

Smart key panel user manual

LFZYSTKNX - Push button -V1.3

(Applicable series: Z-ERD4/ Z-RD4 switch, ED8/ ED8B switch, D89/ D8C switch, D29A switch, YT magnetic holding relay switch, etc.)

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1. Summary

The smart key panel is developed based on KNX bus technology, which is simple and intuitive to operate and rich in functions. Users can configure corresponding functions according to their own needs.

This manual provides users with detailed technical information about the smart key panel, including installation and programming details, and links to practical examples of how to use the smart key panel.

The smart key panel series has 1-8 key switches, which can be used to control the switch, dimming, blinds, scenes, etc. Each key has a white and orange LED indicator light.

The coupler of the smart key panel is directly connected to the bus through the EIB terminal.

The smart key panel has many fsuitable for a variety of application fields. The main functions are as follows:

- Switch and dimming function
 - Window curtain function
 - Send value function
 - Call and store scene functions
 - Venetian blinds function
 - Delay sending control function
 - Multiplexing function
 - RGB sends the dimming control value function
 - Color temperature sending control value function
-
- LED indicator function

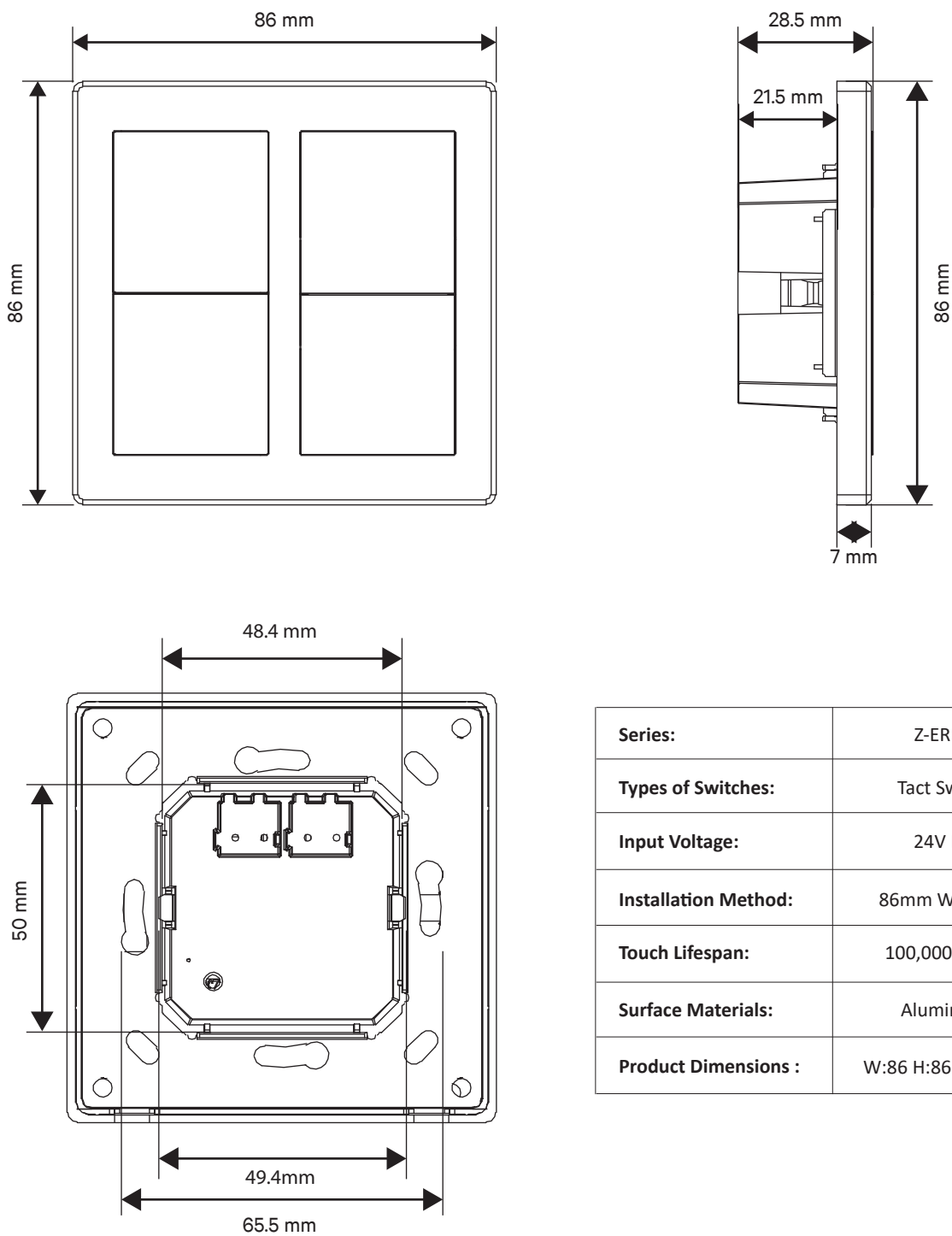
Each key on the smart button panel can use all of the functions described above, and each key is independent of each other.

2. Technical parameters

Source:	-Bus voltage	21 – 30V DC, which were obtained via the EIB bus
	-EIB / KNX, current consumption	<10mA
	-EIB / KNX, power consumption	Max.1.8W
Operation / indication:	-4 combined programmable keys, each link corresponding to one LED indicator	
	- Programming LED and buttons Assign physical address	
Number of key operation:	>20000	
Connection:	-EIB/KNX Bus connection, terminal connection	
levels of protection:	-IP 20	toDINEN 60 529
Security Classification:	-II	toDINEN 61 140
temperature range:	-move	- 5 °C - 45°C
	-memory	- 25 °C - 55 °C
	-transport	- 25 °C -70 °C
Design:	-Embedded-mounted equipment	
	-Size 90×36×67.5mm (HWD)	
Installation:	-Standard 86 box wall installation method	
Weight:	-0.1 KG	
Case / Color:	-Plastic case, gray	
Certification:	-EIB / KNX certification	
CE standard:	-Comply with the EMC standard and the low voltage standard	
Halogen-free material:	-conforming to DIN VDE 0472-815	

