

T10 Smart Thermostat Panel

User Manual-V1.1



KNX international standard home and building control system

Contents

1. Product Description	5
2. Technical Parameters、Dimension、Wiring diagrams	6
2.1 Technical Parameters	7
2.2 Dimension	8
2.3 Connection Diagram(Take 4-key thermostat panel as an example)	9
2.4 Brief instructions and homepage interaction(Take the sample of 4-key panel)	10
3. Setting instructions for ETS system parameters	11
3.1 Parameter window “General”	12
3.2 Parameter window “General setting of push button ”	18
3.2-1 Button independent working mode	21
3.2-1.1 “Switch”Function	21
3.2-1.2 “Switch/Dimming” Function	23
3.2-1-3 “Value/Forced output”Function	25
3.2-1-4 “Scene control”Function	26
3.2-1-4 “Scene control” Function	27
3.2-1-5 “Shutter control”Function	28
3.2-1-6 “Shift register ”Function	29
3.2-1-7 “RGB dimming” Function	31
3.2-1-8 “Multiple operation ” Function	33
3.2-1-9 “Delay mode ” Function	34
3.2-2 Joint mode	35
3.2-2.1 “Switch”Function	36
3.2-2.2 “Switch/Dimming”Function	37
3.2-2.3 “Scene control”Function	39
3.2-2.4 “Shutter control”Function	40
3.3 Parameter window “LED”	41
3.4 Parameter window “Proximity sensor”	43
3.5 Parameter window “Temperature sensor”	46
3.6 Parameter window “Humidity sensor”	47

3.9 Parameter window“Switch Actuator” (Only applicable to switch version)	49
3.13 Parameter window “Room thermostat”	54
3.13.1 Parameter window“Air-condition”	55
3.13.2 Parameter window “Floor heating”	61
3.13.3 Parameter window“Ventilation”	64
3.14 Parameter window “Logic”	65
3.14.1 Parameter window“AND/OR/NAND/NOR/XOR”	66
3.14.2 Parameter window “Threshold comparator”	67
3.14.3 Parameter window“Format convert”	69
3.15 Parameter window “Event Group”	70
4. Description of Communication Object	72
4.1 “General” Communication object	72
4.2 “Button”Communication object	73
4.3 “LED” Communication object	78
4.4 “Proximity sensor”Communication object	78
4.5 “Temperature sensor”Communication object	79
4.6 “Humidity sensor” Communication object	79
4.9“Switch Actuator”Communication object	80
4.13“Thermostat function”Communication object	81
4.13.1 “Air condition”Communication object	81
4.13.2 “Floor heating” Communication object	83
4.13.3 “Ventilation” Communication object	84
4.14 Communication object of logic function	85
4.14.1 “AND/OR/NAND/NOR/XOR”Communication object	85
4.14.2 “Threshold comparator”Communication object	85
4.14.3 “Format convert”Communication object	86

Version	Date	Modified records	Modified part
1.0	22-0912	V1.0 release	
1.1	23-0308	V1.1 release	Combined switch, dimming, and curtain execution functions

Add version record

1.1 Version

1. 23-0308, add the function descriptions of dimming and curtain execution function based on the switch version, and replace the corresponding wiring diagram. The article indicates that it is only applicable to dimming and curtain versions.

1. Product Description

T10 multi-function thermostat panel, hereinafter referred to as smart thermostat panel, is mainly used in building control systems. It is connected to the bus through the EIB terminal block and installed together with other equipment on the bus to form an intelligent control system. It is functionally simple and easy to operate. Intuitive, users can configure it according to their own needs and design panel functions corresponding to environmental scenarios.

This manual provides users with detailed technical information about the smart thermostat panel, including installation and programming details, and explains how to use the thermostat panel with examples in actual use.

This smart thermostat panel can support various application functions such as switches, dimming, blinds, scenes, RGB dimming, multiple operations, delay value sending, proximity sensing linkage, sensor display linkage, thermostat interaction function, and voice interaction. By configuring each button on the panel to correspond to a set of LED for status indication, the panel is divided into three independent adaptation versions (switch, dimming, and dry contact curtain) due to different loaded devices. The installation method of the panel is standard 60 Box wall mounting method.

The smart thermostat panel is connected to the bus through the EIB terminal block and requires additional auxiliary power supply voltage. The physical address allocation and parameter setting can be done using the engineering design tool software ETS (version ETS5.7 or above) with the .knxprod file.

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

- Three-in-one temperature control function, supports fan coil control
- Customized temperature control screen interactive display content
- Supports vibration and beep prompt feedback for touch or key presses, and the vibration intensity can be customized and modified
- Switching and dimming function
- Blinds function
- Value sending function
- Recall and store scene function
- Shift register function
- RGB and RGBW dimming function

- Button multi-operation
- Delayed sending value (such as switch value, dimming value)
- LED interactive indication function
- 8 logical function
- 8 event group function (each group with 8 configurable output channels)
- Switch output control (the device has up to 4 relay switch control outputs) -- (only applicable to switch execution panel)
- Proximity sensing linkage control, configurable indicator light linkage to display sensing status
- Temperature and humidity sensor parameter display and equipment linkage control, gas sensor data display and abnormal status alarm
- Voice function (only 8-keys panel support), can be configured to link with other KNX devices or local actuators

There are 4-keys and 8-keys available. Each type can use various functions described above. According to the actual panel device used, when configuring the function, select the panel type suitable for this device for parameter configuration.

In order to ensure the normal operation of the system, you must check whether there are any problems with the wiring before use, and pay attention to the electrical technical characteristics of the load equipment. The functional configuration of the product needs to be combined with the characteristics of the selected product.

2. Technical Parameters、Dimension、Wiring diagrams

Power supply	KNX bus voltage	21-30V DC, obtained via EIB bus
	The current drawn 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 via auxiliary power supply (temperature control version)	$< 33\text{mA}$ (30V DC)
	Power consumed via auxiliary power supply (temperature control version)	$< 1\text{W}$
	Number of channels	Max.4 channels
	Rated voltage	230VAC(50/60Hz)

Relay output (for switch version)	Current rating	10A/channel
	Maximum total power	<2500W
	Mechanical life	>1x10 ⁶
	Electrical life	>2.5x10 ⁵
Connection	EIB/KNX bus	Terminal connection (red/black)
	Output terminals	0.8mmØ, connected by screw copper post
	Wire size	0.5-4mm ² (Switch version)
	Torsional moment	0.8N-m (Switch version)
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
Dimention/Weight	Dimension	86mm×86mm(4-keys) 86mm×136.9mm(8-keys)
	Weight(Metal)	4-keys : 0.217kg 8-keys: 0.31kg (switch version)

