Send	32	CWT
	TouchButton 1, value [0…4294967295]	Send	64	CWT
	TouchButton 1, value.temperature	Send	64	CWT
2	Rocker 1, dimming	Send	4	CWT
	Rocker 1, shutter	Stop/Lamella Adj	1	CWT
	TouchButton 1, dimming	Send	4	CWT
	TouchButton 1, shutter	Stop/Lamella Adj	1	CWT
	TouchButton 1, value [0,1]	On/Off	1	CWT
	TouchButton 1, value [0…255]	Send	8	CWT
	TouchButton 1, value [0…65535]	Send	16	CWT
	TouchButton 1, value [-32768…32768]	Send	32	CWT
	TouchButton 1, value [0…4294967295]	Send	64	CWT
	TouchButton 1, value.temperature	Send	64	CWT
3	Rocker 1, shutter	Top Position	1	CWT
	Rocker 1, status	Top Position	1	CWT
	TouchButton 1, shutter	Top Position	1	CWT
	TouchButton 1, status	Top Position	1	CWT
4	Rocker 1, shutter	Bottom Position	1	CWT
	TouchButton 1, shutter	Bottom Position	1	CWT

4. Parameters and Communication Objects

4.1   General

General parameters include;

- In Operation (Device Alive) Function
- Telegram Limit Function
- Rocker Count
- Light Duration Of Status Indication Function
- LED Duration of Touch Feedback Function
- Navigation LED Brightness Function

Figure 1

4.1.1 Parameters

Parameter	Settings	Description
Enable In Operation	Enable/**Disable**	In operation can be used to ensure that device is alive and connected to KNX line.
In Operation Bit	Off/**On**	Visible when "Enable In Operation" enabled. Bit value to send as device alive operation
In Operation Send Interval[sec]	0…**300**…65535	Visible when "Enable In Operation" enabled. Cyclic time period for sending in operation bit
Enable Telegram Limit	**Enable**/Disable	Limits the number of telegrams to send in certain time period
Telegram Limit Period Duration	**50ms**, 100ms, …, 30s, 1min	Visible when "Enable Telegram Limit" enabled. Time period to check telegram numbers
Maximum Telegram Count in Period	1..**100**…255	Visible when "Enable Telegram Limit" enabled. Maximum number of telegrams to send in telegram limit period duration
Light Duration of Status Indication	**0,75s**, 2.25s, 3.25s	LEDs on duration when status LEDs used as operation indication with rocker or touch buttons.
Rocker Count	1, **2**, 3, 4, 5, 6	Number of rockers should be selected compatible with device to be able to use rockers and touch buttons correctly.
Duration of Touch Feedback LED (after release) [0…65535 ms]	**0**…65535	Touch Feedback LEDs lighting duration after release.
Navigation Light Brightness [0…100%]	0…**100%**	Navigation LED brightness value

4.1.2 Communication Objects

No	Object Name	Function	Data Type	Flags
0	General – In operation	Active	1 Bit DPT 1.002	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

Table 3

4.2   Rockers and Touch Buttons

Total number of rockers can be selected through "Rocker Count" parameter in "General" tab.
Buttons on the thermostat can be used as rockers or touch buttons.
Select the desired operation from the "Rocker N" (N: Rocker number) tab (Figure 2).
If rockers are configured as touch buttons, 2 touch button tabs will be visible under "Rocker N" tab (Figure 3).

Both rockers and touch buttons have 5 functions;

- no function
- switch
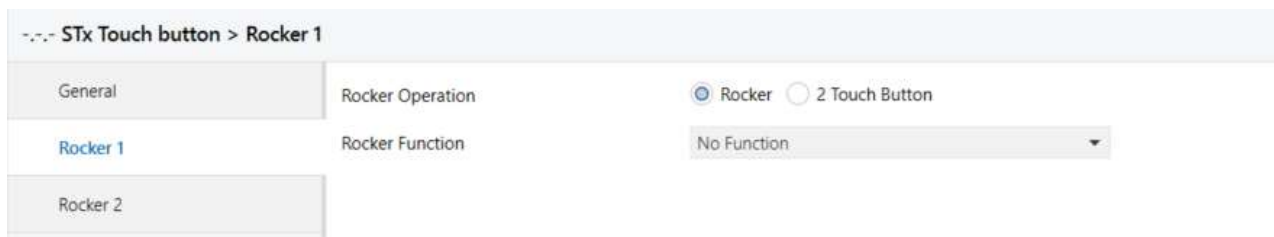- switch and dim
- shutter
- value operation

