ATTACHMENT KNOB GREY / BLACK KNX-223





CONTENTS

1.1	. PARAMETER WINDOW "GENERAL"	2
1.2	2. INDEPENDENT WORKING MODE 1.2.1. "SWITCHING" 1.2.2. "DIMMING" FUNCTION 1.2.3. "BLIND" 1.2.4. "VALUE SENDER" 1.2.5. "SCENE" 1.2.6. "STEP-TYPE SWITCH" 1.2.7. "SHORT-LONG OPERATION" 1.2.8. "RTC OPERATION MODE" 1.2.9. "MULTIPLE OPERATION"	2 2 3 4 4 4 5 6
1.3	3. LINKED WORKING MODE 1.3.1. "RTC OPERATION MODE". 1.3.2. "DIMMING" 1.3.3. "BLIND" 1.3.3. "VALUE SENDER". 1.3.5. "VALUE DIMMING SENSOR" 1.3.6. "STEP-TYPE SWITCH"	7 7 8 8 9
1.4	4. "LED FUNCTION"	10
2.1	INDEPENDENT WORKING MODE COMMUNICATION OBJECTS 2.1.1. "DISABLE FUNCTION" COMMUNICATION OBJECT. 2.1.2. "SWITCHING" COMMUNICATION OBJECT. 2.1.3. "DIMMING" COMMUNICATION OBJECT. 2.1.4. "BLIND" COMMUNICATION OBJECT. 2.1.5. "VALUE SENDER" COMMUNICATION OBJECT. 2.1.6. "SCENE" COMMUNICATION OBJECT. 2.1.7. "STEP-TYPE SWITCH" COMMUNICATION OBJECT. 2.1.8. "SHORT-LONG OPERATION" COMMUNICATION OBJECT. 2.1.9. "RTC" COMMUNICATION OBJECT. 2.1.10. "MULTIPLE OPERATION" COMMUNICATION OBJECT.	11 11 11 11 11 12 12 12 12
2.2	LINKED WORKING MODE COMMUNICATION OBJECT	13 13 13 13 14 14
2.3	3. "LED FUNCTION" COMMUNICATION OBJECT	. 14





1. PARAMETER SETTING DESCRIPTION IN THE ETS

1.1. PARAMETER WINDOW "GENERAL"

Parameter window **"General setting"** can be shown in fig. 1.1. There used to set the working mode for each rocker switch, the rocker switch can be used as two independent push button or linked push button. If the rocker switch is used as two independent push button, the application is independent each other for the two independent. If as linked push button, the application is associated.

"Startup time in second"

This parameter is used to set the startup time of device. Options: 1...60

Device: 1.1.3 KN9551-KXX Push-butt	ton 4-gang		
General	Startup time in second	3	
Button1	startup une in second	3	
Button2	Read LEDs at power up	NO	
Button pair2	Read LED's at power up		
Button pair3	Button number of device	8	•
Button pair4			
LED1	Button 1-2 use	2 independent push button	-
LED2		(m. n	
LED3	Button 3-4 use	linked push button	-
LED4	Button 5-6 use	linked push button	-
LEDS	batton 5-0 ase	mixed pass outcom	-
LED6	Button 7-8 use	linked push button	
LED7			
LED8			

Figure 1.1. Parameter window "General"

"Read LEDs at power up"

This parameter can decide whether read LED when power on. Options: YES/NO

"Button number of device"

This parameter is used to set the number of device.

"Button 1-2/3-4 use"

This parameter is used to set the working mode for each ro cker switch.

- Options: 2 independent push buttons
 - Linked push button

If selecting "2 independent push buttons", the left and right side of the rocker switch are used as two independent push buttons, and the application does not differentiate between whether the rocker switch is operated on the left and right side.

If selecting **"linked push button"**, the left and right side of the rocker switch are used as linked push button, and the application differentiates between whether the rocker switch is operated on the left and right side.

The following sections details parameters and communication objects of each application in the two working modes, using one push button or one rocker switch as an example.

1.2. INDEPENDENT WORKING MODE

In the independent working mode, the applications do not differentiate between whether the rocker switch is operated on the left and right side. In each case, the applications make a separate set of parameters and communication objects available for the light and left side of the rocker switch. For example, a switching function can be realized via a rocker switch side while the other rocker switch side can be assigned with an additional "button orientated" function.

1.2.1. "SWITCHING"

Parameter window **"Switching"** can be shown in fig. 1.2. With the application, a switching telegram is sent out for an operation or upon release of the rocker switch.

Device: -.-- KN9550-KXX Push-button 4-gang

General	Choice of function	Switching	
Button1	Choice of function	Switching	
Button2	Reaction on rising edge	no reaction	
Button3	reaction on hising cage		
Button4	Reaction on falling edge	no reaction	
Button5			
Button6			
Button7			
Button8			
LED1			
LED2			
LED3			
LED4			
LED6			
LED5			
LED7			
LED8			

Figure 1.2. "Switching" window

"Reaction on rising edge"/"Reaction on falling edge"

Via the parameters you can set which 1 bit value is sent out for e very operation on rising edge and falling edge. This can be an ON telegram, an OFF telegram or a toggle telegram. Alternatively, no telegram can be sent out for a rocker switch operation using the No reaction setting.

Options:	No reaction
	On
	Off
	Alternating on/off

"Alternating on/off" means that switching is always between ON and OFF. For example, if an ON telegram was last sent out, then a renewed operation of the rocker switch will trigger an OFF telegram. When the rocker switch is operated again, an ON telegram is sent out, etc. The rocker switch thus always remembers the last state and then switches over to the other value.

"Switching", 1 bit

According to the parameter setting, the object is used to send out an ON telegram or an OFF telegram, or a tog gle telegram via an operation or the releasing of the rocker switch.

1.2.2. "DIMMING" FUNCTION

Parameter window **"Dimming"** can be shown in fig. 1.3. With the application, a rocker switch has two communication objects for switching and for dimming. A distinction is made between short operation and long operation. A short operation will execute switching; a long operation will execute dimming.

A "switching" switching telegram is sent out on the 1-bit communication object. A "relative dimming" dimming telegram is sent out on the 4-bit communication object.

VICE: KIN9550-KAA PU	sn-button #-gang		
General	Choice of function	Dimming	•
Button1	Choice of function	Dimining	•
Button2	Duration of long operation=entry*0.1s	4	-
Button3	(330)	*	
Button4		G	
Button5	Working mode of the button for switching	deactivated	•
Button6	switching		
Button7	Working mode of the button for	darker	-
Button8	dimming		
LED1	Step size for dimming	1/4	•
LED2			
LED3	Dimming stop telegram	Dimming stop is not sent	-
LED4			
LED6	Cyclical sending of dimming telegrams	deactivated	•
LED5			
LED7			
LED8			

Figure 1.3. "Dimming" window

"Duration of long operation=entry×0.1s" (3...30)

The parameter is used to define the time which a long operation is recognized. Options: 3~30

"Working mode of the push button for switching"

This parameter is used to determine whether a s hort operation sends out an ON or an OFF telegram via a 1 bit communication object. Alternatively, for the selection **"alternating on/off"**, you can switch between switching on and switching off for every short operation, i.e. after a switch-on telegram has been sent out (or received), a switch off telegram will be sent out for a renewed operation. After it is operated again, a switching-on telegram is sent out.

Options: Deactivated Off On Alternating on/off

"Working mode of the push button for dimming"

This parameter is used to determine whether a long operation sends out a dim brighter or a dim darker telegram via a 4 bit communication object. Alternatively, for the selection **"alternating brighter/darker"**, you can switch between dimming up and dimming darker for every long operation, i.e. after a dim brighter telegram has been sent out (or received), a dim darker telegram will be sent out for a renewed operation. After it is operated again, a dim brighter telegram is sent out.

Options: Darker Bright Alternating brighter / darker

"Step size for dimming"

The parameter is used to specify by how much brighter or darker dimming should occur. The sent out value always relates to the current brightness value. For example, a dimming actuator is currently dimmed to a brightness value of





70%. By operation of the rocker switch, a dimming command **"dim by 25% (1/4) brighter"** is sent out. The dimming actuator will adjust its brightness value to 95% immediately after receiving the dimming command.

Options: 1/1, 1/2, 1/4, 1/32, 1/64

"Dimming stop telegram"

The parameter is used to determine whether the release of the rocker switch will trigger the **"dimming stop"** command or not.

Options: Dimming stop is send Dimming stop is not send

With the "dimming stop is send" option, when the rocker switch is released, the telegram with the "dimming stop" information is sent out on the 4-bit communication object "relative dimming".

"Cyclical sending of dimming telegrams"

The parameter is used to determine the telegram with the "brighter" or "darker" information whether is sent out cyclically by a durative long operation.

Options: Deactivated Activated

With the "deactivated" option, when triggered a durative long operation, only one telegram with the "brighter" or "darker" information is sent out on the 4-bit communication object "relative dimming".

With the **"activated"** option, when triggered a durative long operation, the telegram with the "brighter" or "darker" information is sent out cyclically on the 4-bit communication object **"relative dimming"**.

"Duration of the telegram repetitions=entry×0.1s (3...30)"

The parameter is only visible if the **"cyclical sending of dimming telegrams"** parameter is set to "activated". It is used to set the interval time between two telegrams that are sent cyclically.

Options: 3...30.

"Switching", 1bit

According to the parameter setting, the object is used to send out an ON telegram or an OFF telegram, or a toggle telegram via a short operation of the rocker switch.

"Relative dimming", 4bit

According to the parameter setting, the object is used to send out a dim brighter or a dim darker telegram via a long operation of the rocker switch. When the rocker switch is released, it is possible that a dim stop telegram is sent out via the object.

1.2.3. "BLIND"

Parameter window "blind" can be shown in fig. 1.4. With the application, a push button has two functions to be realized: shutter and roller blind. In the case of shutter, an operation of the rocker switch sends out a blind movement command or a slats adjustment command. A short operation always triggers a travel command and a long operation always triggers a slats adjustment command. You can specify whether the shutter control occurs via two 1-bit or two 1-byte communication objects "travel" and "adjust". If the communication object "adjust" is selected to 1-bit, the slats adjustment command and a long operation triggers a travel command and a long operation trigger a stop command, the blind control occurs via two 1-bit communication objects "travel" and "stop".