2.1 Technical Parameters

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

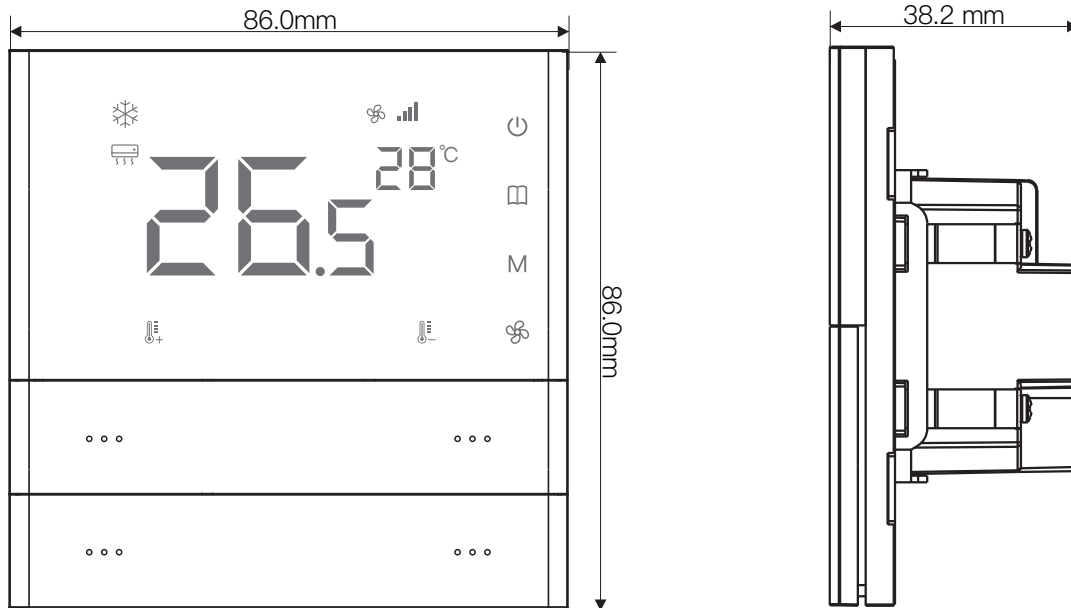


Figure 2.2.1 Dimension of 4-key thermostat panel

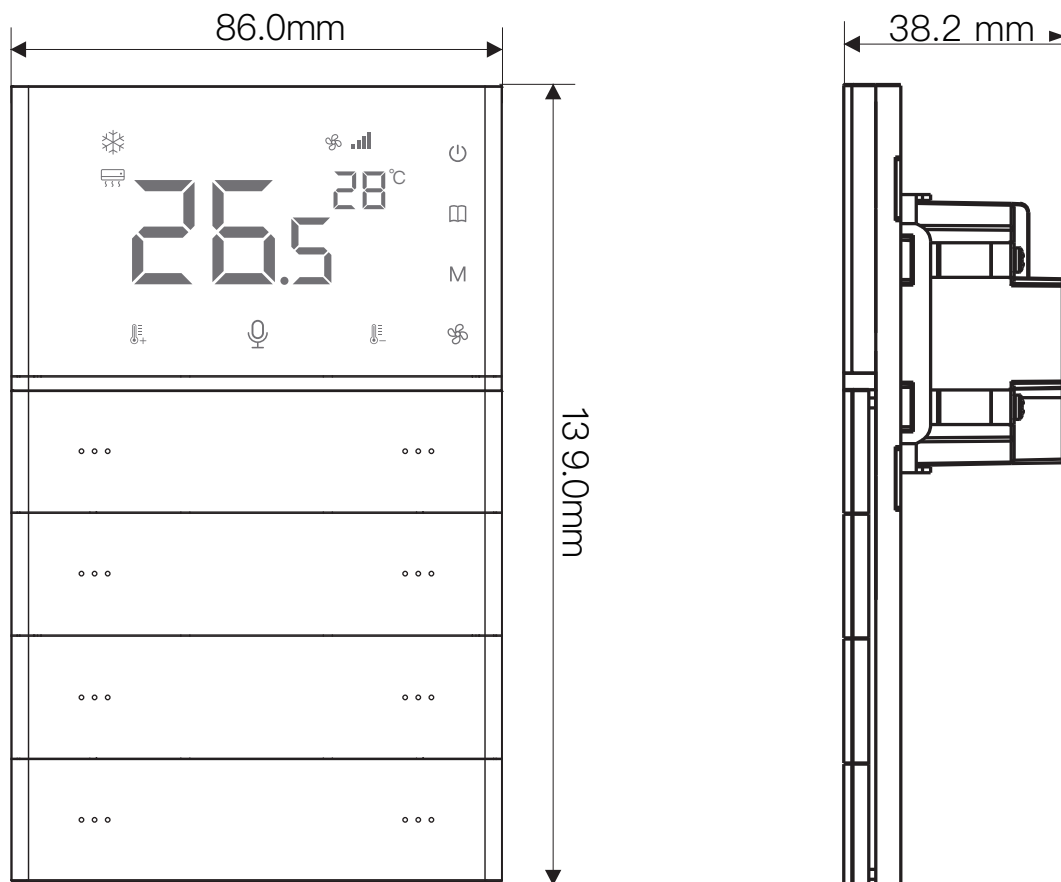


Figure 2.2.2 Dimension of 8-key thermostat panel

2.3 Connection Diagram

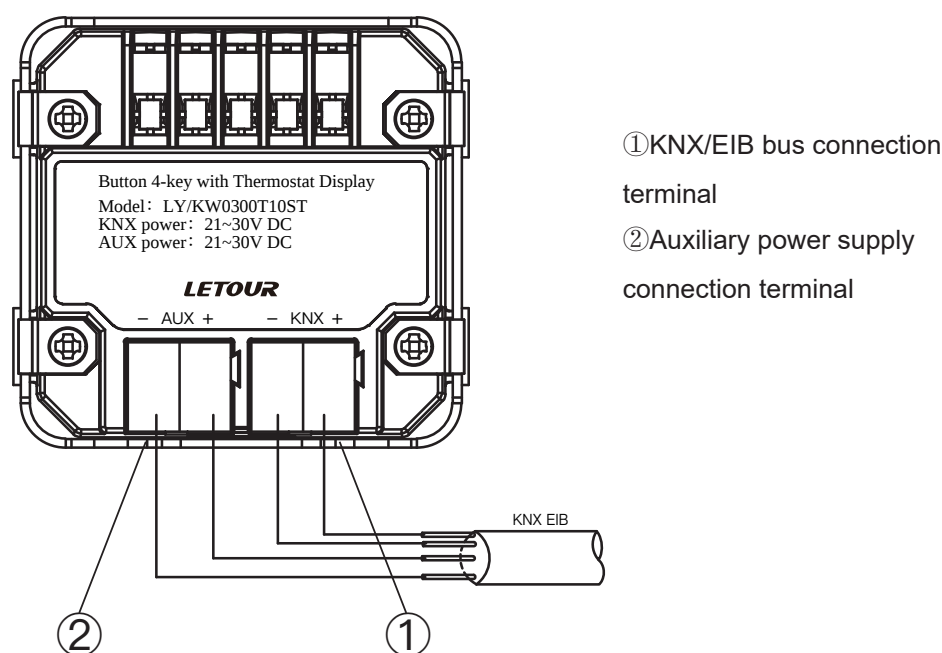


Figure 2.3.1 Wiring diagram of T10 smart thermostat button panel

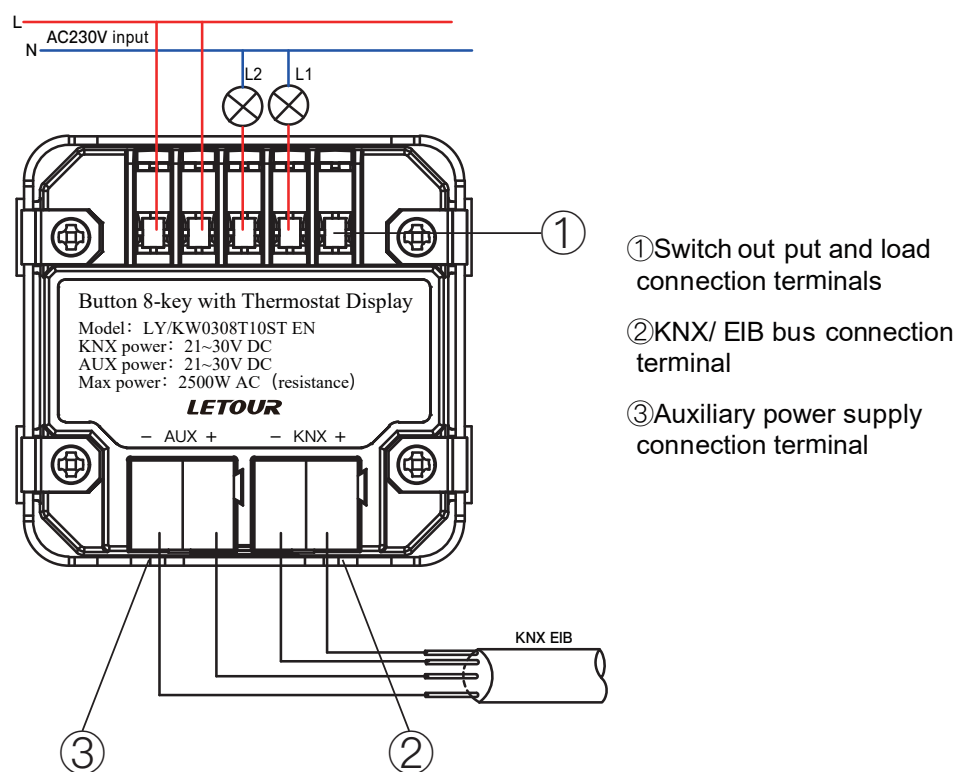


Figure 2.3.2 Wiring diagram of T10 smart thermostat button panel

2.4 Brief instructions and homepage interaction(Take the sample of 4-key panel)



Figure 2.4 Function interaction rendering

Device page turning interaction

When the device is powered on normally, short press the  button to switch between 8 groups of device pages, including fresh air , floor heating , and air conditioner .

Temperature control on/off

This operation can only be performed when and only when the device page is switched to "Air Conditioning", "Floor Heating", or "Fresh Air";

Power on: When the device is turned off, long press the  button to open the corresponding working mode of the panel.

Power off: When the device is turned on, press and hold the  button to turn off the corresponding working mode of the panel.

The device can also receive other feedback via the bus to synchronize the power on and off status with the panel display.

Wind speed adjustment

In the dehumidification and air supply state of fresh air panel mode or air conditioner panel mode, each time you press the  button, you can switch between the three wind speed levels of "low wind, medium wind, and high wind". "Auto AUTO fan speed" is only available in the cooling or heating state of the air conditioning panel mode.

Mode switch

In the air conditioning panel mode, each time you press the M key, you can switch between the four working modes of "cooling❄️", heating☀️, dehumidification💧, and air supply🌀".