Figure 2

Figure 3

4.2.1   Rockers

Number of rockers should be selected in "General" tabs in parameters and should be chosen as compatible with the device that will be configured.

Rockers are numbered from top to bottom. Each Rocker contains 2 touch button separately.

Rockers can be configured as 4 different operations and 1 function to disable rocker (No Function). Operation selection can be configured with "Rocker Function" parameter.

Every function enables different parameters and communication objects that will be explained in the following chapters.

Parameter	Setting	Description
Rocker Operation	**Rocker**/2 Touch Button	Selects the function of rocker
Rocker Function	**No Function**	Disables the rocker
	Switch	Rocker can be used to send on/off telegrams. (For more information Chapter 4.2.1.1)
	Switch and Dim	Rocker can send on/off and dimming telegrams. (For more information Chapter 4.2.1.2)
	Shutter	Rocker can control shutter, venetian blind, blind, roller and awning. (For more information Chapter 4.2.1.3)
	Value Operation	Rocker buttons can send predefined values from different data types. (For more information Chapter 4.2.1.4)

Table 4

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

4.2.1.1.1 Switch

Selecting "Switch" as "Rocker Function" enables to send 1 bit On(1)/Off(0) telegrams to the group address that is linked to respective communication object. 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.

Figure 4

4.2.1.1.1 Parameters

Parameter	Setting	Description
Mode of Buttons	**Left Button On Right Button Off** Left Button Off Right Button On	Select which button is ON button and which button is OFF button
Function of LED	**LED permanently Off**	LED always Off
	LED permanently On	LED always On
	Status Indication	Status LED of last touched rocker button is on, other rocker button is off. If "Separate Comm Object" parameter selected as "Enable" status LEDs will wait for confirmation from communication object before changing state.
	Inverted Status Indication	Status LED of last touched rocker button is off, other rocker button is on. If "Separate Comm Object" parameter selected as "Enable" status LEDs will wait for confirmation from communication object before changing state.
	Operation Indication	Status LED of the touched rocker button will be on for the time period selected at "Light Duration of LED" parameter at "General" tab.
Separate Comm Object	Enable/**Disable**	Only visible when "Function of LED" selected as "Status Indication" or "Inverted Status Indication". This communication objects is the input of confirmation for status LEDs. If selected "Enable" respective communication object should be linked to an appropriate group address

Table 5

4.2.1.1.2 Communication Objects

No	Object Name	Function		Data Type	Flags
1	Rocker1 – Telegr.switch	On/Off		1 bit DPT 1.001	CWT
	On/Off telegrams will be send to group address that is linked to this communication object.				
3	Rocker1 – Status Comm.Obj.	On/Off		1 bit DPT 1.002	CWT
	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. If status confirmation not to be used the communication object should be disabled by "Separate Comm Object" parameter.				

Table 6

4.2.1.2 Switch and Dim

Figure 5

Rockers can be configured with switching and dimming capability. When configured as "Switch and Dim" rocker buttons will have two modes switch mode and dim mode. When rocker button touched shorter than time period specified in "Long Touch Duration" parameter, rocker button will act as a switch. In switch mode rocker buttons will behave as normal switches as explained in Chapter 4.1.1. When rocker buttons touched longer than "Long Touch Duration" rocker will enter "Dim mode". Dimming capability can be used in two different types "Start Stop" and "Step Wise". Which type to use can be configured in "Dimming Type" parameter.