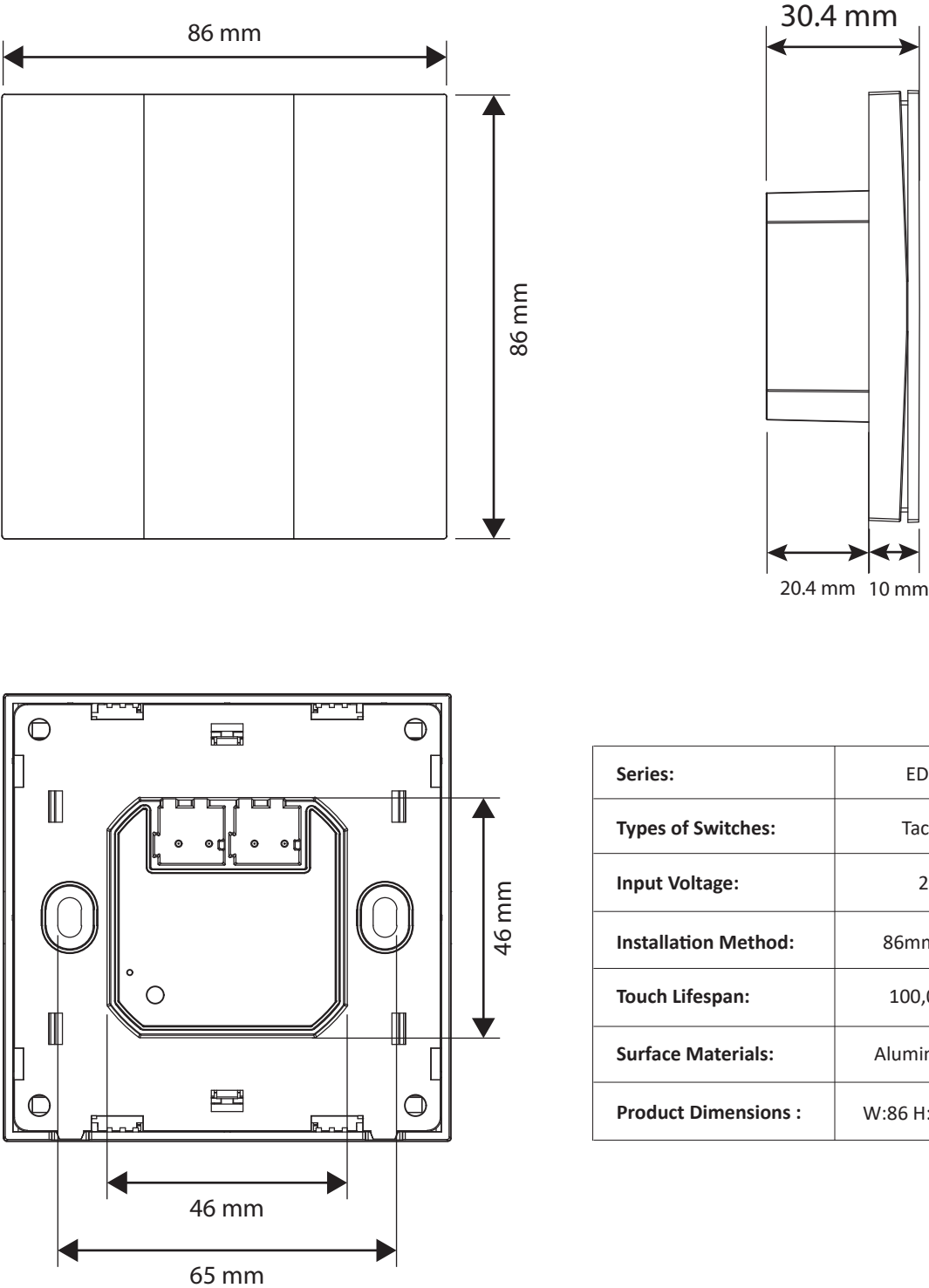
3. Product Information

3.1.1 Z-ERD4 size diagram



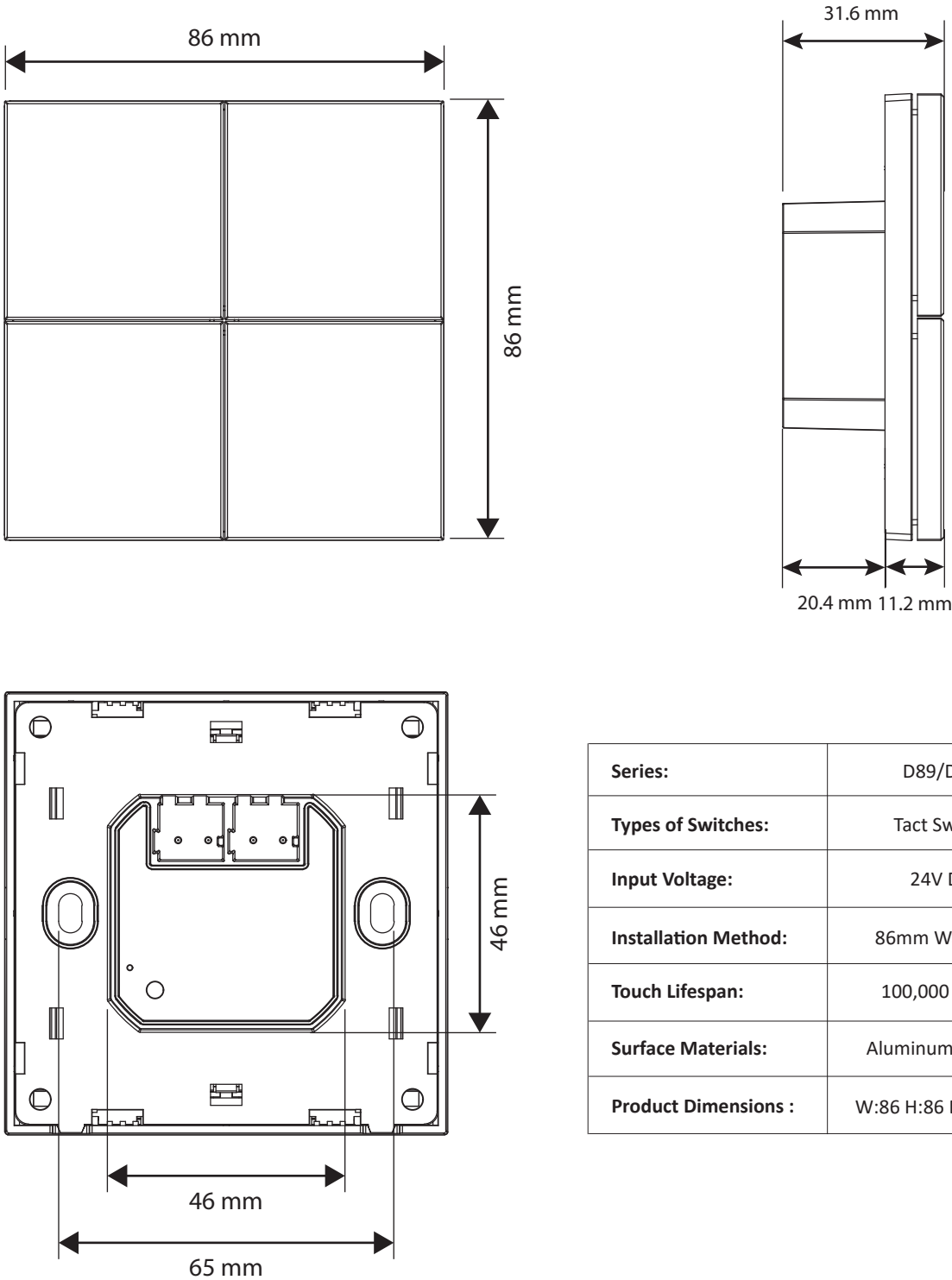
Series:	Z-ERD4
Types of Switches:	Tact Switch
Input Voltage:	24V DC
Installation Method:	86mm Wall Box
Touch Lifespan:	100,000 times
Surface Materials:	Aluminum
Product Dimensions :	W:86 H:86 D:7mm

3.1.2 ED8/ED8B size diagram



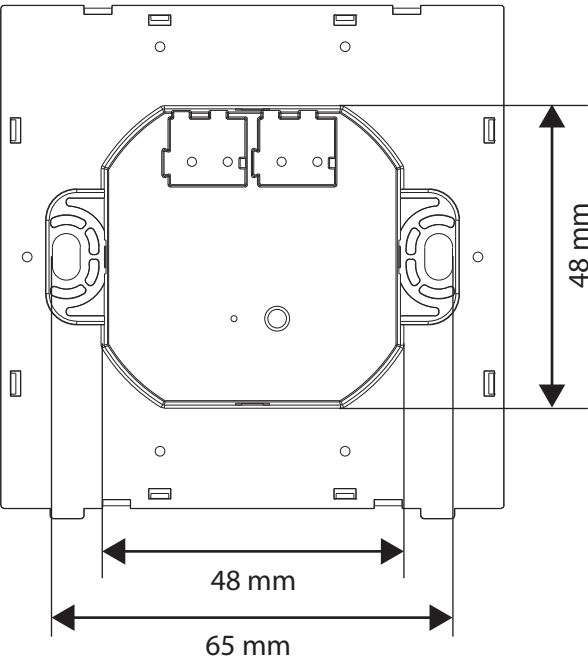
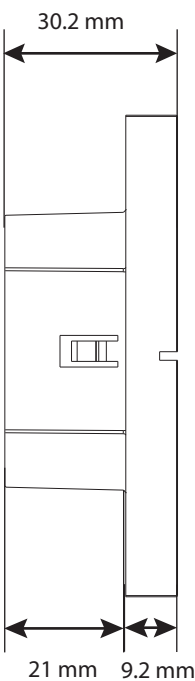
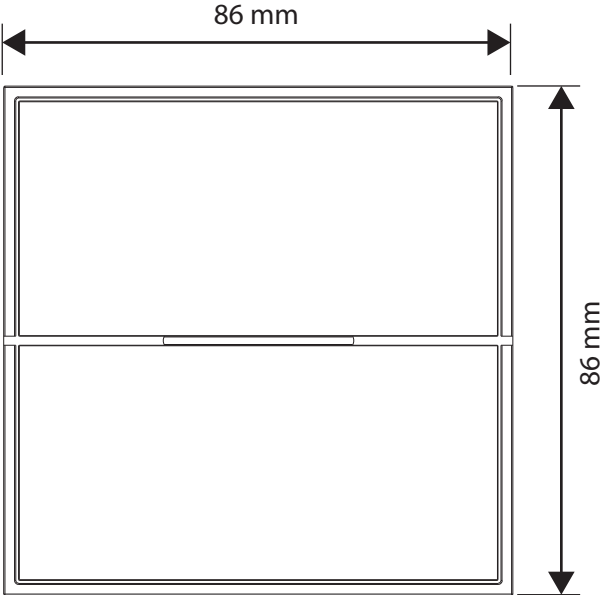
Series:	ED8/ED8B
Types of Switches:	Tact Switch
Input Voltage:	24V DC
Installation Method:	86mm Wall Box
Touch Lifespan:	100,000 times
Surface Materials:	Aluminum/Plastic
Product Dimensions :	W:86 H:86 D:9.9mm