Numerical addition and subtraction

Floor heating panel: Increase and decrease the floor heating setting temperature value.

Air conditioning panel: Increase and decrease the air conditioning setting temperature value.

Short press the temperature "+" or "-" key once to increase/decrease the value by one degree; long press the temperature increase/ decrease keys ▲▼ to set the temperature value to continuously increase or decrease.

Sensing parameter display

Only temperature and humidity sensors can display specific values on the corresponding function page. The temperature and humidity display can be viewed through the switch key  after being configured in the database. CO2, VOC and other sensors cannot display values directly on the device, The corresponding gas quality level can only be displayed through calculation by the device. The supported levels are divided into three types: "excellent, good, and poor".

3. Setting instructions for ETS system parameters

Parameter setting instructions in the ETS system are described in the form of function blocks.

The following explains the correspondence between the keys on the smart thermostat panel and the keys in the database:

4-key thermostat panel corresponds to channels Button 1, Button 2, Button 3, and Button 4 as shown below:

Button 1	Button 2
Button 3	Button 4

8-key panel corresponds to the channels Button 1, Button 2, Button 3, Button 4, Button 5, Button 6, Button 7, and Button 8 as shown below:

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

Note: In the joint 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 packet settings, function selection, and enabling and closing of various functions. The following Introduce specific parameter configuration information:

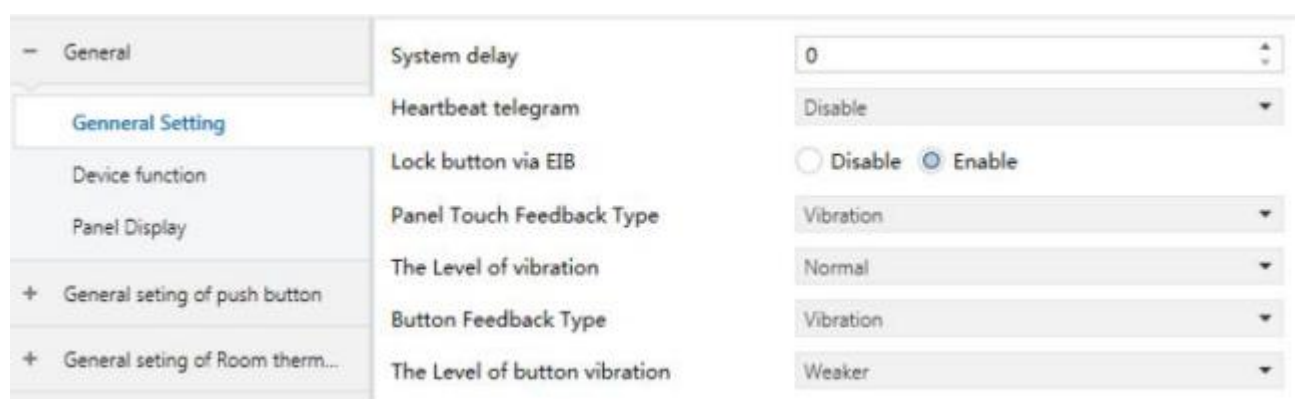


Figure 3.1.1 “General Setting” parameter window

Parameter “System delay”