Dimming - Start Stop Type
When rocker button touched (and not released) and touched duration exceeds "Long Touch Duration" time "Increase, %100"(When on button touched) or "Decrease,%100"(When off button touched) dimming level will be send using respective communication object. When button is released "Increase, Break" or "Decrease, Break" value will be sent to stop dimming operation.

Dimming - Step Wise Type
When rocker 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.

Until button is released same step value will be send periodically with a time interval defined in "Step Send Interval".

4.2.1.2.1   Parameters

Parameter	Setting	Description
Mode of Buttons	**Left Button Brighter(On) Right Button Darker(Off)** / Left Button Brighter(Off) Right Button Darker(On)	Select which rocker button is on button and which rocker button is off button
Long Touch Duration	300ms/ 400ms/ 500ms/ 600ms/ 800ms / **1s** / 1.2s / 1.5s/ 2s / 3s / 4s / 5s / 6s / 7s / 8s / 9s / 10s	Time interval to switch from "switch mode" to "dimming mode".
Dimming Type	**Start Stop** / Step Wise	Select dimming type. (Chapter 4.2.1.2)
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	300ms/ 400ms/ 500ms/ 600ms/ 800ms / **1s** / 1.2s / 1.5s/ 2s / 3s / 4s / 5s / 6s / 7s / 8s / 9s / 10s	Visible when dimming type is Step Wise. Selects the time interval to send dimming increase/decrease values
Function of LED	**LED Permanently Off**	LED always off
	LED Permanently On	LED always on
	Status Indication	Status LED of last touched rocker button is on, another rocker button is off. If "Separate Comm Object" parameter selected as "Enable" status LEDs will wait for confirmation from communication object before changing state.
	Inverted Status Indication	Status LED of last touched rocker button is off, another rocker button is on. If "Separate Comm Object" parameter selected as "Enable" status LEDs will wait for confirmation from communication object before changing state.
	Operation Indication	Status LED of the touched rocker button will be on for the time period selected at "Light Duration of LED" parameter at "General" tab.
Separate Comm Object	Enable / **Disable**	Only visible when "Function of LED" selected as "Status Indication" or "Inverted Status Indication". This communication objects is the input of confirmation for status LEDs. If selected as "Enable" respective communication object should be linked to an appropriate group address

Table 7

4.2.1.2.2   Communication Objects

No	Object Name	Function	Data type	Flags
1	Rocker1 – switch	On/Off	1 bit DPT 1.001	CWT
On/Off telegrams will be send to group address that is linked to this communication object.				
2	Rocker1 – dimming	Dim	4 bit DPT 3.007	CWT
Dimming values will be send to group address that is linked to this communication object.				
3	Rocker1-Status Comm.Obj.	On/Off	1 bit DPT 1.002	CWT
Confirmation for On/Off switch telegrams will be received from this communication object. If these communication object visible, it must link to an appropriate group address. Otherwise status LEDs will not function correctly. If status confirmation not to be used the communication object should be disabled by "Separate Comm Object" parameter.				

Table 8

4.2.1.3 Shutter

Figure 6

Selecting "Shutter" for "Rocker Operation" enables shutter operation for rocker buttons. Shutter functions can be configured to control two different shutter operations "Shutter/Venetian Blind" function or "Blind/Roller/Awning" function.

Shutter/Venetian Blind

Firstly, select which rocker button is used for "up" operation, which rocker button is used for "down" operation by "Mode of Buttons" parameter. Both buttons have two functions as "short touch" function and "long touch" function, "Long Touch Duration" parameter configures the limit time period for "long touch" operation. "Long Touch" will be used to move the blind upwards or downwards. "Short touch" has two different functions whether blind is moving or not. When blind is moving "short touch" acts as a stop button that stops the blinds movement, when blind is not moving "short touch" function is used to adjust lamella position.

	Short Touch	Long touch
Up Button – Blind Moving	Stop	Up
Down Button – Blind Moving	Stop	Down
Up Button – Blind Stopped	Lamella Down	Up
Down Button – Blind Stopped	Lamella Up	Down

Table 9

When "Up Button" long touched "Up" telegram will be transmitted using "Rocker1 – Shutter UP/DOWN" communication object and shutter will start moving upwards until it reaches "Top Position" or "STOP" telegram transmitted using "Rocker1 – STOP/Lamella Adj." communication object by short touching "Up Button" or "Down Button".