Device: 1.1.3 KN9551-KXX Push-button 4-gang

General	Choice of function	Blind	
Button1	Choice of function	blind	•
Button2	Operation function	long=travel/short=stop/adjust	
Button pair2	operation		
Button pair3	Function switchover blinds/roller	Shutter	
Button pair4	shutters		
LED1	Duration of long operation=entry*0.1s	10	-
LED2	(330)	10	
LED3		[
LED4	Object type	1 bit	
LED5			
LED6	Cycle time of the telegram repetition=entry*0.1s(330)	4	
LED7	repetition=endy=0.15(550)		
LEDS			

Figure 1.4. "Blind" window

"Operation function"

The parameter is used to define the operation mode of long and short option.

Options: long=travel/short=stop/adjust short=travel/long=stop/adjust

"Duration of long operation=entry×0.1s (3...30)"

The parameter is used to define the time which a long operation is recognized. Options: 3...30

"Cycle time of the telegram repetition= entry×0.1s (3...30)"

The parameter is only visible if the "object type" parameter is set to "1 bit". It is used to set the interval time between two telegrams that are sent cyclically for a durative long operation. Options: 3...30

"Object type"

This parameter is only visible if the **"function switchover blinds/roller shutter"** parameter is set to "shutter". It is used to define the type of the communication objects "travel" and "adjust".

Options: 1 bit 1 byte

"Function switchover roller blind / shutter"

The parameter is used to determine whether a roller blind or shutter is to be driven by a operation. With the **"roller blind"** setting, the value for the slats adjustment does not apply.

Options: Shutter Roller blind

"Value for position down (%)" / "value for position up (%)"

This parameter can only be set if **"1 byte"** has been set as object type, which can be used to set the position (percent values) that a connected blind shall be lowered or raised to.

Options: 0...100

The value 0% means travel up completely, the value 100% means travel down completely.

"Value for stats position down (%)" / "value for stats position up (%)"

This parameter can only be set if **"1 byte"** has been set as object type, which can be used to set the position (percent values) that a connected blind slat shall be opened or closed to.

Options: 0...100

The value 0% means slat opened completely, the value 100% means closed completely.

"Travel", 1bit (shutter)

This object is visible if the parameter **"object type"** is set to "1bit", it is used to send out a shutter movement command (UP or DOWN) on the bus via a short operation of the left or the right side of the rocker switch.

Telegram value "0" UP "1" DOWN

"Adjust", 1bit (shutter)

This object is visible if the parameter **"object type"** is set to "1bit", it is used to send out a lamella adjustment command (UP or DOWN) on the bus via a long operation of the left or the right side of the rocker switch.

Telegram value	"0" lamella UP
	"1" lamella DOWN

"Travel", 1byte (shutter)

This object is visible if the parameter **"object type"** is set to "1byte", it is used to send out a shutter movement command (UP or DOWN, percent values) on the bus via a short operation of the left or the right side of the rocker switch.

Telegram value	"0100", 0 travel up completely
	"100" travel down completely

"Adjust", 1byte (shutter)

This object is visible if the parameter **"object type"** is set to "1byte", it is used to send out a stats adjustment command (UP or DOWN, percent values) on the bus via a long operation of the left or the right side of the rocker switch.

Telegram value	"0100", 0 stat opened completely
	"100" stat closed completely

"Travel", 1bit (roller blind)

This object is visible if the parameter **"function switchover roller blind / shutter"** is set to "roller blind", it is used to send out a roller blind movement command (UP or DOWN) on the bus via a short operation of the rocker switch.

> Telegram value "0" UP "1" DOWN





"Stop", 1bit (roller blind)

This object is visible if the parameter "function switchover roller blind / shutter" is set to "roller blind", it is used to send out a roller blind stop telegram on the bus via a long operation of the rocker switch.

Telegram value "0" or "1" stop

1.2.4. "VALUE SENDER"

Parameter window **"value sender"** can be shown in fig. 1.5. With the application, two telegrams with the predefined values from two different communication objects can be sent out for an operation or upon release of the rocker switch.



Figure 1.5. "Value sender" window

"Object type for rising edge" / "object type for falling edge"

The parameters are used to define the data types that are sent when the rocker switch is actuated for an operation and the release. The data types specified the bit size of the communication objects and the value range.

Options: 1bit

byte 0...100% 1byte 1...255 2byte signed -32768...32767 2byte unsigned 0...65535 2byte float 4byte signed -2147483648...2147483647 4byte unsigned 0...4294967295

"Reaction on rising edge" / "reaction on falling edge"

The parameters are used to determine whether an operation and the release of the rocker switch send out the "value 1" or "value 2".

Options: No reaction Value 1 Value 2 Alternating value 1/value 2

"Value1 for rising edge" / "value2 for rising edge"

The parameters are used to specify value1 and value2 which are sent out for an operation of the rocker switch. The values range is dependent on the selected data types.

"Value1 for falling edge" / "value2 for falling edge"

The parameters are used to specify value1 and value2 which are sent out for the release of the rocker switch. The values range is depend ent on the selected data type.

"Switching (rising edge)", 1bit/1byte/2byte/4byte

The type of the object is set in the parameter **"object type for rising edge"**, the object is used to send out a telegram with the predefined value for an operation of the rocker switch.

"Switching (falling edge)", 1bit/1byte/2byte/4byte

The type of the object is set in the parameter **"object type for falling edge"**, the object is used to send out a telegram with the predefined value for the release of the rocker switch switch.

1.2.5. "SCENE"

Parameter window **"Scene"** can be shown in fig. 1.6. With the application, a predefined light scene number can be called for an operation of the rocker switch. The user has the option to trigger a light scene storage command via a long operation.

"Storage function light scenes"

It is used to set whether the light scene storage function is enabled.



General Choice of function

Button1	Choice of function	scene	•
Button2	Storage function light scenes	deactivated	•
Button3			
Button4	Number of scene(164)	1	
Button5			
Button6			
Button7			
Button8			
LED1			
LED2			
LED3			
LED4			
LED6			
LED5			
LED7			
LED8			

Figure 1.6. "Scene" window

Options: Deactivated Activated

With the setting **"activated"**, the user has the option of sending out a light scene storage command via a long operation. The same 1-byte communication object that is used for this can also call up the light scene number via a short operation.

"Duration of long operation= entry×0.1s" (3...100)"

The parameter is only visible if the "storage function light scenes" parameter is set to "activated". It is used to define the time which a long operation is recognized.

Options: 3...100

"Number of light scene (1...64)"

The parameter is u sed to set an arbitrary light scene number from 1 to 64 which can be sent out via the 1-byte communication object "light scene number" for operation of the rocker switch.

"Number of light scene", 1byte

The object is used to send out a scene number and the information as to whether a scene should be recalled or the current scene should be stored. The number of light scene is set in the parameter **"Number of light scene"**.

FXNNNNN
0 — Scene is recalled
1 — Scene is stored
Not used
Number of the scene (063)

1-64 in the parameter setup corresponds to the scene number 0-63 sent by the communication object **"Number of light scene"**. For example, scene 1 in the parameter setup has the same output result as scene 0 in the communication object **"Number of light scene"**.

1.2.6. ""STEP-TYPE SWITCH"

Parameter **"step-type switch"** can be shown in fig. 1.7. With the application, the user can trigger different switching processed with each new operation of the rocker switch. Up to four switching levels can be activated.

A short and long operation can be differentiated between for the operation of the rocker switch. For a short operation of the rocker switch, a next level forward is switched to in each case. For a long operation, the first level is activated. Thus a long operation can jump back from every position to the first level without having to run through the remaining levels.

Device: ---- KN9550-KXX Push-button 4-gang

General		[m h.t.	
Button1	Choice of function	Step-type switch	•
Button2	Duration of long operation=entry*0.1s	10	
Button3	(350)	10	
Button4		(<u> </u>	
Button5	Number of objects	1	-
Button6			
Button7	Evaluation period=entry*0.1s(1050)	30	-
Button8	Sending of objects	for change of value	
LED1	Schang of objects		
LED2	Object values	normal	•
LED3			
LED4	Bit pattern of the object values	x of n	-
LED6			
LEDS			
LED7			
LED8			

Figure 1.7. "Step-type switch" window

"Number of objects"

The parameter is used to specify the number of the levels . Up to four levels can be switched.

For every level, its own 1-bit communication object is available.

Options: 1...4



"Evaluation period=entry×0.1s" (10...50)"

The parameter is used to set the evaluation period, i.e. the period of time in which complete the first object to the final object sending out via a multiple operation, up to four objects can be sent.

Options: 10...50

"Duration of long operation=entry×0.1s (3...50)"

The parameter is used to define the time which a long operation is recognized and switched back to the first level.

Options: 3...50

"Sending of objects"

The parameter is used to specify whether the object values for every rocker switch operation are sent out or only if the object values have changed since the last sending out.

Options: For operation

For change of value

The three objects as an example to illustrate the difference between two options (Send normally object values, bit pattern of the object values is x of n):

Operations	Binary code	Objects			
operations	billary code	Stage3	Stage2	Stage1	
0	000	Off	Off	Off	
1	001	Off	Off	On	
2	011	Off	On	On	
3	111	On	On	On	
4	111	On	On	On	

With the setting **"for operation"**, the three object values are sent out for every operation. Such as the above table from the 1st to the 2nd operation, stage 1 object sends the value of 1, for a while stage 2 object will send the value of 1, finally, stage 3 object will send the value of 0. The total time that the three objects are sent out can be set in the parameter **"Evaluation period= entry×0.1s"**.

With the setting **"for change of value"**, only the object that values have changed compared with the last values is sent out for every operation. Such as the above table from the 1st to the 2nd operation, only stage 2 object value has changed, so only stage 2 object sends the value of 1.

If the rocker switch is a long operation, the operation is switched back to the initial state.

"Object values"

The parameter is used to define whether the object values are sent out **"invert"** or **"normal"** via their associated 1-bit communication objects.

Options: Normal

Inverse

With the setting **"normal"**, all 1-bit communication objects of the individual levels sent out their values normal.

With the setting **"inverse"**, all 1-bit communication objects of the individual levels sent out their values inverted.