This parameter sets the system startup time of the panel. After the delay reaches this time, messages can be sent or received normally. Optional: 0---255 seconds

Parameter“Heartbeat telegram”

This parameter sets the heartbeat packet configuration of the panel, so that the device can operate normally and the device sends heartbeat packets to the bus cyclically according to the set time. Optional:

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 only displayed when the parameter "Heartbeat telegram" is enabled. The parameter sets the time for cyclic sending of heartbeat packets. Optional:

1...64s

Parameter “Lock button via EIB”

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

Enable

Parameter “Lock button via EIB”

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

Optional:

Disable

Enable

Parameter “Panel Touch Feedback Type”

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

Optional:

Disable

Vibration

Buzzer

Parameter “The Level of vibration”

This parameter will only be displayed when the parameter "Panel Touch Feedback Type" is selected as "Vibration". It is used to set the intensity level of key vibration feedback, which is divided into three levels. Optional:

Weaker

Normal

Strong

Parameter “The Volume of button buzzer”

This parameter will only be displayed when the parameter "Panel Touch Feedback Type" is selected as "Buzzer". It is used to set the loudness level of the button buzz feedback, which is divided into three levels. Optional:

Lower

Normal

Higher

Parameter “Button Feedback Type”

This parameter is used to set the feedback prompt type of the panel's mechanical buttons, with touch vibration optional. Optional:

Disable

Vibration

Buzzer

Parameter “The Level of vibration”

This parameter will only be displayed when the parameter "Button Feedback Type" is selected as "Vibration". It is used to set the intensity level of button vibration feedback, which is divided into three levels. Optional:

Weaker

Normal

Strong

Parameter “The Volume of button buzzer”

This parameter will only be displayed when the parameter "Button Feedback Type" is selected as "Buzzer". It is used to set the loudness level of the button buzzer feedback, which is divided into three levels. Optional:

Lower

Normal

Higher

General	Device type Selection	Panel+Voice control+Room thermostat
General Setting	Push button type	4 Rocker(8 buttons)
Device function	Voice controller	☐ Disable ☒ Enable
Panel Display	Aircondition is	☐ Disable ☒ Enable
General setting of push button	Floor heat is	☐ Disable ☒ Enable
Button 1	Ventilation is	☐ Disable ☒ Enable
Button 2	Proximity sensor is	☐ Disable ☒ Enable
Button 3	Temperature sensor is	☐ Disable ☒ Enable
Button 4	Humidity sensor is	☐ Disable ☒ Enable
Button 5	CO2 sensor is	☐ Disable ☒ Enable
Button 6	TVOC sensor is	☐ Disable ☒ Enable
Rocker 4	Switch Actuator is	☐ Disable ☒ Enable
LED	Dimming Actuator is	☒ Disable ☐ Enable
General setting of Room therm...	Shutter Actuator is	☒ Disable ☐ Enable
	Gateway function is	☐ Disable ☒ Enable

Figure 3.1.2 “Device function”parameter window

Parameter “Device type Selection”

This parameter is used to set the panel function type, including the following 4 types, which are suitable for different types of panels. Optional:

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 buttons supported by the panel. When configuring the panel, the selected switch number matches the actual number of buttons on the panel, the LED settings also correspond to

Optional:

- 1 Rocker(2 buttons)
- 2 Rocker(4 buttons)
- 3 Rocker(6 buttons)
- 4 Rocker(8 buttons)
- 5 Rocker(10 buttons)

No matter which option is selected, the parameters associated with each switch are the same. Each switch can be configured as two buttons for independent use, or can be configured to be use together. When used as two buttons, the application of each button is independent of the other. If used jointly, they are 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 and enable it according to the actual usage scenario.

Optional:

Disable

Enable

Note: The functions identified by * do not currently support configuration and use.

General	Page 1 is	Air conditioner
General Setting	Page 2 is	Floor heat
Device function	Page 3 is	Ventilation
Panel Display	Page 4 is	Temperature sensor
General setting of push button	Page 5 is	Humidity sensor
Button 1	Page 6 is	CO2 sensor
Button 2	Page 7 is	TVOC sensor
Button 3	Page 8 is	No display
Button 4		

Figure 3.1.3“Panel Display”parameter window

Parameter “PageX is (x=1,2,3...8)”

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

Air conditioner

Floor heat

Ventilation

Temperature sensor

Humidity sensor

CO2 sensor

*PM2.5 sensor

TVOC sensor

*HCHO sensor

No display

3.2 Parameter window “General setting of push button ”

The "General setting of push button" parameter setting interface contains eleven configuration pages, as shown in Figure 3.2.1 below. Here, all control functions of the entire panel buttons and indicator light linkage are set, including switches, dimming, scenes, and value sending. etc., the indicator light can be individually configured with linked button display or indicate the status of other linkage sensors

Figure 3.2.1“General setting of push button”parameter window

Parameter “Rocker X use as (x=1,2,3) ”

This parameter sets the working mode of each link switch.

Optional:

Independent button

Linked button

When the option is "Independent button", then the left and right sides of the switch are used as two buttons, and their applications are independent. When the option is "Linked button", the left and right sides of this linked button are related to each other.

The following chapters 3.2-1 and 3.2-2 will introduce the parameters and communication objects of each function of the panel in two applications.

Take the 1-key or 1 rocket switch as an example to illustrate.

Parameter “ Brightness of LED when it is on”

This parameter sets the brightness level of the panel status indication LED when it is on. When it is off, the LED light will turn off.

Optional:

Level 1

Level 2

Level 3

Level 4

Level 5

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

Parameter “ Brightness of labeling LED ”

This parameter sets the brightness of the backlight LED indication. If there is no indication, it will not light up. Optional:

OFF

Level 1

Level 2

Level 3

Level 4

Level 5

OFF: The backlight is off.

Level 1-5: The brightness level of the backlight indication, 1 is the darkest and 5 is the brightest.

If day/night mode is distinguished, the indication brightness of the backlight LED during the day is determined by this parameter.

Parameter “ Labeling LED display mode”

This parameter sets the indication state of the backlight LED, whether it is a constant light state or a gradient state. Optional: 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 backlight LED indicators changes according to the day/night mode transition. Optional:

No

Yes

No: No matter day or night, the indicator brightness on the keys and backlight LED remains unchanged.