When "Down Button" long touched "Down" telegram will be transmitted using "Rocker1 – Shutter UP/DOWN" communication object and shutter will start moving downwards until it reaches "Bottom Position" or "STOP" telegram transmitted using "Rocker1 – STOP/Lamella Adj." communication object by short touching "Up Button" or "Down Button".

When blind is not moving "Up Button" and "Down Button" operate as lamella adjustment and respective telegram will be send using "Rocker1-STOP/Lamella Adj." communication object.

Blind/Roller/Awning Function

Selecting "Control Type" parameter as "Blind/Roller/Awning" disables lamella adjustment functions of rocker buttons. In this control type, when "Up Button" touched "Up" telegram will be send using "Rocker1 – shutter. UP/DOWN" communication object and touched again while blind is moving "STOP" telegram will be send using "Rocker1 – STOP/Lamella adj." communication object. When "Down Button" touched "DOWN" telegram will be sending using "Rocker1 – shutter. UP/DOWN" communication object and touched again while blind is moving "STOP" telegram will be send using "Rocker1 – STOP/Lamella adj." communication object.

4.2.1.3.1   Parameters

Parameter	Setting	Description
Mode of Buttons	**Left Up Right Down** Left Down Right Up	Select which rocker button is "Up Button" and which rocker button is "Down Button".
Control Type	**Shutter/Venetian Blind** Blind/Roller/Awning	Selects control type of blinds. Shutter/Venetian Blind function includes "Lamella Control" and Blind/Roller/Awning function does not include "Lamella Control".
Function of LED	**LED Permanently Off**	LED always off
	LED Permanently On	LED always on
	Status Indication	Visualize blind's state using status LEDs of up and down buttons. *[5]
	Operation Indication	Status LED of the touched rocker button will be on for the time period selected at "Light Duration of LED" parameter at "General" tab.
Long Touch Duration	300ms/ 400ms/ 500ms/ 600ms/ **800ms** / 1s / 1.2s / 1.5s/ 2s / 3s / 4s / 5s / 6s / 7s / 8s / 9s / 10s	Time interval to switch from short touch to long touch

Table 10

*[5] LED Function – Status Indication

Status indication operates the same way for "Shutter/Venetian Blind" and "Blind/Roller/Awning". LEDs status respective to blind's state is given below

	Up Button - Status LED	Down Button - Status LED
Moving upward	Blink	Off
Moving downward	Off	Blink
At top position	On	Off
At bottom position	Off	On
Stop between top - bottom	Off	Off

Table 11

When "Function of Led" selected as "Status Indication", "Top Position" and "Bottom Position" communication objects given below must be linked to the appropriate group addresses for the status LEDs to function correctly.

4.2.1.3.2   Communication Objects

No	Object Name	Function	Data Type	Flags
1	Rocker1-shutter UP/DOWN	Up/Down	1 bit DPT 1.008	CWT
This communication object will be used to start blind movement.				
2	Rocker1 – STOP/Lamella adj.	Stop/Lamella adj.	1 bit DPT 1.002	CWT
When "Control Type" parameter is "Shutter/Venetian Blind" this communication object is used to stop movement of blind and adjust lamella position, otherwise when "Control Type" parameter is "Blind/Roller/Awning" only used for stopping blind movement.				
3	Rocker1-Top Position	True/False	1 bit DPT 1.002	CWT
This communication object should be linked to an appropriate group address that will be used to detect whether blind is at "Top Position" (True) or not (False).				
4	Rocker1-Bottom Position	True/False	1 bit DPT 1.002	CWT
This communication object should be linked to an appropriate group address that will be used to detect whether blind is at "Bottom Position" (True) or not (False).				