The three objects as an example to illustrate the difference between two options, their object values are just opposite. As follows:

		Normal			Inverse				
	Operations	Binary	y Objects		Binary	Objects			
		code	Stage3	Stage2	Stage1	code	Stage3	Stage2	Stage1
	0	000	Off	Off	Off	111	On	On	On
	1	001	Off	Off	On	110	On	On	Off
	2	011	Off	On	On	100	On	Off	Off
	3	111	On	On	On	000	Off	Off	Off
	4	111	On	On	On	000	Off	Off	Off

"Bit pattern of object values"

The parameter is used to determine the way of bit pattern of object values.

```
Options: x of n
```

```
1 of n
```

The three objects as an example to illustrate their difference, as follows (Send normally object values, n=3):

With the setting "x" of "n", the binary coding sequence of bit pattern of object values is 000-001-011-111. So the object values have changed step by step.

With the setting "1" of "n", the binary coding sequence of bit pattern of object values is 000-001-010-100. Only one of the object values is 1 for every operation, and the object values have changed with certain regularity.

	X of n			1 of n				
Operations	Binary		Objects		Binary	Objects		
	code	Stage3	Stage2	Stage1	code	Stage3	Stage2	Stage1
0	000	Off	Off	Off	000	Off	Off	Off
1	001	Off	Off	On	001	Off	Off	On
2	011	Off	On	On	010	Off	On	Off
3	111	On	On	On	100	On	Off	Off
4	111	On	On	On	100	On	Off	Off

"Switching stage1" to "switching stage 4", 1bit

The number of these objects (max.4) is set in the parameter **"Number of objects"**. The objects send out the values or some of the values for every new operation of the rocker switch.

1.2.7. "SHORT-LONG OPERATION"

Parameter window **"short-long operation"** can be shown in fig. 1.8. With the application, a telegram with different predefined values can be sent out for a short or long operation of the rocker switch.

Device: -.-- KN9550-KXX Push-button 4-gang

General		Short-long operation	
Button1	Choice of function	short-long operation	•
Button2	Duration of long operation=entry*0.1s	4	-
Button3	(330)	-	
Button4		(a.c.)	
Button5	Object type	1 bit	-
Button6	Reaction on short operation	no reaction	•
Button7	Reaction on short operation	no reaction	•
Button8	Reaction on long operation	no reaction	•
LED1			
LED2			
LED3			
LED4			
LED6			
LEDS			

Figure 1.8. "Short-long operation" window

"Object type"

0p

Options:

The parameter is used to define the data types that are sent when the rocker switch is actuated via a short or long operation. The data types specified the bit size of the communication objects and the value range.

1bit 1byte 0...100% 1byte 1...255 2byte signed -32768...32767 2byte unsigned 0...65535 4byte signed -2147483648...2147483647 4byte unsigned 0...4294967295

"Reaction on short operation"

The parameters are used to determine whether the rocker switch sends out the "value1" or "value2" via a short operation.

No reaction
Value 1
Value 2
Alternating value 1/value 2

"Value 1/2 for short operation"

The parameters are used to specify value1 and value2 which are sent out for a short operation of the rocker switch. The values range is dependent on the selected data type.

"Reaction on long operation"

The parameters are used to determine whether the rocker switch sends out the "value1" or "value2" via a long operation.

Options:	No reaction
	Value 1
	Value 2
	Alternating value 1/value 2

"Value 1/2 for long operation"

The parameters are used to specify value1 and value2 which are sent out for a long operation of the rocker switch. The values range is dependent on the selected data type.

"Duration of long operation=entry×0.1s (3...30)"

The parameter is used to define the time which a long operation is recognized. Options: 3...30





"Value for short operation", 1bit/1byte/2byte/4byte

The type of the object is set in the parameter **"object type"**, the object is used to send out a telegram with the predefined value for a short operation of the rocker switch. The predefined value and data types can be freely selected in the parameters.

"Value for long operation", 1bit/1byte/2byte/4byte

The type of the object is set in the parameter **"object type"**, the object is used to send out a telegram with the predefined value for a long operation of the rocker switch. The predefined value and data types can be freely selected in the parameters.

1.2.8. "RTC OPERATION MODE"

Parameter window **"RTC operation mode"** can be shown in fig. 1.9. With the application, an operation mode switchover for connected room thermostats can be carried out for an operation of a rocker switch side. The application offers two object types for output, one is three 1-bit communication objects **"operating mode confort"**, **"operating mode night"**, **"operating mode frost"**, and the other is a 1-byte communication object **"operating mode"**. In the case of 1-byte, different values mean different operation modes, such as 0=auto, 1=comfort, 2=standby, etc.

The function can be temporarily blocked via this 1-bit **"enable"** communication object.

General	Choice of function	RTC operating mode	
Button1	Choice of function	Kitc operating mode	
Button2	Object type for output	1 bit	
Button3			
Button4	Operating mode	Comfort	
Button5			
Button6	Send comfort object	deactivated	
Button7	Sending frost protection	deactivated	
Button8	Sending trost protection	deactivated	
LED1			
LED2			
LED3			
LED4			
LED6			
LED5			

Figure 1.9. "RTC operation mode" window

"Object type for output"

The parameter is used to determine the size of the output communication object for the RTC operation.

Options: 1bit

1byte

The selection "1-bit" is used for control of room thermostats that have "1-bit" communication objects for operating mode switchover.

The selection **"1-byte"** is used for control of room thermostats that have **"1-byte"** communication object for operation mode switchover. In this case, the values mean 0=auto, 1=comfort, 2=standby, 3=night, 4=frost/heat protection, 5...255= not allowed.

"Operating mode"

The parameter is used to specify the operating mode.

Options: Auto Comfort Standby Night Frost protection, Heat protection

The "auto" mode can only be set if the "object type for output" parameter is set to "1-byte", with the selection of "auto", the value "0" is sent out on the 1byte object. For a connected room thermostat, this means that for every new operation, the individual operating modes "comfort", "standby" and "night" will be switched between.

If the "object type for output" parameter is set to "1-bit" and with the selection of "comfort", the follow "send comfort object" and "sending frost protection" parameters will visible.

If the **"object type for output"** parameter is set to **"1-bit"** and with the selection of **"standby"**, the follow send **"comfort object"**, **"sending frost protection"** and **"sending night object"** parameters will visible.

If the **"object type for output"** parameter is set to **"1-bit"** and with the selection of **"night"**, the follow **"send comfort object"**, **"sending frost protection"** and **"sending night object"** parameters will visible.

If the **"object type for output"** parameter is set to **"1byte"** the value "1" is sent out on the 1-byte object and a connected room thermostat switches to the comfort operation mode, the value "2" is sent out on the 1-byte object and a connected room thermostat switches to the standby operation mode, the value "3" is sent



out on the 1-byte object and a connected room thermostat switches to the night operation mode, the value "4" is sent out on the 1-byte object and a connected room thermostat switches to the Frost/Heat protection operation mode.

If the **"object type for output"** parameter is set to **"1bit"**, when the object **"comfort operating mode"** sends a telegram "1" on operating switch, and other objects send telegrams "0", right now a connected room thermostat switches to the comfort operation mode; when the object **"night operating mode"** sends a telegram "1" on operating switch, and other objects send telegrams "0", right now a connected room thermostat switches to the night operation mode; when all objects send telegrams "0" on operating switch, right now a connected room thermostat switches to the night operation mode; when all objects send telegrams "0" on operating switch, right now a connected room thermostat switches to the standby operation mode. When the operation mode is set to the Frost/Heat protection operation mode, other operation modes of communication objects and parameters will be not visible.

"Send comfort object"

This parameter will be visible when the parameter **"object type for output"** is set to **"1bit"**, here set whether the comfort mode is activated.

Options: Deactivated Activated

When selecting "activated" option, the communication object "comfort operating mode" is enabled.

"Sending frost protection"

This parameter will be visible when the parameter **"object type for output"** is set to **"1bit"**, here set whether the frost/heat protection mode is activated.

Options: Deactivated Activated

When selecting "activated" option, the communication object "frost operating mode" is enabled.

"Send night object"

This parameter will be visible when the parameter **"object type for output"** is set to **"1bit"**, here set whether the night mode is activated.

Options: Deactivated Activated

When selecting "activated" option, the communication object "night operating mode" is enabled.

"Comfort operating mode", 1bit

This communication is visible if the parameter **"send comfort object"** is set to **"activated"**. If the object receives an ON telegram, a connected room thermostat switches to the comfort operation mode mode.

"Frost operating mode", 1bit

This communication is visible if the parameter **"send frost protection"** is set to **"activated"**. If the object receives an ON telegram, a connected room thermostat switches to the frost/heat protection operation mode mode.

"Night operating mode", 1bit

This communication is visible if the parameter **"send night object"** is set to **"activated"**. If the object receives an ON telegram, a connected room thermostat switches to the night operation mode.

"Operation mode", 1byte

This communication is visible if the parameter **"object type for output"** is set to **"1byte"**. The object sends out different telegram values, different values mean different operation modes, such as 0=auto, 1=comfort, 2=standby, 3=night, 4=or Frost protection, Heat protection, values 5...255 is not allowed.

1.2.9. "MULTIPLE OPERATION"

"Multiple operation" function allows use define some (up to 5) different objects, delay time delay to send, data type.

"Object X type"

Options:

This parameter define the data type of object.

1bit
1byte 0100%
1byte 1255
2byte signed
2byte unsigned
2byte float
4byte signed
4byte unsigned

"Sending value of object X"

This parameter define the value to be sent.



"Time delay to send for object1 (0...255s)"

This parameter define time delay to send.

Options: 0...255

General	Choice of function	Multiple operation	
Button1			
Button2	Object type for object1	1 bit	
Button3		· ·	
Button4	Function for object type 1bit for object	1 Transmit value	
Button5	Value for object1(1bit)	off	
Button6	Value for object (conf)		
Button7	Time delay for object1 in second	0	
Button8	, , ,	-	6
LED1	Object type for object2	1 bit	
LED2			
LED3	Function for object type 1bit for object	2 Transmit value	
LED4		off	
LED6	Value for object2(1bit)	ott	
LED5	Time delay for object2 in second	0	G
LED7	Time delay for object2 in second	0	2
LED8	Object type for object3	1 bit	
	Function for object type 1bit for object	3 Transmit value	
	Value for object3(1bit)	off	
	Time delay for object3 in second	0	
	Object type for object4	1 bit	
	Function for object type 1bit for object	4 Transmit value	
	Value for object4(1bit)	off	
	Time delay for object4 in second	0	2
	Object type for object5	1 bit	
	Function for object type 1bit for object	5 Transmit value	
	Value for object5(1bit)	off	
	Time delay for object5 in second	0	8

1.3. LINKED WORKING MODE

In the linked working mode, the applications differentiate between whether the rocker switch is operated on the left and right side.