3.1.3 D89/D8C size diagram



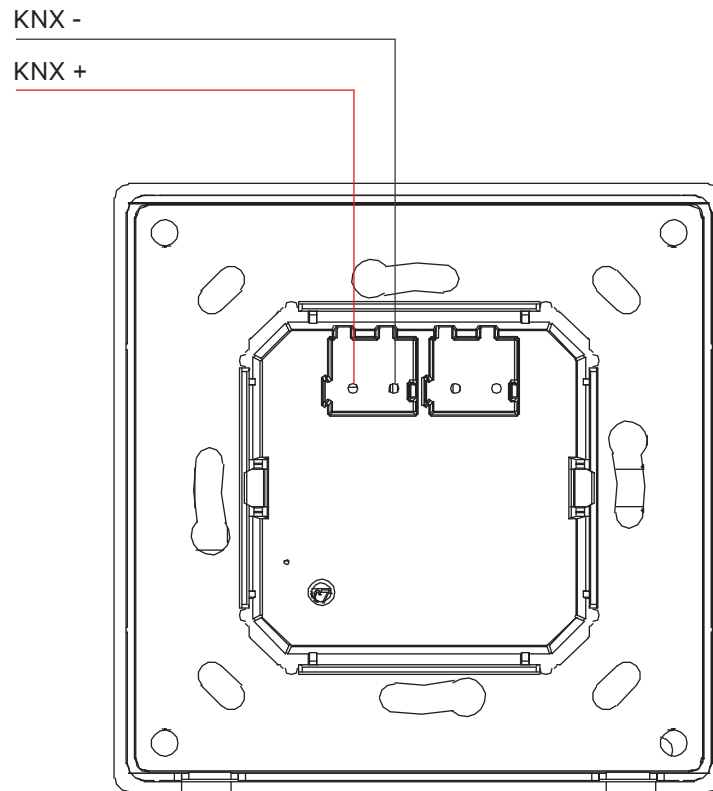
Series:	D89/D8C
Types of Switches:	Tact Switch
Input Voltage:	24V DC
Installation Method:	86mm Wall Box
Touch Lifespan:	100,000 times
Surface Materials:	Aluminum/Plastic
Product Dimensions :	W:86 H:86 D:11.2mm

3.1.4 D29A size diagram



Series:	D29A
Types of Switches:	Tact Switch
Input Voltage:	24V DC
Installation Method:	86mm Wall Box
Touch Lifespan:	100,000 times
Surface Materials:	Aluminum
Product Dimensions :	W:86 H:86 D:9.2mm

3.2.1 Wiring diagram



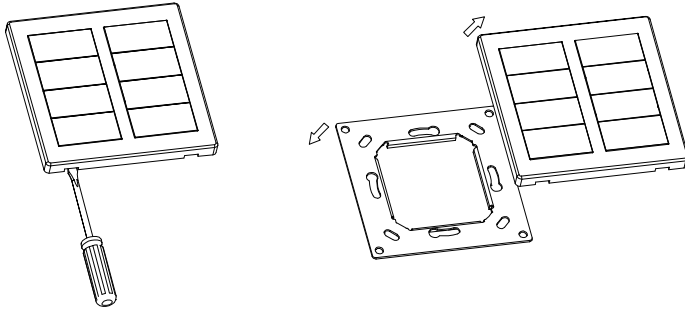
Connect the KNX bus weak current power supply via the KNX signal line.

Precautions:

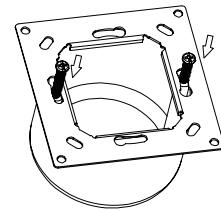


- Must be installed or disassembled by a professional electrician;
- Do not operate with wet hands to prevent electric shock;
- Do not use it with short circuit or overload;
- Installation while powered on is strictly prohibited.

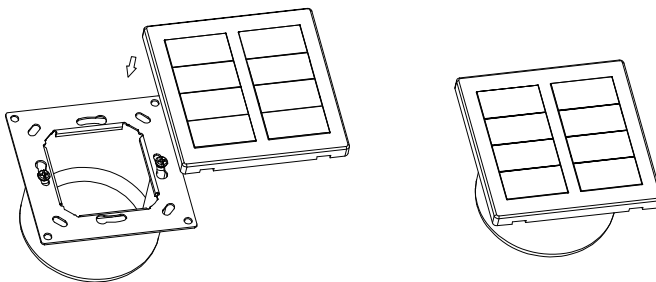
3.2.2 Product installation



- ① Use a screwdriver to separate the mounting plate from the product



- ② Fix the mounting plate onto the bottom shell



- ③ After connecting the wires, reinstall the product to the mounting plate.

4. Project design and application

4.1 Function overview

Application	Maximum number of communication objects	Maximum number of group addresses	Maximum number of combined addresses
LF/ST030PB V1.3	190	884	884

Each panel has the following functions:

- **Switches**

You can define the rising edge (press) and falling edge (release) of a key to send the message value.

- **Dimming function**

Supports on/off and relative dimming. Each button can set the dimming mode, such as long press action, dimming mode, etc.

- **Venetian blinds function**

Supports blinds and openable curtains. Can define the action of long press and working mode.

- **Value sending function**

You can define the data type of messages sent by each key rising edge (press) and falling edge (release), supporting 1bit, 1byte、2byte data types.

- **Standard scenario control function**

Supports calling and saving scenes. Short press is for calling scenes, long press is for saving scenes.

- **Standard delay sending control function**

Supports delaying the value after pressing a button.

- **Multiplexing function**

Supports multiple operations (up to 4) after pressing the button.

- **RGB dimming function**

Supports sending RGB or RGBW dimming value commands after pressing the button.

- **Color temperature function**

Supports pressing the button to issue a color temperature adjustment command.

- **LED indicator function**

Each key is equipped with a red and green LED indicator, which can be used to indicate the status and support the alarm function. When there is an alarm message, the LED light will flash.

5. Description of ETS system parameter setting

5.1 "Push button general" parameter setting interface

The "General" parameter setting interface is shown in Figure 5.1, where the number of panel buttons is set.

The number of keys should correspond to the actual number of keys used, otherwise it will not work

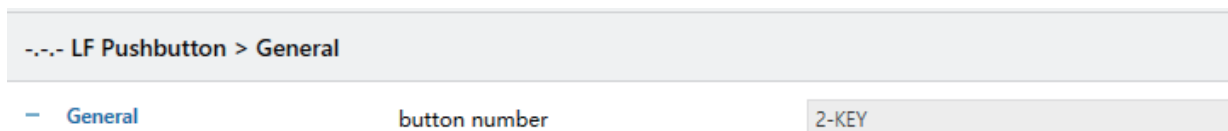


Figure 5.1 "Push button general" parameter setting interface

Parameter "button number"

Here select the number of buttons actually used. Optional:

button number 8-KEY ▼

When the corresponding number of keys is selected, the corresponding key setting page will be opened.