Table 12

4.2.1.4 Value Operation

-.-.- STx Touch button > Rocker 1

General	Rocker Operation	◉ Rocker ◯ 2 Touch Button
Rocker 1	Rocker Function	Value Operation ▼
	Function Of LED	LED Permanently Off ▼
Rocker 2	Data Type	percent value [0% ... 100%] ▼
	Left Button of Rocker	
	sent percent value [0%...100%]	80
	Right Button of Rocker	
	sent percent value [0%...100%]	0

<div align="center">

Figure 7

</div>

Rocker buttons can be configured to send predefined values from different data types. Values selected for both rocker buttons will be transmitted over the same communication object.

4.2.1.4.1 Parameters

Parameter	Setting	Description
Function of Led	LED Permanently Off	LED always off
	LED Permanently On	LED always on
	Operation Indication	Status LED of the touched rocker button will be on for the time period selected at "Light Duration of LED" parameter at "General" tab.
Data Type	**No Reaction** 1 bit value 1byte value [0…255] Percent value [%0…%100] 2 byte value [-32768…32767] 2 byte value [0…65535] 4 byte value [floating point] 4 byte value [0…4294967295]	Select data type.
Left Button of Rocker		
Sent value	**0**/1	Visible when "Data Type" selected as "1 bit value".
Transmitted value [0…255]	**0**…255	Visible when "Data Type" selected as "1 byte value".
Send percent value [%0…%100]	0…**80**…100	Visible when "Data Type" selected as "percent value".
Transmitted value [-32768…32767]	-32768…**0**…32767	Visible when "Data Type" selected as "2 byte value [-32768…32767]".
Transmitted value [0…65535]	**0**…65535	Visible when "Data Type" selected as "2 byte value [0…65535]".
Float decimal	-128…**0**…127	Visible when "Data Type" selected as "4 byte value [floating point]".

Float rational	**0**…99	Visible when "Data Type" selected as "4 byte value [floating point]".
Transmitted value [0…4294967295]	**0**…4294967295	Visible when "Data Type" selected as "4 byte value [0…4294967295]".
Right Button of Rocker – Operate the same way as Left Button of Rocker		

<p align="center">Table 13</p>

4.2.1.4.2   Communication Objects

No	Object Name	Function	Data type	Flags
1	TouchButton1 – value [0,1]	True/False	1 bit DPT 1.002	CWT
	Enabled when "Data Type" selected as "1 bit value"			
	TouchButton1– value [0…255]	Send	1 byte DPT 5.010	CWT
	Enabled when "Data Type" selected as "1byte value [0…255]"			
	TouchButton1– value [0…255]	Send	1 byte DPT 5.001	CWT
	Enabled when "Data Type" selected as "Percent value [%0…%100]"			
	TouchButton1- value [-32768…32767]	Send	2 byte DPT 8.001	CWT
	Enabled when "Data Type" selected as "2 byte value [-32768…32767]"			
	TouchButton1- value [0…65535]	Send	2 byte DPT 7.001	CWT
	Enabled when "Data Type" selected as "2 byte value [0…65535]"			
	TouchButton1- value[temperature]	Send	4 byte DPT 14.068	CWT
	Enabled when "Data Type" selected as "4 byte value [floating point]"			
	TouchButton1-value [0…4294967295]	Send	4 byte DPT 12.001	CWT
	Enabled when "Data Type" selected as "4 byte value [0…4294967295]"			
2	TouchButton1-long – value [0,1]	True/False	1 bit DPT 1.002	CWT
	Enabled when "Long Touch Data Type" selected as "1 bit value"			
	TouchButton1-long – value [0…255]	Send	1 byte DPT 5.010	CWT
	Enabled when "Long Touch Data Type" selected as "1byte value [0…255]"			
	TouchButton1– value [0…255]	Send	1 byte DPT 5.001	CWT
	Enabled when "Long Touch Data Type" selected as "Percent value [%0…%100]"			
	TouchButton1 - long- value [-32768…32767]	Send	2 byte DPT 8.001	CWT
	Enabled when "Long Touch Data Type" selected as "2 byte value [-32768…32767]"			
	TouchButton1- long -value [0…65535]	Send	2 byte DPT 7.001	CWT
	Enabled when "Long Touch Data Type" selected as "2 byte value [0…65535]"			
	TouchButton1- long - value[temperature]	Send	4 byte DPT 14.068	CWT
	Enabled when "Long Touch Data Type" selected as "4 byte value [floating point]"			
	TouchButton1- long - value [0…4294967295]	Send	4 byte DPT 12.001	CWT
	Enabled when "Long Touch Data Type" selected as "4 byte value [0…4294967295]"			