1.3.1. "RTC OPERATION MODE"

Parameter window **"switching"** can be shown in fig. 1.3. With the **"switching"** application, an operation of the right or left side of the rocker switch sends out a switching telegram.

Device: -.-- KN9550-KXX Push-button 4-gang

General	Choice of function	Switching	
Button pair1	Choice of function	switching	
Button pair2	Working mode of upper/lower push	On/Off	
Button pair3	buttons		
Button pair4			
LED1			
LED2			
LED3			
LED4			
LED6			
LED5			
LED7			
LED8			

Figure 1.10. "Switching" window

"Switching, rocker switch total"

The parameter is used to define whether switching on or switching off occurs via the right or the left side of the rocker switch.

Options: Left on, right off Left off, right on Alternating on/off

If the option alternating on/off is selected, switching is always between ON and OFF. That means, for example, if an ON telegram was last sent out, then a renewed operation of the rocker switch will trigger an OFF telegram. When the rocker switch is operated again, an ON telegram is sent out, etc. The rocker switch thus always remembers the last state and then switches over to the other value.

"Switching", 1bit

According to the parameter setting, the object is used to send out an ON telegram or an OFF telegram via an operation of the left or the right side of the rocker switch.

1.3.2. "DIMMING"

Parameter window "Dimming" can be shown in fig. 1.11. With the "dimming" application, an operation of the right or left side of the rocker switch sends out a switching telegram or a dimming telegram. In the case of step-wise dimming, a distinction is made between short and long operation, you can specify whether a short or long operation will execute switching or dimming. A "switching" switching telegram is sent out on the 1-bit communication object. A "relative dimming" dimming telegram is sent out on the 4-bit communication object.

evice: KN9550-KXX Pus	n-button 4-gang		
General	Choice of function	Dimmina	
Button pair1	choice of function	containing .	-
Button pair2	Duration of long operation=entry*0.1s	4	
Button pair3	(330)		
Button pair4		(m. 1. m. 1.	
LED1	Manner of dimming	Start-Stop dimming	-
LED2	Working mode of upper/lower push	On/Off	-
LED3	buttons for switching	onyon	
LED4		(
LED6	Working mode of upper/lower push	Darker/Brighter	-
LED5	buttons for dimming		
LED7			

Figure 1.11. "Dimming" window

"Duration of long operation=entry×0.1s" (3...30)

The parameter is used to define the time which a long operation is recognized. Options: 3...30

"Manner of dimming"

You can select between the two dimming manner "start-stop dimming" and "step-wise dimming" via this parameter.

Options: Start-stop dimming

Step-wise dimming

With the "step-wise dimming" option, the dimming manner is the step-wise dimming. You can set a telegram with the "brighter" or "darker" information whether is sent out cyclically by a long operation And when the rocker switch is released, you can also set the telegram with the "dimming stop" in formation whether is sent out.

"Step size for dimming"

The parameter is only visible if the **"manner of dimming"** parameter is set to **"step-wise dimming"**. Here you can specify by how much brighter or darker dimming should occur. The sent out value always relates to the current brightness value. For example, a dimming actuator is currently dimmed to a brightness value of 70%. By operation of the rocker switch, a dimming command **"dim by 25% (1/4) brighter"** is sent out. The dimming actuator will adjust its brig htness value to 95% immediately after receiving the dimming command.

Options: 1/1, 1/2, 1/4, 1/32, 1/64

"Dimming functionality"

The parameter is only visible if the **"manner of dimming"** parameter is set to **"step-wise dimming"**. It is used to define the functionality of the dimming. You can set whether a switching telegram will be sent out for a short operation of the rocker switch and a dimming telegram will be sent out for a long operation or whether a long operation will cause a switching telegram to be sent out and a short operation will cause a dimming telegram to be sent out.

Options: Short operation dimming, long operation switching Short operation switching, long operation dimming

"Working mode of the push button for switching"

The parameter is used to determine whether operation of the left or right side of the rocker switch will send out an ON or an OFF telegram or a toggle telegram/

Options: Left on, right off Left off, right on Alternating on/off

If the option alternating on/off is selected, you can switch between switching on and switching off for every operation that triggers a switching telegram. For example, if an ON telegram was last sent out, then a renewed operation of the rocker switch will trigger an OFF telegram. When the rocker switch is operated again, an ON telegram is sent out, etc. The rocker switch thus always remembers the last state and then switches over to the other value.

"Working mode of the push button for dimming"

The parameter is used to determine whether operation of the left or right side of the rocker switch will sent out a dim brighter or a dim darker telegram. A dimming telegram that is triggered by operation of the rocker switch will be sent out on the 4-bit communication object "relative dimming".

Options: Left darker, right bright Left bright, right darker







"Dimming stop telegram"

The parameter is only visible if the "dimming functionality" parameter is set to "short operation switching, long operation dimming". It is used to determine whether the release of the rocker switch will trigger the "dimming stop" command or not.

Options: Dimming stop is send Dimming stop is not send

With the "dimming stop is send" option, when the rocker switch is released, the telegram with the "dimming stop" information is sent out on the 4-bit communication object "relative dimming".

"Cyclical sending of dimming telegrams"

The parameter is only visible if the "dimming functionality" parameter is set to "short operation switching, long operation dimming". It is used to determine the telegram with the "brighter" or "darker" information whether is sent out cyclically by a durative long operation.

Options: Deactivated Activated

With the **"activated"** option, when triggered a durative long operation, the telegram with the **"brighter"** or **"darker"** in formation is sent out cyclically on the 4-bit communication object **"relative dimming"**.

"Duration of the telegram repetitions=entry×0.1s (3...30)

The parameter is only visible if the "cyclical sending of dimming telegrams" parameter is set to "activated". It is used to set the interval time between two telegrams that are sent cyclically.

Options: 3...30

"Switching", 1bit

According to the parameter setting, the object is used to send out an ON telegram or an OFF telegram via an operation of the left or the right side of the rocker switch.

"Relative dimming", 4bit

According to the parameter setting, the object is used to send out a dim brighter or a dim darker telegram, or a dim stop telegram via an operation of the left or the right side of the rocker switch.

1.3.3. "BLIND"

Parameter window **"blind"** can be shown in fig. 1.12. With the **"blind"** application, an operation of the right or left side of the rocker switch sends out a blind movement command or a slats adjustment command. A short operation always triggers a travel command and a long operation always triggers a slats adjustment command. You can specify whether the blind control occurs via two 1-bit or two 1-byte communication objects **"travel"** and **"adjust"**.

Device: 1.1.3 KN9551-KOX P	ush-button 4-gang		
General	Choice of function	Blind	_
Button pair1	Choice of function	Biind	•
Button pair2	Operation function	long=travel/short=stop/adjust	
Button pair3			
Button pair4	Duration of long operation=entry*0.1s	10	-
LED1	(330)		
LED2	Object type	1 bit	
LED3	o open open		
LED4	Working mode of upper/lower push	Up/Down	
LED5	buttons		
LED6			
LED7			
LED8			

Figure 1.12. "Blind" window

"Operation function"

The parameter is used to define the operation mode of long and short option.

Options: long=travel/short=stop/adjust short=travel/long=stop/adjust

"Duration of long operation=entry×0.1s (3...30)"

The parameter is used to define the time which a long operation is recognized. Options: 3...30

"Object type"

This parameter is used to define the type of the communication objects "travel" and "adjust".

Options: 1bit 1byte



The parameter is used to determine whether operation of the left or right side of the rocker switch will send out commands for movement and adjustment. For a short operation of the rocker switch, a moving up or down telegram is sent out on a 1-bit communication object. For a long operation of the rocker switch, a slat adjustment up or down telegram is sent out on a 1-bit communication object.

Options: Left down, right up

Left up, right down

"Value for position down(%)"/"value for position up(%)"

This parameter can only be set if **"1 byte"** has been set as object type, which can be used to set the position (percent values) that a connected blind shall be lowered or raised to.

Options: 0...100

The value 0% means travel up completely, the value 100% means travel down completely.

"Value for stats position down(%)"/"value for stats position up(%)"

This parameter can only be set if "1 byte" has been set as object type, which can be used to set the position (percent values) that a connected blind slat shall be opened or closed to.

Options: 0...100

The value 0% means slat opened completely, the value 100% means closed completely.

"Travel", 1bit

This object is visible if the parameter **"object type"** is set to "1bit", it is used to send out a shutter movement command (UP or DOWN) on the bus via a short operation of the left or the right side of the rocker switch.

Telegram value "0" UP "1" DOWN

"Adjust", 1bit

This object is visible if the parameter **"object type"** is set to "1bit", it is used to send out a lamella adjustment command (UP or DOWN) on the bus via a long operation of the left or the right side of the rocker switch.

Telegram value "O" lamella UP

"1"	lam	ella	DO	WN

"Position", 1byte

This object is visible if the parameter **"object type"** is set to **"1byte"**, it is used to send out a shutter movement command (UP or DOWN, percent values) on the bus via a short operation of the left or the right side of the rocker switch.

Telegram 0100,	0 travel up completely
	100 travel down completely.

"Stats position", 1byte

This object is visible if the parameter **"object type"** is set to **"1 byte"**, it is used to send out a stats adjustment command (UP or DOWN, percent values) on the bus via a long operation of the left or the right side of the rocker switch.

Telegram 0100,	0 stat opened completely
	100 stat closed completely.

1.3.3. "VALUE SENDER"

Parameter window **"value sender"** can be shown in fig. 1.13. With the application, a telegram with the predefined value is sent out for an operation of the right or the left side of the rocker switch.