The parameter "key link function" can be used to configure 1 key, 3 keys, 5 keys and 7 keys

key link function ☒ No Link ☐ KEY2 Link to KEY1

Parameter "wake up backlight mode"

wake up backlight mode radar wake up

Option "always on" The backlight is always on

Option "always off" The backlight is always off

Option "press down or other sensor wake up" The radar and button can be awakened when the light is off

Option "press down wake up" single button wake up

Option "when obj1 take on/ obj 0 take off" controls the backlight on/off according to the feedback value

Parameter "backlight off delay time"

backlight off delay time(1s)

5

The backlight is off for 1-60s

Parameter "backlight and keylight dimmer brightness"

backlight and keylight dimmer brightness

100

Backlight and button light brightness 0-100%

Parameter "backlight and keylight dimmer brightness"

Power down or reset whether to remember the status

☒

No memory after power down

☐

Memory after power down and reset reports the

Select whether the power-off reset function is enabled

Parameter "relay1-4 enable" enables the relay object

relay1 enable/disable

☒

disable

☐

enable

relay2 enable/disable

☒

disable

☐

enable

relay3 enable/disable

☒

disable

☐

enable

relay4 enable/disable

☒

disable

☐

enable

There should be a relay to match the circuit board

relay1 enable/disable

☐

disable

☒

enable

relay1 mode

☒

relay value:on(1) / off(0)

☐

relay value:on(0) / off(1)

The relay switch value is switched to 0/1

5.2 Button function setting

The function of each key is the same. The following parameters are described with one key as an example.

5.2.1 "Switching" function

The "Switching" parameter setting interface is shown in Figure 5.2, where the user can set the messages sent when pressing, releasing and holding.

key function	switching
reaction press	no action
enable long press function	☒ disable ☐ enable
reaction release	no action
LED status	always off
key1 take off brightness(0-100%)	0

Figure 5.2 "Switching" parameter setting interface

Parameter "Reaction on pressing" / "Reaction on release"

This parameter is used to define the action of pressing and releasing a key, which can send a 1bit "on or off" message. A message can be an "ON" message or an "OFF" message. Option:

- No reaction
- On
- Off
- toggle

When the option is "No reaction", no action will be performed.

When the option is "toggle", the message of "ON/OFF" is alternately sent.

When the long press enable function and the release function cannot be used together, "LED status" is enabled

This parameter is used for the function of the button light. It can be configured to turn on and off the light, or it can be linked to the state group object of the light according to the pressing and bouncing of the button. Options:

- **always on** Always on
- **always off** Always off
- **toggle** On/off switch
- **Press/on release/off** Press to light and release to turn off
- **Press/off release/on** to turn off and press on to turn on

- **when feedback 0/on when feedback 1off (bit)** The key light object is on when it is 0 and off when it is 1
- **when feedback 1/on when feedback 0off (bit)** The key light object is on when it is 1 and off when it is 0
- **when feedback preset value on or off (1byte)** When the key light object is 1byte, you can configure the corresponding data
- **when feedback scene number** When using the scene, the light state can be obtained through the object
- **take on brightness 0-100%** The percentage of lights that are on
- **take on brightness 0-100%** The percentage of lights out 100%
- **delay take off led time (100ms)** Time for the lamp to go out

Parameter "key link function"

This function can link two keys together. When KEY2 Link to KEY1 is selected, KEY1 and KEY2 are linked at the same time, which can be applied to 1 consecutive 2 keys, 2 consecutive 4 keys, 3 consecutive 6 keys and 4 consecutive 8 keys.

key link function

☒ No Link ☐ KEY2 Link to KEY1

5.2.2 "dimming" function

The "dimming" parameter settings interface is shown in Figure 5.3. The panel supports on/off and dimming functions, with two communication objects that can be used for both on/off and dimming operations. On/off actions are distinguished between long press and short press; a short press will perform the on/off action, while a long press will perform the dimming action. It supports two dimming modes: relative dimming and initial dimming.

- **dimmer mode** Stepping dimming and start-stop dimming are optional
- **reaction on short press** Short press the switch
- **reaction on long press** Long press the switch
- **Interval for telegram repetitions (100ms)** The interval time for sending dimming messages
- **KEY1 dimmer action mode** Relative and absolute dimming can be selected

key function	Dimming
Press long operation after(500ms)	2
dimmer mode	☒ Step dimmer ☐ Start-stop dimmer
reaction on short press	Dimmer percentage
dimmer value1 (0-100)%	0
reaction on long press	No action
Interval for telegram repetitions(100ms)	5
KEY1 dimmer action mode	☐ Relative dimmer ☒ Absolute dimmer
dimmer value1 (0-100)%	0
LED status	When feedback 1/on when feedback 0/off(1bit)
key1 take on brightness 0-100%	100
key1 take off brightness(0-100%)	0
delay take off led time(*100ms)	0

Figure 5.3 "Dimming" parameter setting interface

Parameter "key function"

Select dimming

key function dimming

Parameter "press long operation after (500ms)"

This parameter is used to define the time that distinguishes between long press and short press. If the key press time exceeds the set value, the key press operation is determined as long press. Optional:

Press long operation after(500ms) 2
 500ms-7500ms

Parameter "dimmer mode"

This parameter is used to set the dimming mode. Each button supports two modes:

- Step dimming
- Start-stop dimming

When "Step dimming" is selected as the relative dimming mode, "start-stop dimming" is selected as the start and stop dimming mode

Parameter "dimmer step (1-100%)"

dimmer step (1-100%), this parameter can select the dimming step number option: the adjustment range is 1-100%.

dimmer step (1-100)%

20

Parameter "reaction on short press"

This parameter is a short press function, which can be selected to turn on, off, dim by percentage, and alternate between on and off

- **no action** No action
- **On** Press the start button
- **Off** Press to turn it off
- **dimmer percentage** Percentage dimming
- **toggle** On-off alternation
- **Last dimmer brightness** Adjust the final brightness

reaction on short press

reaction on long press

Interval for telegram repetitions(100ms)

KEY1 dimmer action mode

dimmer step (1-100)%

No action

No action

On

Off

Dimmer percentage

Toggle

Last dimmer brightness

Parameter "reaction on short press"

Long press to adjust the relative dimming of brightening and extinguishing. Options:

- **No action** No action
- **Brighter** Full brightness
- **Darker** Total darkness
- **Dimmer percentage** Adjust the light percentage
- **Dimmer brighter and darker** Brighten and dim switch

reaction on long press

Interval for telegram repetitions(100ms)

KEY1 dimmer action mode

dimmer step (1-100)%

No action

No action

Brighter

Darker

Dimmer percentage

Dimmer brighter and darker

Parameter "Interval for telegram repetitions100ms (0-255)"

This function sends messages at intervals of long press, with a base of 100ms

Parameter "KEY1 dimmer action mode": button dimming mode

Option "relative dimmer": Percentage dimming, including the "Relative dimming level" percentage dimming level option as shown in the following figure:

Relative dimming level

LED status

key1 take on brightness 0-100%

key1 take off brightness(0-100%)

delay take off led time(*100ms)

Step level = 100%

Step level = 1%

Step level = 3%

Step level = 6%

Step level = 12%

Step level = 25%

Step level = 50%

Step level = 100%

Option "absolute dimmer": Absolute dimming, including the "dimmer step" absolute dimming value option, range "1-100"

KEY1 dimmer action mode

☐ Relative dimmer ☒ Absolute dimmer

dimmer step (1-100)% 1

5.2.3 "Shutter control" function

- The "Blind" parameter settings interface is shown in Figure 5.4.
- This function supports both louvers and sliding curtains. In the case of louvers, pressing the switch sends a curtain movement command or an angle adjustment command;
- Short-pressing always triggers a curtain movement command, while long-pressing always triggers an angle adjustment command. You can specify whether the louver control is triggered through two 1-bit communication objects "travel" and "adjust," or two 1-byte communication objects.
- If the communication object "adjust" is set to 1-bit, it can send angle adjustment commands cyclically. For blackout curtains, short-pressing triggers a movement command, and long-pressing triggers an angle adjustment command To trigger a stop command, the light-blocking curtain control is triggered by two 1bit communication objects "move" and "stop"

key function	Shutter control ▼
Press long operation after(500ms)	2 ▲▼
curtain reaction on long press	No action ▼
curtain reaction on short operation	close ▼
LED status	When feedback 1/on when feedback 0off(1bit) ▼
key1 take on brightness 0-100%	100 ▲▼
key1 take off brightness(0-100%)	0 ▲▼
delay take off led time(*100ms)	0 ▲▼

Figure 5.4 "Blind" parameter Settings interface

Parameter "Press long operation after (500ms)"

