

T10 Multifunctional smart panel

User manual-V1.0

离家	回家
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吊灯	灯带
筒灯	射灯

全开	全关
吊灯	灯带
射灯	筒灯

吊灯	灯带
射灯	筒灯
布帘	纱帘
离家	回家

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Versions	Time	Modify record	Modify Position
1.1	23-0308	1.1 Release	

Chapter 1 Summary

The T10 multi-functional switch panel, hereinafter referred to as the intelligent switch panel, is mainly used in the building control system. It is connected to the bus through the EIB terminal and installed together with other devices on the bus to form an intelligent control system. The function is simple and intuitive. Users can configure it according to their own needs and design the panel function corresponding to the environment scene.

This manual provides users with detailed technical information about the Intelligent Switch Panel, including installation and programming details, and explains how to use the Intelligent Switch Panel with practical examples.

The intelligent switch panel can support various application functions such as switch, dimming, shutter, scene, RGB dimming, multiple operation, delay value transmission, proximity sensing linkage, temperature and humidity sensing display linkage and Bluetooth device networking. Each key on the configuration panel corresponds to an LED indicator. The panel is installed in a standard 86 box wall-mounted manner.

The intelligent switch panel is connected to the bus through the EIB terminal block and requires additional supply voltage to assist the power supply. The engineering tool software ETS (version ETS5.7 or above) with KNX .prod file can be used for the assignment of physical addresses and the setting of parameters.

The intelligent switch panel has many functions and can be applied to a variety of application fields. The main functions are as follows:

- Switch and Dimming function
- Shutter function
- Send value function
- Recall and Store scene function
- Shift register function
- RGB and RGBW dimming function
- Keystroke multiple operations
- Send values with a delay (Such as switch value, dimming value)
- LED Interactive indication function
- 8 logical functions
- 8 groups of scene function (Each group comes with eight configurable outputs)

- Switch output control (Equipment with up to 4 relay switch control output)
- 0-10V dimming output control (Device with up to 2 0-10V control outputs) - (Dimming control panels only)
- Dry contact curtain output control (device with up to 2 dry contact motor control outputs) - (for curtain control panels only)
- Proximity induction linkage control, configurable indicator light linkage display induction state
- Temperature and humidity sensor parameters display and equipment linkage control

The panel type includes one pair of associated keys, two pairs of associated keys, three pairs of associated keys and four pairs of associated key. Each panel type can use the functions described above. According to the panel equipment actually applied, select the panel type suitable for the equipment for parameter configuration during function configuration.

In order to ensure the normal operation of the system, it is necessary to check whether there is a problem with the wiring before use, and pay attention to the electrical and technical characteristics of the load equipment. The function configuration of the product needs to be combined with the characteristics of the selected product.

Chapter 2 Technical performance, Dimension and wiring diagram

2.1 Technical Data

Power Supply	KNX Bus voltage	21~30VDC, via the EIB bus
	current consumed through the bus	$\leq 12\text{mA}$
	power consumed through the bus	$< 360\text{mW}$
Auxiliary power supply	Auxiliary bus voltage	21~30VDC
	current consumed through the auxiliary power supply	$\leq 40\text{mA}$ (30V DC)
	power consumed through the auxiliary power supply	$< 1.5\text{W}$
Relay output	channel number	Up to 4 channels
	nominal voltage	230VAC(50/60Hz)
	rated current	10A/Channel
	Maximum total power	$< 2500\text{W}$
	mechanical life	$> 1 \times 10^6$
	electrical life	$> 2.5 \times 10^5$
Wiring	EIB/KNX Bus	Terminal connection (Red/Black)
	monitor out	0.8mmØ, Use screw wiring, copper column connection
	wire diameter	0.5-4mm ²
	torsional moment	0.8N-m
Operations and instructions	Programming keys	Used for device programming physical address and diagnosis
	red indicating light	Instructs the device to enter programming mode
	green indicating light	Instructs the device to enter operation mode
Level of protection	level of protection	IP 20
Temperature range	running temperature	(-5°C.....+45°C)
	storage temperature	(-25°C.....+55°C)
	Transport Temperature	(-25°C.....+70°C)
Environmental conditions	ambient humidity	Maximum air humidity <93%, except for condensation
Installation	Installation	Standard 60mm mounting box
Dimension/Weight	Dimension	86mm×86mm

Application:

Application	Maximum number of communication objects	Maximum number of group addresses	Maximum Number of union tables
T10 Multifunctional Smart Panel	850	1700	1700

2.2 Dimension Diagram

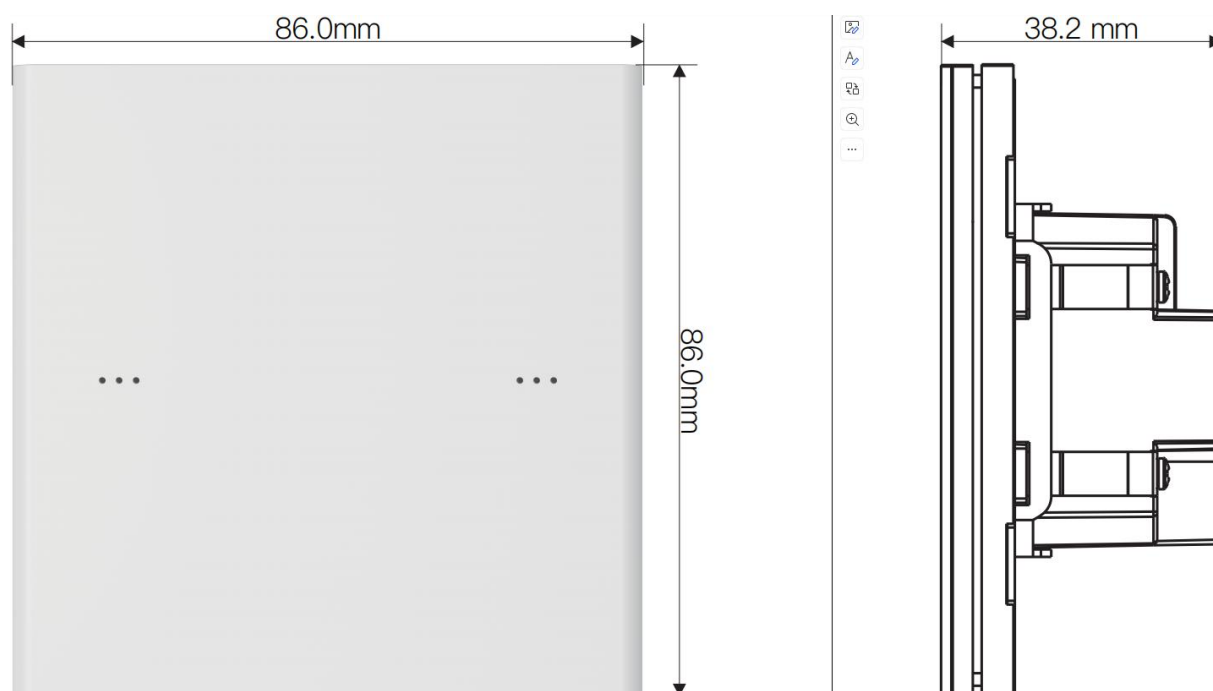


Figure 2.2.1 Structural dimension diagram of a pair of associated key panels

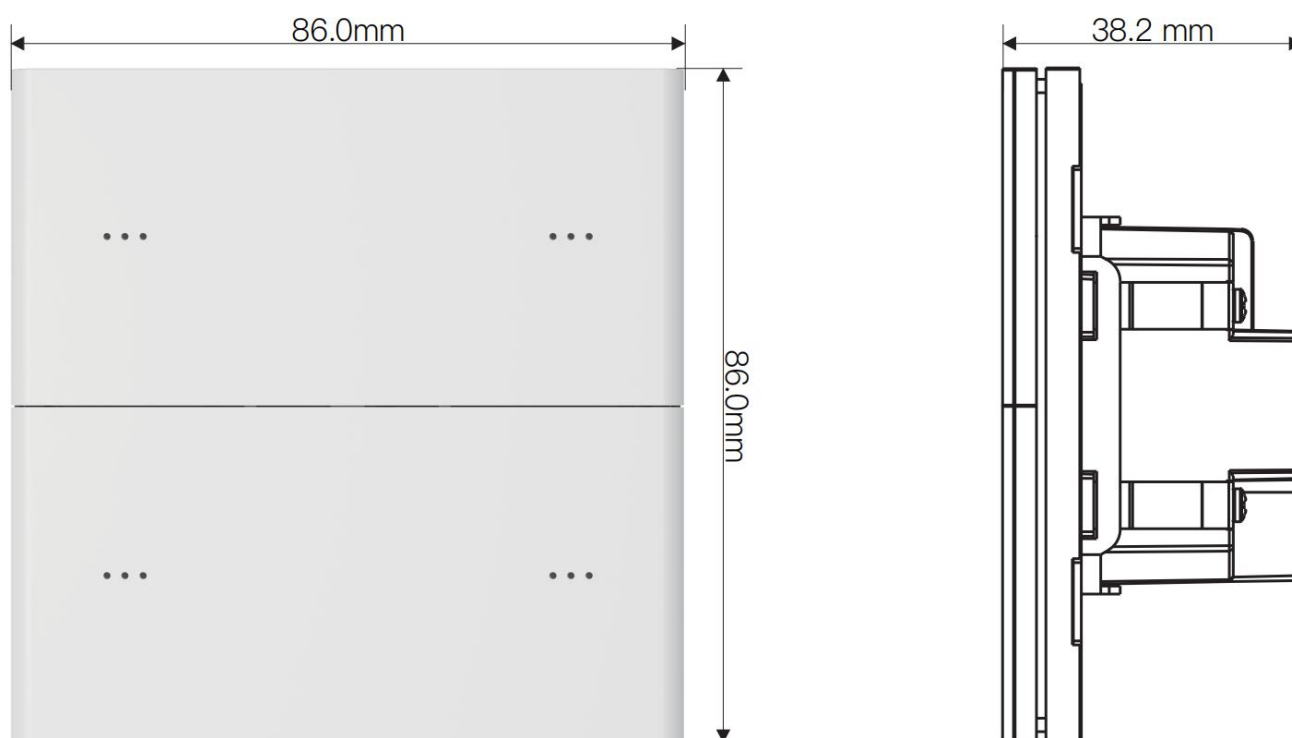


Figure 2.2.2 Structural dimension diagram of two pairs of associated key panels

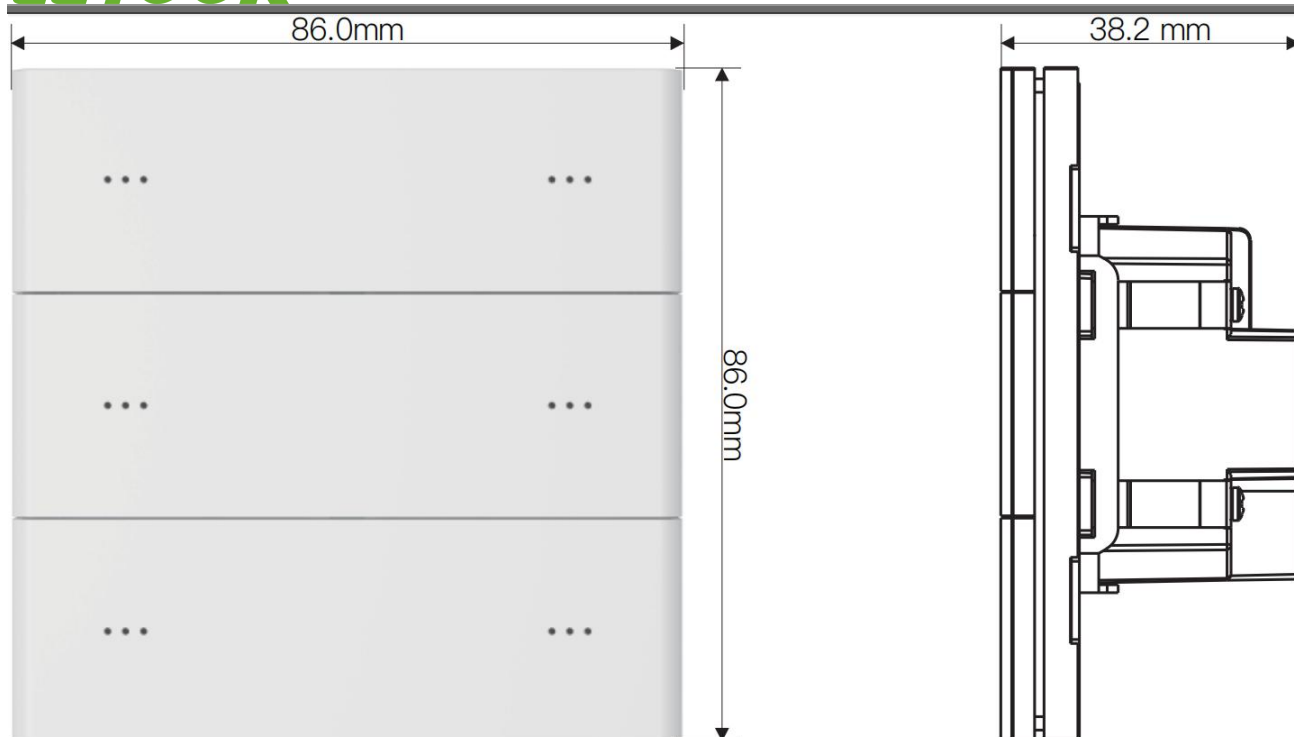


Figure 2.2.3 Structural dimension diagram of three pairs of associated key panels

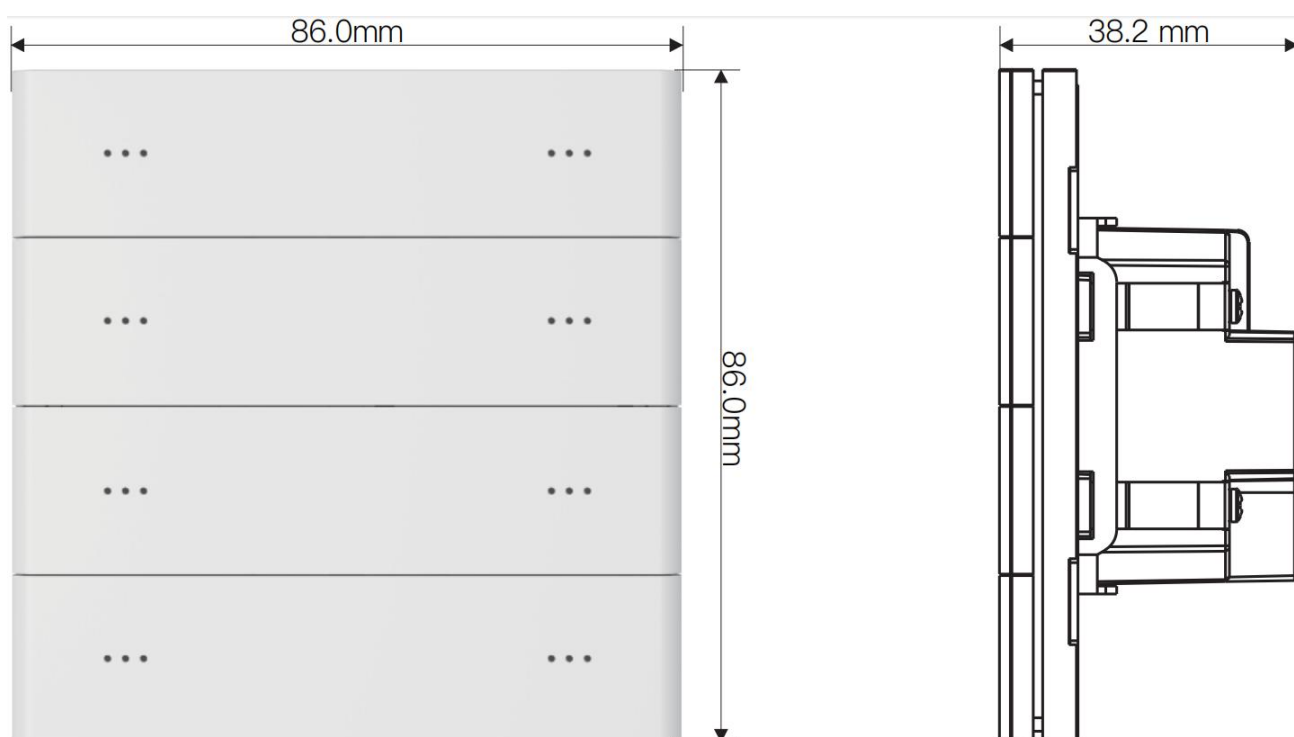


Figure 2.2.4 Structural dimension diagram of four pairs of associated key panels

2.3 Wiring diagram (Take the 2-way relay output as an example)

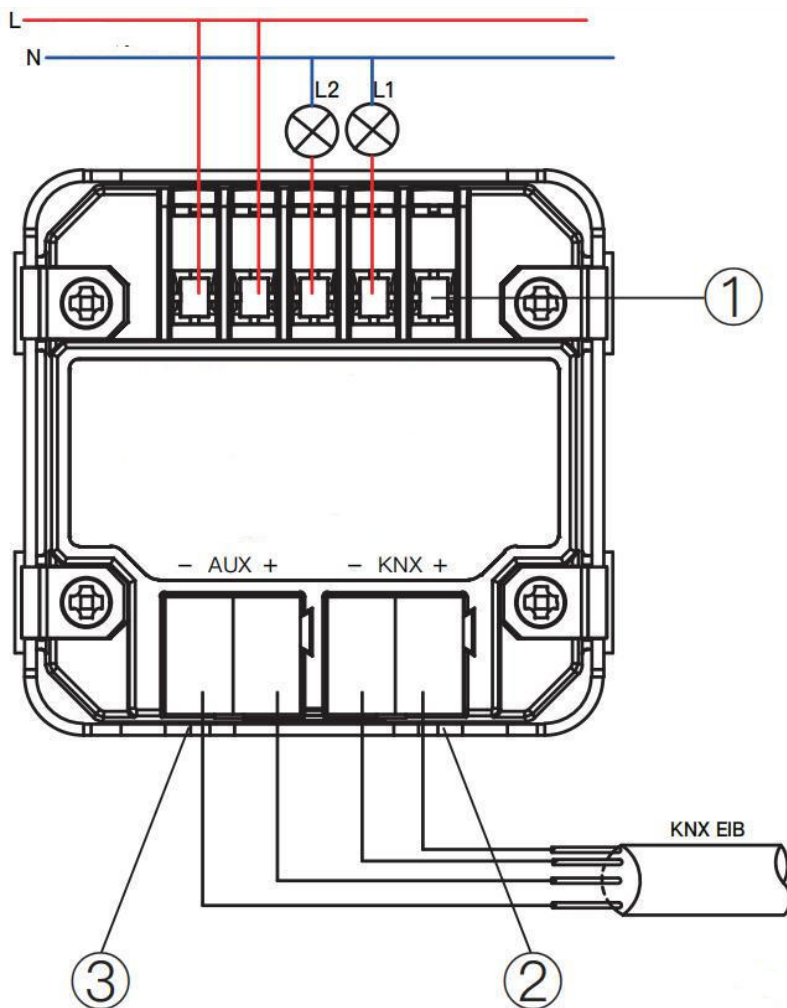


Figure 2.3 T10 Intelligent switch panel wiring diagram

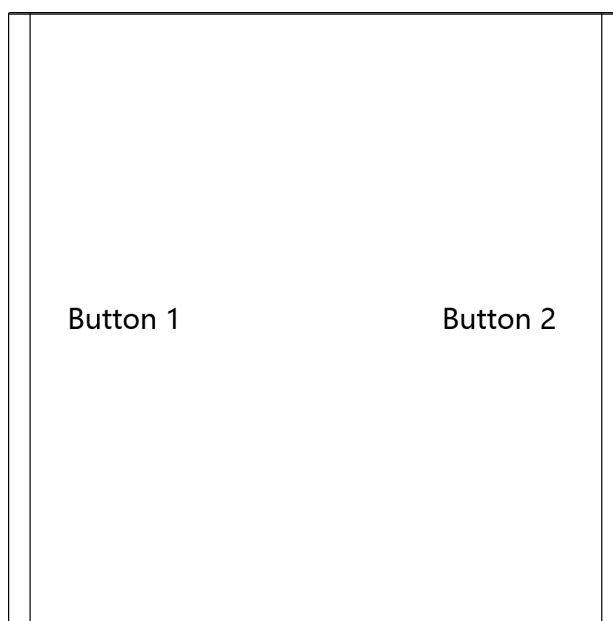
- ① Switch output,load connection terminal
- ② KNX/EIB bus connection terminal
- ③ Auxiliary power supply connection terminal