Device: -.-- KN9550-KXX Push-button 4-gang

General	Choice of function	Value sender	•
Button pair1	Choice of function	value sender	•
Button pair2	Object type	1 bit	•
Button pair3	o sjeet type		
Button pair4	Value1	off	*
LED1			
LED2	Value2	off	•
LED3		Value1/Value2	
LED4	Working mode of upper/lower push buttons	Value1/Value2	•
LED6			
LED5			
LED7			
LED8			

Figure 1.13. "Value sender" window

"Object type"

The parameter is used to define the data type that is sent when the rocker switch is actuated for every operation. The data type specified the bit size of the communication objects and the value range.





Options: 1bit 1byte 0...100% 1byte 1...255 2byte signed -32768...32767 2byte unsigned 0...65535 4byte signed -2147483648...2147483647 4byte unsigned 0...4294967295

"Working mode of the push button"

This parameter is used to determine whether the right or the left side of the rocker switch sends out the **"value 1"** or **"value 2"**.

Options: Left value 1, right value 2 Left value 2, right value 1 Alternating value 1/value 2

If the option alternating value1/value2 is selected, switching is always between value1 and value2. That means, for example, if value1 was last sent out, then a renewed operation of the rocker switch will trigger value2. When the rocker switch is operated again, value1 is sent out, etc. The rocker switch thus always remembers the last state and then switches over to the other value.

"Value1"/"value2"

The parameters are used to specify value1 and value2 which are sent out for an operation of the right or left side of the rocker switch. The values range is dependent on the selected data type.

"Value switching", 1bit/1byte/2byte/4byte

The type of the object is set in the parameter **"object type"**, the object is used to send out a telegram with the predefined value for an operation of the right or the left side of the rocker switch. The predefined value and data types can be freely selected in the parameters.

1.3.5. "VALUE DIMMING SENSOR"

Parameter window **"value dimming sensor"** can be shown in fig. 1.14. With the application, each operation of the right or left side of the rocker switch will increase or reduce a 1-byte value (percent or value from 0 to 127) via sending a 1-byte telegram. The 1-byte value can be connected with 1-byte brightness value objects from dimming actuators. Thus a dimming actuator can be dimmed brighter or darker.

Device: KN9550-KXX Pi	ush-button 4-gang		
General	Choice of function	Value dimming sensor	
Button pair1	Choice of function	value uninning sensor	-
Button pair2	Object type	1 byte 0_100%	-
Button pair3			
Button pair4	Step size(050%)	0	-
LED1			
LED2	Working mode of upper/lower push	Brighter/Darker	-
LED3	buttons		
LED4			
LED6			
LED5			
LED7			

Figure 1.14. "Value dimming sensor" window

"Object type"

With the setting "1-byte 0...100%", the momentary value is increased or reduced by a percent amount for every operation. With the setting "1-byte 0...255", the momentary value is increased or reduced by an absolute value for every operation.

"Step size"

The parameter is used to determine how large the percent value or the absolute value will be increased or reduced for every operation. For example, the current value is 40%, for a step size of 10%, the current value is increased from 40% to 50% for an operation (for an increase).

"Working mode of the push button as value dimming"

The parameter is used to determine whether the operation of the left or right side of the rocker switch increased or lowers the value that is sent out from the 1-byte communication object **"value"**.

Options: Left bright, right darker

Left darker, right bright

"Value", 1byte

The type of the object value is set in the parameter **"object type"**, the object is used to send out a telegram with the predefined value for an operation of the right or the left side of the rocker switch. The predefined value is set in the parameter **"step size"**.

Telegram value	050
Or	0127

1.3.6. "STEP-TYPE SWITCH"

Parameter window "step-type switch" can be shown in fig. 1.15. With the application, the user can trigger different switching processed with each new operation of the left or right side of the rocker switch. Up to four switching levels can be activated. Depending on the setting, a stage higher or a stage lower can thus be switched to.

Device: -.-- KN9550-KXX Push-button 4-gang

General		(
Button pair1	Choice of function	Step-type switch	•
Button pair2	Number of objects	1	-
Button pair3			
Button pair4	Evaluation period=entry*0.1s(10.50)	30	-
LED1			
LED2	Working mode of upper/lower push	Up/Down	-
LED3	buttons		
LED4	Sending of objects	for change of value	
LED6			
LEDS	Object values	normal	-
LED7			
LED8	Bit pattern of the object values	x of n	•

Figure 1.15. "Step-type switch" window

"Number of objects"

The parameter is used to specify the number of the levels. Up to four levels can be switched. For every level, its own 1 bit communication object is available. Options: 1...4

optiono: imi

"Evaluation period=entry×0.1s" (10...50)"

The parameter is used to set the evaluation period, i.e. the period of time in which complete the first object to the final object sending out via a multiple operation, up to four objects can be sent.

Options: 10...50

"Working mode of the push button"

The parameter is used to specify whether an operation of the left or right side of the rocker switch switches one stage up or lower.

Options: Left up, right down

Left down, right up

The three objects as an example to illustrate the working mode, as follows: (Send normally object values, bit pattern of the object values is x of n)

0	Diservices Diserviced		Objects				
Operations	Binary code	Stage3	Stage2	Stage1			
0	000	Off	Off	Off			
1	001	Off	Off	On			
2 (current)	011	Off	On	On			
3	111	On	On	On			
4	111	On	On	On			

With the setting "left up, right down", the current operation is 2. If an operation of the left rocker switch side switches one stage up, the next operation will be 3. If an operation of the right rocker switch side switches one stage lower, the next operation will be 1.

With the setting **"left down, right up**", the current operation is 2. If an operation of the left rocker switch side switches one stage lower, the next operation will be 1. If an operation of the right rocker switch side switches one stage up, the next operation will be 3.

"Sending of objects"

The parameter is used to specify whether the object values for every rocker switch operation are sent out or only if the object values have changed since the last sending out.

Options: For operation

For change of value

Above form as an example to illustrate the difference between two options: With the setting **"for operation"**, the three object values are sent out for every operation. Such as the above table from the 1st to the 2nd operation, stage 1 object sends the value of 1, for a while stage 2 object will send the value of 1, finally, stage 3 object will send the value of 0. The total time that the three objects are sent out can be set in the parameter **"Evaluation period= entry×0.1s"**.

With the setting **"for change of value"**, only the object that values have changed compared with the last values is sent out for every operation. Such as the above table from the 1st to the 2nd operation, only stage 2 object value has changed, so only stage 2 object sends the value of 1.

"Object values"

The parameter is used to define whether the object values are sent out "invert" or "normal" via their associated 1-bit communication objects.





Options: Normal Inverse

With the setting **"normal"**, all 1-bit communication objects of the individual levels sent out their values normal.

With the setting **"inverse"**, all 1-bit communication objects of the individual levels sent out their values inverted.

The three objects as an example to illustrate the difference between two options, their object values is just opposite. As follows:

	Normal			Inverse				
Operations	Binary		Objects		Binary	Objects		
	code	Stage3	Stage2	Stage1	code	Stage3	Stage2	Stage1
0	000	Off	Off	Off	111	On	On	On
1	001	Off	Off	On	110	On	On	Off
2	011	Off	On	On	100	On	Off	Off
3	111	On	On	On	000	Off	Off	Off
4	111	On	On	On	000	Off	Off	Off

"Bit pattern of object values"

The parameter is used to determine the way of the bit pattern of object values.

Options: x of n 1 of n

The three objects as an example to illustrate their difference, as follows. (Send normally object values, n=3):

	X of n			1 of n				
Operations	Binary	Objects		Binary	Objects			
	code	Stage3	Stage2	Stage1	code	Stage3	Stage2	Stage1
0	000	Off	Off	Off	000	Off	Off	Off
1	001	Off	Off	On	001	Off	Off	On
2	011	Off	On	On	010	Off	On	Off
3	111	On	On	On	100	On	Off	Off
4	111	On	On	On	100	On	Off	Off

With the setting **"x of n"**, the binary coding sequence of bit pattern of object values is 000-001-011-111. So the object values have changed step by step. With the setting **"1 of n"**, the binary coding sequence of bit pattern of object values is 000-001-010-100. Only one of the object values is 1 for every operation, and the object values have changed with certain regularity.

"Switching stage1" to "switching stage 4", 1bit

The number of these objects (max.4) is set in the parameter **"Number of objects"**. The objects send out the values or one of the values for every new operation of the left or the right side of the rocker switch.

1.4. "LED FUNCTION"

Parameter window **"LED function"** can be shown in fig. 1.16. Each rocker switch has a LED which can be used for status display or for the function display. The LED can light up in different colors. The LED can al so flash for alarm display. LED indication and the button operation are independent of each other. Their parameters and communication objects available can be set separately.

Device: 1.1.3 KN9551-KXX I	Push-button 4-gang		
General Button1	LED1 reacts at:	object	•
Button2	Colour for on	off	
Button pair2			
Button pair3	Colour for off	off	
Button pair4			
LED1	Alarm function	deactivated	
LED2			
LED3			
LED4			
LED5			
LED6			
LED7			
LED8			

Figure 1.16. "LED function" window

"LED function enable"

It is used to set whether LED function is enabled.

Options: None Object Button Activation

If the option **"object"** is selected, the object **"Status"** will be enabled, LED is controlled by the object. If the option **"button activation"**, then LED is controlled is by button option.

"Color for off, color for on"

This parameter define the color when "Status" object receive "0" and "1".

Options: Off Red

Green

This parameter define the color when "Status" object receive "0" and "1".

"Color for pressing", "color for releasing"

This parameter define the color when press and release the button.

Options:	Off
	Red
	Greer

"Alarm function"

This parameter is used to define whether the alarm function is enabled for the LED.

Options:	Deactivated
	Active

If the option active is selected, the alarm function will be switched active, and the object **"alarm"** will be enabled. The LED will flash if the object receives an ON telegram. If the object receives an OFF telegram, the LED will no longer flash.

Note: In the case of LED no indication, the LED flashes red when the alarm is enabled. If the LED takes on one color, it will flashes in the same color. If the LED status is turned into **"off"**, the flashing color will change back to red again.

"Status", 1bit/1byte

If the **"LED function enable"** parameter is set to **"active"**, the object **"status"** is enabled. The object status can either be set to the size "1" bit or "1 byte". 1-byte value range 0...255.