This parameter is used to define the time that distinguishes between long press and short press. If the key press time exceeds the set value, the key press operation is determined as long press. The base time is 500ms, and the option is:

Press long operation after(500ms)	2 ▲▼
-----------------------------------	------

Parameter "curtain reaction on long press" is optional (long press)

- **No action** No operation
- **Close** Close the curtains
- **Open** Open the curtains
- **Toggle** Switch the curtains
- **Stop** Turn off the curtains
- **Stop (Adjust close/Stop)** To close the curtains-stop the curtains alternating
- **Stop (Adjust open/Stop)** Open the curtains-stop the curtains alternately
- **Stop (Adjust open/close/Stop)** Open the curtain-close the curtain-stop the curtain alternately

key function	Shutter control
Press long operation after(500ms)	2
curtain reaction on long press	No action
curtain reaction on short operation	No action
LED status	
key1 take on brightness 0-100%	
key1 take off brightness(0-100%)	
delay take off led time(*100ms)	

Parameter "curtain reaction on short operation" is optional (short press)

- **No action** No operation
- **Close** Close the curtains
- **Open** Open the curtains
- **Toggle** Switch the curtains
- **Stop (Adjust close/Stop)** To close the curtains-stop the curtains alternating
- **Stop (Adjust open/Stop)** Open the curtains-stop the curtains alternately
- **Stop (Adjust open/close/Stop)** Open the curtain-close the curtain-stop the curtain alternately

key function	Shutter control
Press long operation after(500ms)	2
curtain reaction on long press	No action
curtain reaction on short operation	close
LED status	
key1 take on brightness 0-100%	
key1 take off brightness(0-100%)	
delay take off led time(*100ms)	

5.2.4 "Value send" function

The "value send" parameter setting interface is shown in Figure 5.5. Through this application panel, users can trigger two different objects to send preset values by operating the switch or releasing the switch.

key function	Value send
value1 type	1bit(0..1)
output Value1(1bit)	0
value2 type	No action
reaction on short operation	Value1
enable long operation	☐ Disable ☒ Enable
Press long operation after(500ms)	2
reaction on long operation	No action
LED status	When feedback 1/on when feedback 0off(1bit)
key1 take on brightness 0-100%	100
key1 take off brightness(0-100%)	0
delay take off led time(*100ms)	0

Figure 5.5 "value send" parameter setting interface

Parameter "value1 type"

value1 type	1bit(0..1)
-------------	------------

The data type selection option for the parameter sending value 1:

- 1bit
- 1byte0..255
- 2byte0-65535

Parameter "output value1"

output Value1(1bit)	0
---------------------	---

This parameter can be configured to send the output value of 1. When 1bit is selected, the value range is 0-1; when 1byte is selected, the value range is 0-255; and when 2byte is selected, the value range is 0-65535.

Parameter "value2 type"

Dimmer step (1-100%), this parameter can select the dimming step number option: the adjustment range is 1-100%.

value2 type

no action

The data type selection option for the parameter sending value 2 is:

- 1bit
- 1byte0..255
- 2byte0-65535

Parameter "output value2"

This parameter can be configured to send the output value of 2. When 1bit is selected, the value range is 0-1; when 1byte is selected, the value range is 0-255; and when 2byte is selected, the value range is 0-65535.

Parameter "Reaction on short operation"

This parameter can be configured to send the value option when pressed briefly:

- No action
- Value1
- Value2
- Value1/value2 toggle

Parameter "enable long operation" Whether this parameter enables long pressT

Select "disable" to close the package containing "reaction operation release" and press release (Short press) option

This parameter can be configured to send the value option when pressed briefly:

- No action
- Value1
- Value2
- Value1/value2 toggle

enable long operation

☒ disable ☐ enable

reaction operation release

LED status

key1 take off brightness(0-100%)

no action

no action

value1

value2

value1/value2 toggle

Option "enable" enables (default option)

Parameter "press long operation after (500ms)"

This parameter can be configured for the duration of a long press, with a base time of 500ms.

Press long operation after(500ms)

2

Parameter "reaction on long operation"

This parameter is the value selected when the output is selected during long press.

- No action
- Value1
- Value2

reaction on long operation

no action

5.2.5 "Scene" function

The "Scene" parameter setting interface is shown in Figure 5.6. Through this application, users can call a preset scene number by operating the panel switch. Users can enable the scene save function and trigger a scene save command through a long press operation.

key function	Scene
reaction on short press operation	no action
KEY1 short press send scene operation	☐ operation 1 scene number ☒ operation 2 scene number
operation1 scene number	scene NO1
operation2 scene number	scene NO1
Operation scene value output enable	☒ Disable ☐ Enable
enable long operation	☐ Disable ☒ Enable
Press long operation after(500ms)	2
reaction on long press operation	no action
KEY1 long press send scene operation	☐ operation 1 scene number ☒ operation 2 scene number
LED status	When feedback 1/on when feedback 0off(1bit)
key1 take on brightness 0-100%	100
key1 take off brightness(0-100%)	0
delay take off led time(*100ms)	0

Figure 5.6 "Scene" parameter Settings interface

Parameter "reaction on short press operation"

Short press of this parameter can save the scene and call the scene options:

- **No action** No action
- **Recall single scene** Call the preset scene
- **Save single scene** Save the scene
- **Recall toggle scene** Call alternate scenes

reaction on short press operation

no action

Parameter "KEY1 short press send scene operation"

KEY1 Short press operation scenario, this parameter can select scene 1 or scene 2.

KEY1 short press send scene operation

- ☒ operation 1 scene number
☐ operation 2 scene number

Parameter "operation1 sence number"

This parameter is the scene number (1-64) called by short press.

Parameter "Operation sence value output enable"

Whether this parameter enables the operation of the scene output value.

Operation scene value output enable

- ☐ Disable ☒ Enable

Operation1 scene value output(1bit)

- ☒ Value 0 ☐ Value 1

Operation2 scene value output(1bit)

- ☐ Value 0 ☒ Value 1

After enabling, you can select the output value of operation 1 and operation 2.

Parameter "enable long operation"

Whether this parameter enables the long press function.

Parameter "press long operation after (500ms)"

This parameter can be configured to hold the button for a long time.

Parameter "enable long operation" enables long press

If you want to hold down:

Parameter "reaction on long press operation"

Long press this parameter to save the scene and call the scene options:

- **No action** No action
- **Recall single scene** Restore the preset scene
- **Save single scene** Save the scene
- **Recall toggle scene** Switch scenes

Parameter "KEY1 long press send scene operation"

KEY1 Long press the operation scene, this parameter can select scene 1 or scene 2.

5.2.6 "Delay mode" function

key function	Delay mode
send mode	No action
send obj value type	Object send(4bit)
value 1	0
value 2	0
delay time(1S)	0
LED status	When feedback 1/on when feedback 0off(1bit)
key1 take on brightness 0-100%	100
key1 take off brightness(0-100%)	0
delay take off led time(*100ms)	0
key1 take on brightness 0-100%	100
key1 take off brightness(0-100%)	0
delay take off led time(*100ms)	0

key function

send mode

send obj value type

value 1

value 2

delay time(1s)

Delay mode

No action

No action

No action when press,delay then send value 1

No action when press,delay then send value 2

Send value 1 when press,delay then send value 2

Send value 2 when press,delay then send value 1

Include options:

- **No action** No operation
- **No action when press, delay then send value1** press without action, delay sending value1
- **No action when press, delay then send value2** press without action, delay sending value2
- **Send value1 when press, delay then send value2** press send value1, delay send value2
- **Send value2 when press, delay then send value1** press send value2, delay send value1

Parameter "send obj value type" is the type of sending object

send obj value type

value 1

value 2

delay time(1s)

object send(4bit)

no action

object send(1bit)

object send(4bit)

object send(1byte)

Include options:

- **No action** No operation
- **Object send (1 bit)** Object sent (1 byte)
- **Object send (4 bits)** Object sent (4 bytes)
- **Object send (1 Byte)** Object sent (1 bit)t

Parameter "value 1" and "value 2" values range from 0 to 15

Parameter "delay time (1s)" Delay time 1s Range 0-65535

Parameter "LED status" function

Each LED function is the same, and the following parameter description takes one of them as an example.