Chapter 3 Parameter setting description in the ETS

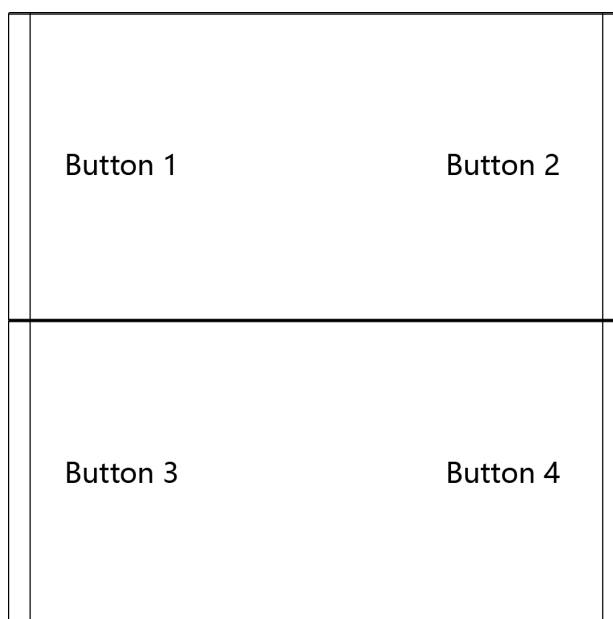
Description of parameter Settings in ETS system in the form of function blocks.

The following illustrates the correspondence between the keys of the smart panel and the keys in the database:

1 Pair of associated Button panels corresponding to channel Button 1,Button 2, as shown below:



2 pairs of associated Button panels corresponding to channel Button 1,Button 2,Button 3,Button 4, as shown below:



Three pairs of associated Button panels correspond to channels Button 1,Button 2,Button 3,Button 4,Button 5, and Button 6, as shown below:

Button 1	Button 2
Button 3	Button 4
Button 5	Button 6

4 pairs of associated Button panels corresponding to the channel Button 1,Button 2,Button 3,Button 4,Button 5,Button 6,Button 7,Button 8, as shown below:

Button 1	Button 2
Button 3	Button 4
Button 5	Button 6
Button 7	Button 8

Note: In the union panel, "For Up of Rocker" mentioned in the database refers to the button on the left side of the panel, and" For Down of Rocker" refers to the button on the right side of the panel.

3.1 Parameter window “General”

The "General" parameter setting interface contains three configuration pages, as shown in Figure 3.1.1 below. Here, some basic parameters of the device are set, including startup time, heartbeat package setting, function selection, and enable and close various functions. The specific parameter configuration information is described below:

General	System delay	0
General Setting	Heartbeat telegram	Disable
Device function	Lock button via EIB	☐ Disable ☒ Enable
Panel Display	Panel Touch Feedback Type	Vibration
+ General setting of push button	The Level of vibration	Normal
+ General setting of Room therm...	Button Feedback Type	Vibration
	The Level of button vibration	Weaker

Figure 3.1.1 Parameter window “General setting”

Parameter “System delay”

This parameter sets the system startup time of the panel. Only after the delay reaches the time, can messages be delivered or received normally.

Options: 0---255s

Parameter “Heartbeat telegram”

This parameter sets the heartbeat packet configuration of the panel, and the reaction device can run normally. The device sends heartbeat packets to the bus in a cycle according to the set time.

Options: Disable

Send value ‘1’ cyclically

Send value ‘0’ cyclically

Send value ‘1/0’ inverted cyclically

Parameter “Telegram is sent time interval(1..64s)”

This parameter is displayed only if the parameter "Heartbeat Telegram" is enabled. Parameter sets the time for heartbeat packets to be sent in cycles.

Options:

1...64s

*Parameter “Lock button via EIB”

This parameter is used to set whether the touch button of the device supports the bus lock function.

Options: Disable

Enable

*Parameter “Panel Touch Feedback Type”

This parameter is used to set the feedback prompt type of touch button, and touch vibration is optional.

Options: Disable

Vibration

Buzzer

*Parameter “The Level of vibration”

This parameter is displayed only when the parameter "Panel Touch Feedback Type" is selected as "Vibration" and is used to set the intensity level of the button Vibration Feedback, which is divided into three levels.

Options: Weaker

Normal

Strong

*Parameter “The Volume of button buzzer”

This parameter is displayed only when the parameter "Panel Touch Feedback Type" is selected as "Buzzer" and is used to set the intensity level of the button Vibration Feedback, which is divided into three levels.

Options: Lower

Normal

Higher

*Parameter “Button Feedback Type”

This parameter is used to set the feedback prompt type of the panel mechanical button, with touch vibration optional.

Options: Disable

Vibration

Buzzer

*Parameter “The Level of vibration”

This parameter is displayed only when the parameter "Button Feedback Type" is selected as "Vibration" and is used to set the intensity level of the Button Vibration Feedback, which is divided into three levels.

Options: Weaker

Normal

Strong

*Parameter “The Volume of button buzzer”

This parameter is displayed only when the parameter "Button Feedback Type" is selected as "Buzzer" and is used to set the loudness level of the Button Buzzer Feedback, which is divided into three levels.

Options: Lower

Normal

Higher

Note: The functions identified by * are not supported for configuration.

General	Device type Selection	Panel+Voice control+Room thermostat
General Setting	Push button type	4 Rocker(8 buttons)

Figure 3.1.2 Parameter window “Device function”

Parameter “Device type Selection”

This parameter is used to set the panel function type, including the following four, respectively applicable to different types of panel.

Options: Panel

Panel+ Voice control

Panel+ Room Thermostat

Panel+ Voice control+ Room Thermostat

Parameter “Push button type”

This parameter is used to set the number of keys supported by the panel. In the configuration of the panel, the number of selected key associations matches the actual number of panel key associations, and the LED setting is also corresponding.

Options: 1 Rocker(2 buttons)

2 Rocker(4 buttons)

3 Rocker(6 buttons)

4 Rocker(8 buttons)

5 Rocker(10 buttons)

Regardless of the choice, the parameters of each key switch are the same, and each pair of associated switches can be used independently as two buttons or can be configured for joint use. When used as two buttons, the application of each button is independent of each other. If it is used jointly, it is related to each other.

***Parameter “Voice controller”**

***Parameter “Aircondition is”**

***Parameter “Floor heat is”**

***Parameter “Ventilation is”**

Parameter “Proximity sensor is”

Parameter “Temperature sensor is”

Parameter “Humidity sensor is”

*Parameter “CO2 sensor is”

*Parameter “TVOC sensor is”

Parameter “Switch Actuator is”

Parameter “Gateway function is”

Parameter “Logic function is”

Parameter “Scene group function”

The above parameters are used to set whether the panel supports a certain function. You can configure the enable according to the actual usage scenario.

Options: Disable

Enable

Note: The functions identified by * are not supported for configuration.

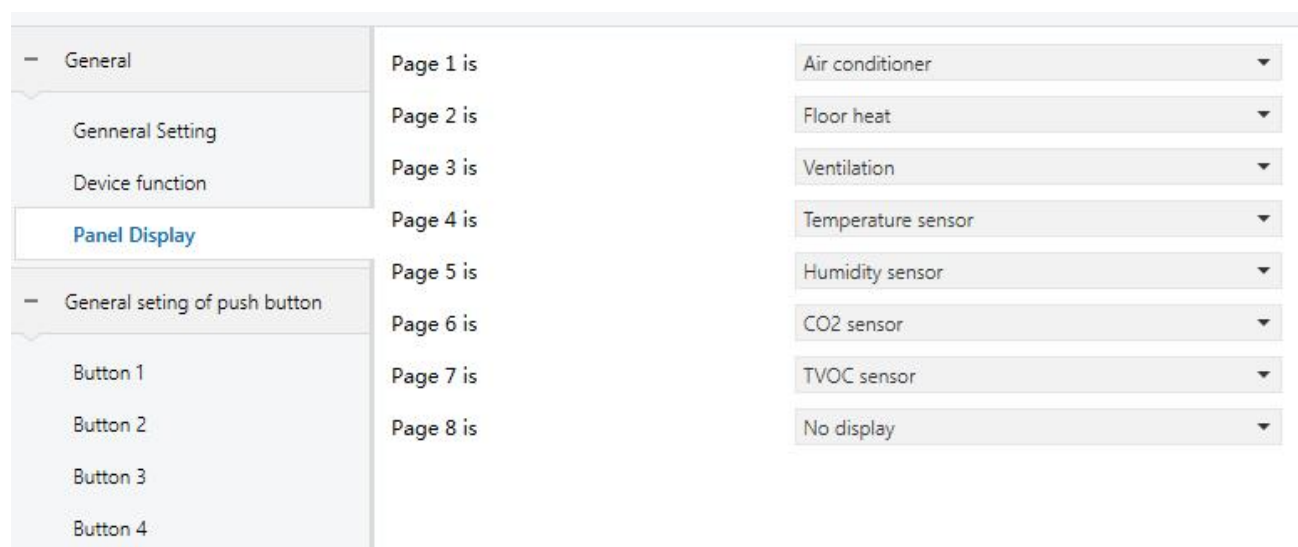


Figure 3.1.3 Parameter window “Panel Display”

*Parameter “PageX is (x=1,2,3...8) ”

This parameter is used to set the content and display order of the display page of the temperature control panel. The panel can display up to 8 function pages at a time, which can be freely configured by users.

Options: Air conditioner

Floor heat

Ventilation

Temperature sensor

Humidity sensor

CO2 sensor

TVOC sensor

No display

Note: The functions identified by * are not supported for configuration.

3.2 Parameter window“General setting of push button”

The parameter setting interface of "General setting of push button" contains eleven configuration pages, as shown in Figure 3.2.1 below. Here, all control functions of the linkage between keys and indicator lights of the whole panel are set, including switch, dimming, scene, value sending, etc. The indicator light can be separately configured with linkage keys to display or indicate the status of other linkage sensors:

Figure 3.2.1 Parameter window“General setting of push button”

Parameter “Rocker X use as (x=1,2,3)”

This parameter sets how each pair of associated buttons works.

Options: Independent button

Linked button

If the option is "Independent button", then the left and right side of the associated switch are used as two buttons, and they are applied independently; The option is "Linked Button", and the left and right sides of this pair of association switches are related to each other.

The following sections 3.2-1 and 3.2-2 will introduce the parameters and communication objects of each function of the panel under the two applications, taking a button or a pair switch as an example.

Parameter “Brightness of LED when it is on”

The parameter setting panel status indicates the brightness level of LED in the state of open, and the LED light is extinguished in the state of closed.

Options: Level 1

Level 2

Level 3

Level 4

Level 5

If there is a distinction between day/night mode, then the indicator brightness of the LED on the daytime button is determined by this parameter.

Parameter “Brightness of labeling LED”

This parameter sets the brightness indicated by the backlight LED, if not indicated, it is not lit.

Options: OFF

Level 1

Level 2

Level 3

Level 4

Level 5

OFF: The backlight is not bright.

Level 1-5: Brightness level when the backlight indicates, with 1 darkest and 5 brightest.

If there is a distinction between day/night mode, then the indicative brightness of the daytime backlight LED is determined by this parameter.

Parameter “Labeling LED display mode”

This parameter sets the indication state of the backlight LED, whether it is always on light state or gradual change state.

Options: Normal (always on/off)

Breath (Cyclically step dimming)

Parameter “LED brightness adjustment for Day/Night”

This parameter sets whether the brightness of the key and the backlit LED indicator changes according to the conversion of day/night mode.

Options: No

Yes

No: Whether it is day or night, the brightness of the indicator light on the key and the backlit LED remains unchanged.

Yes: Distinguishing day/night mode while the following four parameters are visible.

After the bus reset or programming is completed, the LED indicates that the brightness defaults to the brightness of the daytime mode.

Parameter “polarity of Day/Night mode”

This parameter sets the object value for the day/night mode transition.

Options: Day=1/Night=0

Day=0/Night=1

Day=1/Night=0: The object "Day/Night mode" switches to Day mode after receiving message 1, and switches to Night mode after receiving message 0.

Day=0/Night=1: The object "Day/Night mode" switches to Day mode after receiving message 0, and switches to Night mode after receiving message 1.

Parameter “Day/Night mode need send read request”

This parameter sets whether the object "Day/Night Mode" sends a read request when the bus is reset or programming is completed.

Options: No

Yes

No :Don't send.

Yes:A read request is sent and the LED automatically adjusts the LED indicator brightness according to the set brightness of the feedback day/night mode. If there is no response, the LED is indicated by the brightness set in the daytime mode.

Parameter “Status LED brightness when it is night”

This parameter is used to set the brightness level of the state when the panel status indicator LED is turned on in night mode. In the off state, the LED goes off.

Options: OFF

Level 1

Level 2

Level 3

Level 4

Level 5

OFF: The status indicator does not light.

Level 1-5: Brightness level when status light indicates,1 is darkest and 5 is brightest.

Parameter “Labeling LED brightness when it is night”

This parameter is set at night, the brightness of the backlight LED indication, if not indicated, is not bright.

Options: OFF

Level 1

Level 2

Level 3

Level 4

Level 5

OFF: Backlight is not bright;

Level 1-5: Brightness level when the backlight indicates, 1 darkest, 5 brightest.

Parameter “ LED status object need send read request when bus recovery ”

This parameter sets whether the state of the LED on the key will send a read request when the bus reset or programming is completed.

Options: No

Yes

No: Do not send, while the following parameter "Initial LED color" is visible.

Yes: A read request is sent and the LED will indicate based on the value of the response. If there is no response, there is no indication.

Parameter “Initial LED color”

This parameter is visible when "No" is selected in the previous parameter and is used to set the initial indication color of the status LED.

Options: No

As color as object value “0”

No: No status indication

As color as object value “0”: When the value of the LED state object is 0, the color at this time is used for indication.If the function of LED X selects "Control by External object, and 1byte" or "Indicate button Press", there is no status indication.

3.2-1 Independent button working mode

In this working mode, the application on the left and right side of the button is not related to each other, and the parameter Settings and communication objects on the left and right side of the button are independent of each other. For example, the switch function can be implemented on one side of the button, yet on the other side of the button, other supported functions can be assigned depending on the function application configuration.

3.2-1.1 “Switch”function

The "Switching" parameter setting interface is shown in Figure 3.2.2. By configuring this application, the user can manipulate the panel's touch switch (short press long press, press down, release) to send a switch message.

Figure 3.2.2 Parameter window“Button X- Switch”

Parameter “Distinction between long and short operation”

This parameter is for setting whether to distinction the contact operation between short and long operation. When select “Yes”, the operation reaches a certain time to determine whether the operation is a long or short operation before the contact performs the setting action

Options: No/Yes

Parameter“Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Reaction on short operation or press the button”/“Reaction on long operation or release the button”

These parameters are for setting the performed actions when press/release the contact or long/short operation. The object value is updated when the input is determined.

Options: No action

ON

OFF

TOGGLE

No reaction: No telegrams have been sent.

ON: Send the on telegram.

OFF: Send the off telegram.

TOGGLE: Each operation will alternate between on and off. For example, if the last telegram was sent (or received) for on, then the next operation will trigger a telegram for off. When the switch is operated again, it will send a telegram for on etc., So the switch will always remember the previous state and covert to opposite value during next operation.

Parameter “Disable function”

Sets whether to disable the button.

Options: Disable

Enable

If you select "Enable," you can disable or Enable the key via the object.

This parameter is not explained below and is used similarly.

Parameter “Trigger value of disable object”

This parameter is for setting trigger value to disable/enable contacts.

Options: disable=1/enable=0

disable=0/enable=1

This parameter is not explained below and is used similarly.

3.2-1.2 “Switch/Dimming”function

The "Switch/Dimming" parameter setting interface is shown in Figure 3.2.3. By configuring this page, users can operate the keys to send control packets for switching or Dimming.

Figure 3.2.3 Parameter window“Button X- Switch/Dimming”

Parameter“Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Reaction on short operation”

This parameter is for setting the the switch value to send when short operation. The object value is updated when the input is determined.