"Alarm", 1bit

If the **"alarm function"** parameter is set to **"active"**, the object **"alarm"** will be enabled. The LED will flash if the object receives an ON telegram. If the object receives an OFF telegram, the LED will no longer flash.



2. COMMUNICATION OBJECT DESCRIPTION

Communication object is the media of devices on the bus to communicate with other devices , that is, just communication object can communicate with the BUS. All buttons of the push button have the same communication objects. The following description is the detailed introduction of the role of each communication object with Button 1 as an example.

Note: "C" in "Flag" column in the below table means that the object has a normal link to the bus; "W" means the object value can be modified via the bus; "R" means the value of the object can be read via the bus; "T" means that a telegram is transmitted when the object value has been modified; "U" means that value response telegrams are interpreted as a write command, the value of the object is updated.

2.1. INDEPENDENT WORKING MODE COMMUNICATION OBJECTS 2.1.1. "DISABLE FUNCTION" COMMUNICATION OBJECT

Num	b≜ Name	Object Function	Description	Group Address	Length		R	W	Т	U	Data T	уре	Prio
₽ 0	Button1, function disabl	e Button function disat	le		1 bit	С	-	W	-	-	switch		Low
		Figure	2.1.1. "Disable fun	ction" Communication (Dbject								
	Number	Function	Obie	ct Name		[Data					Flags	
0, 6,	, 12, 18, 24, 30, 36, 42	Disable function		e function			1 bit			1.1		C, W	
This obje	ect is used to disable the function of	a button, when receives value "1		ton is disabled , when re owered on by default.	ceives val	ue "0",	functio	on of the	e butto	n is er	abled. The	function of th	e button
		Table 1	. "Disable function"	Communication Objec	t Table								
2.1.2	2. "SWITCHING" COMMUNI	CATION OBJECT											
₹1	Button1,switching	Switching			1 bit	С	-	W	Т	-	switch		Low
		Fig	ure 2.1.2. "Switchir	ıg" Communication Obj	ect								
	Number	Function	Obje	ct Name		[Data					Flags	
1, 7,	, 13, 19, 25, 31, 37, 43	switching	Button	X, switching			1 bit					C, W, T	
	When t	he button is operated, t he object	will send telegram	"1" to trigger switch ON,	and teleg	ram "0'	' to tri	gger sw	itch Of	F.			
		Tab	le 2. "Switching" Co	mmunication Object Ta	ble								
0.1.0													
	3. "DIMMING" COMMUNICA			1 bit	6	14/	Ŧ			-l-		Law	
1 2	Button1, dimming	Switching		4 bit	с -	W	T	-	swit			Low	
- Z	Button1,dimming	Relative dimming Fig	ure 2.1.3. "Switchir	4 bit ig" Communication Obj	•	-	1	-	aim	ming	control	Low	
	Number	Function	Obje	ct Name		[Data					Flags	
1, 7,	, 13, 19, 25, 31, 37, 43	switching		X, dimming			1 bit					C, W, T	
				short operation switchin	g.								
2, 8,	, 14, 20, 26, 32, 38, 44	Relative dimming	1	X, dimming		4	4 bit					C, T	
				g operation relative dim									
		lac	le 3. Dimming Co	mmunication Object Ta	Dle								
2.1.4	4. "BLIND" COMMUNICATIO	ON OBJECT											
1	Button1,blind	Travel			1 bit	С	-	-	Т	-	up/dov	vn	Low
2	Button1,blind	Adjust			1 bit	С	-	-	т	-		r pulses (sig	ine Low
-			igure 2.1.4 "Blind"	Communication Objec								- p	,
			igure 2.1.4. Dana	oonninameation objee									
	Number	Function	1	ct Name			Data					Flags	
1, 7,	, 13, 19, 25, 31, 37, 43	Move		n X, blind			1 bit					C, T	
	· · · ·	trol the movement of the blind, v	-		e down; wi		-	"0" is s	ent, th	e blind	will move u		
	, 14, 20, 26, 32, 38, 44	Adjust		n X, blind			1 bit					C, T	
T	This object is used to stop the moven	nent/control slats adjustment of	he blind, when teleo	gram "1" is sent, the slat	s will adju	st dowr	n; whe	n telegr	am "0"	'is ser	nt, the slats	will adjust up).
		T.	able 4. "Blind" Com	munication Object Tabl	e								
21 ⊑	5. "VALUE SENDER" COMM	ΠΝΙCATION OB IECT											
2.1.0	Button1,value sender	Switching(rising edge)		1 bit	с	-	_	т		witch		Low	
41⊥ ≹2						-	-	- ·					
⊢ ∠	Button1,value sender	Switching(falling edge)	aluo condor roch-	1 bit r switch total" Commur		-	-	T ·		witch		Low	
		EIGURE Z L 5	ratue sender rocke	switch total commun	ncation U	Ject							
		Ş										-	
4.5	Number , 13, 19, 25, 31, 37, 43	Function	1	ct Name value sender		it/1byte	Data	111 .				Flags C, T	

This object is used to send the value when pressing the button. The value range is determined by data type, different data types have different value ranges. Data type is determined by parameter "object type' 2, 8, 14, 20, 26, 32, 38, 44 Release Button X, value sender 1bit/1byte/2byte/4byte С, Т This object is used to send the value when releasing the button. The value range is determined by data type, different data types have different value ranges. Data type is determined by parameter "object type"