The "LED status" function parameter setting interface is shown in Figure 5.9. Each button corresponds to an LED, which can be used for status indication, and can also be used for different colors of indication, as well as flashing alarm indication. LED function and

The key operation is independent of each other, and their parameters and communication objects are set separately.

LED status

always off

Figure 5.9 "LEDstatus" parameter Settings interface

LED status Optional

- **Alway off** Always off
- **Alway on** Always on
- **Toggle** supersede
- **Press/on release off** Press the light to turn on, release the light to turn off
- **Press/off release on** Press to turn off the light, release to turn on the light
- **When feedback 0/on when feedback 1/off** controlled by the light object. When the object receives 0, the light is on
- **When feedback 1/on when feedback 0/off** controlled by the light object. When the object receives 1, the light is on

5.2.7 "Multiple operation" function

key function	Multiple operation
value type for object1	Disable
value type for object2	Disable
value type for object3	Disable
value type for object4	Disable
LED status	When feedback 1/on when feedback 0off(1bit)
key1 take on brightness 0-100%	11
key1 take off brightness(0-100%)	0
delay take off led time(*100ms)	0

Parameter "value type for object" function

key function	Multiple operation
value type for object1	Disable
value type for object2	Disable
value type for object3	Disable
value type for object4	Disable
LED status	When feedback 1/on when feedback 0off(1bit)
key1 take on brightness 0-100%	11
key1 take off brightness(0-100%)	0
delay take off led time(*100ms)	0

LED status Optional

- **Disable** Not enabled
- **Switch on/off** Press no action, send on, off or alternate on, off

value type for object1

function of press the button

value type for object2

value type for object3

value type for object4

Switch on/off

No action

No action

On

Off

Toggle

- **Recall scene number value** Use the downgraded scenario

value type for object2

Scene value output

value type for object3

value type for object4

LED status

key1 take on brightness 0-100%

key1 take off brightness(0-100%)

delay take off led time(*100ms)

Recall scene number value

no action

no action

scene NO1

scene NO2

scene NO3

scene NO4

scene NO5

scene NO6

scene NO7

scene NO8

scene NO9

scene NO10

scene NO11

scene NO12

scene NO13

scene NO14

scene NO15

scene NO16

scene NO17

- **Save scene number value** Press Save Scene

value type for object3

scene value output

value type for object4

LED status

key1 take on brightness 0-100%

key1 take off brightness(0-100%)

delay take off led time(*100ms)

Save scene number value

no action

no action ✓

scene NO1

scene NO2

scene NO3

scene NO4

scene NO5

scene NO6

scene NO7

scene NO8

scene NO9

scene NO10

scene NO11

scene NO12

scene NO13

scene NO14

scene NO15

scene NO16

开 保存 打印 回放电报

- **Percentage value** Press Send percentage

value type for object4

Percentage value

percentage value output(xx%) 100

- **1 byte count value** Press the send count value

value type for object1

1 byte count value

count value output 100

5.2.8 "RGB dimmer" function

key function	RGB dimmer
RGB mode type	☒ RGB mode ☐ RGBW mode
RGB obj type	☒ 1*3BYTE ☐ 3*1BYTE
Red obj value	0
Green obj value	0
Blue obj value	0
LED status	When feedback 1/on when feedback 0/off(1bit)
key1 take on brightness 0-100%	11
key1 take off brightness(0-100%)	0
delay take off led time(*100ms)	0

Parameter "value type for object" function

Select RGB mode to fill in the red, green and blue values

key function	RGB dimmer
RGB mode type	☒ RGB mode ☐ RGBW mode
RGB obj type	☒ 1*3BYTE ☐ 3*1BYTE
Red obj value	0
Green obj value	0
Blue obj value	0
LED status	When feedback 1/on when feedback 0/off(1bit)
key1 take on brightness 0-100%	11
key1 take off brightness(0-100%)	0
delay take off led time(*100ms)	0

Select RGBW mode to fill in red, green, blue and white values

key function

RGB dimmer

RGB mode type

☐ RGB mode

☒ RGBW mode

RGB obj type

☒ 1*6BYTE

☐ 4*1BYTE

Red obj value

0

Green obj value

0

Blue obj value

0

White obj value

0

LED status

When feedback 1/on when feedback 0/off(1bit)

key1 take on brightness 0-100%

11

key1 take off brightness(0-100%)

0

delay take off led time(*100ms)

0

Parameter "RGB mode type" function

Select 1*3BYTE (RGB mode) or 1*6BYTE (RGBW mode), and the RGB or RGBW values in the group object are output in 3BYTE (RGB mode) or 6BYTE (RGBW mode) format.

RGB mode type

☒ RGB mode

☐ RGBW mode

RGB obj type

☒ 1*3BYTE

☐ 3*1BYTE

Red obj value

0

Green obj value

0

Blue obj value

0

300	KEY1	RGBW value(3BYTE)	3 bytes	C	-	-	T	-	RGB value... 低
-----	------	-------------------	---------	---	---	---	---	---	----------------

Select 3*1BYTE (RGB mode) or 4*1BYTE (RGBW mode) to output RGB or RGBW values separately in the group object.

188	KEY1	Green dimming value...	1 byte	C	-	-	T	-	counter p... 低
187	KEY1	Red dimming value...	1 byte	C	-	-	T	-	counter p... 低
189	KEY1	Blue dimming value...	1 byte	C	-	-	T	-	counter p... 低

5.2.9 "Color temperature" function

key function	Color temperature ▼
The cool color temperature must be greater than the warm color temperature	
Warm color temperature value(*100)k	10 ▲▼
Cool color temperature value(*100)k	100 ▲▼
Color temperature short press function	No action ▼
enable long operation	☒ Disable ☐ Enable
Interval of Tele.cyclic send (*100ms,0=sendonce)	2 ▲▼
LED status	When feedback 1/on when feedback 0/off(1bit) ▼
key1 take on brightness 0-100%	11 ▲▼
key1 take off brightness(0-100%)	0 ▲▼
delay take off led time(*100ms)	0 ▲▼

Parameter "Warm color temperature value (* 100) k" function, set warm color temperature value

Warm color temperature value(*100)k	10 ▲▼
-------------------------------------	-------

Parameter "Cool color temperature value (* 100) k" function, set the cold color temperature value

Cool color temperature value(*100)k	100 ▲▼
-------------------------------------	--------

Parameter "Cool temperature short press function" function, set the function corresponding to pressing the button

Include options:

- **No action** No operation
- **Warm color temperature (min value)** Press to send warm color temperature value (minimum value)
- **Cool color temperature (min value)** Press to send the cold color temperature value (maximum)
- **Toggle** Press to alternate sending warm color temperature value (minimum) and cold color temperature value (maximum)
- **Last color temperature value** Send the final color temperature value

Color temperature short press function enable long operation Interval of Tele.cyclic send (*100ms,0=sendonce) LED status	No action No action ✓ Warm color temperature(min value) Cool color temperature(max value) Toggle Last color temperature value
---	--

Parameter "Cool temperature short press function" function, set whether to enable long press operation

enable long operation Press long operation after(500ms) Color temperature long press function color temperature step value(*100)k	☐ Disable ☒ Enable 2 No action 0
---	--

Parameter "Cool temperature short press function" function, set whether to enable long press operation

Color temperature long press function color temperature step value(*100)k Interval of Tele.cyclic send (*100ms,0=sendonce) LED status	No action No action ✓ Adjust warm color temperature Adjust cool color temperature(max value) Toggle
--	--

Include options:

- **No action** No operation
- **Adjust warm color temperature** Press to send the warm color temperature value
- **Adjust cool color temperature (min value)** Press to send the cold color temperature value (maximum)
- **Toggle** Press to alternate between warm and cool color temperature values

Parameter "color temperature step value(* 100) k" function, set the color temperature step value

color temperature step value(*100)k

0

Parameter "Interval of Tele.cyclic send" function, set the interval time of cyclic transmission

Interval of Tele.cyclic send
(*100ms,0=sendonce)

2

"channel1 scene function" function

Parameter "number of scene" Enable the scene number default disable

Number of scenes

☐ disable ☒ enable

If enabled, the following parameters are available

Parameter "Number of actuator groups", number of execution groups range 1-8 If no actuator is selected, there are no groups