Options: No action

ON

OFF

TOGGLE

No reaction: No telegrams have been sent.

ON: Send the on telegram.

OFF: Send the off telegram.

TOGGLE: Each operation will alternate between on and off

Parameter “Reaction on long operation”

This parameter is for setting the the relative dimming value to send when long operation, with dimming brightness or darker; when release the contact stop dimming.

Options: No action

brighter

darker

brighter/darker

No reaction: No telegrams have been sent.

Brighter: The dimming up value will be sent.

Darker: The dimming down value will be sent.

Brighter/Darker: Dimming up and down will be sent alternately.

Parameter “Dimming mode”

This parameter is visible when previous parameter is not “No reaction”. Set the way of relative dimming.

Options: Start-stop dimming

Steps dimming

Start-stop dimming: The dimming mode will be start-stop, a dimming up or down telegram will be sent when the dimming starts, and a stop telegram will be sent when dimming ends. Here the dimming telegram will not be sent cyclically.

Steps dimming: The dimming mode will be a step one and the dimming telegram will be sent cyclically. When dimming ends, a stop dimming telegram will be sent immediately.

Parameter “Brightness change on every sent”

This parameter is visible when the dimming way is selected “Step dimming”. Set a cyclically sending dimming telegram which changes the brightness percentage.

Options: 100%

50%

.....

1.56%

Parameter “Interval of Tele. Cyclic send (*0.1s, 0=send once) ”

This parameter is visible when the dimming way is selected “Step dimming”. Set intervals of two cyclically sending dimming telegram. Options: 0..25, 0=send once

3.2.1-3 “Value/Forced output”function

The "Value/Force Output" parameter setting interface is shown in Figure 3.2.4. By configuring this page, users can send control packets of customized types and values by pressing keys.

Device function	Function of the channel	Value/Forced output
Panel Display	Distinction between long and short operation	☐ No ☒ Yes
General setting of push button	Long operation after(*0.1s)	5
Button 1	Reaction on short operation or press the button	1bit value[0..1]
Button 2	Output value[0..1]	0
Button 3	Reaction on long operation or release the button	2bit value[0..3]
Button 4	Output value[0..3]	0
LED	Disable function	☐ disable ☒ enable
General setting of Room therm...	Trigger value of disable object	☐ disable=1/enable=0 ☒ disable=0/enable=1

Figure 3.2.4 Parameter window“Button X- Value/Forced output”

Parameter “Distinction between long and short operation”

This parameter is for setting whether to distinction the contact operation between short and long operation. When select “Yes”, the operation reaches a certain time to determine whether the operation is a long or short operation before the contact performs the setting action

Options: No/Yes

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Reaction on short operation or press the button”/“Reaction on long operation or release the button”

These parameters are for setting the datatype to send when press/release the contact or long/short operation.

Options: No reaction

1bit value [0...1]

.....

2byte value [0...65535]

Parameter “Output value[...]”

Set the data value to send when perform short/long operation. Range of value is determined according to the previous parameter selected datatype.

3.2.1-4 “Scene control”function

The parameter setting interface of "Scene Control" is shown in Figure 3.2.5. By configuring this page, users can send a recall or store a certain Scene control message by pressing a key.

Figure 3.2.5 Parameter window“Button X- Scene control”

Parameter “Distinction between long and short operation”

This parameter is for setting whether to distinction the contact operation between short and long operation. When select “Yes”, the operation reaches a certain time to determine whether the operation is a long or short operation before the contact performs the setting action

Options: No/Yes

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Reaction on short operation or press the button”/“Reaction on long operation or release the button”

These parameters are for setting to recall or storage scene when press/release the contact or long/short operation.

Options: No reaction

Recall scene

Store scene

Parameter “Scene number(1..64)”

This parameter is visible when “No reaction” is not selected. Scene number range :Scene NO.1 to 64. Corresponding telegram is 0~63.

3.2.1-5 “Shutter control”function

The "Shutter Control" parameter setting interface is shown in Figure 3.2.6 By configuring this page, users can operate the keys to send the Shutter control message.

General	Function of the channel	Shutter Control
General Setting	Long operation after(*0.1s)	5
Device function	Reaction on short operation	Up/Down
Panel Display	Reaction on long operation	Stop(Adjust Up)
General setting of push button	Interval of Tele.cyclic send(*0.1s,0=send once)	0
Button 1	Disable function	☒ disable ☐ enable
Button 2		
Button 3		

Figure 3.2.6 Parameter window“Button X- Shutter control”

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Reaction on short/long operation”

These parameters are for setting to performed actions when long/short operation.

Options: No action

- Up
- Down
- Up/Down
- Stop (Adjust Up)
- Stop (Adjust Down)
- Stop (Adjust Up/Down)

No reaction: No reaction is performed.

Up: The curtains/blinds will be opened or moved up.

Down: The curtains/blinds will be closed or moved down.

Up/Down: Alternately open/close or move up/down the curtains/blinds.

Stop (Adjust Up): Stop the curtain movement or move up the angle of blinds.

Stop (Adjust Down): Stop the curtain movement or move down the angle of blinds.

Stop (Adjust Up/Down): Stop the curtain movement or move up/down the angle of blinds alternately.

Parameter “Interval of Tele. Cyclic send (*0.1s, 0=send once) ”

This parameter is visible when previous parameter is selected “Stop...”. Set the time interval of cyclical blinds angle adjustment telegram sent. Options: 0..25,0=send once

3.2.1-6 “Shift register”function

The "Shift Register" parameter setting interface is shown in Figure 3.2.7 By configuring this page, users can send setting values in the way of Shift register.

The screenshot shows a software interface for configuring a 'Shift register' function. On the left is a sidebar with a tree view containing 'Generic', 'General', 'Button 1' (selected), 'Button 2', 'LED', 'Temperature measure', 'Logic function', 'Event Function', and 'Switch output config'. The main area is titled 'Function of the channel' and has a dropdown menu set to 'Shift register'. Below this, several parameters are listed with their corresponding settings:

- Shift type:** Two radio buttons: 'Shift by step value' (selected) and 'Shift without step value'.
- Value begin with:** A text input field containing '0'.
- Value end with(must be larger than value begin with):** A text input field containing '1'.
- Step size:** A text input field containing '0'.
- Direction:** Two radio buttons: 'From lowest to highest' (selected) and 'From highest to lowest'.
- Reset funtion:** Two radio buttons: 'Disable' (selected) and 'Enable by long operation'.
- Reaction on press the button:** Two radio buttons: 'No reaction' and 'Send shift value' (selected).
- Reaction on release the button:** Two radio buttons: 'No reaction' (selected) and 'Send shift value'.
- Disable function:** Two radio buttons: 'disable' (selected) and 'enable'.

Figure 3.2.7 Parameter window“Button X- Shift register”

Parameter “Shift type”

This parameter is for setting the shift type.

Options: Shift by step value

Shift without step value

Shift by step value: Here the lowest value and highest value of shift can be set, the value increased (from lowest to highest) or decreased (from highest to lowest) from every shift can also be set.

Shift without step value: When there’s no step value, the actual value sent by each shift can be set (max. 10 value), in every operation one value will be sent.

Three parameters as follow are visible when “Shift by step value” is selected.

Parameter “Value begin with”

This parameter is for setting the lowest value of the shift. Options: 0..240

Options: 0...240

Parameter “Value end with (must greater than the begin value)”

This parameter is for setting the highest value of the shift. Options: 1..250

Options: 1...250

The highest value must be larger than lowest value.

Parameter “Step size”

This parameter is for setting the increase (from low to high) or decrease (from high to low) value.

Options: 0...240

Parameter “Shift number”

This parameter is visible when the Shift type "Shift without step value" is selected. This parameter is for setting the number of shift, up to set maximum 10 values.

Options: 1/2/.../10

The following parameters set the specific values to be sent during each shift operation.

Parameter “Value 1...10”

This parameter is for setting the value when each shift operation to send.

Options: 0...255

Parameter “Direction”

This parameter is for setting the shift direction.

Options: From lowest to highest

From highest to lowest

“From lowest to highest”, Shift from low to high. once to the end value, shift direction starts over again and constantly cycling from low to high operation.

“From highest to lowest”, Shift from high to low. once to the start value, shift direction starts over again and constantly cycling from high to low operation.

Parameter “Reset function”

This parameter is for setting whether to enable shift reset function.

Options: Disable

Enable by long operation

“Disable”, Not possible to reset shift;

“Enable by long operation”, Possible to reset shift by long operation, when reset, shift will start new.

Parameter “Reaction on press/release the button”

This parameter is visible when Disable is selected for "Reset Function". Set whether the key is shifted when it is pressed or released.

Options: No reaction

Send shift value

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

3.2.1-7 “RGB dimming”function

The "RGB dimming" parameter setting interface is shown in Figure 3.2.8 By configuring this page, users can send RGB values to control related dimming devices or color light strips according to configuration parameters.

General setting of push button	Function of the channel	RGB dimming
Button 1	RGB strip type	☒ RGB ☐ RGBW
Button 2	Object type	☒ 1X3byte ☐ 3X1byte
Button 3	Distinction between long and short operation	☐ No ☒ Yes
Button 4	Long operation after(*0.1s)	5
LED	Red Value	0
General setting of Room therm...	Green Value	1
Air condition	Blue Value	2
Floor heating	Red Value	4
Ventilation	Green Value	5
Sensor	Blue Value	6
Actuator	Disable function	☒ disable ☐ enable

Figure 3.2.8 Parameter window“Button X- RGB dimming”-1

General setting of push button	Function of the channel	RGB dimming
Button 1	RGB strip type	☐ RGB ☒ RGBW
Button 2	Object type	☒ 1X6byte ☐ 4X1byte
Button 3	Distinction between long and short operation	☐ No ☒ Yes
Button 4	Long operation after(*0.1s)	5
LED	Red Value	0
General setting of Room therm...	Green Value	1
Air condition	Blue Value	2
Floor heating	White Value	3
Ventilation	Red Value	4
Sensor	Green Value	5
Actuator	Blue Value	6
	White Value	7

Figure 3.2.8 Parameter window“Button X- RGBW dimming”-2

Parameter “RGB strip type”

This parameter sets the type of RGB strip.

Options: RGB

RGBW

RGB: Suitable for adjusting RGB three-color light belt or drive.

RGBW: Suitable for adjusting RGBW four color lamp.

Parameter “object type”

This parameter is used to set the object type.

Options: Suitable for RGB type;

1x3Byte performs RGB dimming through a 3byte object

3x1Byte performs RGB dimming through three 1byte objects

Suitable for RGBW type;

1x6Byte is dimmed RGBW through a 6byte object

4X1Byte performs RGBW dimming through four 1byte objects

Parameter “Distinction between long and short operation”

This parameter is for setting whether to distinction the contact operation between short and long operation. When select “Yes”, the operation reaches a certain time to determine whether the operation is a long or short operation before the contact performs the setting action

Options: No/Yes

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Operation when short press/long press the button—— Red/ Green/Blue/White Value (0..255)”

This parameter is set when the operation button is in the long/short operation, and the brightness value of the lamp with various colors is sent, Options: 0...255

3.2.1-8 “Multiple operation”function

The "Multiple Operation" parameter setting interface is shown in Figure 3.2.9. The multiple operation function is set here, through this configuration, the key operation is once, different values can be sent at the same time, and different types of functions can be called. Each button can have values of up to four different object types set. The instructions for parameter Settings are as follows:

Object	Object type	Function of press the button
Object 1	1Bit_On/Off	TOGGLE
Object 2	1Bit_Up/Down	Up/Down
Object 3	1Byte_RecallScene	Send Value
Object 4	1Byte_StoreScene	Send Value

Figure 3.2.9 Parameter window“Button X- Multiple operation”

Parameter “Distinction between long and short operation”

This parameter is for setting whether to distinction the contact operation between short and long operation. When select “Yes”, the operation reaches a certain time to determine whether the operation is a long or short operation before the contact performs the setting action

Options: No/Yes

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Object type for object x(x=1,2,3,4)”

This sets the type of data to be sent when a button is pressed or during a long/short operation.

Options: Disable

1Bit_On/Off

.....

1Byte_Unsigned value

Parameter“Function of press the button/ Function of short operation/ Function of long operation”

This is where you set the specific value that will be sent when the operation is performed. When selecting different parameter options in the previous parameter, this parameter will display different numeric types, such as switch, curtain action, No action, or Send value (the specific configuration value will be set in the next parameter).

Parameter“Value 1/2 (...) ”

This parameter is visible when the object type is selected as "1byte_RecallScene", "1byte_StoreScene", "1byte_Percentage", and "1byte_Unigned Value". Used to set the data value to be sent when the corresponding

operation is performed. The range of values depends on the data type selected by the above argument "Object type for Object x(x=1,2,3,4)".

3.2.1-9 “Delay mode”function

The "Delay Mode" parameter setting interface is shown in Figure 3.2.10. This is used to set the panel key operation delay function, only send a value or not send, after a delay of a period of time, send another value.

The screenshot shows a software interface for configuring a push button. On the left, a sidebar lists 'General setting of push button' (selected), 'LED', and 'General setting of Room therm...'. Under 'General setting of push button', 'Button 1', 'Button 2', 'Button 3', and 'Button 4' (highlighted in blue) are listed. The main area is titled 'Function of the channel' and contains the following settings:

- Distinction between long and short operation:** Radio buttons for 'No' and 'Yes' (selected).
- Long operation after(*0.1s):** A numeric input field set to '5'.
- Object type for short operation:** A dropdown menu set to '1Byte_Unsigned value'.
- Value1 0..255:** A numeric input field set to '2'.
- Value2 0..255:** A numeric input field set to '3'.
- Object type for long operation:** A dropdown menu set to '1Bit_On/Off'.
- Value1 0..1:** Radio buttons for '0' (selected) and '1'.
- Value2 0..1:** Radio buttons for '0' (selected) and '1'.
- Disable function:** Radio buttons for 'disable' (selected) and 'enable'.

Figure 3.2.10 Parameter window“Button X- Delay mode”

Parameter “Distinction between long and short operation”

This parameter is for setting whether to distinction the contact operation between short and long operation. When select “Yes”, the operation reaches a certain time to determine whether the operation is a long or short operation before the contact performs the setting action

Options: No/Yes

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Object type of press the button/ Object type of short operation/ Object type of long operation”

These parameters are for setting the datatype when long/short operation to send.

Options: Disable

1Bit_On/Off

4Bit_Dimming

1Byte_Unsigned value

Parameter “Send mode”

This parameter is for setting the send mode.

Options:

No action when press, delay then send value 1, There is no action during operation, after the delay, value 1 is sent.

No action when press, delay then send value 2, There is no action during operation, after the delay, value 2 is sent.

Send value 1 when press, delay then send value 2, The value 1 is sent during the operation, and the value 2 is sent after the delay.

Send value 2 when press, delay then send value 1, The value 2 is sent during the operation, and the value 1 is sent after the delay.

Parameter “Delay time*1s”

This parameter is for setting the delay time.

Options: 0...6500

Parameter “value1/2[...]”

This parameter is for setting the value 1/2 to send. The range of value is up to the datatype selected by the parameters.

3.2-2 Joint mode

In this mode of operation, the applications on the left and right side of the button are related to each other, and the left and right side together form a pair of associated buttons. For example, you can configure one side of the button to have the lights on and the other side to have the lights off, and note that the left and right states of the button are also synchronized.

3.2-2.1 “Switch”function

The "Switch" function parameter setting interface is shown in Figure 3.2.11.

1.1.15 T10 Multifunctional Smart Panel > General setting of push button > Rocker 2

+	General	Function of the channel	Switch
-	General setting of push button	Distinction between long and short operation	☒ No ☐ Yes
	Button 1	Reaction on short operation or press the button (for Left of Rocker)	ON
	Button 2	Reaction on long operation or release the button (for Left of Rocker)	OFF
	Rocker 2	Reaction on short operation or press the button (for Right of Rocker)	TOGGLE
	LED	Reaction on long operation or release the button (for Right of Rocker)	TOGGLE
-	General setting of Room therm...	Disable function	☒ disable ☐ enable
	Air condition		

Figure 3.2.11 Parameter window “Rocker X- Switch”

Parameter “Distinction between long and short operation”

This parameter is for setting whether to distinction the contact operation between short and long operation. When select “Yes”, the operation reaches a certain time to determine whether the operation is a long or short operation before the contact performs the setting action

Options: No/Yes

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Reaction on short operation or press the button”/“Reaction on long operation or release the button” (for Left/Right of Rocker)

These parameters are for setting the performed actions when press/release the contact or long/short operation. The object value is updated when the input is determined.

Options: No action

ON

OFF

TOGGLE

No reaction: No telegrams have been sent.

ON: Send the on telegram.

OFF: Send the off telegram.

TOGGLE: Each operation will alternate between on and off. For example, if the last telegram was sent (or received) for on, then the next operation will trigger a telegram for off. When the switch is operated again, it will send a telegram for on etc., So the switch will always remember the previous state and covert to opposite value during next operation.

3.2-2.2 “Switch/Dimming”function

The "Switch/Dimming" function parameter setting interface is shown in Figure 3.2.12.

+	General	Function of the channel	Switch/Dimming
-	General setting of push button	Long operation after(*0.1s)	5
	Button 1	Reaction on short operation or press the button (for Left of Rocker)	TOGGLE
	Button 2	Reaction on long operation or release the button (for Left of Rocker)	brighter/darker
	Rocker 2	Reaction on short operation or press the button (for Right of Rocker)	TOGGLE
	LED	Reaction on long operation or release the button (for Right of Rocker)	brighter/darker
-	General setting of Room therm...	Dimming mode	☒ Start-stop-Dimming ☐ Steps dimming
	Air condition	Disable function	☒ disable ☐ enable
	Floor heating		

Figure 3.2.12 Parameter window“Rocker X- Switch/Dimming”

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Reaction on short operation (for Left/Right of Rocker)”

This parameter sets the action to be performed during short operations. When the input is determined, the object value is immediately updated.

Options: No action

ON

OFF

TOGGLE

No reaction: No telegrams have been sent.

ON: Send the on telegram.

OFF: Send the off telegram.

TOGGLE: Each operation will alternate between on and off.

Parameter “Reaction on long operation(for Left/Right of Rocker)”

This parameter is for setting the the relative dimming value to send when long operation, with dimming brightness or darker; when release the contact stop dimming.