Yes: Distinguish between day/night mode, and the following four parameters are visible.

After a bus reset or programming is completed, the LED indication brightness defaults to day mode brightness.

Parameter“polarity of Day/Night mode”

This parameter sets the object value for day/night mode conversion,Optional:

Day=1/Night=0

Day=0/Night=1

Day=1/Night=0: The object "Day/Night mode" receives the message 1 and switches to day mode. It switches to night mode when receiving the message 0, it switches to night mode.

Late mode.

Day=0/Night=1: The object "Day/Night mode" receives the message 0 and switches to day mode. When receiving the message 1, it switches to night mode.

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. Optional:

No

Yes

No: Do not send.

Yes: Send a read request, and the LED will automatically adjust the LED indication brightness according to the response day/night mode setting brightness. if no response, LED indicates day mode.

Parameter “Status LED brightness when it is night”

This parameter sets the brightness level of the panel status indicator LED when it is on in night mode.

When it is off, the status LED display turns off. Optional:

OFF

Level 1

Level 2

Level 3

Level 4

Level 5

OFF: The status indicator light is off.

Level 1-5: The brightness level of the status light indication, 1 is the darkest and 5 is the brightest.

Parameter“Labeling LED brightness when it is night”

This parameter sets the brightness of the backlight LED indication at night. If there is no indication, it will not light up. Optional:

OFF

Level 1

Level 2

Level 3

Level 4

Level 5

OFF: The backlight is off;

Level 1-5: The brightness level of the backlight indication, 1 is the darkest and 5 is the brightest.

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

This parameter sets whether the LED object on the button sends a read request when the bus is reset or programming is completed. Optional:

No

Yes

No: Not sent, and the following parameter "Initial LED color" is visible.

Yes: Send a read request and the LED will indicate based on the response value. If there is no response, no instructions will be given.

Parameter“Initial LED color”

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

No

As color as object value “0”

No: No status indication.

As color as object value “0”: Indicates based on the color of the LED status object value when it is 0. If the function of LED X is selected as "control by external object, and 1byte" or "Indicate button press", there will be no status indication.

3.2-1 Button independent working mode

In this working mode, the applications on the left and right sides of the button are independent of each other, and the parameter settings and communication objects on the left and right sides of the button are independent of each other. For example, a switch function can be implemented on one side of a button, while other supported functions can be assigned to the other side of the button based 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 operate the touch switch on the panel (short press and long press, press, release) to send a switch message.

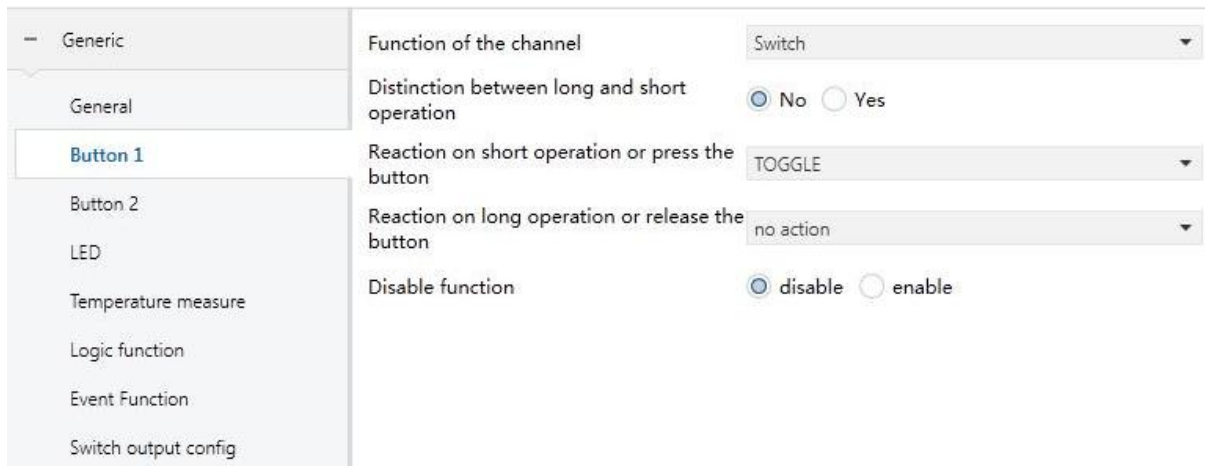


Figure 3.2.2 "Button X- Switch"parameter window

Parameter "Distinction between long and short operation"

This parameter sets the button control to distinguish between long/short operations. If you select the "Yes" option, it will be determined whether the operation is a long operation or a short operation only after pressing the button for a certain period of time, and then the panel will perform the corresponding set action. Optional:

No

Yes

Parameter "Long operation after (*0.1s) "

This parameter is only visible when distinguishing long/short operations, where the validity time of long operations is set. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3...25

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

Here sets the action to be performed when the button is pressed/released or during long/short operation. When the input is determined, the object value is updated immediately. Optional:

No action

ON

OFF

TOGGLE

"No action", no message is sent.

"ON", send open messages.

"OFF", send the off message.

"TOGGLE", the message sent during each operation will switch between on and off. For example, if the last message sent (or received) was a switch-on message, then this operation will trigger a switch-off message. When the switch is operated again, a switch-on message will be sent. The switch will always remember its last state and will be converted to another value when operated.

Parameter “Disable function”

Set whether to enable the button's disabling function. Optional:

Disable

Enable

If "Enable" is selected, the keys can be disabled or enabled through the object.

This parameter will not be explained below, and its usage is similar.

Parameter “Trigger value of disable object”

Set the message trigger value for disabling/enabling the button. Optional:

disable=1/enable=0

disable=0/enable=1

This parameter will not be explained below, and its usage is similar.

3.2-1.2 “Switch/Dimming” Function

“Switch/Dimming” parameter setting interface is shown in Figure 3.2.3. By configuring this page, users can operate the buttons to send control messages for switching or dimming.

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

Parameter“Long operation after (*0.1s) ”

This parameter is only visible when distinguishing long/short operations, where the validity time of long operations is set. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3...25

Parameter“Reaction on short operation”

Here sets the operation to be performed when the key is pressed briefly. When the input is determined, the object value is updated immediately. Optional:

No action

ON

OFF

TOGGLE

"No action", no message is sent.

"ON", send the open message;

"OFF", send the message off;

"TOGGLE", the message sent during each operation will switch between on and off.

Parameter“Reaction on long operation”

This parameter sets the relative dimming value sent when the button is pressed for a long time, brightening or dimming, and stops dimming when the button is released. Optional:

No action

brighter

darker

brighter/darker

"brighter", sends a brightening message when the button is pressed for a long time.