If there are groups, the following options are available

Object type actuator group A

no action

Number of scenes

1

scene number 1

scene NO1

enable actuator group A

☒ disable ☐ enable

Parameter "object type actuator group A" object data type

Object type actuator group A

no action

Number of scenes

scene number 1

enable actuator group A

no action

object send(1bit)

object send(4bit)

object send(1byte)

There are the following options:

- No action No operation
- Object send (1bit) Object data type 1bit
- Object send (4bit) Object data type 4bit
- Object send (1byte) Object data type 1byte

Parameter "number of scenes" Number of scenarios ranges from 1 to 4

Parameter "scene number 1" Scene number Range 1-64 Select option no action then no

Parameter "enable actuator group A" enables group A option disable to turn off enable enabled

"relay1 scene function"

The relay1 scene output1 corresponds to the scen number	scene NO1
relay1 output1 enable	☒ disable ☐ enable
The relay1 scene output2 corresponds to the scen number	scene NO2
relay1 output2 enable	☒ disable ☐ enable
The relay1 scene output3 corresponds to the scen number	scene NO3
relay1 output3 enable	☒ disable ☐ enable
The relay1 scene output4 corresponds to the scen number	scene NO4
relay1 output4 enable	☒ disable ☐ enable
The relay1 scene output5 corresponds to the scen number	scene NO5
relay1 output5 enable	☒ disable ☐ enable
The relay1 scene output6 corresponds to the scen number	scene NO6
relay1 output6 enable	☒ disable ☐ enable
The relay1 scene output7 corresponds to the scen number	scene NO7
relay1 output7 enable	☒ disable ☐ enable
The relay1 scene output8 corresponds to the scen number	scene NO8
relay1 output8 enable	☒ disable ☐ enable

Parameter "the realy1 scene output1 corresponds to the scene number" realy1 scene corresponds to the scene number range 1-64 Select option no action then there is none.

Parameter "relay1 output1 enable" Relay 1 enabled Option: disable off enable enabled

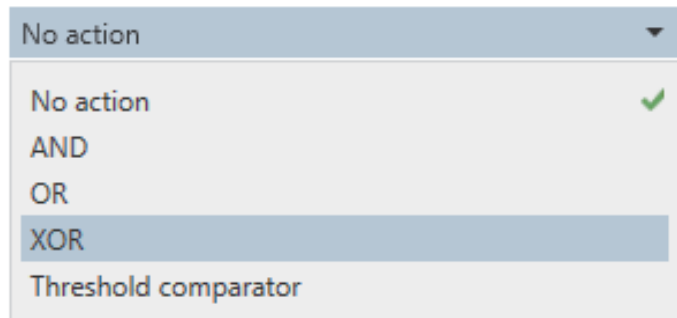
The following functions follow the same pattern.

"Logic function" function

Parameter "function enable" logical function enabled by default disable

If enabled, the following parameters are available

Logic1 function mode



A dropdown menu for the 'Logic1 function mode' parameter. The menu is open, showing five options: 'No action' (selected with a green checkmark), 'AND', 'OR', 'XOR', and 'Threshold comparator'. The 'XOR' option is highlighted with a blue background.

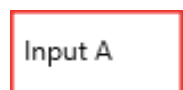
Parameter "Logic function mode" selects the logical function mode

Include options:

- **No action** no-operation
- **AND** logical AND
- **OR** logic OR
- **XOR** Logical XOR
- **Threshold comparator** Threshold comparison

"AND, OR, XOR" functions

Parameter "Input x"



A text input field labeled 'Input A' with a red border.

Default value A

Input B



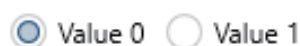
A dropdown menu for the 'Input x' parameter. The menu is open, showing three options: 'Normal' (selected with a green checkmark), 'No action', and 'Invert'. The 'Normal' option is highlighted with a blue background.

Include options:

- **No action** no-operation
- **Normal** normal
- **Invert** Take the opposite

Parameter "Default Input x", select value 0 and 1

Default value A



Two radio buttons for the 'Default Input x' parameter. The first radio button is selected and labeled 'Value 0'. The second radio button is unselected and labeled 'Value 1'.

Parameter "result output", result output mode

result output

- ☒ Receiving a new obj
☐ Every change of output object

- **"Receiving a new obj"** Output after receiving a new object
- **"Every change of output object"** Output is generated after the output object changes

Parameter "result output report mode", the result output and reporting method

result output report mode

send obj delay time (*500ms)

No action

No action

Normal

Invert

Include options:

- **No action** no-operation
- **Normal** normal
- **Invert** Take the opposite

Parameter "send obj delay time (*500ms)" sets the delay sending value time

send obj delay time (*500ms)

0

"Threshold comparator" function

Logic1 function mode

Threshold comparator

Threshold value data type

4bit

Threshold value input(4bit)

0

result output value 1

No action

result output value 0

No action

result output report mode

No action

send obj delay time (*500ms)

0

Parameter "Threshold value data type" sets the threshold data type

Threshold value data type	4bit
Threshold value input(4bit)	4bit
result output value 1	1byte
	2byte

Parameter "Threshold value input" sets the input threshold (0-15)

Threshold value input(4bit)	0
-----------------------------	---

Parameter "result output value x" sets the output value mode

result output value 1	No action
result output value 0	No action
result output report mode	Input value < threshold value
send obj delay time (*500ms)	Input value == threshold value
	Input value > threshold value
	Input value != threshold value
	Input value <= threshold value
	Input value >= threshold value

Include options:

- **Input value < threshold value**
Output when the input value is less than the threshold
- **Input value == threshold value**
Output when the input value is equal to the threshold
- **Input value > threshold value**
Output when the input value is greater than the threshold
- **Input value != threshold value**
Output when the input value is not equal to the threshold
- **Input value <= threshold value**
Output when the input value is less than or equal to the threshold
- **Input value >= threshold value**
Output when the input value is greater than or equal to the threshold

6. Description of communication objects

The communication object is the medium for devices to communicate with other devices on the bus. That is, only the communication object can communicate with the bus. The communication object of each key on the panel is the same. The following is a detailed introduction to the function of each communication object with the first key as an example.

6.1 "Disable function" communication object

Note: In the following table, "C" in the column of property 1 represents that the communication function of the communication object is enabled, "W" represents that the communication object can rewrite the values of other devices, "R" represents that the values of the communication object can be read by other devices, and "T" represents that the communication object has

For transmission, "U" means that the value of the communication object can be rewritten by the read response of other objects.

10	KEY2	function enable	1 bit	C - W T - enable	低
60	KEY7	function enable	1 bit	C - W T - enable	低
50	KEY6	function enable	1 bit	C - W T - enable	低
40	KEY5	function enable	1 bit	C - W T - enable	低
30	KEY4	function enable	1 bit	C - W T - enable	低
20	KEY3	function enable	1 bit	C - W T - enable	低
70	KEY8	function enable	1 bit	C - W T - enable	低
182	KEY1	function enable	1 bit	C - W T - switch	低

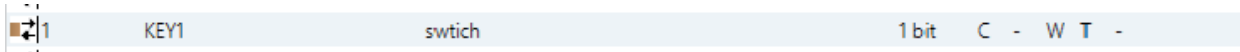
Figure 6.1 "Disable function" communication object

Number	Function	Name of the communication recipient	Type	Attribute
182,10,20,30,40,50,60,70	Function enable	KEY1-8,disable	884	C,W,T
The communication object is used to disable the key function. When "1" is received, the key function will be disabled; when "0" is received, the key function will be enabled. The key function is enabled by default when power is on.				

Table 1 "Disable function" Communication object table

6.2 "Switching" communication object

This function is a switch function, which can control the on and off of the light



1	KEY1	swtich	1 bit	C - W T -
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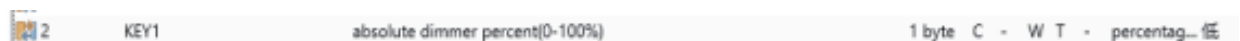
Figure 6.2 "Switching" communication object

Number	Function	Name of the communication recipient	Type	Attribute
1,11,21,31,41,51,61,71	Switching	Button1-8, switching	1bit	C,W,T
After the key is triggered, the communication object sends the message "1" to open the switch and sends the message "0" to close the switch.				