Options: No action

brighter

darker

brighter/darker

No reaction: No telegrams have been sent.

Brighter: The dimming up value will be sent.

Darker: The dimming down value will be sent.

Brighter/Darker: Dimming up and down will be sent alternately.

Note: In the parameter setting of key association mode, when one of the options is "Brighter/Darker", there will be a linkage relationship between the left and right keys. For example, the associated key object receives or is set to any dimming state this time, so the next dimming will be reversed according to the current dimming state.

Parameter“Dimming mode”

This parameter is visible when previous parameter is not “No reaction”. Set the way of relative dimming.

Options: Start-stop dimming

Steps dimming

Start-stop dimming: The dimming mode will be start-stop, a dimming up or down telegram will be sent when the dimming starts, and a stop telegram will be sent when dimming ends. Here the dimming telegram will not be sent cyclically.

Steps dimming: The dimming mode will be a step one and the dimming telegram will be sent cyclically. When dimming ends, a stop dimming telegram will be sent immediately.

Parameter “Brightness change on every sent”

This parameter is visible when the dimming way is selected “Step dimming”. Set a cyclically sending dimming telegram which changes the brightness percentage.

Options: 100%

50%

.....

1.56%

Parameter “Interval of Tele. Cyclic send (*0.1s, 0=send once) ”

This parameter is visible when the dimming way is selected “Step dimming”. Set intervals of two cyclically sending dimming telegram. Options: 0..25, 0=send once

3.2-2.3 “Scene control”function

The parameter setting interface of "Scene Control" function is shown in Figure 3.2.13.

+	General	Function of the channel	Scene control
-	General setting of push button	Distinction between long and short operation	☒ No ☐ Yes
	Button 1	Reaction on short operation or press the button (for Left of Rocker)	Recall scene
	Button 2	Scene number[1..64]	Scene NO.1
	Rocker 2	Reaction on long operation or release the button (for Left of Rocker)	Store scene
	LED	Scene number[1..64]	Scene NO.2
-	General setting of Room therm...	Reaction on short operation or press the button (for Right of Rocker)	Recall scene
	Air condition	Scene number[1..64]	Scene NO.1
	Floor heating	Reaction on long operation or release the button (for Right of Rocker)	Store scene
	Ventilation	Scene number[1..64]	Scene NO.2

Figure 3.2.13 Parameter window“Rocker X- Scene control”

Parameter “Distinction between long and short operation”

This parameter is for setting whether to distinction the contact operation between short and long operation. When select “Yes”, the operation reaches a certain time to determine whether the operation is a long or short operation before the contact performs the setting action

Options: No/Yes

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Reaction on short operation or press the button”/“Reaction on long operation or release the button”(for Left/Right of Rocker)

These parameters are for setting to recall or storage scene when press/release the contact or long/short operation.

Options: No reaction

Recall scene

Store scene

Parameter “Scene number(1..64)”

This parameter is visible when “No reaction” is not selected. Scene number range :Scene NO.1 to 64. Corresponding telegram is 0~63.

3.2-2.4“Shutter control”function

The "Shutter Control" function parameter setting interface is shown in Figure 3.2.14.

Actuator	Function of the channel	Shutter Control
Switch Actuator	Long operation after(*0.1s)	5
Output A	Reaction on short operation or press the button (for Left of Rocker)	Up/Down
Output B	Reaction on long operation or release the button (for Left of Rocker)	Down
Output C	Reaction on short operation or press the button (for Right of Rocker)	Stop(Adjust Up)
Output D	Reaction on long operation or release the button (for Right of Rocker)	Stop(Adjust Up/Down)
Dimming Actuator	Interval of Tele.cyclic send(*0.1s,0=send once)	0
Output A	Disable function	☒ disable ☐ enable
Voice controller		

Figure 3.2.14 Parameter window“Rocker X- Shutter control”

Parameter “Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where it sets the valid time of long operations. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation.

Options: 3...25

Parameter “Reaction on short/long operation” (for Left/Right of Rocker)

These parameters are for setting to performed actions when long/short operation.

Options: No action

Up

Down

Up/Down

Stop (Adjust Up)

Stop (Adjust Down)

Stop (Adjust Up/Down)

No reaction: No reaction is performed.

Up: The curtains/blinds will be opened or moved up.

Down: The curtains/blinds will be closed or moved down.

Up/Down: Alternately open/close or move up/down the curtains/blinds.

Stop (Adjust Up): Stop the curtain movement or move up the angle of blinds.

Stop (Adjust Down): Stop the curtain movement or move down the angle of blinds.

Stop (Adjust Up/Down): Stop the curtain movement or move up/down the angle of blinds alternately.

Parameter “Interval of Tele. Cyclic send (*0.1s, 0=send once) ”

This parameter is visible when previous parameter is selected “Stop...”. Set the time interval of cyclical blinds angle adjustment telegram sent. Options: 0..25,0=send once

3.3 LED indication function

This interface is used to set the function of the LED, as shown in Figure 3.3.1 below. Each button provides an LED status indication, and each LED can be set separately. In the following, we take one of the LED as an example to explain the parameter setting.

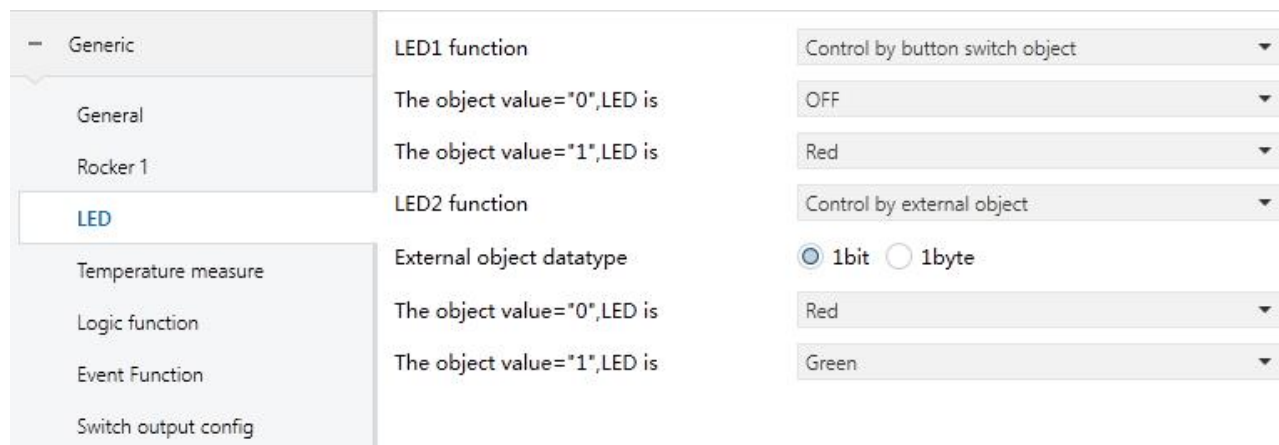


Figure 3.3.1 Parameter window“LED”

Parameter “LED X function”

This parameter is for setting the LED indication status.

Options: Disable

Control by button switch object

Control by external object

Indicate button press

“Disable”, Do not enable status light display

"Control by Button Switch Object", the LED indicates according to the switch object value of the key function, whether it is a long operation or a short operation, pressing or releasing. In the Switch function, it is determined by the object "Switch". In the dimming function, it is decided by "Short operation, Switch". Other functions can not control the LED on and off.

"Control by External Object", when this option is selected, the LED can be controlled independently and is not affected by the key function object and configuration.

"Indicate button press", when the button is operated, the LED flashes in the set time period.

Parameter “External object data type”

This parameter is visible when the LED function is selected as "Control by External Object" and is used to set the data type of the LED status indicator object.

Options: 1bit / 1byte

Parameter “The object value =“0/1”, LED is”

This parameter is visible when the LED function option is "Control by button switch Object" or "Control by external object and 1bit". The LED will indicate according to the switch object value of the key function. Or it is indicated according to the message value "1" or "0" received by the LED state object.

Options: OFF

Red

Green

Blue

Note :T10 series panel LED color only two colors: orange and white. White is the color of the status light after triggering.

Parameter “Threshold value is”

This parameter is visible when the LED function is selected as "Control by External object and 1byte" and is used to set the threshold of the LED status indication.Options: 1...255

Parameter “If object value<threshold value, LED is”

This parameter is visible when the LED function is selected as "Control by external object and 1byte", and the color indicated by the LED when the object value is less than the threshold.

Options: OFF

Red
Green
Blue

Parameter “If object value=threshold value, LED is”

This parameter is visible when the LED function is selected as "Control by external object and 1byte", when the object value is equal to the threshold, the color indicated by the LED.

Options: OFF

Red
Green
Blue

Parameter “If object value>threshold value, LED is”

This parameter is visible when the LED function is selected as "Control by external object and 1byte", and the color indicated by the LED when the object value is greater than the threshold.

Options: OFF

Red
Green
Blue

Parameter “When press the button, LED flashing time is”

This parameter is visible when the LED function is selected as "Indicate Button Press" and is used to set the time when the LED blinks when the button is operated.

Options: 500ms

1s
2s
3s

Parameter “LED flashing color”

This parameter is visible when the LED function is selected as "Indicate Button Press" to set the color of the LED flashing.

Options: OFF

Red
Green
Blue

3.4 Parameter window“Proximity sensor”

The parameter setting of "Proximity Sensor" is shown in Figure 3.4.1 below, where the relevant parameters of the panel Proximity sensor function are set.

LED	Set the sensitivity of proximity sensor	5
General setting of Room therm...	Sensitivity can be changed via bus	☐ disable ☒ enable
Air condition	Function of Proximity retrigger	☒ disable ☐ enable
Floor heating	Delay time of Proximity sensor:	
Ventilation	Base	10s
Sensor	Factor[1..255]	18
Proximity sensor	Interval time of value cyclic.send:	
Actuator	Base	1s
Voice controller	Factor[1..255]	2
Gateway	Proximity sensor value:	
Logic	If proximity star,value send mode	send one time
Scene group	If proximity start:	☐ "0" ☒ "1"
	1 bit [0..1]	
	1 byte [0..255]	128
	If proximity over,value send mode	send one time

Figure 3.4.1 Parameter window“Proximity sensor”

Parameter “Set the sensitivity of proximity sensor”

This parameter is used to set the sensitivity of the panel proximity sensor. The smaller the value, the more sensitive it is. However, the sensitive case is prone to false trigger, so the appropriate configuration value can be selected according to the need.

Options: 0...15

Parameter “Sensitivity can be changed via bus”

This parameter is used to set the sensitivity of the sensor that the panel can control through the bus.

Options: disable

enable

*Parameter “Function of Proximity retrigger”

This parameter is used to set whether the retrigger function is enabled by proximity sensing. After opening, during the sensing period, the sensing trigger is received again, and the sensor will re-count.

Options: disable/ enable

*Parameter “Delay time of Proximity sensor, Base*Factor[1.....255]”

This parameter is used to set the delay time when the proximity sensor detects the movement of an object, delay time = time base * time factor.

Base Options: 100ms

1s

10s

1min

1h

Factor[1...255] Options: 1...255

Parameter “Interval time of value cyclic.send, Base*Factor[1...255]”

This parameter is used to set the time interval for cyclic transmission of moving objects to the bus. Two types of numerical values (1bit, 1byte) can be sent, and cycle time = time base * time factor.

Base Options: 100ms

1s

10s

1min

1h

Factor[1...255] Options: 1...255

Parameter “if proximity start/over, value send mode”

These two parameters are used to detect the movement of an object and the way that the communication object corresponding to the movement sends the value after the movement is finished.

Options: No send

Send one time

Send cyclically

If the option is "No send", No object value will be sent. If the option is "send one time", the object will send the message only once. If the option is "send cyclically", the object will cyclically send the message to the bus. The time of cyclic sending is set in the above parameter "Interval time of value cyclic. send, Base*Factor[1...255]", and the specific value of sending is configured by the following parameter.

Parameter “1bit[0..1]/1byte[0...255]”

These two parameters set the value of 1bit and 1byte to send when triggering proximity sensing.

Note: The functions identified by * are not supported for configuration.

3.5 Parameter window“Temperature sensor”

The parameter setting of "Temperature Sensor" is shown in Figure 3.5.1 below, where the relevant parameters of the corresponding function of the panel Temperature sensor are set.

Figure 3.5.1 Parameter window “Temperature sensor sensor”

Parameter “TempDisplay from”

This parameter is used to set the panel temperature parameter display or the source of the value. Select "EIB bus" for acquisition from the bus and "Local sensor" for acquisition from the local sensor.

Options: Local sensor

EIB bus

Parameter “Temperature calibration”

This parameter is the set temperature correction value. The actual output value of temperature = the measured temperature value + the parameter value. The measured temperature value is the measured value of the sensor selected in the last parameter.

Options: -5°C,

-4.5°C,

-4°C,

-3.5°C,

-3°C,

-2.5°C

.....,

4.5°C,

5°C

Parameter “Send temperature when the result change by[0...10](*0.5K)”

Used to send the current temperature measurement to the bus when the temperature changes to a set amount. When the value is 0, this function is turned off.

Options: 0...10

Parameter “Cyclically send temperature[0...255,0=inactive]”

This parameter sets the time when the temperature cycle is sent to the bus. When the value is set to 0, the cycle sending function is turned off.

Options: 0...255

Parameter “Send alarm telegram for low/high temperature”

This parameter sets how to handle when the temperature triggers a high and low threshold alarm. When the option is "Respond after Read only", the status of the alert object needs to be read from the bus before it can be displayed properly. When the option is "Respond after change", as long as the alarm is triggered, the bus will automatically send a message to remind and linkage other execution devices.

Options: No respond

Respond after read only

Respond after change

Parameter “Threshold value for low temperature alarm[0...15]”

This parameter is for setting the lower threshold value for temperature error. When the temperature lower than the threshold, temperature error object will send telegram.

Options: 0...15

Parameter “Threshold value for high temperature alarm[30...45]”

This parameter is for setting the upper threshold value for temperature error. When the temperature higher than the threshold, temperature error object will send telegram.

Options: 30...45

3.6 Parameter window“Humidity sensor”

The parameter setting of "Humidity Sensor" is shown in Figure 3.6.1 below, where the relevant parameters of the corresponding function of the panel Humidity sensor are set.

Sensor Proximity sensor Temperature sensor Humidity sensor CO2 sensor VOC sensor	HumiDisplay from	☒ Local sensor ☐ EIB bus
	Humidity calibration	-20%
	Send humidity when the result change by [0...20]	1
	Cyclically send humidity [0...255,0=inactive]	0 s
	Send alarm telegram for low/high humidity	Respond after read only
Actuator + Switch Actuator + Dimming Actuator	Threshold value for low humidity alarm [5..20]	5
	Threshold value for high humidity alarm [70..85]	70

Figure 3.6.1 Parameter window “Humidity sensor”

Parameter “HumiDisplay from”

This parameter is used to set the panel temperature parameter display or the source of the value. Select "EIB bus" for acquisition from the bus and "Local sensor" for acquisition from the local sensor.

Options: Local sensor

EIB bus

Parameter “Humidity calibration”

This parameter is to set the wet parameter degree correction value. Humidity actual output value = measured humidity value + this parameter value. The measured humidity value is the measured value of the sensor selected by the last parameter, and if the calibrated result of the measured value exceeds the maximum value, the output is according to the maximum value allowed.

Options: -20%, -15%, -10%, -5%, -3%, -1%, 0%....., 15%, 20%

Parameter “Send humidity when the result change by[0...20]”

This parameter sets that when the humidity value changes more than the set value, the current humidity measurement value is sent to the bus. When the value is 0, this function is turned off.

Options: 0...20

Parameter “Cyclically send humidity[0...255,0=inactive]”

This parameter sets the time when the humidity cycle is sent to the bus, and when the value is set to 0, the cycle transmission function is turned off.

Options: 0...255

Parameter “Send alarm telegram for low/high humidity”

This parameter sets the processing method when the humidity triggers the high and low threshold alarm. When the option is "Respond after read only", the state of the alarm object needs to be read from the bus before it can be displayed normally. When the option is "Respond after change", as long as the alarm is triggered, The bus will automatically send packets to remind and linkage other execution devices.

Options: No respond

Respond after read only

Respond after change

Parameter “Threshold value for low humidity alarm[5...20]”

This parameter is for setting the lower threshold value for humidity error. When the humidity lower than the threshold, humidity error object will send telegram.

Options: 5...20

Parameter “Threshold value for high humidity alarm[70...85]”

This parameter is for setting the upper threshold value for humidity error. When the humidity higher than the threshold, humidity error object will send telegram.

Options: 70...85

3.7 Parameter window“Switch Actuator”

The parameters of the "Switch Actuator" are shown in Figure 3.7.1, and the specific configuration information is as follows.

There are four output channels in the switch actuator part, and the configuration parameters and communication objects of each channel are the same. Now, one of the channels is used to explain the configuration.

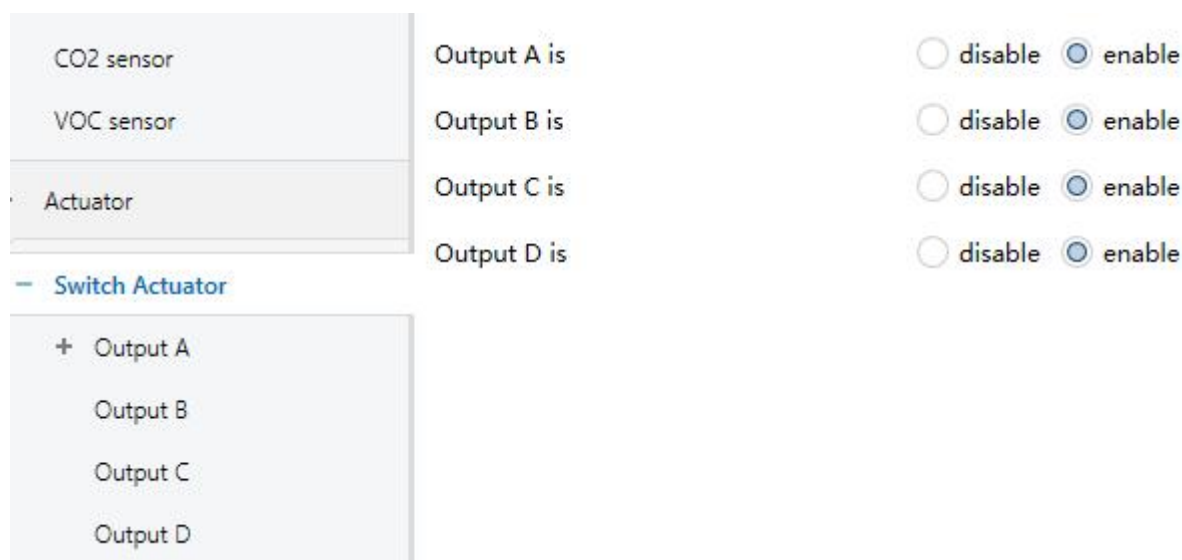


Figure 3.7.1 Parameter window “Switch Actuator”

Parameter “Output X is”

This parameter is used to set whether the actuator control channel is enabled or not.