"darker", sends darkening messages;

"brighter/darker", each button operation will switch between brighter and darker.

Parameter“Dimming mode”

Here set the relative dimming method, whether it is start-stop dimming method or step-by-step dimming method. Optional:

Start-stop dimming

Steps dimming

If the "Start-stop dimming" option is selected, the relative dimming method is the start-stop dimming method. During dimming, a dimming or brightening message is sent.

When dimming is completed, a stop message is sent. In the start and stop dimming mode, dimming messages do not need to be sent cyclically.

If the "Steps dimming" option is selected, the relative dimming method is step-by-step dimming, and dimming messages are sent cyclically. When dimming ends, a dimming stop message is sent immediately.

Parameter“Brightness change on every sent”

When the parameter "Dimming mode" option is "Steps dimming", this parameter is visible. Here set the brightness (percentage) that can be changed when sending a dimming message cyclically. Optional:

100%

50%

.....

1.56%

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

When the parameter "Dimming mode" option is "Steps dimming", this parameter is visible. Here set the time interval for cyclically sending dimming messages. Optional: 0..25, 0=send only 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, the user can operate the buttons to send control messages of custom types and values.

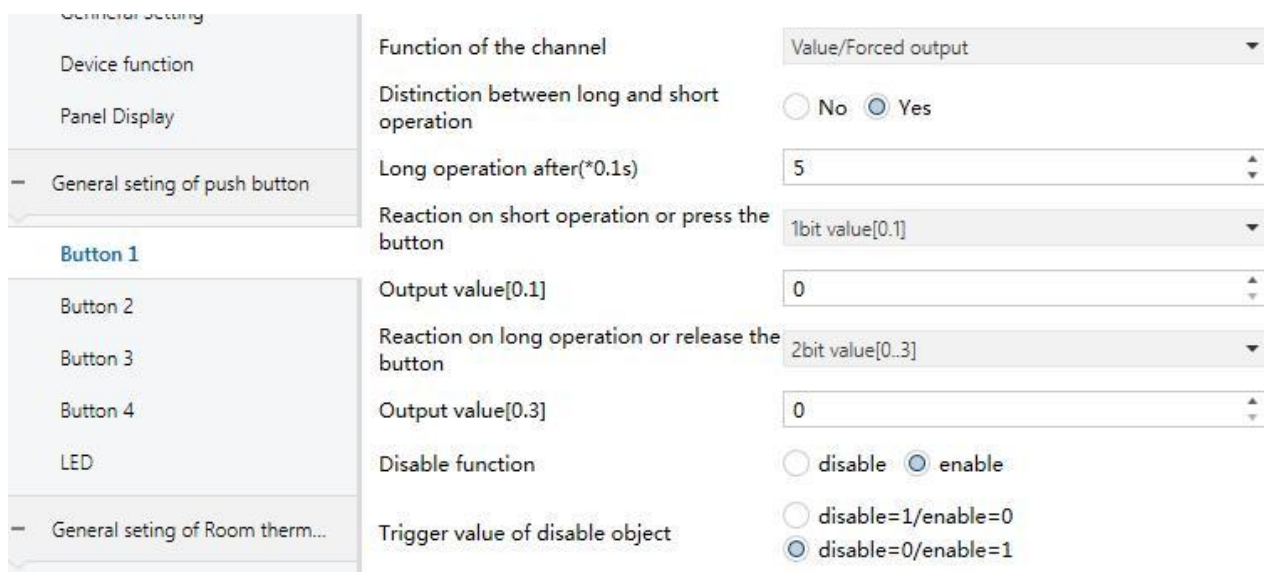


Figure 3.2.4 “Button X- Value/Forced output”parameter window

Parameter “Distinction between long and short operation”

This parameter sets whether key operations distinguish long/short operations. If you select the "Yes" option, it will be determined whether the operation is a long operation or a short operation only after pressing the button for a certain period of time, and then the panel will perform the set action. Optional:

Yes

No

Parameter“Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3..25

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

Here sets the data type sent when the button is pressed/released or during long/short operation.

Optional:

No reaction

1bit value [0...1]

...

2byte value [0...65535]

Parameter “Output value[...]”

Here set the data value sent when performing the operation. The range of values depends on the data type selected for the previous parameter.

3.2.1-4 “Scene control”Function

The "Scene control" parameter setting interface is shown in Figure 3.2.5. By configuring this page, the user can operate the buttons to send calls or store a scene control message

Figure 3.2.5 “Button X- Scene control”parameter window

Parameter “Distinction between long and short operation”

This parameter sets whether key operations distinguish long/short operations. If you select the "Yes" option, it will be determined whether the operation is a long operation or a short operation only after pressing the button for a certain period of time, and then the panel will perform the set action. Optional:

Yes

No

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3..25

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

Here sets the type of scene operation performed when the button is pressed/released or during long/short operation. Optional: No reaction

Recall scene

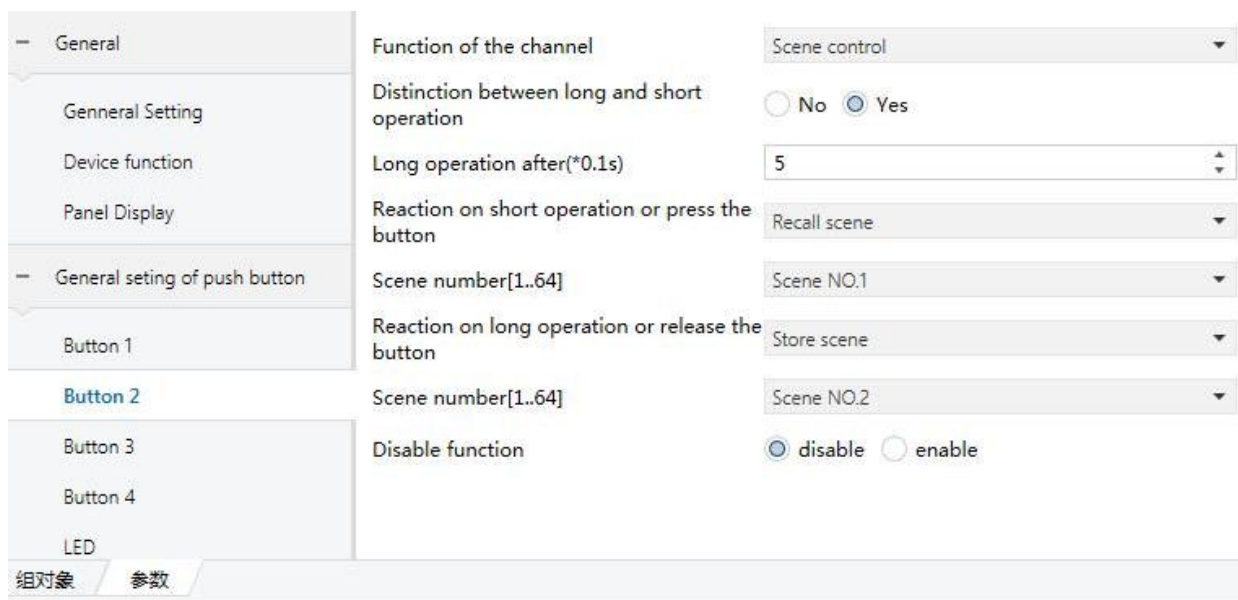
Store scene

Parameter “Scene number(1..64)”

Sets the scene number to be called or stored here. The scene number range is: Scene NO.1~64, and the corresponding message is 0~63.