Table 2 "Switching" Communication object table

6.3 "Dimming" communication object

This function is the dimming function, which can be adjusted by pressing the button for a long time



2	KEY1	absolute dimmer percent(0-100%)	1 byte	C - W T - percentag_低
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Figure 6.3 "Dimming" communication object

Number	Function	Name of the communication recipient	Type	Attribute
2,12,22,32,42,52,62,72	Dimmer	KEY1-8, absolute dimmer percent(0-100%)	1byte	C,W,T
The communication object is visible when the dimming function is selected relative to the dimming, and is used for short press switch operation.				

Table 3 "Dimming" Communication object table

6.4 "shutter control" communication object

3	KEY1	short press curtain move	1 bit	C - W T - up/down	低
100	KEY1	curtain stop	1 bit	C - W T - step	低
80	KEY1	long press curtain move	1 bit	C - W T - up/down	低

This function is for the stop and start of the curtain, forward and reverse

Figure 6.4 "Blind" communication object

Number	Function	Name of the communication recipient	Type	Attribute
3,13,23,33,43,53,63,73	Move	KEY1-8,short press curtain move	1bit	C,W,T
Used to control the opening and closing of the curtain. When the communication object sends a message of "1", it moves down; when it sends a message of "0", it moves up.				
100,101,102,103,104,105,106,107	STOP	KEY1-8,STOP	1bit	C,W,T
Used to control the stop of the curtain and to send the stop object.				
80,81,82,83,84,85,86,87	Move	KEY1-8,long press curtain move	1bit	C,W,T
Used to control the opening and closing of the curtain. When the communication object sends a message of "1", it moves down; when it sends a message of "0", it moves up.				

Table 4 "Blind" communication object table

6.5 "Value send" communication object

value1 type

1bit(0..1)

When the parameter is selected as 1bit, the value sending object will display 1bit

80

KEY1

value(1bit) send

1 bit

C

-

W

T

-

The object type is 1bit

value1 type

1byte(0..255)

When the parameter is selected as 1byte, the value sending object will display 1byte

4

KEY1

value(1byte) send

1 byte

C

-

W

T

-

Figure 6.8 "value (1bit) send" communication object

Number	Function	Name of the communication recipient	Type	Attribute
80,81,82,83,84,85,86,87	Value send	KEY1-8, value(1bit) send	1bit	C,W,T
The communication object is used for key press, release and long press, and 1bit value is sent.				
4,14,24,34,44,54,64,74	Value send	KEY1-8, value(1byte) send	1byte	C,W,T
The communication object is used for key press, release and long press, and 1byte value is sent.				
8,18,28,38,48,58,68,78	Value send	KEY1-8, value(2byte)send	2byte	C,W,T
The communication object is used for button press, release and long press, and 2byte values are sent.				

Table 5 "Value sender" Communication object table

6.6 "Scene" communication object

5	KEY1	sence readll	1 byte	C	-	W	T	-
100	KEY1	scene value output(1bit)	1 bit	C	-	W	T	- boolean 低
7	KEY1	short press scene save	1 byte	C	-	-	T	- scene con... 低

Figure 6.12 "Scene" communication object

Number	Function	Name of the communication recipient	Type	Attribute
5,15,25,35,45,55,65,75	Short press sence recall	Scene callbacks	1byte	C,T
The communication object is used to control the scene. An 8bit instruction can be sent through the communication object to call or store the scene. The meaning of the 8bit instruction is explained in detail below. The parameter setting scene number is 1~64, and the actual scene message sent by the communication object "Number of light scene" corresponds to 0~63. For example, if the parameter setting scene number is 1, then the scene sent by the communication object "Number of light scene" is 0.				
100, 101, 102, 103,104, 105, 106, 107	Sence value output	Scene value output	1bit	C,W,T
7,17,27,37,47,57,67,77	Short press sence save	Scene preservation	1byte	C,T

Table 6 "Scene" communication object table

6.7 "Delay mode" communication object

90	KEY1	delay mode value output(1bit)	1 bit	C	R	W	T	- switch 低
90	KEY1	delay mode value output(4bit)	4 bit	C	R	W	T	- dimming... 低
90	KEY1	delay mode value output(1byte)	1 byte	C	R	W	T	- counter p... 低

Number	Function	Name of the communication recipient	Type	Attribute
90,91,92,93,94,95,96,97	Delay mode value output	Delays the send value	Multiplexing	C,R,W,T

Table 7 "Delay mode" Communication object table

6.8 "Multiple operation" communication object

187	KEY1	Multiple operation output1(1bit)	1 bit	C - W T - switch	低
188	KEY1	Multiple operation output2(1bit)	1 bit	C - W T - switch	低
189	KEY1	Multiple operation output3(1bit)	1 bit	C - W T - switch	低
190	KEY1	Multiple operation output4(1bit)	1 bit	C - W T - switch	低
187	KEY1	Multiple operation scene output 1(1byte)	1 byte	C - W T - scene nu...	低

Number	Function	Name of the communication recipient	Type	Attribute
187-190(KEY1) 191-194 215-218(KEY8)	Multiple operation output	Multiplexed function output	1bit、 1byte	C,W,T

Table 8 "Multiple operation" Communication object table

6.9 "RGB Dimmer" communication object

300	KEY1	RGBW value(3BYTE)	3 bytes	C - - T - RGB value...	低
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Number	Function	Name of the communication recipient	Type	Attribute
300,301,302,303,304, 305,306,307	RGB mode (1*3/6Byte)	RGB aiming	3byte、 6byte	C,T
187-218	RGB dimmer (3/4*1Byte)	RGB aiming	1byte	C,T

Table 9 "RGB mode" Communication object table

6.10 "Color temperature" communication object

300	KEY1	Color temperature value(2BYTE)	2 bytes	C - W T - absolute c...	低
-----	------	--------------------------------	---------	-------------------------	---

Number	Function	Name of the communication recipient	Type	Attribute
300-307	Color temperature value (2BYTE)	Color temperature adjustment	2byte	C,W,T

Table 10 "Color temperature" communication object table

6.11 "LED function" communication object

6	LED1	led status(1bit)	1 bit	C R W T	- switch	低
---	------	------------------	-------	---------	----------	---

Figure 6.9 "LED function" communication object

Number	Function	Name of the communication recipient	Type	Attribute
6,16,26,36,46,56,66,76	Status	KEY1-8,led status	1bit	C,R,W,T
When the LED function is enabled, the communication object is enabled to receive status feedback to light up the LED indicator.				

Table 11 "LED function" Communication object table

6.12 "channel x scene number" communication object

120	channel 1 number of scene	scene number input(1byte)	1 byte	C - W T	- scene nu...	低
121	channel 1 Actuator group A	scene value output(1bit)	1 bit	C - - T	- switch	低
121	channel 1 Actuator group A	scene value output(4bit)	4 bit	C - - T	- dimming...	低
121	channel 1 Actuator group A	scene value output(1byte)	1 byte	C - - T	- counter p...	低

Number	Function	Name of the communication recipient	Type	Attribute
120,130,140,150		Scene number input	1byte	C,W,T
121-128(channel1 A-H) 151-158(channel4 A-H)		Scene number output (1byte)	1bit、 4bit、 1byte	C,T

Table 12 "LED function" Communication object table

6.13 "relay" communication object

relay1 enable/disable

☒ disable ☐ enable

relay2 enable/disable

☒ disable ☐ enable

relay3 enable/disable

☒ disable ☐ enable

relay4 enable/disable

☒ disable ☐ enable

The parameters enable the relay function, which requires that the hardware supports the relay output.

relay1 enable/disable

☐ disable ☒ enable

relay1 mode

☒ relay value:on(1) / off(0)
☐ relay value:on(0) / off(1)

This parameter is the value obtained by the relay to control the closing of the relay. When received as 1, it closes; when received as 0, it opens.

Figure 6.9 "relay function" communication object

 114	Relay 1	relay1 status	1 bit	C	R	W	T	U	switch	低
 110	Relay 1	relay1 switch	1 bit	C	R	W	T	U	switch	低

Number	Function	Name of the communication recipient	Type	Attribute
110 111 112 113	Status	relay1-4 switchs	1bit	C,R,W,T,U
114 115 116 117	Status	relay1-4 status	1bit	C,R,W,T,U
When enabled, it is used to control the on and off of the relay				

Table 13 "relay function" communication object table