Table 5. "Value sender" Communication Object Table





2.1.6. "SCENE" COMMUNICATION OBJECT

Button1,scene		Number of scene		1 Byte	С	-	-	Т	-	scene nu	ımber	Low	
		Figure	2.1.6. "Scene" Communication Ob	ject									
Number		Function	Object Name			Data					Flags		
3, 19, 25, 31, 37, 43		Scene number	Button1, scene			1 byte				C, T			
		A 8bit cc F: "0" i he corresponding scene telegra	mmand is (binary encoding): FXNN s to recall a scene, "1" is to save a s X: not used NNNNN: scene number (063) ms sent by object "Number of light s	NNNN cene .cene" is 063								g is 1, then	
		Table é	. "Scene" Communication Object T	able									
"STEP-TYPE SWITCH	н" соммі	UNICATION OBJECT											
Button1,step-type sv	witch	Switching stage 1		1 bit	С	-	-	Т	-	switch		Low	
Button1,step-type sv	witch	Switching stage 2		1 bit	С	-	-	Т	-	switch		Low	
Button1,step-type sv	witch	Switching stage 3		1 bit	С	-	-	Т	-	switch		Low	
Button1,step-type sv	witch	Switching stage 4		1 bit	С	-	-	Т	-	switch		Low	
Button1,step-type sv	witch	Switching stage 5		1 bit	С	-	-	Т	-	switch		Low	
		Figure 2.1.7	. "Step-type Switch" Communicati	on Object									
Number		Function	Object Name			Data					Flags		
	Sw	vitching stage 15	Button X, step-type			1 bit					С, Т		
		These 5 obje	cts can send maximum 5 data once t	to the Bus.									
		Table 7. "Ste	p-type switch" Communication Ob	ject Table									
"SHORT-LONG OPER	RATION" (COMMUNICATION OBJE	CT										
	noration	Value for short operation		1 bit		С	-	-	т	- swit	ch	Le	
Button1,short-long o	peration	value for shore operation											
	Number 13, 19, 25, 31, 37, 43 This object is used setting scene number is 16 "STEP-TYPE SWITCH Button1,step-type sv Button1,step-type sv Button1,step-type sv Button1,step-type sv Button1,step-type sv Number 1, 1317, 1923, 2529, 35, 3741, 4345	Number 13, 19, 25, 31, 37, 43 This object is used to control a setting scene number is 164, actually the "STEP-TYPE SWITCH" COMM Button1,step-type switch Button1,step-type switch Button1,step-type switch Button1,step-type switch Button1,step-type switch Button1,step-type switch Button1,step-type switch Button1,step-type switch Button1,step-type switch Sutton1,step-type switch Sutton1, step-type switch Sutton1, step-typ	Figure Number Function 13, 19, 25, 31, 37, 43 Scene number This object is used to control a scene. Sending a 8bit command A 8bit co F: "0" i setting scene number is 164, actually the corresponding scene telegrat scene telegrat Table 6 "STEP-TYPE SWITCH" COMMUNICATION OBJECT Button1,step-type switch Switching stage 1 Button1,step-type switch Switching stage 2 Button1,step-type switch Switching stage 3 Button1,step-type switch Switching stage 4 Button1,step-type switch Switching stage 5 Figure 2.1.7 Number Function 1, 1317, 1923, 2529, 35, 3741, 4345 Switching stage 15 Table 7. "Ste	Figure 2.1.6. "Scene" Communication Ob Number Function Object Name 13, 19, 25, 31, 37, 43 Scene number Button1, scene This object is used to control a scene. Sending a 8bit command via this object can recall or save a s A 8bit command is (binary encoding): FXNNI F: "0" is to recall a scene, "1" is to save a s X: not used NNNNN: scene number [063] setting scene number is 164, actually the corresponding scene telegram sent by object "Number of Light s scene telegram sent by object "Number of Light s scene telegram sent by object "Number of Light s "STEP-TYPE SWITCH" COMMUNICATION OBJECT Button1,step-type switch Switching stage 1 Button1,step-type switch Switching stage 3 Button1,step-type switch Switching stage 4 Button1,step-type switch Switching stage 5 Figure 2.1.7. "Step-type Switch" Communicati Number Function Object Name Number Switching stage 1 Button1,step-type switch Switching stage 4 Button1,step-type switch Switching stage 4 Button1,step-type switch Switching stage 5 Figure 2.1.7. "Step-type Switch" Communicati Number Function Object Name Button X, step-type 1, 1317, 1923,	Figure 2.1.6. "Scene" Communication Object Number Function Object Name 13, 19, 25, 31, 37, 43 Scene number Button1, scene This object is used to control a scene. Sending a 8bit command via this object can recall or save a scene. Detailed: A 8bit command is Ibinary encoding): FXINNINNN F: "0" is to recall a scene, "1" is to save a scene X: not used NNNNNN: scene number [063] setting scene number is 164, actually the corresponding scene telegrams sent by object "Number of light scene" is 0. Scene telegram sent by object "Number of light scene" is 0. Table 6. "Scene" Communication Object Table "STEP-TYPE SWITCH" COMMUNICATION OBJECT Button1,step-type switch Switching stage 1 1 bit Button1,step-type switch Switching stage 3 1 bit Button1,step-type switch Switching stage 4 1 bit Button1,step-type switch Switching stage 5 1 bit Button1,step-type switch Switching stage 5 1 bit Figure 2.1.7. "Step-type Switch" Communication Object Number Function Object Name 1, 1317, 1923, 2529, 35, 3741, 4345 Switching stage 15 Button X, step-type These 5 objects can send maximum 5 data once to the Bus. Table 7. "Step-type switch" Communication Object Table <td>Figure 2.1.6. "Scene" Communication Object Number Function Object Name 13, 19, 25, 31, 37, 43 Scene number Button1, scene Scene number Button1, scene Scene number Scene number</td> <td>Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte This object is used to control a scene. Sending a 8bit command via this object can recall or save a scene. Detailed descriptio A 8bit command is (binary encoding): FXNNNNN F: "0" is to recall a scene, "1" is to save a scene. This object as a scene. This object as a scene. This object as a scene by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegram sent by object "Nu</td> <td>Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte This object is used to control a scene. Sending a 8bit command via this object can recall tor save a scene. Detailed description of th A 8bit command is binary encoding]: FXNNNNNN F: "0" is to recall a scene. "1" is to save a scene. Detailed description of th A 8bit command is binary encoding]: FXNNNNNN F: "0" is to recall a scene. "1" is to save a scene. Detailed description of th A 8bit command via this object "Number of tight scene" is 063. For example: th scene telegrams sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th</td> <td>Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte This object is used to control a scene. Sending a 8bit command via this object can recall or save a scene. Detailed description of the 8bit of A 8bit command is (binary encoding): FXNNNNN F: "0" is to recalt a scene, "1" is to save a scene X: not used NNNNN: scene number [063] Setting scene number is 164, actually the corresponding scene telegrams sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 064. STEP-TYPE SWITCH" COMMUNICATION OBJECT Button1, step-type switch Switching stage 1 1 bit C - T Button1, step-type switch Switching stage 4 1 bit C - T Button1, step-type switch Switching stage 4 1 bit C - T Button1, step-type switch Switching stage 15 Button X, step-type 1 bit T T</td> <td>Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte Image: Stene Number Stene Stene Number Stene</td> <td>Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte This object is used to control a scene. Sending a 8bit command via this object can recall or save a scene. Detailed description of the 8bit command is as foll A 8bit command is the control of the 8bit command is as foll A 8bit command is the control of the 8bit command is as foll A 8bit command is the control of the 8bit command is as foll A 8bit command is the control of the 8bit command is as foll A 8bit command is control of the 8bit command is as foll A 8bit command is control of the 8bit command is as foll A 8b</td> <td>Figure 2.1.6. "Scene" Communication Object Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data Flags 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte C, T This object is used to control a scene. Sending a 8bit command via this object can recall or save a scene. Detailed description of the 8bit command is as follows. A 8bit command is library encodingi: TNNNNNN F: C" is for save a scene X not used NNNNN: scene number [063] For example: the scene number in parameter settin scene telegram sent by object "Number of light scene" is 063. For example: the scene number in parameter settin scene telegram sent by object "Number of light scene" is 0 Table 6. "Scene" Communication Object Table "STEP-TYPE SWITCH" COMMUNICATION OBJECT Button1,step-type switch Switching stage 1 1 bit C - T - switch Button1,step-type switch Switching stage 3 1 bit C - T - switch Button1,step-type switch Switching stage 4 1 bit C - T - switch Button1,step-type switch Switching stage 5 1 bit C - T - switch Button1,step-type switch</td>	Figure 2.1.6. "Scene" Communication Object Number Function Object Name 13, 19, 25, 31, 37, 43 Scene number Button1, scene Scene number Button1, scene Scene number Scene number	Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte This object is used to control a scene. Sending a 8bit command via this object can recall or save a scene. Detailed descriptio A 8bit command is (binary encoding): FXNNNNN F: "0" is to recall a scene, "1" is to save a scene. This object as a scene. This object as a scene. This object as a scene by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 063. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegrams sent by object "Number of light scene" is 064. For examp scene telegram sent by object "Nu	Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte This object is used to control a scene. Sending a 8bit command via this object can recall tor save a scene. Detailed description of th A 8bit command is binary encoding]: FXNNNNNN F: "0" is to recall a scene. "1" is to save a scene. Detailed description of th A 8bit command is binary encoding]: FXNNNNNN F: "0" is to recall a scene. "1" is to save a scene. Detailed description of th A 8bit command via this object "Number of tight scene" is 063. For example: th scene telegrams sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th scene telegram sent by object "Number of tight scene" is 063. For example: th	Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte This object is used to control a scene. Sending a 8bit command via this object can recall or save a scene. Detailed description of the 8bit of A 8bit command is (binary encoding): FXNNNNN F: "0" is to recalt a scene, "1" is to save a scene X: not used NNNNN: scene number [063] Setting scene number is 164, actually the corresponding scene telegrams sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 063. For example: the scene scene telegram sent by object "Number of light scene" is 064. STEP-TYPE SWITCH" COMMUNICATION OBJECT Button1, step-type switch Switching stage 1 1 bit C - T Button1, step-type switch Switching stage 4 1 bit C - T Button1, step-type switch Switching stage 4 1 bit C - T Button1, step-type switch Switching stage 15 Button X, step-type 1 bit T T	Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte Image: Stene Number Stene Stene Number Stene	Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte This object is used to control a scene. Sending a 8bit command via this object can recall or save a scene. Detailed description of the 8bit command is as foll A 8bit command is the control of the 8bit command is as foll A 8bit command is the control of the 8bit command is as foll A 8bit command is the control of the 8bit command is as foll A 8bit command is the control of the 8bit command is as foll A 8bit command is control of the 8bit command is as foll A 8bit command is control of the 8bit command is as foll A 8b	Figure 2.1.6. "Scene" Communication Object Figure 2.1.6. "Scene" Communication Object Number Function Object Name Data Flags 13, 19, 25, 31, 37, 43 Scene number Button1, scene 1 byte C, T This object is used to control a scene. Sending a 8bit command via this object can recall or save a scene. Detailed description of the 8bit command is as follows. A 8bit command is library encodingi: TNNNNNN F: C" is for save a scene X not used NNNNN: scene number [063] For example: the scene number in parameter settin scene telegram sent by object "Number of light scene" is 063. For example: the scene number in parameter settin scene telegram sent by object "Number of light scene" is 0 Table 6. "Scene" Communication Object Table "STEP-TYPE SWITCH" COMMUNICATION OBJECT Button1,step-type switch Switching stage 1 1 bit C - T - switch Button1,step-type switch Switching stage 3 1 bit C - T - switch Button1,step-type switch Switching stage 4 1 bit C - T - switch Button1,step-type switch Switching stage 5 1 bit C - T - switch Button1,step-type switch	

Number	Function	Object Name	Data	Flags
1, 7, 13, 19, 25, 31, 37, 43	Value for short operation	Button X, Button1, short-long operation	1bit/1byte/2byte/4byte	С, Т
This object is used to send object value	of short operation. The value range is det	termined by data type, different data types	s have different value ranges. Data type is	determined by parameter "object type".
2, 8, 14, 20, 26, 32, 38, 44	Value for long operation	Button X, Button1, short-long operation	1bit/1byte/2byte/4byte	С, Т
This object is used to send object value	e of long operation. The value range is de	termined by data type, different data type:	s have different value ranges. Data type is	determined by parameter object type.

Table 8. "Short-long operation" Communication Object

2.1.9. "RTC" COMMUNICATION OBJECT

■‡ 2	Button1,RTC	Comfort operating mode	1 bit	С	-	-	Τ-	switch		Low	r
■‡ 3	Button1,RTC	Frost operating mode	1 bit	С	-	-	т -	switch		Low	ı –
∎‡ 4	Button1,RTC	Night operating mode	1 bit	С	-	-	Τ-	switch		Low	<i>,</i>
■‡ 2	Button1,RTC	Operating mode					1 Byte	С -	-	Т	-
		Figure 2.1.9. "RTC" Cor	mmunication Object								

			-	
Number	Function	Object Name	Data	Flags
1, 7, 13, 19, 25, 31, 37, 43	Comfort operating mode	Button X, RTC	1bit	C, T
This object is enabled when 1bit is sel	ected under RTC mode to send command	of "Comfort operating mode" to the Bus. mode"	. "1" is to enable "Comfort operating mode	e", "0" is to disable "Comfort operating
2, 8, 14, 20, 26, 32, 38, 44	Frost operating mode	Button X, RTC	1bit	C, T
This object is enabled when 1bit is se	lected under RTC mode to send command	d of "Frost operating mode" to the Bus. "1	1" is to enable "Frost operating mode", "0"	" is to disable "Frost operating mode".
3, 9, 15, 21, 27, 33, 39, 45	Night operating mode	Button X, RTC	1bit	С, Т
This object is enabled when 1bit is sel	ected under RTC mode to send command	of "Night operating mode" to the Bus. "1	I" is to enable "Night operating mode", "O	" is to disable "Night operating mode".
1, 7, 13, 19, 25, 31, 37, 43	Operating mode	Button X, RTC	1byte	C, T
	This object is enabled when 1bit is sele	ected under RTC mode to send command	of Comfort operating mode to the Bus.	
		"0" is auto mode		
		"1" is comfort mode		
		"2" is standby mode		

"3" is night mode "4" is frost/heat protection mode

Table 9. "RTC" Communication Object





2.1.10. "MULTIPLE OPERATION" COMMUNICATION OBJECT

2 1	Button1,multiple operation	Switching 1 actuation	1 bit	С	-	-	т	-	switch	Low
∎‡ 2	Button1,multiple operation	Switching 2 actuation	1 bit	С	-	-	Т	-	switch	Low
2 3	Button1,multiple operation	Switching 3 actuation	1 bit	С	-	-	Т	-	switch	Low
∎≵ 4	Button1,multiple operation	Switching 4 actuation	1 bit	С	-	-	Т	2	switch	Low
₹ 5	Button1,multiple operation	Switching 5 actuation	1 bit	С	-	-	Т	-	switch	Low
		Figure 2.1.10 "Multiple operation	n" Communication Object							