Options: disable/enable

The following interface is visible when "Enable" is selected for the parameter "Output X is".

CO2 sensor	if bus voltage recovery,contact is	unchange
VOC sensor	if bus voltage failure,contact is	unchange
Actuator	Set the reply mode of switch status	respond after change
Switch Actuator	Delay switch function	☐ disable ☒ enable
+ Output A	Delay time for switch on [0..65535s]	0
Output B	Delay time for switch off [0..65535s]	0
Output C	Staircase lighting function	☐ disable ☒ enable
Output D	Duration of saircase lighting	1
+ Dimming Actuator	(0...59 seconds)	59
Voice controller	The mode of control for staircase lighting is	start with "1",Stop with "0"
Gateway	During the ligthing time,if receive the "Start" telegram,	☒ restart duration of staircase lighting ☐ ignored the "start" telegram
Logic	Warning mode for ending of staircase lighting	via object & flashing the channel output
Scene group	--The warning time for end of staircase lighting (0...59s)	59

Figure 3.7.2 Parameter window “Output X”

Parameter “If bus voltage recovery, contact is”

This parameter sets the opening and closing state of the relay channel after the bus voltage is restored.

Options: unchange

open

close

As before bus voltage fail

When "unchange" is selected, the relay contact of this output will not act after the bus voltage is restored;

When "Open" is selected, the relay contact of this output is disconnected after the bus voltage is restored;

When "close" is selected, the relay contact of this output is closed after the bus voltage is restored;

Select "As before Bus Voltage fail", after the bus voltage is restored, the relay contact of this output resumes the position before power down.

Parameter “If bus voltage failure, contact is”

This parameter sets the state of the relay open and close after the bus power down.

Options: unchange

open

close

Parameter “set the reply mode of switch status”

This parameter sets the way in which the relay feeds back its own state to the bus, which has the following three choices.

Options: Respond only read request

Respond after change

Respond always

When "Respond only Read Request" is selected, the object "Switch, Status X" sends the switch status to the bus only when the device receives the output Status of the channel from other devices on the bus.

When "Respond after Change" is selected, the object "Switch, Status X" immediately sends the current Status to the bus when the channel Switch Status changes.

When "Respond Always" is selected, the object "Switch, Status X" sends the Status of the current channel to the bus each time the relay is triggered.

Parameter “Delay switch function”

This parameter is used to activate the delay switch function.

Options: disable/enable

Parameter “Delay time for switch on[0...65535s]”

This parameter is visible when the delay switch is enabled and is used to set the time for the delay to open the relay.

Options: 0...65535

Parameter “Delay time for switch off: (0...65535s)”

This parameter is visible when the delay switch is enabled and is used to set the time for the delay to turn off the relay.

Options: 0..65535

Parameter “Staircase lighting function”

This parameter is used to activate the switch staircase light function.

Options: disable/enable

Staircase lighting function:

Turn on the staircase light of each channel through the communication object "Output of staircase Lighting" of each corresponding channel. The value of the communication object "Output of Staircase Lighting" can be programmed. When the stair light is turned on, the timing of the stair light is also turned on. When the stair light warning is not set, the stair light will be turned off immediately after the set duration of the stair light has reached.

Parameter “Duration of staircase lighting--(0...1000 minutes)”

This parameter sets the stair lighting duration after the stair light is turned on. (Unit: minutes)

Options: 0...1000

Parameter “Duration of staircase lighting--(0...59 second)”

This parameter sets the stair lighting duration after the stair light is turned on. (Unit: seconds)

Options: 0...59

Parameter “The mode of control for Staircase lighting is”

This parameter setting controls the opening and stopping mode of the stair light.

Options:

Start with “1” , stop with “0”

Start with “1” no action with “0”

Start with “0/1”, cannot be stopped

When "Start with '1', stop with '0'" is selected, the staircase lighting will turn on when the communication object "Output of staircase lighting" receives the logical value "1" and stop the timing of the staircase lighting when it receives the logical value "0", maintaining the current contact state until it is changed by another operation.

When "Start with '1', No action with '0'" is selected, the staircase light will turn on when the logical value "1" is received by the communication object "Output of staircase Lighting", and there will be no response when "0" is received.

When "Start with '0/1', Cannot be Stopped" is selected, the staircase light will be turned on when the communication object "Output of staircase Lighting" receives the logic "0" or "1", but it cannot be terminated by the communication object.

Parameter “During the lighting time ,if receive the start telegram”

Options:

restart duration of staircase lighting

Ignored the “switch on” telegram

If "Restart duration of Staircase Lighting" is selected, if the message of "Output of staircase lighting" is received from the communication object during the time of staircase lighting, the staircase lamp lighting will be turned on again and the timing will start again.

If "Ignored the 'switch on' telegram" is selected, the message of the communication object "Output of staircase lighting" will be Ignored during the time of staircase lighting.

Parameter “Warning mode for ending of staircase lighting”

This parameter sets the warning mode when the stair light is about to end. Before the stair lighting time ends, the user can be informed that the stair light lighting is about to be turned off. The warning time of the stair light is not included in the opening time of the stair light. If "nothing" is selected, no warning will be issued. If the staircase lighting is turned off before the warning time, there will also be no warning.

Options:

nothing

via object

flashing the channel output with OFF/ON

via object & flashing the channel output

Two types of alerts are provided:

Warning through communication object: Set the value of communication object "Warning of staircase" to "1" at the beginning of Warning and send it to the BUS;

These two methods can be used independently or in combination.

When the parameter "via object" is selected, it is through the communication object warning;

Select "Flashing the channel output with OFF/ON" to pass the light flashing warning;

Select "Via Object & Flashing the channel output" for mixed use alert.

Parameter “--The warning time for ending of staircase lighting(0...59 s)”

This parameter is visible when an alert mode is selected. This parameter sets the duration of the alert in seconds.

Options: 0...59

Parameter “Modify the duration via object”

When "Enable" is selected, a 2-byte communication object "Duration of Staircase" is activated, and the staircase lighting time can be modified by this communication object. If "Disable" is selected, the lighting time of the staircase cannot be modified through the bus.

Options: disable /enable

Parameter “Scene function”

This parameter is used to activate the channel scenario function.

Options: disable/enable

When "Enable" is selected, the following parameter setting interface is visible.

CO2 sensor	1> channel is assigned to (1...64 scene NO,0= no allocation)	1
VOC sensor	Standard output value is	☒ OFF ☐ ON
Actuator	Delay time for scene [0..255s]	0
Switch Actuator	2> channel is assigned to (1...64 scene NO,0= no allocation)	1
Output A	Standard output value is	☒ OFF ☐ ON
A:Scene	Delay time for scene [0..255s]	0
Output B	3> channel is assigned to (1...64 scene NO,0= no allocation)	1
Output C	Standard output value is	☒ OFF ☐ ON
Output D	Delay time for scene [0..255s]	0
Dimming Actuator	4> channel is assigned to (1...64 scene NO,0= no allocation)	1
Voice controller	Standard output value is	☒ OFF ☐ ON
Gateway	Delay time for scene [0..255s]	0

Figure 3.7.3 Parameter window “X: Scene”

Parameter “1...8<channel is assigned to (1...64 scene NO.,0=no allocation)”

Each output can be assigned 64 different scene numbers, which can support 8 different scene Settings at the same time. When set to 0, the scene function of this path will fail.

Options: 1...64, 0=no allocation

Note: The valid scenario number of the parameter setting is 1 to 64, and the corresponding packet value is 0 to 63.

Parameter “Standard output value is”

This parameter sets the action performed by the relay channel to be normally open or normally closed when the scenario is invoked.

Options: OFF/ON

Parameter “Delay time for scene [0...255s]”

This parameter sets the delay time for the device relay to execute the set action when a scene recall message is received.

Options: 0...255

3.8 Parameter window“Gateway”

The "Gateway" parameter setting interface is shown in Figure 3.8.1, which is used to set the basic configuration parameters of the Gateway function. A total of 15 wireless function channels are available for enabling configuration, and the specific wireless device configuration usage instructions are shown in the Appendix.

Figure 3.8.1 Parameter window “Gateway”

*Parameter “Gateway device ID”

This parameter sets the device ID of the gateway device.

Options: 0...65535

*Parameter “Gateway device name”

This parameter sets the gateway device information name description up to 32 bytes.

Options: Both Chinese and English are acceptable

*Parameter “IP assignment”

This parameter sets how the gateway IP is allocated, both dynamically and statically.

Options: DHCP/Static IP

*Parameter “IP address”

This parameter sets the static IP address of the gateway device. Be careful not to conflict with the address of other devices in the unified network segment, which will cause normal communication.

Options: Set the device IP in IPV4 format

*Parameter “Gateway address”

This parameter sets the IP address of the routing device (this IP address is assigned by the gateway device), and it should be in the same network segment with the device.

Options: Set the device IP in IPV4 format

*Parameter “Netmask address”

This parameter sets the gateway device subnet mask

Options: Set according to the mask format, for example, 255.255.255.0

*Parameter “DNS server”

This parameter sets the network IP address of the DNS server

Options: Set the IP address in IPV4 format

Note: * The features identified are not configurable at this time.

3.8.1 “KNX Channel setting”function parameter

The "KNX Channel Setting" parameter setting interface is shown in Figure 3.8.2, which is used to set whether the gateway function Channel is enabled or not.

Shutter Actuator Output B B:Scene Voice controller Gateway	KNX Channel setting Channel 1-10 Channel 1 is Channel 2 is Channel 3 is Channel 4 is Channel 5 is Channel 6 is Channel 7 is Channel 8 is Channel 9 is Channel 10 is	☐ disable ☒ enable ☐ disable ☒ enable ☒ disable ☐ enable ☒ disable ☐ enable ☒ disable ☐ enable ☒ disable ☐ enable ☒ disable ☐ enable ☒ disable ☐ enable ☒ disable ☐ enable ☒ disable ☐ enable ☒ disable ☐ enable
KNX Channel setting Channel 1 Logic 1st Logic function 2nd Logic function Scene group		

Figure 3.8.2 Parameter window “KNX Channel setting”

***Parameter “Channel 1-10”**

***Parameter “Channel 11-20”**

***Parameter “Channel 11...15 is”**

This parameter sets whether the channel corresponding to the gateway is enabled.

Options: disable/enable

3.8.2 “Channel X”function parameter configuration page

The "Channel X--Switch" parameter setting interface is shown in Figure 3.8.3.

+ Switch Actuator + Dimming Actuator - Shutter Actuator - Output B - B:Scene - Voice controller - Gateway - KNX Channel setting - Channel 1	Device type is: Switch Description (max 30char.): Device online status reference by: Common 1
---	---

Figure 3.8.3 Parameter window “Channel X --Switch”

The "Channel X - Switch/Dimming" parameter setting interface is shown in Figure 3.8.4.

+ Switch Actuator + Dimming Actuator - Shutter Actuator - Output B - B:Scene - Voice controller - Gateway - KNX Channel setting - Channel 1	Device type is: Switch/Dimming Description (max 30char.): Device online status reference by: Common 1 Min. brightness value [0..50]%; 0 Max. brightness value [51..100]%; 100
---	---

Figure 3.8.4 "Channel X - Switch/Dimming" parameter Settings page

The "Channel x-RGB Dimming" parameter setting interface is shown in Figure 3.8.5.

LED	Device type is	RGB dimming
General setting of Room therm...	Description (max 30char.)	
Air condition	Device online status reference by	Common 1
Floor heating	Object datatype	☒ 1X3byte ☐ 3X1byte
Ventilation		
Sensor		

Figure 3.8.5 "Channel X - RGB Dimming" parameter setting page

The "Channel X-RGBW Dimming" parameter setting interface is shown in Figure 3.8.6.

LED	Device type is	RGBW dimming
General setting of Room therm...	Description (max 30char.)	
Air condition	Device online status reference by	Common 1
Floor heating	Object datatype	☒ 1X6byte ☐ 4X1byte
Ventilation		

Figure 3.8.6 "Channel X-RGBW Dimming" parameter setting page

The "Channel x-color Temperature" parameter setting interface is shown in Figure 3.8.7.

LED	Device type is	Color temperature
General setting of Room therm...	Description (max 30char.)	
Air condition	Device online status reference by	Common 1
Floor heating	Min. color temperature [1000..10000]K	2000
Ventilation	Max. color temperature [1000..10000]K	6000
Sensor		

Figure 3.8.7 "Channel X - Color Temperature" parameter Settings page

The "Channel X - Curtain Step/Move" parameter setting interface is shown in Figure 3.8.8.

Figure 3.8.8 "Channel X - Curtain Step/Move" parameter Settings page

LED	Device type is	Curtain step/move
General setting of Room therm...	Description (max 30char.)	
Air condition	Device online status reference by	Common 1
Floor heating		

The parameter setting interface of "Channel X -- Roller Blind Step/Move" is shown in Figure 3.8.9.

LED	Device type is	Roller blind step/move
General setting of Room therm...	Description (max 30char.)	
Air condition	Device online status reference by	Common 1

Figure 3.8.9 "Channel X - Roller Blind Step/Move" parameter setting page

The "Channel X - Curtain Position" parameter setting interface is shown in Figure 3.8.10.

LED	Device type is	Curtain position
+ General setting of Room therm...	Description (max 30char.)	
+ Sensor	Device online status reference by	Individual
+ Actuator	Time period for request[1..255]	1
Voice controller		

Figure 3.8.10 "Channel X - Curtain Position" parameter Settings page

The parameter setting interface of "Channel x-Roller Blind Position" is shown in Figure 3.8.11.

LED	Device type is	Roller blind position
+ General setting of Room therm...	Description (max 30char.)	
+ Sensor	Device online status reference by	Individual
+ Actuator	Time period for request[1..255]	1

Figure 3.8.11 "Channel X - Roller Blind Position" parameter setting page

The "Channel X - Venetian Blind Position and Slat" parameter setting interface is shown in Figure 3.8.12.

LED	Device type is	Venetian blind position and slat
General setting of Room therm...	Description (max 30char.)	
Air condition	Device online status reference by	Common 1
Floor heating		

Figure 3.8.12 "Channel X - Venetian Blind Position and Slat" parameter Settings

The "Channel x-Scene Switch" parameter setting interface is shown in Figure 3.8.13.

LED	Device type is	Scene switch
General setting of Room therm...	Description (max 30char.)	
Air condition	Device online status reference by	Common 1
Floor heating	Trigger scene No. from KNX	1
Ventilation		

Figure 3.8.13 "Channel X - Scene Switch" parameter setting page

Parameter “Device type is”

This parameter is used to set the supported function type of the channel access sub-device of this wireless device, and the various function pages are configured as shown in the above diagram.

Options: Switch

- Switch/Dimming
- RGB dimming
- RGBW dimming
- Color Temperature
- Curtain step/move
- Roller blind step/move
- Curtain position
- Roller blind position
- Venetian blind position and slat
- Value sender
- Scene switch

Parameter “Description (max 30 char.)”

This parameter is used to describe the device specific device information.

Options: Both Chinese and English are acceptable

Parameter “Min. brightness value [0..50%]”

This parameter sets the minimum brightness limit that the lighting device is allowed to adjust.

Options: 0...50

Parameter “Max. brightness value [51..100%]”

This parameter sets the maximum brightness limit that the lighting device is allowed to adjust.

Options: 51...100

RGB -- Parameter “Object datatype”

This parameter is used to set the object data type of wireless RGB dimming.

Options: 1X3byte

3X1byte

RGBW -- Parameter “Object datatype”

This parameter is used to set the object data type of wireless RGBW dimming.

Options: 1X6byte

4X1byte

Parameter “Min. color temperature [1000..10000]K”

This parameter is used to set the minimum color temperature limit that the two-tone light device is allowed to adjust.

Options: 1000...10000

Parameter “Max. color temperature [1000..10000]K”

This parameter is used to set the maximum color temperature limit that the two-tone light device is allowed to adjust.

Options: 1000...10000

Parameter “Trigger scene No. from KNX”

This parameter is used to set the KNX channel scenario number that triggers the wireless scenario channel.

Options: 1...64

3.9 Parameter window“Logic”

The "Logic" parameter setting interface is shown in Figure 3.9.1, which is used here to enable Logic functions, and a total of 8 Logic functions can be set.

+ Gateway		1st Logic function	☐ disable ☒ enable
- Logic		2nd Logic function	☐ disable ☒ enable
1st Logic function		3rd Logic function	☐ disable ☒ enable
2nd Logic function		4th Logic function	☐ disable ☒ enable
3rd Logic function		5th Logic function	☐ disable ☒ enable
4th Logic function		6th Logic function	☐ disable ☒ enable
5th Logic function		7th Logic function	☐ disable ☒ enable
6th Logic function		8th Logic function	☐ disable ☒ enable

Figure 3.9.1 parameter window"Logic disable/enable"

+ Gateway		Function of channel	OR
- Logic		Input a	Disconnected
1st Logic function		Default value	☒ 0 ☐ 1
2nd Logic function		Input b	Disconnected
3rd Logic function		Default value	☒ 0 ☐ 1
4th Logic function		Input c	Disconnected
5th Logic function		Default value	☒ 0 ☐ 1
6th Logic function		Input d	Disconnected

Figure 3.9.2 parameter window"Logical operations AND/OR/NAND/NOR/XOR"

+ Gateway		Function of channel	Threshold comparator
- Logic		Threshold value data type	4bit
1st Logic function		Threshold value value 0...15	0
2nd Logic function		If object value < Threshold value	Send value "1"
3rd Logic function		If object value = Threshold value	Send value "0"
4th Logic function		If object value != Threshold value	Do not send telegram
5th Logic function		If object value > Threshold value	Do not send telegram
6th Logic function		If object value <= Threshold value	Do not send telegram
		If object value >= Threshold value	Do not send telegram

Figure 3.9.3 parameter window "Logic Threshold comparator"

Figure 3.9.4 "Logic Format Convert" data conversion parameter Settings page

Parameter “Function of channel”

This is used to set the logical functionality of the channel.