<p align="center">Table 14</p>

4.2.2   Touch Buttons

Number of rockers should be selected in "General" tabs in parameters and should be chosen as compatible with the device that will be configured. Touch buttons are numbered from top to bottom – right to left, topmost right touch button as touch button 1, near it touch button 2, and so on. Touch buttons can be configured as 4 different operations and 1 function to disable touch button (No Function). Operation selection can be configured from "Touch Button N" (N: Touch button number) tab, visible when "Rocker Operation" selected as "2 Touch Buttons". Every function enables different parameters and communication objects that will be explained in the following chapters.

Parameter	Setting	Description
Touch Button Function	**No Function**	Disables the touch button
	Switch	Touch buttons can be used to send on/off telegrams. (For more information Chapter 4.2.2.1)
	Switch and Dim	Touch buttons can send on/off and dimming telegrams. (For more information Chapter 4.2.2.2)
	Shutter	Touch button can control shutter, venetian blind, blind, roller and awning. (For more information Chapter 4.2.2.3)
	Value Operation	Touch button can send predefined values from different data types. (Refer Section 4.2.2.4)

<div align="center">Table 15</div>

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

4.2.2.1   Switch

<div align="center">Figure 8</div>

Selecting "Switch" as "Touch 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.

4.2.2.1.1   Parameters

Parameter	Setting	Description
Command on Touch	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.
Function of LED	**LED permanently Off**	LED always Off
	LED permanently On	LED always On
	Status Indication	Last transmitted command "on" -> LED on Last transmitted command "off" -> LED off If "Separate Comm Object" enabled, status LEDs will wait for confirmation before changing status.
	Inverted Status Indication	Last transmitted command "on" -> LED off Last transmitted command "off" -> LED on If "Separate Comm Object" enabled, status LEDs will wait for confirmation before changing status.
	Operation Indication	Status LED of the touched touch button will be on for the time period selected at "Light Duration of LED" parameter at "General" tab. Last transmitted command value has no effect to the status led operation.
Separate Comm Object	Enable/**Disable**	Only visible when "Function of LED" selected as "Status Indication" or "Inverted Status Indication". This communication object is the input of confirmation for status LEDs. If selected "Enable" respective communication object should be linked to an appropriate group address.

Table 16

4.2.2.1.2   Communication Objects

No	Object Name	Function	Data Type	Flags
1	TouchButton1	switch	1 bit DPT 1.001	CWT
On/Off telegrams will be sent to group address that is linked to this communication object.				
3	TouchButton1	Status Comm.Obj.	1 bit DPT 1.002	CWT
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. If status confirmation not to be used the communication object should be disabled by "Separate Comm Object" parameter.				

Table 17

4.2.2.2   *Switch and Dim*

<div align="center">

Figure 9

</div>

When touch button function selected as "Switch and Dim" touch button can be configured in three different

ways to control brightness value.

	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)

<div align="center">

Table 18

</div>

%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 touch 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 send.

Dimming - Step Wise Type

When touch 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 send. Until button is released same step value will be send periodically with a time interval defined in "Step Send Interval".