Figure 2.1.10. "Multiple operation" Communication Object

Number	Function	Object Name	Data	Flags
15, 711, 1317, 1923, 2529, 3135, 3741, 4345	Switching x actuation	Button X, Multiple operation	1bit/1byte/2byte/4byte	С, Т
These 5 objects can send maximum 5 c	data once to the Bus. The value range is d	letermined by data type, different data typ	es have different value ranges. Data type	is determined by parameter object type

Table 10. "Multiple operation" Communication Object Table

2.2. LINKED WORKING MODE COMMUNICATION OBJECT

2.2.1. "DISABLE FUNCTION" COMMUNICATION OBJECT

Numb +	Name		Object Function	Description	Group Address	Length		R	W	T	U	Data Type	Priori
■‡ 0	Button pair1, function	n disable	Button function disable			1 bit	С	-	W	-	-	switch	Low
			Figure 2	2.2.1. "Disable funct	ion" Communication	Object							
Ν	lumber		Function	Object	Name		D	ata				Flags	
0,	12, 24, 36	Butto	on function disable	Button pair X,	unction disable		1	bit				C, W	
This object is us	ed to disable button fun	ction, when re	ceives "1", function of the b		nen receives "0", funct fault.	ion of the but	ton is	enab	led. Fui	nction	of the	button is enabled wher	n powered or

Table 11. "Disable function" Communication Object Table

2.2.2. "SWITCHING" COMMUNICATION OBJECT

■‡ 1	Button pair1,switching	Switching	:	1 bit	С	-	W	Т	-	switch	Low
		Figu	re 2.2.2. "Disable function" Communication (Object							
	Number	Function	Object Name			Data	1				Flags
	1, 13, 25, 37	switching	Button pair X, switching			1bit					C, W, T
	When t	he button is operated, the obje	ct will send telegram "1" to trigger switch ON,	and teleg	, ram '	'0" to 1	trigger	swite	ch OFF		

Table 12. "Switching" Communication Object Table

2.2.3. "DIMMING" COMMUNICATION OBJECT

‡ 1	Button pair1,dimming	Switching		1 bit	С	-	W	Т	-	switch	Low
■‡ 2	Button pair1,dimming	Relative dimming		4 bit	С	-	-	Т	-	dimming control	Low
		Figu	re 2.2.3. "Dimming" Communication Ol	bject							
	Number	Function	Object Name		[Data				Flags	
	1, 13, 25, 37	switching	Button pair X, dimming			1bit				C, W, T	
		This	s object is used for short operation switch	ning.							
	2, 14, 26, 38	Relative dimming	Button pair X, dimming			4bit				С, Т	
		This object i	s used for long operation relative dimmir	ng operation.							

Table 13. "Dimming" Communication Object Table

2.2.4. "BLIND" COMMUNICATION OBJECT

₽ 1	Button pair1,blind	Travel		1 bit	С	-	-	Т	-	up/down	Low
∎‡ 2	Button pair1,blind	nd Adjust 1 bi					2	т	-	counter pulses (s	igne Low
		F	igure 2.2.4. "Blind" Communication Obje	ct							
	Number	Function	Object Name		Da	ata				Flags	
	1, 13, 25, 37	Travel	Button pair X blind		1	bit				С, Т	
	This object is used	to control the movement of the blind, w	hen telegram "1" is sent, the blind will mo	ve down; wher	n teleg	gram	"0" is s	ent, th	e blind	d will move up.	
	2, 14, 26, 38	Adjust	Button pair X blind		1	bit				С, Т	
	This object is used to stop the r	novement/control slats adjustment of t	he blind, when telegram "1" is sent, the sl	ats will adjust	down;	whe	n teleg	ram "O	' is se	nt, the slats will adjust	up.

Table 13. "Blind" Communication Object Table





2.2.5. "VALUE SENDER" COMMUNICATION OBJECT

	Button pair1,value sende			1 bit	C	-	-	ſ	-	switch		Low
		Figure 2	2.2.5. "value sender rocker switch" Commu	nication Objec	t							
	Number	Function	Object Name			Data					Flags	
	1, 13, 25, 37	Value switching	Button pair X, value switching	1bit/1byte/2byte/4byte C,T					C, T			
bio obi		5	s determined by data type, different data types		-				ic date	-	-	"abiaat tu
iis obj	ect is used to serid designated valu	v	able 15. "Value sender" Communication Obj		i vatue	e rang	es. Dai	a type	is uete	ernined by j	Jaranneter	objectiy
		Id	ible 15. Value sender Communication obj	ectiable								
2.2	2.6. "VALUE DIMMING" COM	MMUNICATION OBJECT	-									
1	Button pair1,value dimmi	ng Value		1 Byte	С	-	-	Т	-	counter	pulses (0.	.25! Low
		Fi	igure 2.2.6. "value dimming" Communicatio	n Object								
	Number	Function	Object Name	Data					Flags			
	1 10 05 07	14.1		1byte						C, T		
	1, 13, 25, 37	Value	Button pair X, value dimming		1	1byte					C, I	
	1, 13, 25, 37		Button pair X, value dimming is used to send designated value of absolute of	dimming to the		1byte					С, І	
	1, 13, 23, 37	This object i				1byte					C, I	
	1, 13, 29, 37	This object i	is used to send designated value of absolute of			1byte					C, I	
		This object i Tal	is used to send designated value of absolute of			1byte					C, I	
2.2	2.7. "STEP-TYPE SWITCH"	This object i Tal	is used to send designated value of absolute of			1byte						
	2.7. "STEP-TYPE SWITCH"	This object i Tal COMMUNICATION OBJI	is used to send designated value of absolute of	ject Table	Bus	1byte		T		cuitch	C, I	Low
1	2.7. "STEP-TYPE SWITCH" Button pair1,step-type sv	This object i Tal COMMUNICATION OBJI vitch Switching stage 1	is used to send designated value of absolute of	ject Table 1 bit		-	-	T	-	switch	C, 1	
1 2	2.7. "STEP-TYPE SWITCH" Button pair1,step-type sv Button pair1,step-type sv	This object i Tal COMMUNICATION OBJI vitch Switching stage 1 vitch Switching stage 2	is used to send designated value of absolute of	ject Table 1 bit 1 bit	Bus	- -	-	Т	-	switch	C, 1	Low
1 2 3	2.7. "STEP-TYPE SWITCH" Button pair1,step-type sw Button pair1,step-type sw Button pair1,step-type sw	This object i Tat COMMUNICATION OBJI vitch Switching stage 1 vitch Switching stage 2 vitch Switching stage 3	is used to send designated value of absolute of	ject Table 1 bit 1 bit 1 bit	Bus C C C	- - -	-	T T	-	switch switch	C, 1	Low Low
1 2 3 4	2.7. "STEP-TYPE SWITCH" Button pair1,step-type sv Button pair1,step-type sv Button pair1,step-type sv Button pair1,step-type sv Button pair1,step-type sv	This object i Tai COMMUNICATION OBJI vitch Switching stage 1 vitch Switching stage 2 vitch Switching stage 3 vitch Switching stage 4	is used to send designated value of absolute of	ject Table 1 bit 1 bit 1 bit 1 bit 1 bit	Bus	- - - -		T T T	-	switch switch switch	C, 1	Low Low
1 2 3 4	2.7. "STEP-TYPE SWITCH" Button pair1,step-type sw Button pair1,step-type sw Button pair1,step-type sw	This object i Tai COMMUNICATION OBJI vitch Switching stage 1 vitch Switching stage 2 vitch Switching stage 3 vitch Switching stage 4 vitch Switching stage 5	is used to send designated value of absolute colle 16. "Value dimming" Communication Ob	ject Table 1 bit 1 bit 1 bit 1 bit 1 bit 1 bit	Bus C C C	- - - - -	-	T T	-	switch switch	C, 1	Low Low
1 2 3 4	2.7. "STEP-TYPE SWITCH" Button pair1,step-type sv Button pair1,step-type sv Button pair1,step-type sv Button pair1,step-type sv Button pair1,step-type sv	This object i Tai COMMUNICATION OBJI vitch Switching stage 1 vitch Switching stage 2 vitch Switching stage 3 vitch Switching stage 4 vitch Switching stage 5	is used to send designated value of absolute of	ject Table 1 bit 1 bit 1 bit 1 bit 1 bit 1 bit	Bus C C C C C	- - - -	-	T T T	-	switch switch switch	<u> </u>	Low Low Low
2.2 1 2 3 4 5	2.7. "STEP-TYPE SWITCH" Button pair1,step-type sv Button pair1,step-type sv Button pair1,step-type sv Button pair1,step-type sv Button pair1,step-type sv	This object i Tai COMMUNICATION OBJI vitch Switching stage 1 vitch Switching stage 2 vitch Switching stage 3 vitch Switching stage 4 vitch Switching stage 5	is used to send designated value of absolute colle 16. "Value dimming" Communication Ob	ject Table 1 bit 1 bit 1 bit 1 bit 1 bit 1 bit	Bus C C C C C	- - - - - - - -	-	T T T	-	switch switch switch	C, I	Low Low Low Low

Table 17. "Step-type Switch" Communication Object Table

2.3. "LED FUNCTION" COMMUNICATION OBJECT

4 8	LED1 function	Status		1 bit	С	-	W	Т	U	switch		Low
4 9	LED1 function	Alarm		1 bit	С	-	W	-	U	switch		Low
Figure 2.3. "LED function" Communication Object												
	Number	Function	Object Name	Data			Flags					
48, 50	0, 52, 54, 56, 58, 60, 62	Status	LED X, function	1bit				C, W				
If the "LED function enable" parameter is set to "active", the object "status" is enabled and used to receive status feedback to turn on LED indicator.												
49,51	1, 53, 55, 57, 59, 61, 63	Alarm	LED X, function		1bit			C, W				
If the "alarm function" parameter is set to "active", the object "alarm" will be enabled. The LED will flash if the object receives an ON telegram. If the object receives an OFF telegram, the LED will no longer flash.												

Table 18. "LED function" Communication Object Table