Options: Disable

AND

OR

NAND

NOR

XOR

Threshold comparator

Format convert

AND/OR/NAND/NOR/XOR: The parameters AND communication objects of these options are similar, only the logical operation is different. The following will take the parameter of one of the options as an example to explain.

3.9.1 “AND/OR/NAND/NOR/XOR”functional parameter

The functional parameter interface of "AND/OR/NAND/NOR/XOR" is shown in Figure 3.9.2.

Parameter “Input a/b/c/d/e/f/g/h”

This parameter is used to set whether 'input x' will participate in the operation, participate in the operation normally, or negate the operation.

Options: Disconnected

Normal

Inverted

Disconnected: not to calculate;

Normal: to directly calculate the input value;

Inverted: invert the input value, then to calculate. **Note: not to invert the initiate value.**

Parameter “Default value”

This parameter is for setting the initial value of logic input x.

Options: 0/1

Parameter “Result is inverted”

This parameter is for setting whether to invert the logic calculation result.

Options: No/Yes

No: output directly;

Yes: output after inverting.

Parameter “Read input object value after bus voltage recovery”

This parameter is for setting whether to send the read request to the logic input object after device voltage recovery or finish programming.

Options: No/Yes

Parameter “Output send when”

This parameter is for setting the condition of sending logic result.

Options:

Receiving a new telegram

Every change of output object

Receiving a new telegram: every time the object received a new input value will the logic result be sent to the bus;

Every change of output object: only when logic result has changed will it be sent to the bus.

Note: when in the first time to logic calculate, the logic result will be sent even if it has no change.

Parameter “Send delay time”

Base:

None

0.1s

1s

...

10s

25s

Factor: 1..255

This parameter is for setting the delay time for sending the logic calculation result to the bus. Delay time = Base × Factor, if option “None” of Base is selected, then there is no delay.

3.9.2 “Threshold comparator”functional parameter

The "Threshold Comparator" function parameter screen is shown in 3.9.3.

Parameter “Threshold value data byte”

The data type of the threshold is set here.

Options: 4bit

1byte

2byte

4byte

Parameter “Threshold value...”

The threshold value is set here, and the range of the threshold value is determined by its data type. 4bit 0..15/1byte 0..255/ 2byte 0..65535 /4byte 0..4294967295.

Parameter “If Object value<Threshold value”**Parameter “If Object value=Threshold value”****Parameter “If Object value!=Threshold value”****Parameter “If Object value>Threshold value”****Parameter “If Object value<=Threshold value”****Parameter “If Object value>=Threshold value”**

This parameter is for setting the logic result value that should be sent when threshold value Less than, equal to, not equal to, greater than, less than or equal to the setting valve.

Options: Do not send telegram

Send value “0”

Send value “1”

Do not send telegram: not consider to select this option;

Send value “0”/“1”: when condition is satisfied, send telegram 0 or1.

If there is a conflict between the setting options between parameters, the base on the value that should be sent when reach the final parameter condition. For example: parameter “If Object value=Threshold value” is set to be “Send value “0” ”; parameter “If Object value<=Threshold value” is set to be “Send value “1” ”; when object value is equal to the threshold value, then the logic result will send “1”.

Parameter “Output send when”

This parameter is for setting the condition of sending logic result.

Options:

Receiving a new telegram

Every change of output object

Receiving a new telegram: every time the object received a new input value will the logic result be sent to the bus;

Every change of output object: only when logic result has changed will it be sent to the bus.

Note: when in the first time to logic algorithm, the logic result will be sent even if it has no change.

Parameter “Send delay time”

Base:

None

0.1s

1s

...

10s

25s

Factor: 1..255

This parameter is for setting the delay time for sending the logic algorithm result to the bus. Delay time = Base x Factor, if option “None” of Base is selected, then there is no delay.

3.9.3 “Format convert”function parameter

The "Format Convert" function parameter is shown in 3.9.4.

Parameter “Function”

This parameter is for setting the format convert type.

Options: 2x1bit→1x2bit

8x1bit→1x1byte

1x1byte→1x2byte

2x1byte→1x2byte

2x2byte→1x4byte

1x1byte→8x1bit

1x2byte→2x1byte

1x4byte→2x2byte

1x3byte→3x1byte

3x1byte→1x3byte

Parameter “Output send when”

This parameter is for setting the condition of sending logic result.

Options: Receiving a new telegram

Every change of output object

Receiving a new telegram: every time the object received a new input value will the logic result be sent to the bus;

Every change of output object: only when logic result has changed will it be sent to the bus.

Note: when in the first time to logic algorithm, the logic result will be sent even if it has no change.

3.10 Parameter window“Event Group”

The "Event Group Setting" parameter setting interface is shown in Figure 3.10.1. This window parameter is used to enable the Event Group function. A total of 8 groups of Event functions can be set and used, and each Group has 8 function outputs.

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4th Logic function	Event Group 1 Function	☐ disable ☒ enable
5th Logic function	Event Group 2 Function	☐ disable ☒ enable
6th Logic function	Event Group 3 Function	☒ disable ☐ enable
7th Logic function	Event Group 4 Function	☒ disable ☐ enable
8th Logic function	Event Group 5 Function	☒ disable ☐ enable
Scene group		
G1:Output 1 Function	Event Group 6 Function	☒ disable ☐ enable
G1:Output 2 Function	Event Group 7 Function	☒ disable ☐ enable
G1:Output 3 Function	Event Group 8 Function	☒ disable ☐ enable

Figure 3.10.1 parameter window"Scene group disable/enable"

4th Logic function	Object type of output 1	1byte
5th Logic function	1->output 1 trigger scene NO. is (1~64 is active,0 is inactive)	1
6th Logic function	object value of output 1 (0..255)	0
7th Logic function	Delay time for sending [0..63]*0.1s	0
8th Logic function	2->output 1 trigger scene NO. is (1~64 is active,0 is inactive)	2
Scene group	object value of output 1 (0..255)	1
G1:Output 1 Function		
G1:Output 2 Function	Delay time for sending [0..63]*0.1s	0
G1:Output 3 Function	3->output 1 trigger scene NO. is (1~64 is active,0 is inactive)	3
G1:Output 4 Function	object value of output 1 (0..255)	2
G1:Output 5 Function	Delay time for sending [0..63]*0.1s	0
G1:Output 6 Function	4->output 1 trigger scene NO. is (1~64 is active,0 is inactive)	4
G1:Output 7 Function	object value of output 1 (0..255)	3
G1:Output 8 Function	Delay time for sending [0..63]*0.1s	0
G2:Output 1 Function	5->output 1 trigger scene NO. is (1~64 is active,0 is inactive)	5
G2:Output 2 Function	object value of output 1 (0..255)	4
G2:Output 3 Function	Delay time for sending [0..63]*0.1s	0
G2:Output 4 Function	6->output 1 trigger scene NO. is (1~64 is active,0 is inactive)	6

Figure 3.10.2 parameter window"GX: Output y Function"

Parameter “Event Group X Function” (X:1...8)

This parameter is for setting whether to enable scene group x function, up to 8 scene groups.

Options: disable/enable

When a certain set of parameter functions is enabled, the eight output configuration parameters of the group are visible.

As 8 group functions are the same, and 8 output functions of each group as well, the following description only about one output of a group.

Parameter “Object type of output y (y:1...8)”

This parameter is for setting the object type of output y of group x.

Options: 1bit/1byte/2byte

Parameter “z->Output y trigger scene NO. is(1~64 is active,0 is inactive)”(z:1~6)

This parameter is for setting the triggered scene number of output y of group x. Up to 6 triggered scene of each output can be configured.

Options:0..64, 0=inactive

Parameter “Object value of output y (0..1/0..255/0..65535)”

This parameter is for setting the output value, the range depends on the data type of output y.

1bit 0..1/1byte 0..255/ 2byte 0..65535

Parameter " Delay time for send [0...63] "

This parameter is for setting the delay time for sending the output value to the bus.

Options: 0..63s

Chapter 4 Description of Communication Object

The communication object is the medium to communicate other device on the bus, namely only the

communication object can communicate with the bus.

The role of each communication object is detailed below.

NOTE: “C” in “Flag” column in the below table means enable the communication function of the object; “W” means value of object can be written from the bus; “R” means the value of the object can be read by the other devices; “T” means the object has the transmission function; “U” means the value of the object can be updated.

4.1 “General” Communication Object

1	General	Heartbeat telegram			1 bit	C - - T -	enable	低
2	General	Lock buttons			1 bit	C - W T U	enable	低
3	Panel indicator LED	Day/Night mode	新建群组地址	0/1/4	1 bit	C - W T U	switch	低
4	Status LED brightness	The brightness of LED			1 byte	C - W T -	percentage (0..100%)	低
5	Backlight LED	ON/OFF			1 bit	C - W T U	switch	低
6	Backlight LED	The brightness of backlight			1 byte	C - W T -	percentage (0..100%)	低
7	LCD brightness	Day/Night mode	新建群组地址	0/1/3	1 bit	C - W T U	switch	低
9	Buzzer	Disable			1 bit	C - W - -	enable	低
10	Buzzer	The volume of buzzer			1 byte	C - W - -	percentage (0..100%)	低
11	Vibration	Disable			1 bit	C - W - -	enable	低
12	Vibration	The level of vibration			1 byte	C - W - -	percentage (0..100%)	低
13	Silent mode	Parameter setting	新建群组地址	0/1/1	1 bit	C - W T -	open/close	低
14	Volume	Voice Parameter setting			1 byte	C - W T -	percentage (0..100%)	低

Figure 4.1 “General” communication object

NO.	Object Function	Name	Data Type	Flag	DPT
1	Heartbeat telegram	General	1 bit	C,T	1.003 DPT_Enable
The communication object is used to periodically send a telegram to the bus .					
2	Lock buttons	General	1 bit	C,W,T,U	1.003 DPT_Enable
This communication object is used to lock or unlock the touch button function of the temperature control panel. Note: This feature is not supported by the current button panel.					
3	Day/Night mode	Panel indicator LED	1 bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to set the daytime or night mode switch of the panel indicator light.					
4	The brightness of LED	Status LED brightness	1byte	C,W,T	5.001 DPT_Percentage
This communication object is used to set the brightness of the panel status indicator and is not saved after configuration. When the device changes the day-night mode, the brightness state will revert to the database configuration state.					
5	ON/OFF	Backlight LED	1 bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to turn on or off the backlight indicator, and the switching mode supports direct on and off or gradual on and off.					
6	The brightness of backlight	Backlight LED	1byte	C,T	5.001 DPT_Percentage
This communication object is used to set the brightness of the backlight indicator and will not be saved after configuration.					
9	Disable	Buzzer	1 bit	C,W	1.003 DPT_Enable

This communication object is used to set the opening or closing of the buzzer. If the database is not configured with the prompt feedback function, this object will not work and will not be saved after configuration, and will restore the original setting after power failure.					
10	The volume of buzzer	Buzzer	1byte	C,W	5.001 DPT_Percentage
This communication object is used to set the loudness level of the buzzer. If the database is not configured with the prompt feedback function, the object does not work and will not be saved after configuration, and the original setting will be restored after power failure. The value is: 0 weak loudness; 1: normal loudness; 2: strong loudness;					
11	Disable	Vibration	1bit	C,W	1.003 DPT_Enable
This communication object is used to set the opening or closing of the vibration feedback prompt. If the database is not configured with the prompt feedback function, this object will not work and will not be saved after configuration, and will restore the original setting after power failure.					
12	The level of vibration	Vibration	1byte	C,W	5.001 DPT_Percentage
This communication object is used to set the intensity level of vibration feedback. If the database is not configured with the prompt feedback function, the object does not work, it will not be saved after configuration, and the original setting will be restored after power failure, the numerical value is: 0... 9, the larger the value, the stronger the vibration sense.					
13	Parameter setting	Silent mode	1bit	C,W,T	1.009 DPT_OpenClose
This communication object is used to set the opening or closing of the silent mode. This parameter can be saved after power failure. After opening, the device does not support voice broadcast feedback prompt (only the voice panel supports this function).					
14	Voice Parameter setting	Volume	1byte	C,W,T	5.001 DPT_Percentage
This communication object is used to set the volume value of the voice prompt. It supports percentage setting. Note: This feature is not currently supported in the panel					

Table 4.1 “General” communication object table

4.2 Description of button communication object

“Switch” function (does not distinguish between long and short presses):

15	Button 1	Press/release, Switch	1 bit	C - W T U switch	低
19	Button 1	Disable	1 bit	C - W - - enable	低

NO.	Object Function	Name	Data Type	Flag	DPT
15	Press/release, Switch	Button/Rocker X	1bit	C,W, T,U	1.001 DPT_Switch
This communication object is used to trigger the switch operation, and "Press/release" is visible when long and short operations are not distinguished.					
19	Disable	Button/Rocker X	1bit	C,W	1.003 DPT_Enable
This communication object is used to enable and disable the operation of a key function or a pair of related key functions.					

"Switch" function (distinguish long and short press) :

15	Button 1	Short operation, Switch	1 bit	C - W T U	switch	低
16	Button 1	Long operation, Switch	1 bit	C - W T U	switch	低
19	Button 1	Disable	1 bit	C - W - -	enable	低

NO.	Object Function	Name	Data Type	Flag	DPT
15	Short operation, Switch	Button/Rocker X	1bit	C,W, T,U	1.001 DPT_Switch
This communication object is used to trigger the short press operation of the switch.					
16	Long operation, Switch	Button/Rocker X	1bit	C,W, T,U	1.001 DPT_Switch
This communication object is used to trigger the long press operation of the switch. The "Short/Long operation" is visible when distinguishing between Short and Long operations.					
19	Disable	Button/Rocker X	1bit	C,W	1.003 DPT_Enable
This communication object is used to enable and disable the operation of a single or pair of related button functions.					

"Switch/Dimming"function:

15	Button 1	Short,Switch	1 bit	C - W T U	switch	低
16	Button 1	Long,Dimming	4 bit	C - W T U	dimming control	低
19	Button 1	Disable	1 bit	C - W - -	enable	低

NO.	Object Function	Name	Data Type	Flag	DPT
15	Short, Switch	Button/Rocker X	1bit	C,W, T,U	1.001 DPT_Switch
This communication object is used to trigger the switch operation. Message: 0 -- off, 1 -- ON					
16	Long, Dimming	Button/Rocker X	4bit	C,W,T,U	3.007 DPT_Dimming control
Used to trigger a relative dimming operation. Dimming down when telegram is 1~7, and the larger this range the adjust step is smaller. That is, the maximum step of dimming down when is 1, and the minimum step of dimming down when is 7, stop dimming when is 0; Dimming up when telegram is 9~15, and the larger this range the adjust step is smaller. That is, the maximum step of dimming up when is 9, and the minimum step of dimming up when is 15, stop dimming when is 8.					
19	Disable	Button/Rocker X	1bit	C,W	1.003 DPT_Enable
This communication object is used to enable and disable the operation of a single or pair of related button functions.					

"Scene control"function:

15	Button 1	Short/Press,scene	1 byte	C - W T U	scene control	低
16	Button 1	Long/Release,scene	1 byte	C - W T U	scene control	低
19	Button 1	Disable	1 bit	C - W - -	enable	低

NO.	Object Function	Name	Data Type	Flag	DPT
15	Short/Press, scene	Button/Rocker X	1byte	C,W,T,U	18.001 DPT_SceneControl
16	Long/Release, scene	Button/Rocker X	1byte	C,W,T,U	18.001 DPT_SceneControl

These communication objects are used to send a 8 bit command to recall or storage scene. Detailed 8bit the meaning of the directive.

Set up a 8bit Orders for the (Binary code): FXNNNNNN

F: '0' recall scene; '1' for storage scene;

X : 0 ;

NNNNNN: Scene number(0... 63).

Parameter setting Options are 1~64, actually communication object “Scene” corresponds to the telegram received is 0~63 . Such as parameter settings is the scene 1, communication object “Scene” sends the scene for 0.

Object message value	Object message value
0	Recall Scene 1
1	Recall Scene 2
2	Recall Scene 3
...	...
63	Recall Scene 64
128	Store Scene 1
129	Store Scene 2
130	Store Scene 3
...	...
191	Store Scene 64

“Shutter control”function:

15	Button 1	Up/Down,Blind	1 bit	C - W T U	up/down	低
16	Button 1	Stop/Adjust,Blind	1 bit	C - W T U	step	低
19	Button 1	Disable	1 bit	C - W - -	enable	低

NO.	Object Function	Name	Data Type	Flag	DPT
15	Up/Down, Blind	Button/Rocker X	1bit	C,W,T,U	1.008 DPT_up/down
Used for sending the telegram to the bus, to control blind up/down. Telegrams: 1——Move down 0——Move up					
16	Stop/Adjust,Blind	Button/Rocker X	1bit	C,W,T,U	1.008 DPT_up/down
This communication object is used to stop the curtain running or stop adjusting the louver Angle.					

“Value/Force output”function:

15	Button 1	Short/Press,1bit value	1 bit	C - W T U	switch	低
16	Button 1	Long/Release,2bit value	2 bit	C - W T U	switch control	低
19	Button 1	Disable	1 bit	C - W - -	enable	低

NO.	Object Function	Name	Data Type	Flag	DPT
15	Short/Press, 1bit/2bit/4bit/1byte/2byte value	Button/Rocker X	1bit 2bit 4bit 1byte 2byte	C,W,T,U	1.001 DPT_Switch 2.001 DPT_Switch control 3.007 DPT_Dimming control 5.010 DPT_counter pulses 7.001 DPT_pulses
16	Long/Release, 1bit/2bit/4bit/1byte/2byte value	Button/Rocker X	1bit 2bit 4bit 1byte 2byte	C,W,T,U	1.001 DPT_Switch 2.001 DPT_Switch control 3.007 DPT_Dimming control 5.010 DPT_counter pulses 7.001 DPT_pulses

These two communication objects are used for sending a fixed value to the bus, distinguish long and short operation. Range of values that can be sent are determined by the datatype, and the datatype is determined by the parameter setting.