4.2.2.2.1   Parameters

Parameter	Setting	Description
Dim Operation	**Darker (Short Touch Off)** Brighter (Short Touch On) Darker/Brighter (Short Touch Toggle)	Select touch button dim operation. (For more information Chapter 4.2.2.2)
Long Touch Time	300ms/ 400ms/ 500ms/ 600ms/ 800ms / **1s** / 1.2s / 1.5s/ 2s / 3s / 4s / 5s / 6s / 7s / 8s / 9s / 10s	Time interval to switch from "switch/toggle mode" to "dimming mode".
Dimming Type	**Start Stop** / Step Wise	Select dimming type. (For more information Chapter 4.2.2.2)
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	300ms/ 400ms/ 500ms/ 600ms/ 800ms / **1s** / 1.2s / 1.5s/ 2s / 3s / 4s / 5s / 6s / 7s / 8s / 9s / 10s	Visible when dimming type is Step Wise. Selects the time interval to send dimming increase/decrease values
Function of LED	**LED Permanently Off**	LED always off
	LED Permanently On	LED always on
	Status Indication	Last transmitted command "on" -> LED on Last transmitted command "off" -> LED off If "Separate Comm Object" enabled, status LEDs will wait for confirmation before changing status.
	Inverted Status Indication	Last transmitted command "on" -> LED off Last transmitted command "off" -> LED on If "Separate Comm Object" enabled, status LEDs will wait for confirmation before changing status.
	Operation Indication	Status LED of the touched touch button will be on for the time period selected at "Light Duration of LED" parameter at "General" tab.
Separate Comm Object	Enable / **Disable**	Only visible when "Function of LED" selected as "Status Indication" or "Inverted Status Indication". This communication object is the input of confirmation for status LEDs. If selected "Enable" respective communication object should be linked to an appropriate group address.

Table 19

4.2.2.2.2   Communication Objects

No	Object Name	Function	Data type	Flags
1	TouchButton1 – switch	On/Off	1 bit DPT 1.001	CWT
On/Off telegrams will be sent to group address that is linked to this communication object.				
2	TouchButton1 – dimming	Dim	4 bit DPT 3.007	CWT
Dimming values will be send to group address that is linked to this communication object.				
3	TouchButton1- Status Comm.Obj.	On/Off	1 bit DPT 1.002	CWT
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. If status confirmation not to be used the communication object should be disabled by "Separate Comm Object" parameter.				

Table 20

4.2.2.3   Shutter

Figure 10

Selecting "Shutter" for "Touch Button Function" enables shutter operation for touch buttons. Shutter functions can be configured to control two different shutter operations "Shutter/Venetian Blind" function or "Blind/Roller/Awning" function. In both functions touch button can be configured as 3 different button function; Up, Down and Toggle. When touch 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, touch button can be used to move the blind up and adjust the lamella down. If touch button configured as toggle button, single button can be used to move the blind up – down and adjust lamella up – down.

Shutter/Venetian Blind Function

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

Up: "Long Touch" moves the blind upwards; "Short Touch" operates two different ways, short touched while the blind is moving, stops the blind, short touched while the blind is not moving adjust the lamella position down.

Down: "Long Touch" moves the blind downwards; "Short Touch" operates two different ways, short touched while the blind is moving, stops the blind, short touched while the blind is not moving adjust the lamella position up.

Toggle: "Long Touch" moves the blind upwards or downwards toggling the last "Long Touch" action. For example, if last state was up, when touch button long touched, it will send "Down" telegram.

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

Blind/Roller/Awning Function

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

Up: "Long Touch" moves the blind upwards; "Short Touch" stops the blind.

Down: "Long Touch" moves the blind downwards; "Short Touch" stops the blind.

Toggle: "Long Touch" action moves the blind upwards or downwards toggling the last "Long Touch"
action. For example, if last state was up, when touch button long touched it will send "Down" telegram.
Every time touch button long touched it will toggle its last state. "Short Touch" stops the blind whether it's moving upwards or downwards

4.2.2.3.1   Parameters

Parameter	Setting	Description
Touch Button Function	**Up** / Down / Toggle	Chapter 4.2.2.3
Control Type	**Shutter/Venetian Blind** Blind/Roller/Awning	Selects control type of blinds. Shutter/Venetian Blind function includes "Lamella Control" and Blind/Roller/Awning function does not include "Lamella Control".
Function of LED	**LED Permanently Off**	LED always off
	LED Permanently On	LED always on
	Status Indication	Visualize blind's state using status LEDs of up and down buttons. *[6]
	Operation Indication	Status LED of the touched rocker button will be on for the time period selected at "Light Duration of LED" parameter at "General" tab.
Long Touch Duration	**300ms**/ 400ms/ 500ms/ 600ms/ 800ms / 1s / 1.2s / 1.5s/ 2s / 3s / 4s / 5s / 6s / 7s / 8s / 9s / 10s	Time interval to switch from short touch to long touch