3.2.1-4 “Scene control” Function

The "Scene control" parameter setting interface is shown in Figure 3.2.5. By configuring this page, the user can operate the buttons to send calls or store a scene control message.



General	Function of the channel	Scene control
General Setting	Distinction between long and short operation	☐ No ☒ Yes
Device function	Long operation after(*0.1s)	5
Panel Display	Reaction on short operation or press the button	Recall scene
General setting of push button	Scene number[1..64]	Scene NO.1
Button 1	Reaction on long operation or release the button	Store scene
Button 2	Scene number[1..64]	Scene NO.2
Button 3	Disable function	☒ disable ☐ enable
Button 4		
LED		

Figure 3.2.5 “Button X- Scene control”parameter window

Parameter“Distinction between long and short operation”

This parameter sets whether key operations distinguish long/short operations. If you select the "Yes" option, it will be determined whether the operation is a long operation or a short operation only after pressing the button for a certain period of time, and then the panel will perform the set action. Optional:

Yes

No

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3..25

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

Here sets the type of scene operation performed when the button is pressed/released or during long/short operation. Optional:

No reaction

Recall scene

Store scene

Parameter “Scene number(1..64)”

Sets the scene number to be called or stored here. The scene number range is: Scene NO.1~64, and the corresponding message is 0~63.

3.2.1-5 “Shutter control”Function

The "Shutter control" parameter setting interface is shown in Figure 3.2.5. By configuring this page, the user can operate the buttons to send or store a scene 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 3.2.5 “Button X- Shutter control”parameter window

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3..25

Parameter “Reaction on short/long operation”

This parameter sets the action performed when the button is a short operation or a long operation.

Optional:

No action

Up

Down

Up/Down

Stop (Adjust Up)

Stop (Adjust Down)

Stop (Adjust Up/Down)

"No action", no action is performed.

"Up", move the curtains up or open the curtain;

"Down", move the curtains down or close the curtain;

"Up/Down", alternately perform the actions of opening and closing the curtain (moving up/down).

"Stop (Adjust Up)", stops the curtain operation or raises the blind angle;

"Stop (Adjust Down)", stops the curtain operation or lowers the blind angle;

"Stop (Adjust Up/Down)", stops the curtain operation or alternately adjusts the blind angle up/down;

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

When the previous parameter option is "Stop...", this parameter is visible and takes effect. Here, the time interval for cyclically sending blind angle adjustment messages is set. Optional: 0...25, 0=send only once

3.2.1-6 "Shift register "Function

The "Shift register" parameter setting interface is shown in Figure 3.2.6. By configuring this page, the user can send the set value in the form of a shift register.

Generic	Function of the channel	Shift register
General	Shift type	☒ Shift by step value ☐ Shift without step value
Button 1	Value begin with	0
Button 2	Value end with(must be larger than value begin with)	1
LED	Step size	0
Temperature measure	Direction	☒ From lowest to highest ☐ From highest to lowest
Logic function	Reset function	☒ Disable ☐ Enable by long operation
Event Function	Reaction on press the button	☐ No reaction ☒ Send shift value
Switch output config	Reaction on release the button	☒ No reaction ☐ Send shift value
	Disable function	☒ disable ☐ enable

Figure 3.2.6 "Button X- Shift register"parameter window

Parameter “Shift type”

Sets the shift type here, whether with a step value or without a step value.Optional:

Shift by step value

Shift without step value

“Shift by step value”, When using a step value, you can set the starting value and end value of the shift, as well as the value that each shift increases (direction from low to high) or decreases (direction from high to low).

“Shift without step value”, When there is no step value, you can set the specific value sent for each shift.

Up to 10 numbers can be set. One number is sent for each operation.

Parameter “Value begin with”

This parameter is visible when the shift type is selected as "Shift by step value" and is used to set the starting value of the shift. Optional: 0...240

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

This parameter is visible when the shift type is selected as "Shift by step value" and is used to set the end value of the shift. Optional: 1...250

Note: The end value must be greater than the start value.

Parameter “Step size”

This parameter is visible when the shift type is "Shift by step value" and is used to set the value for each shift to increase (direction from low to high) or decrease (direction from high to low).Optional: 0...240

Parameter “Shift number”

This parameter is visible when "Shift without step value" is selected as the shift type. It is used to set the number of shift setting values. Up to 10 values can be set. Optional: 1/2/.../10 .

Sets the specific value sent for each shift operation in the following parameters.

Parameter “Value 1...10”

This parameter sets the value sent for each shift operation. Optional: 0...255

Parameter “Direction”

This parameter sets the direction of the shift. Optional:

From lowest to highest

From highest to lowest

“From lowest to highest”,shift from low to high, such as from start value to end value, or from value 1 to value 10. After reaching the end value or value 10, it will start shifting again from the starting value or value 1.

“From highest to lowest”, Shift from high to low, such as from the end value to the starting value, or from value 10 to value 1. After reaching the starting value or value 1, it will shift again from the end value or value 10.

Parameter “Reset function”

This parameter sets whether to enable the long press operation shift reset function. Optional: Disable

Enable by long operation

“Disable”

“Enable by long operation”, The shift is reset by a long operation. After reset, the shift will start again and send the start flag.

Parameter “Reaction on press/release the button”

This parameter is visible when the shift reset function is disabled. It sets whether to perform a shift operation when the button is pressed or released. Optional:

No reaction

Send shift value

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3..25

3.2.1-7 “RGB dimming” Function

The "RGB dimming" parameter setting interface is shown in Figure 3.2.7. By configuring this page, the user can send and set RGB numerical control related dimming equipment or color light strips according to the 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 3.2.7 “Button X- RGB dimming”parameter window—1

Figure 3.2.7 “Button X- RGBW dimming”parameter window—2

Parameter “RGB strip type”

This parameter sets the type of RGB light strip.Optional:

RGB

RGBW

RGB: Suitable for adjusting RGB tri-color light strips or drivers.

RGBW: Suitable for adjusting RGBW four-color lights.