“Shift register”function:

15	Button 1	Register value	1 byte	C - W T U	counter pulses (0..255)	低
19	Button 1	Disable	1 bit	C - W - -	enable	低

NO.	Object Function	Name	Data Type	Flag	DPT
15	Register value	Button X	1byte	C,W,T,U	5.010 DPT_counter pulses

The communication object is used to send the value of shift register.

“RGB dimming”function:

15	Button 1	RGB dimming value	3 bytes	C - W T U	RGB value 3x(0..255)	低
15	Button 1	Red dimming value	1 byte	C - W T U	counter pulses (0..255)	低
16	Button 1	Green dimming value	1 byte	C - W T U	counter pulses (0..255)	低
17	Button 1	Blue dimming value	1 byte	C - - T -	counter pulses (0..255)	低
15	Button 1	RGBW dimming value	6 bytes	C - W T U	RGBW value 4x(0..10...	低
15	Button 1	Red dimming value	1 byte	C - W T U	counter pulses (0..255)	低
16	Button 1	Green dimming value	1 byte	C - W T U	counter pulses (0..255)	低
17	Button 1	Blue dimming value	1 byte	C - - T -	counter pulses (0..255)	低
18	Button 1	White dimming value	1 byte	C - - T -	counter pulses (0..255)	低

NO.	Object Function	Name	Data Type	Flag	DPT
15	Red dimming value	Button X	1byte	C,W,T,U	5.010 DPT_counter pulses

This communication object is used to send dimming value of R (red) in RGB/RGBW.

16	Green dimming value	Button X	1byte	C,W,T,U	5.010 DPT_counter pulses
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This communication object is used to send the modulation value of G (green) in RGB/RGBW.

17	Blue dimming value	Button X	1byte	C,T	5.010 DPT_counter pulses
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This communication object is used to send the modulation value of B (blue) in RGB/RGBW.

18	White dimming value	Button X	1byte	C,T	5.010 DPT_counter pulses
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This communication object is used to send the modulation value of W(White) in RGB/RGBW.

15	RGB dimming value	Button X	3byte	C,W,T,U	232.600 DPT_RGB value 3x(0..255)
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This communication object is used to send the brightness value of RGB three color lights, the highest bit byte is the dimming value of R(red).

15	RGBW dimming value	Button X	6byte	C,W,T,U	251.600 DPT_Colour_RGBW
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This communication object is used to send the brightness value of the RGBW four-color lamp. The most significant byte is the dimming value of R(red).

The encoding of the 6-byte RGBW dimming object data type is: U8 U8 U8 U8 R8 R4 B4, as detailed below:

6MSB	5	4	3	2	1LSB
R	G	B	W	Reserve	r r r r mR mG mB m
UUUUUUUU	UUUUUUUU	UUUUUUUU	UUUUUUUU	00000000	0000BBBB

R: red dimming value; G: green dimming value; B: blue dimming value; W: white dimming value;

mR: determines whether the red dimming value is valid, 0 = invalid, 1 = valid;
mG: determines whether the green dimming value is valid, 0 = invalid, 1 = valid;
mB: determines whether the blue dimming value is valid, 0 = invalid, 1 = valid;
mW: Determines whether the white dimming value is valid, 0 = invalid, 1 = valid.

“Multiple operation”function:

15	Button 1	Object 1-On/Off	1 bit	C - W T U	switch	低
16	Button 1	Object 2-Up/Down	1 bit	C - W T U	up/down	低
17	Button 1	Object 3-SceneControl	1 byte	C - W T U	scene control	低
18	Button 1	Object 4-Percentage	1 byte	C - W T U	percentage (0..100%)	低

NO.	Object Function	Name	Data Type	Flag	DPT
15/16/17/18	Object x-On/Off Object x-Up/Down Object x-SceneControl Object x-SceneStore Object x-Percentage Object x-Unsigned value	Button X	1bit 1bit 1byte 1byte 1byte 1byte	C,W,T,U	1.001 DPT_Switch 1.008 DPT_up/down 18.001 DPT_SceneControl 18.001 DPT_SceneControl 5.001 DPT_Scaling 5.010 DPT_counter pulses

The communication object is object of multiple operation, up to activate 4 objects at the same time, and operation once can send the value of 4 different datatype objects to the bus via these objects. Range of values that can be sent are determined by the datatype, and the datatype is determined by the parameter setting.

“Delay mode”function:

15	Button 1	Press,Delay mode	4 bit	C - W T U	dimming control	低
16	Button 1	Long,Delay mode	4 bit	C - W T U	dimming control	低

NO.	Object Function	Name	Data Type	Flag	DPT
15	Press, Delay mode	Button/Rocker X	1bit 4bit 1byte	C,W,T,U	1.001 DPT_Switch 3.007 DPT_Dimming control 5.010 DPT_counter pulses
16	Long, Delay mode	Button/Rocker X	1bit 4bit 1byte	C,W,T,U	1.001 DPT_Switch 3.007 DPT_Dimming control 5.010 DPT_counter pulses

These communication objects are used to send the value of delay mode to the bus, distinguish long and short operation. Range of values that can be sent are determined by the datatype, and the datatype is determined by the parameter setting.

4.3 LED communication object description

65	LED 1(1byte)	Status	1 byte	C - W T U	counter pulses (0..255)	低
66	LED 2(1byte)	Status	1 byte	C - W T U	counter pulses (0..255)	低
67	LED 3	Status	1 bit	C - W T U	switch	低
68	LED 4	Status	1 bit	C - W T U	switch	低
69	LED 5	Status	1 bit	C - W T U	switch	低
70	LED 6	Status	1 bit	C - W T U	switch	低
71	LED 7	Status	1 bit	C - W T U	switch	低
72	LED 8	Status	1 bit	C - W T U	switch	低
73	LED 9	Status	1 bit	C - W T U	switch	低
74	LED 10	Status	1 bit	C - W T U	switch	低

Figure 4.3 LED indicates the functional communication object

NO.	Object Function	Name	Data Type	Flag	DPT
65.....74	Status	LED X	1bit 1byte	C,W,T,U	1.001 DPT_Switch 5.010 DPT_counter pulses
This communication object is used to receive messages of 1bit/1byte type, and the LED gives status indication based on the received message value and parameter Settings.					

Table 4.3 LED indicator function communication object Table

4.4 Proximity sensing communication object

285	Proximity sensor	Disable proximity function	1 bit	C - W - -	enable	低
286	Proximity sensor	Change sensitivity	1 byte	C - W - -	counter pulses (0..255)	低
287	Proximity sensor	Proximity output(1bit)	新建... 6... 1 bit	C - W T U	switch	低
288	Proximity sensor	Proximity output(1byte)	新建... 6... 1 byte	C - - T -	counter pulses (0..255)	低

Figure 4.4 Proximity sensing communication objects

NO.	Object Function	Name	Data Type	Flag	DPT
285	Disable proximity function	Proximity sensor	1bit	C,W	1.003 DPT_Enable
This communication object is used to turn off or enable proximity sensing via the bus. 0 - off, 1 - enable					
286	Change sensitivity	Proximity sensor	1byte	C,W	5.010 DPT_counter pulses
This communication object changes the sensitivity of the proximity sensor, the numerical range is 0-- 15, the larger the value, the lower the sensitivity, and the smaller the value, the higher the sensitivity.					
287	Proximity output(1bit)	Proximity sensor	1bit	C,W,T,U	5.010 DPT_counter pulses
This communication object is used to output the message value of proximity induction linkage, which is of type 1bit. When someone is approaching or leaving, it is sent through this object.					
288	Proximity output(1byte)	Proximity sensor	1byte	C,T	5.010 DPT_counter pulses
This communication object is used to output the message value of proximity induction linkage, which is of type 1byte. When someone is approaching or leaving, it is sent through this object.					

Table 4.4 Table of communication objects for proximity sensing

4.5 Temperature sensing communication object description

289	Temperature	Temperature value	2 bytes	C R - T -	temperature (°C)	低
290	Temperature	External temperature value	2 bytes	C - W T U	temperature (°C)	低
291	Temperature	Low temperature alarm	1 bit	C R - T -	alarm	低
292	Temperature	High temperature alarm	1 bit	C R - T -	alarm	低

Figure 4.5 Communication objects for temperature sensing

NO.	Object Function	Name	Data Type	Flag	DPT
289	Temperature value	Temperature	2bytes	C,R,T	9.001 DPT_Temperature
This communication object is used to get the temperature value from the local sensor, or from other sensors on the bus, and then send the value of the temperature sensed by the device to the bus.					
290	Extern temperature value	Temperature	2bytes	C,W,T,U	9.001 DPT_Temperature
This communication object is used to receive values from external temperature sensors from the bus.					
291	Low temperature alarm	Temperature	1bit	C,R,T	1.005 DPT_Alarm
This communication object is used to output low temperature alarm bus packets.					
292	Low temperature alarm	Temperature	1bit	C,R,T	1.005 DPT_Alarm
This communication object is used to output high temperature alarm bus packets.					

Table 4.5 Table of communication objects for temperature sensing

4.6 Description of the communication object of humidity sensing

293	Humidity	Humidity value	2 bytes	C R - T -	humidity (%)	低
294	Humidity	External humidity value	2 bytes	C - W T U	humidity (%)	低
295	Humidity	Low humidity alarm	1 bit	C R - T -	alarm	低
296	Humidity	High humidity alarm	1 bit	C R - T -	alarm	低

Figure 4.6 Communication objects for humidity sensing

NO.	Object Function	Name	Data Type	Flag	DPT
293	Humidity value	Humidity	2bytes	C,R,T	9.007 DPT_Humidity
This communication object is used to get the humidity value from the local sensor, or from other sensors on the bus, and then send the value of the humidity sensed by the device to the bus.					
294	Extern Humidity value	Humidity	2bytes	C,W,T,U	9.007 DPT_Humidity
This communication object is used to receive values from an external humidity sensor from the bus.					
295	Low humidity alarm	Humidity	1bit	C,R,T	1.005 DPT_Alarm
This communication object is used to output low humidity alarm bus packets.					
296	Low humidity alarm	Humidity	1bit	C,R,T	1.005 DPT_Alarm
This communication object is used to output high humidity alarm bus packets.					

Table 4.6 Table of communication objects for humidity sensing

4.7 "Switch Actuator" communication object

307	Main-Output A	Switch,A	新建... 1... 1 bit	C - W - - switch	低
308	Main-Output A	Switch,Status,A	新建... 1... 1 bit	C R - T - switch	低
309	Main-Output A	Delay switch	新建... 1... 1 bit	C - W - - switch	低
310	Main-Output A	Scene,A	1 byte	C - W - - scene control	低
311	Main-Output A	Switch time function,A	新建... 2... 1 bit	C - W - - switch	低
312	Main-Output A	Output of staircase lighting,A	新建... 2... 1 bit	C - W - - switch	低
313	Main-Output A	Warning of staircase,A	新建... 2... 1 bit	C R - T - switch	低
314	Main-Output A	Duration of staircase,A	新建... 2... 2 bytes	C R W - - pulses	低

Figure 4.7 Communication object of "Switch Actuator Output" function

Following X values are: A,B,C,D

NO.	Object Function	Name	Data Type	Flag	DPT
307	Switch X	Main -Output X	1bit	C,W	1.001 DPT_Switch
This communication object is used to trigger the switch actuator action: Receipt of packet "1" triggers an open action. Receipt of packet "0" triggers an off action.					
308	Switch,Status,X	Main -Output X	1bit	C,R,T	1.001 DPT_Switch
This communication object is used to report the switching status of the relay contact.					
309	Delay switch	Main -Output X	1bit	C,W	1.001 DPT_Switch
communication object is used to trigger the delay switch action.					
310	Scene,X	Main -Output X	1byte	C,W	18.001 DPT_Scene Control
This communication object receives an 8bit scene call command, and then executes the corresponding scene action according to the parameters set by the corresponding database function page, the specific Settings are as follows:					
1> channel is assigned to (1...64 scene NO,0= no allocation) 1 Standard output value is ☒ OFF ☐ ON Delay time for scene [0..255s] 0 2> channel is assigned to (1...64 scene NO,0= no allocation) 1 Standard output value is ☒ OFF ☐ ON					
311	Switch time function,X	Main -Output X	1bit	C,W	1.001 DPT_Switch
This communication object is used to set on or off switch time related functions (now supports stair light function).					
312	Output of staircase lighting,X	Main -Output X	1bit	C,W	1.001 DPT_Switch
This communication object is used to trigger the turn on or stop of the stair light function.					
313	Warning of staircase,X	Main -Output X	1bit	C,R,T	1.001 DPT_Switch
This communication object is used to send stair light alarm message to the bus.					
314	Duration of staircase,X	Main -Output X	2bytes	C,R,W	7.001 DPT_pulses
This communication object is used to set the duration of the stair light function, with a maximum support of 60059 seconds.					

Table 4.7 Communication object table of “Switch Actuator Output” function

4.8“Gateway –Channel X(1...15)”function of the communication object description

410	KNX:Channel 1	Switch	1 bit	C - W T U	switch	低
411	KNX:Channel 1	Switch status	1 bit	C - W T U	switch	低

Figure 4.8.1“Gateway—Switch/Dimming”function

NO.	Object Function	Name	Data Type	Flag	DPT
410	Switch	KNX: Channel X	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to receive the switch control packet of the current wireless channel, so as to control the switch state of the sub-device.					
411	Switch, status	KNX: Channel X	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to send the switch status message corresponding to the device of the wireless channel to the bus.					

410	KNX:Channel 1	Switch	1 bit	C - W T U	switch	低
414	KNX:Channel 1	Brightness dimming	1 byte	C - W T U	percentage (0..100%)	低
415	KNX:Channel 1	Brightness,status	1 byte	C - W T U	percentage (0..100%)	低
416	KNX:Channel 1	Step dimming	4 bit	C - W T U	dimming control	低

Figure 4.8.2“Gateway—Switch/Dimming”function

NO.	Object Function	Name	Data Type	Flag	DPT
410	Switch	KNX: Channel X	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to receive the switch control packet of the current wireless channel, so as to control the switch state of the sub-device.					
414	Brightness dimming	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive dimming brightness control message of the current wireless control channel.					
415	Brightness,status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send device brightness status feedback message for this wireless channel.					
416	Step dimming	KNX: Channel X	4bit	C,W,T,U	3.007 DPT_Dimming control
This communication object is used to receive and control the dimming device of the corresponding wireless channel to perform pole-less dimming. The message analysis and key function are relative to the dimming communication object.					

410	KNX:Channel 1	Switch	1 bit	C - W T U	switch	低
411	KNX:Channel 1	Switch status	1 bit	C - W T U	switch	低
412	KNX:Channel 1	RGB dimming value	3 bytes	C - W T U	RGB value 3x(0..255)	低
413	KNX:Channel 1	RGB brightness,status	3 bytes	C - W T U	RGB value 3x(0..255)	低
414	KNX:Channel 1	Red dimming value	1 byte	C - W T U	percentage (0..100%)	低
415	KNX:Channel 1	Red dimming value,status	1 byte	C - W T U	percentage (0..100%)	低
416	KNX:Channel 1	Green dimming value	1 byte	C - W T U	percentage (0..100%)	低
417	KNX:Channel 1	Green dimming value,status	1 byte	C - W T U	percentage (0..100%)	低
418	KNX:Channel 1	Blue dimming value	1 byte	C - W T U	percentage (0..100%)	低
419	KNX:Channel 1	Blue dimming value,status	1 byte	C - W T U	percentage (0..100%)	低

Figure 4.8.3“Gateway—RGB dimming”function

NO.	Object Function	Name	Data Type	Flag	DPT
412	RGB dimming value	KNX: Channel X	3bytes	C,W,T,U	232.600 DPT_RGB value 3x(0..255)
This communication object is used to receive RGB dimming control message for this wireless channel.					

413	RGB brightness,status	KNX: Channel X	3bytes	C,W,T,U	232.600 DPT_RGB value 3x(0..255)
This communication object is used to send RGB dimming state feedback message for this wireless channel.					
414	Red dimming value	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive the R control message of the RGB dimming device for this wireless channel.					
415	Red dimming value, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send the R state of the RGB device for the current wireless channel.					
416	Green dimming value	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive the G control message of the RGB dimming device for this wireless channel.					
417	Green dimming value, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send the G state of the RGB device for the current wireless channel.					
418	Blue dimming value	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive the B control message of the RGB dimming device for this wireless channel.					
419	Blue dimming value, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send the B state of the RGB device for the current wireless channel.					

410	KNX:Channel 1	Switch	1 bit	C - W T U	switch	低
411	KNX:Channel 1	Switch status	1 bit	C - W T U	switch	低
412	KNX:Channel 1	RGBW dimming value	6 bytes	C - W T U	RGBW value 4x(0..10...	低
413	KNX:Channel 1	RGBW brightness,status	6 bytes	C - W T U	RGBW value 4x(0..10...	低
414	KNX:Channel 1	Red dimming value	1 byte	C - W T U	percentage (0..100%)	低
415	KNX:Channel 1	Red dimming value,status	1 byte	C - W T U	percentage (0..100%)	低
416	KNX:Channel 1	Green dimming value	1 byte	C - W T U	percentage (0..100%)	低
417	KNX:Channel 1	Green dimming value,status	1 byte	C - W T U	percentage (0..100%)	低
418	KNX:Channel 1	Blue dimming value	1 byte	C - W T U	percentage (0..100%)	低
419	KNX:Channel 1	Blue dimming value,status	1 byte	C - W T U	percentage (0..100%)	低
420	KNX:Channel 1	White dimming value	1 byte	C - W T U	percentage (0..100%)	低
421	KNX:Channel 1	White dimming value,status	1 byte	C - W T U	percentage (0..100%)	低

Figure 4.8.4“Gateway—RGBW dimming”function

NO.	Object Function	Name	Data Type	Flag	DPT
412	RGBW dimming value	KNX: Channel X	6bytes	C,W,T,U	251.600 DPT_Colour_RGBW
This communication object is used to receive RGBW dimming control messages for this wireless channel.					
413	RGBW brightness, status	KNX: Channel X	6bytes	C,W,T,U	251.600 DPT_Colour_RGBW
This communication object is used to send RGBW dimming status feedback messages for this wireless channel.					
414	Red dimming value	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive R control messages from the RGBW dimming device for this wireless channel.					
415	Red dimming value, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send the R status of the RGBW device for the current wireless channel.					
416	Green dimming value	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive G control messages from the RGBW dimming device for this wireless channel.					
417	Green dimming value, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send the G status of the RGBW device for the current wireless channel.					