Table 21

4.2.2.3.2   Communication Objects

*[6] LED Function – Status Indication

Status indication operates the same way for "Shutter/Venetian Blind" and "Blind/Roller/Awning". LEDs status respective to blind's state and "Button Function" configuration given below;

	Up Mode	Down Mode	Toggle Mode
Moving upward	Blink	Off	Blink
Moving downward	Off	Blink	Blink
At top position	Off	Off	Off
At bottom position	Off	Off	Off
Stop between top - bottom	Off	Off	Off

Table 22

When "Function of Led" selected as "Status Indication", "Top Position" and "Bottom Position" communication objects given below must be linked to the appropriate group addresses for the LEDs to function correctly.

4.2.2.4   Value Operation

Figure 11

Touch button can be configured to send predefined values from different data types. Additionally, a long touch request can be enabled to be used as a secondary value operation.

4.2.2.4.1   Parameters

Parameter	Setting	Description
Function of Led	**LED Permanently Off**	LED always off
	LED Permanently On	LED always on
	Operation Indication	Status LED of the touched rocker button will be on for the time period selected at "Light Duration of LED" parameter at "General" tab.
Data Type	**No Reaction** 1 bit value 1byte value [0…255] Percent value [%0…%100] 2 byte value [-32768…32767] 2 byte value [0…65535] 4 byte value [floating point] 4 byte value [0…4294967295]	Select data type.
Sent value	**0/1**	Visible when "Data Type" selected as "1 bit value".
Transmitted value [0…255]	**0**…255	Visible when "Data Type" selected as "1 byte value".
Send percent value [%0…%100]	0…**80**…100	Visible when "Data Type" selected as "percent value".
Transmitted value [-32768…32767]	-32768…**0**…32767	Visible when "Data Type" selected as "2 byte value [-32768…32767]".
Transmitted value [0…65535]	**0**…65535	Visible when "Data Type" selected as "2 byte value [0…65535]".
Float decimal	-128…**0**…127	Visible when "Data Type" selected as "4 byte value [floating point]".
Float rational	**0**…99	Visible when "Data Type" selected as "4 byte value [floating point]".
Transmitted value [0…4294967295]	**0**…4294967295	Visible when "Data Type" selected as "4 byte value [0…4294967295]".
Long Touch Request	**No** / Yes	Enable/Disable long touch duration
Long Touch Duration	**100ms** / 1s / 10s / 1min / 10min	Select time period for long touch operation
Long Touch Data Type	**No Reaction** 1 bit value 1byte value [0…255] Percent value [%0…%100] 2 byte value [-32768…32767] 2 byte value [0…65535] 4 byte value [floating point] 4 byte value [0…4294967295]	Select data type.
Sent value	**0/1**	Visible when "Long Touch Data Type" selected as "1 bit value".
Transmitted value [0…255]	**0**…255	Visible when "Long Touch Data Type" selected as "1 byte value".
Send percent value [%0…%100]	0…**80**…100	Visible when "Long Touch Data Type" selected as "percent value".

Transmitted value [-32768…32767]	-32768…**0**…32767	Visible when "Long Touch Data Type" selected as "2 byte value [- 32768…32767]".
Transmitted value [0…65535]	**0**…65535	Visible when "Long Touch Data Type" selected as "2 byte value [0…65535]".
Float decimal	-128…**0**…127	Visible when "Long Touch Data Type" selected as "4 byte value [floating point]".
Float rational	**0**…99	Visible when "Long Touch Data Type" selected as "4 byte value [floating point]".
Transmitted value [0…4294967295]	**0**…4294967295	Visible when "Long Touch Data Type" selected as "4 byte value [0…4294967295]".

Table 23