418	Blue dimming value	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive B control messages from the RGBW dimming device for this wireless channel.					
419	Blue dimming value, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send the B status of the RGBW device for the current wireless channel.					
420	White dimming value	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive W control messages from the RGBW dimming device for this wireless channel.					
421	White dimming value, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send the W status of the RGBW device for the current wireless channel.					

410	KNX:Channel 1	Switch	1 bit	C - W T U	switch	低
411	KNX:Channel 1	Switch status	1 bit	C - W T U	switch	低
412	KNX:Channel 1	Color temperature value	2 bytes	C - W T U	absolute colour tem...	低
413	KNX:Channel 1	Color temperature,status	2 bytes	C - W T U	absolute colour tem...	低
414	KNX:Channel 1	Brightness value	1 byte	C - W T U	percentage (0..100%)	低
415	KNX:Channel 1	Brightness,status	1 byte	C - W T U	percentage (0..100%)	低

Figure 4.8.5“Gateway—Color temperature”function

NO.	Object Function	Name	Data Type	Flag	DPT
412	Color temperature value	KNX: Channel X	2byte	C,W,T,U	7.600 DPT_Absolute_Color_Temperature
The communication object is used to receive the dimming color temperature control message of the wireless channel to realize the color control of the corresponding sub-device.					
413	Color temperature,status	KNX: Channel X	2byte	C,W,T,U	7.600 DPT_Absolute_Color_Temperature
This communication object is used to send the color temperature state feedback message of the dimming device in the current wireless channel.					

410	KNX:Channel 1	Open/Close	1 bit	C - W T U	switch	低
411	KNX:Channel 1	Stop	1 bit	C - W T U	switch	低

Figure 4.8.6“Gateway—Curtain step/move”function

NO.	Object Function	Name	Data Type	Flag	DPT
410	Open/Close	KNX: Channel X	1bit	C,W,T,U	1.8 DPT_UpDown
This communication object is used to receive the opening or closing of the curtain opening and closing device that controls the wireless channel. 0-- Open, 1-- close					
411	Stop	KNX: Channel X	1bit	C,W,T,U	1.7 DPT_Step
This communication object is used to receive the curtain opening and closing device that controls the wireless channel to stop.					

410	KNX:Channel 1	Up/Down	1 bit	C - W T U	switch	低
411	KNX:Channel 1	Stop	1 bit	C - W T U	switch	低

Figure 4.8.7“Gateway—Roller blind step/move”function

NO.	Object Function	Name	Data Type	Flag	DPT
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410	Up/Down	KNX: Channel X	1bit	C,W,T,U	1.8 DPT_UpDown
This communication object is used to receive up or down the rolling shutter device that controls the wireless channel. 0-- up, 1-- down					
411	Stop	KNX: Channel X	1bit	C,W,T,U	1.7 DPT_Step
This communication object is used to receive the stop of the rolling shutter device that controls the wireless channel.					

410	KNX:Channel 1	Open/Close	1 bit	C - W T U	switch	低
411	KNX:Channel 1	Stop	1 bit	C - W T U	switch	低
414	KNX:Channel 1	Blind position	1 byte	C - W T U	percentage (0..100%)	低
415	KNX:Channel 1	Blind position, status	1 byte	C - W T U	percentage (0..100%)	低

Figure 4.8.8“Gateway—Curtain position”function

NO.	Object Function	Name	Data Type	Flag	DPT
410	Open/Close	KNX: Channel X	1bit	C,W,T,U	1.8 DPT_UpDown
This communication object is used to receive and control the opening and closing of the curtain device for this wireless channel. 0-- Open, 1-- close					
411	Stop	KNX: Channel X	1bit	C,W,T,U	1.7 DPT_Step
This communication object is used to receive and control the opening and closing curtain equipment of this wireless channel to stop.					
414	Blind position	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive the opening and closing position control message of the opening and closing curtain device of this wireless channel.					
415	Blind position, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send the feedback message of the opening and closing position status of the opening and closing curtain device of this wireless channel.					

410	KNX:Channel 1	Up/Down	1 bit	C - W T U	switch	低
411	KNX:Channel 1	Stop	1 bit	C - W T U	switch	低
414	KNX:Channel 1	Blind position	1 byte	C - W T U	percentage (0..100%)	低
415	KNX:Channel 1	Blind position, status	1 byte	C - W T U	percentage (0..100%)	低

Figure 4.8.9“Gateway—Roller blind position”function

NO.	Object Function	Name	Data Type	Flag	DPT
410	Up/Down	KNX: Channel X	1bit	C,W,T,U	1.8 DPT_UpDown
This communication object is used to receive up or down the rolling shutter device that controls the wireless channel. 0-- up, 1-- down					
411	Stop	KNX: Channel X	1bit	C,W,T,U	1.7 DPT_Step
This communication object is used to receive and control the rolling shutter device of this wireless channel to stop.					
414	Blind position	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive the opening and closing position control message of the rolling shutter device for this wireless channel.					
415	Blind position, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send feedback messages about the opening and closing position status of the rolling shutter device of this wireless channel.					

410	KNX:Channel 1	Up/Down	1 bit	C - W T U	switch	低
411	KNX:Channel 1	Stop	1 bit	C - W T U	switch	低
414	KNX:Channel 1	Blind position	1 byte	C - W T U	percentage (0..100%)	低
415	KNX:Channel 1	Blind position, status	1 byte	C - W T U	percentage (0..100%)	低
416	KNX:Channel 1	Slat position	1 byte	C - W T U	percentage (0..100%)	低
417	KNX:Channel 1	Slat position, status	1 byte	C - W T U	percentage (0..100%)	低

Figure 4.8.10“Gateway—Venetian blind position and slat”function

NO.	Object Function	Name	Data Type	Flag	DPT
410	Up/Down	KNX: Channel X	1bit	C,W,T,U	1.8 DPT_UpDown
This communication object is used to receive and control the shutter device of the wireless channel up or down. 0-- up, 1-- down					
411	Stop	KNX: Channel X	1bit	C,W,T,U	1.7 DPT_Step
This communication object is used to receive and control the shutter device of this wireless channel to stop.					
414	Blind position	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive the opening and closing position control messages of the shutter device for this wireless channel.					
415	Blind position, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send the status feedback message of the opening and closing position of the shutter device for this wireless channel.					
416	Slat position	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to receive Angle control messages from the shutter device for this wireless channel.					
417	Slat position, status	KNX: Channel X	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to send feedback messages about the Angle status of the louver device for this wireless channel.					

414 KNX:Channel 1 Trigger scene No. 1 byte C - W T U scene control 低

Figure 4.8.11“Gateway—Scene switch”function

NO.	Object Function	Name	Data Type	Flag	DPT
414	Trigger scene No.	KNX: Channel X	1bit	C,W,T,U	18.001 DPT_Scene Control
This communication object is used to receive the scene control message of the bus, and then execute the corresponding bound wireless channel control scene.					

4.9 Description of the communication object of the logical function

4.9.1 “AND/OR/NAND/NOR/XOR”Communication Object

1st Logic	52	1 bit	C - W T U	boolean	Low	Input a
1st Logic	53	1 bit	C - W T U	boolean	Low	Input b
1st Logic	54	1 bit	C - W T U	boolean	Low	Input c
1st Logic	55	1 bit	C - W T U	boolean	Low	Input d
1st Logic	56	1 bit	C - W T U	boolean	Low	Input e
1st Logic	57	1 bit	C - W T U	boolean	Low	Input f
1st Logic	58	1 bit	C - W T U	boolean	Low	Input g
1st Logic	59	1 bit	C - W T U	boolean	Low	Input h
1st Logic	60	1 bit	C - - T -	boolean	Low	Logic result

NO.	Object Function	Name	Data Type	Flag	DPT
714...721	Input x (a,b,...h)	1st /.../8th Logic	1bit	C,W,T,U	1.002 DPT_boolean
This communication object is used to receive the value of the logical function Input "Input x".					

722	Logic result	1st /.../8th Logic	1bit	C,T	1.002 DPT_boolean
This communication object is used to send the results of logical operations to the bus.					

Table 4.9.1“AND/OR/NAND/NOR/XOR”communication object table

4.9.2 “Threshold comparator”communication object

1st Logic	52	4 bit	C - W T U	dimming control	Low	Threshold value input
1st Logic	60	1 bit	C - - T -	boolean	Low	Logic result

NO.	Object Function	Name	Data Type	Flag	DPT
714	Threshold value input	1st /.../8th Logic	4bit 1byte 2byte 4byte	C,W,T,U	3.007 DPT_Dimming control 5.010 DPT_counter pulses 7.001 DPT_pulses 12.001 DPT_counter pulses
This communication object is used to input the judgment threshold of the logical operation.					
722	Logic result	1st /.../8th Logic	1bit	C,T	1.002 DPT_boolean
This communication object is used to send the logical operation result, that is, the final sent logical result value after comparing the input threshold of the object with the threshold set by the parameter.					

Table 4.9.2 "Threshold Comparator" function communication object table

4.9.3 “Format convert”communication object

1st Logic	52	1 bit	C - W T U	boolean	Low	Input 1bit-bit0
1st Logic	53	1 bit	C - W T U	boolean	Low	Input 1bit-bit1
1st Logic	60	2 bit	C - - T -	switch control	Low	Output 2bit

The "2x1bit --> 1x2bit" function: converts 2 1bit values into one 2bit value. For example Input bit1=1, bit0=0
==> Output 2bit=2

1st Logic	52	1 bit	C - W T U	boolean	Low	Input 1bit-bit0
1st Logic	53	1 bit	C - W T U	boolean	Low	Input 1bit-bit1
1st Logic	54	1 bit	C - W T U	boolean	Low	Input 1bit-bit2
1st Logic	55	1 bit	C - W T U	boolean	Low	Input 1bit-bit3
1st Logic	56	1 bit	C - W T U	boolean	Low	Input 1bit-bit4
1st Logic	57	1 bit	C - W T U	boolean	Low	Input 1bit-bit5
1st Logic	58	1 bit	C - W T U	boolean	Low	Input 1bit-bit6
1st Logic	59	1 bit	C - W T U	boolean	Low	Input 1bit-bit7
1st Logic	60	1 byte	C - - T -	counter pulses (0..255)	Low	Output 1byte

"8x1bit --> 1x1byte" function: converts 8 1bit values into a 1byte value. For example, Input bit3=1, bit2=1, bit1=1, bit0=1, other bits are 0=> Output 1byte=15.

1st Logic	52	1 byte	C - W T U	counter pulses (0..255)	Low	Input 1byte
1st Logic	60	2 bytes	C - - T -	pulses, pulses difference	Low	Output 2byte

"1x1Byte --> 1x2Byte" function: converts a 1byte value into a 2byte value. Input 1byte=125 ==> Output 2byte=125. Although the value remains the same, the data type of the value is different.

1st Logic	52	1 byte	C - W T U	counter pulses (0..255)	Low	Input 1byte-low
1st Logic	53	1 byte	C - W T U	counter pulses (0..255)	Low	Input 1byte-high
1st Logic	60	2 bytes	C - - T -	pulses	Low	Output 2byte

"2x1Byte --> 1x2Byte" function: converts 2 1byte values into a 2byte value. Such as Input 1byte-low = 255 (\$FF), Input 1byte-high = 100 (\$64) ==> Output 2byte = 25855 (\$64 FF).

1st Logic	52	2 bytes	C	-	W	T	U	pulses	Low	Input 2byte-low
1st Logic	53	2 bytes	C	-	W	T	U	pulses	Low	Input 2byte-high
1st Logic	60	4 bytes	C	-	-	T	-	counter pulses (unsigned)	Low	Output 4byte

"2x2Byte --> 1x4Byte" function: converts 2 2byte values into a 4byte value. Such as Input 2byte-low = 65530 (\$FF FA), Input 2byte-high = 32768 (\$80 00) ==> Output 2Byte = 2147549178 (\$80 00 FF FA).

1st Logic	52	1 byte	C	-	W	T	U	counter pulses (0..255)	Low	Input 1byte
1st Logic	53	1 bit	C	-	W	T	U	boolean	Low	Output 1bit-bit0
1st Logic	54	1 bit	C	-	W	T	U	boolean	Low	Output 1bit-bit1
1st Logic	55	1 bit	C	-	W	T	U	boolean	Low	Output 1bit-bit2
1st Logic	56	1 bit	C	-	W	T	U	boolean	Low	Output 1bit-bit3
1st Logic	57	1 bit	C	-	W	T	U	boolean	Low	Output 1bit-bit4
1st Logic	58	1 bit	C	-	W	T	U	boolean	Low	Output 1bit-bit5
1st Logic	59	1 bit	C	-	W	T	U	boolean	Low	Output 1bit-bit6
1st Logic	60	1 bit	C	-	-	T	-	boolean	Low	Output 1bit-bit7

"1x1Byte --> 8x1bit" function: converts 1 1byte value into 8 1bit values. Such as Input 1byte=200 ==> Output bit0=0, bit1=0, bit2=0, bit3=1, bit4=0, bit10=0, bit6=1, bit7=1.

1st Logic	52	2 bytes	C	-	W	T	U	pulses	Low	Input 2byte
1st Logic	59	1 byte	C	-	W	T	U	counter pulses (0..255)	Low	Output 1byte-low
1st Logic	60	1 byte	C	-	-	T	-	counter pulses (0..255)	Low	Output 1byte-high

"1x2Byte --> 2x1Byte" function: converts 1 2byte value into 2 1byte values. For example, Input 2byte = 55500 (\$D8 CC) ==> Output 1byte-low = 204 (\$CC), Output 1byte-high =216 (\$D8).

1st Logic	52	4 bytes	C	-	W	T	U	counter pulses (unsigned)	Low	Input 4byte
1st Logic	59	2 bytes	C	-	W	T	U	pulses	Low	Output 2byte-low
1st Logic	60	2 bytes	C	-	-	T	-	pulses	Low	Output 2byte-high

"1x4Byte --> 2x2Byte" function: converts 1 4byte value into 2 2byte values. Input 4byte = 78009500 (\$04 A6 54 9c) ==> Output 2byte-low = 21660 (\$54 9C), Output 2byte-high =1190 (\$04 A6)

1st Logic	52	3 bytes	C	-	W	T	U	RGB value 3x(0..255)	Low	Input 3byte
1st Logic	58	1 byte	C	-	W	T	U	counter pulses (0..255)	Low	Output 1byte-low
1st Logic	59	1 byte	C	-	W	T	U	counter pulses (0..255)	Low	Output 1byte-middle
1st Logic	60	1 byte	C	-	-	T	-	counter pulses (0..255)	Low	Output 1byte-high

"1x3Byte --> 3x1Byte" function: Convert one 3byte value into three 1byte values, Input 3byte = \$78 64 C8 ==> Output 1byte-low = 200 (\$C8), Output 1byte-middle = 100 (\$64), Output 1byte-high =120 (\$78)

1st Logic	52	1 byte	C	-	W	T	U	counter pulses (0..255)	Low	Input 1byte-low
1st Logic	53	1 byte	C	-	W	T	U	counter pulses (0..255)	Low	Input 1byte-middle
1st Logic	54	1 byte	C	-	W	T	U	counter pulses (0..255)	Low	Input 1byte-high
1st Logic	60	3 bytes	C	-	-	T	-	RGB value 3x(0..255)	Low	putput 3byte

"3x1Byte --> 1x3Byte" function: Converting three 1byte values into one 3byte value, For example, Input 1byte-low = 150 (\$96), Input 1byte-middle = 100 (\$64), Input 1byte-high = 50 (\$32)--> Output 3byte = \$32 64 96

NO.	Object Function	Name	Data Type	Flag	DPT
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714...721	Input ...	1st /.../8th Logic	1bit 1byte 2bytes 3bytes 4bytes	C,W,T,U	1.002 DPT_boolean 5.010 DPT_counter pulses 7.001 DPT_pulses 232.600 DPT_RGB value 3x(0..255) 12.001 DPT_counter pulses
This communication object is used to enter values that need to be converted to a data type.					
715...722	Output ...	1st /.../8th Logic	1bit 1byte 2bytes 3bytes 4bytes	C,W,T,U	1.002 DPT_boolean 5.010 DPT_counter pulses 7.001 DPT_pulses 232.600 DPT_RGB value 3x(0..255) 12.001 DPT_counter pulses
This communication object is used to output the converted value of the data type.					

Table 4.9.3“Format convert”function

4.10 Description of the communication object for the event group functionality

786	Event	Main event trigger	1 byte	C	-	W	-	-	counter pulses (0..255)	低
787	1st Event Group(1byte)	Sub event output 1	1 byte	C	-	-	T	-	counter pulses (0..255)	低
788	1st Event Group(1bit)	Sub event output 2	1 bit	C	-	-	T	-	switch	低
789	1st Event Group	Sub event output 3	2 bytes	C	-	-	T	-	pulses	低
790	1st Event Group(1bit)	Sub event output 4	1 bit	C	-	-	T	-	switch	低
791	1st Event Group(1bit)	Sub event output 5	1 bit	C	-	-	T	-	switch	低
792	1st Event Group(1bit)	Sub event output 6	1 bit	C	-	-	T	-	switch	低
793	1st Event Group(1byte)	Sub event output 7	1 byte	C	-	-	T	-	counter pulses (0..255)	低
794	1st Event Group(1byte)	Sub event output 8	1 byte	C	-	-	T	-	counter pulses (0..255)	低

Figure 4.10 Communication object of "Scene Group" function

The following X: 1...8

NO.	Object Function	Name	Data Type	Flag	DPT
124	Main event trigger	Event	1byte	C,W	17.001 DPT_scene number
This communication object invokes a scenario number to trigger each output channel in the event group to send a specific value to the bus. Message value: 0... 64					
125	Sub event output X	1st /.../8th Event Group	1bit 1byte 2byte	C,T	1.001 DPT_Switch 5.010 DPT_counter pulses 7.001 DPT_pulses
When a scenario is called, this communication object is used to send the corresponding output value of the scenario to the bus, if the corresponding parameter value of the output is set to 0, this message is not sent.					

Table 4.10 Communication object table of "Scene Group" function