Parameter “object type”

This parameter is used to set the object type. Optional:

Suitable for RGB type:

1x3byte RGB dimming via a 3byte object

3x1byte RGB dimming via three 1byte objects

Suitable for RGBW type:

1x6byte RGBW dimming via a 6byte object

4x1byte RGBW dimming via four 1byte object

Parameter “Distinction between long and short operation”

This parameter sets whether key operations distinguish long/short operations. If you select the "Yes" option, it will be determined whether the operation is a long operation or a short operation only after pressing the button for a certain period of time, and then the panel will perform the set action.Optional:

Yes

No

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3..25

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

Here sets to send the brightness value of various colors of the light strip when the operation button is operated in long/short operation. Optional: 0...255

3.2.1-8 “Multiple operation ” Function

The "Multiple operation" parameter setting interface is shown in Figure 3.2.8. The multi-operation function is set here. Through this configuration, one key operation can send different values and call different types of functions at the same time. Each button can set up to 4 values of different object types. Parameter setting instructions are as follows:

Parameter	Value
Function of the channel	Multiple operation
Distinction between long and short operation	☒ No ☐ Yes
Object type for object1	1Bit_On/Off
Function of press the button	TOGGLE
Object type for object2	1Bit_Up/Down
Function of press the button	Up/Down
Object type for object3	1Byte_RecallScene
Function of press the button	☐ No reaction ☒ Send Value
Value 1(Scene NO.)	Scene NO.1
Object type for object4	1Byte_StoreScene
Function of press the button	☐ No reaction ☒ Send Value
Value 1(Scene NO.)	Scene NO.1
Disable function	☒ disable ☐ enable

Figure 3.2.8 “Button X- Multiple operation”parameter

Parameter “Distinction between long and short operation”

This parameter sets whether key operations distinguish long/short operations. If you select the "Yes" option, it will be determined whether the operation is a long operation or a short operation only after pressing the button for a certain period of time, and then the panel will perform the set action. Optional:

Yes

No

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3..25

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

Here sets the type of data sent when a button is pressed or during a long/short operation. Optional:

Disable

1Bit_On/Off

.....

1Byte_Unsigned value

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

Here sets the specific value sent when performing the operation. When selecting different parameter options in the previous parameter, this parameter will display different value types, including switch, curtain action, or no action, or Send value (Send value , the specific configuration value is set in the next parameter).

Parameter “Value 1/2 (...) ”

This parameter is visible when selecting "1byte_RecallScene", "1byte_StoreScene", "1byte_Percentage" and "1byte_Unigned value" as the object type. Used to set the data value sent when performing the corresponding operation. The range of values depends on the data type selected by the parameter "Object type for object x(x=1,2,3,4)" above.

3.2.1-9 “Delay mode ” Function

The “Delay mode” parameter setting interface is shown in Figure 3.2.9. This is used to set the panel key operation delay function. During operation, a value is sent or not sent. After a delay, another value is sent.

General setting of push button		Function of the channel	Delay mode
Button 1	Distinction between long and short operation	☐ No ☒ Yes	
Button 2	Long operation after(*0.1s)	5	
Button 3	Object type for short operation	1Byte_Unsigned value	
Button 4	Value1 0..255	2	
LED	Value2 0..255	3	
General setting of Room therm...	Object type for long operation	1Bit_On/Off	
Air condition	Value1 0..1	☒ 0 ☐ 1	
Floor heating	Value2 0..1	☒ 0 ☐ 1	
Ventilation	Disable function	☒ disable ☐ enable	

Figure 3.2.9 “Button X- Delay mode”parameter

Parameter “Distinction between long and short operation”

This parameter sets whether key operations distinguish long/short operations. If you select the "Yes" option, it will be determined whether the operation is a long operation or a short operation only after pressing the button for a certain period of time, and then the panel will perform the set action. Optional:

Yes

No

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3..25

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

Here sets the message data type sent when the button is pressed or during long/short operation.

Optional:

Disable

1Bit_On/Off

4Bit_Dimming

1Byte_Unsigned value

Parameter “Send mode”

Sets the delayed sending method here. Optional:

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

Parameter “Delay time*1s”

Sets the sending delay time here. Optional: 0...6500s

Parameter “value1/2[...]”

Sets the setting value of send parameter 1/2. The range of values depends on the set data type.

3.2-2 Joint mode

In this way of working, the applications on the left and right sides of the button are related to each other, and the left and right sides together form a Rocket. For example, you can configure the light on one side of the button and the light off on the other side. Note that the status of the left and right buttons will also be synchronized.

3.2-2.1 “Switch”Function

The "Switch" function parameter setting interface is shown in Figure 3.2.10.

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

+	General	Function of the channel	Switch
-	General seting 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 seting of Room therm...	Disable function	☒ disable ☐ enable
	Air condition		

Figure 3.2.10 “Rocker X- Switch”parameter

Parameter “Distinction between long and short operation”

This parameter sets whether key operations distinguish long/short operations. If you select the "Yes" option, it will be determined whether the operation is a long operation or a short operation only after pressing the button for a certain period of time, and then the panel will perform the set action.Optional:

Yes

No

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation.Optional: 3..25

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

Here sets the operation to be performed when pressing/releasing the button or during long/short operation. When the input is determined, the object value is updated immediately.Optional:

No action

ON

OFF

TOGGLE

“No action”, No messages are sent

“ON”, Send open message

“OFF”, Send closed message

“TOGGLE”, The message sent during each operation will switch between on and off. For example, if the last message sent (or received) was a switch-on message, then this operation will trigger the sending of a switch-off message. When the switch is operated again, a switch-on message will be sent. The switch will always remember its previous state and will be converted to another value when operated.

3.2-2.2 “Switch/Dimming”Function

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

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 3.2.11 “Rocker X- Switch/Dimming”parameter

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation. Optional: 3..25

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

Here sets the device message operation to be executed when the key is pressed briefly. When the input is determined, the object value is updated immediately. Optional: No action

ON

OFF

TOGGLE

“No action”, No messages are sent

“ON”, Send open message

“OFF”, Send closed message

“TOGGLE”, The message sent during each operation will switch between on and off.

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

This parameter sets the relative dimming value sent when the button is pressed for a long time, brightening or dimming, and stops dimming when the button is released. Optional: No action

brighter

darker

brighter/darker

“brighter”, Send a brightening message when the button is pressed for a long time

“darker”, Send dimming message

“brighter/darker”, Each key press will switch between brightening and dimming.

Note: In the parameter settings of the button association mode, when one of the options is “Brighter/Darker”, there will be a linkage relationship between the left and right buttons. For example, this time the associated button object receives or is set to any kind of dimming state, then the next time the dimming is performed, it will be inverted according to the current dimming state.

Parameter “Dimming mode”

Here sets the relative dimming method, whether it is start-stop dimming method or step-by-step dimming method. Optional:

Start-stop dimming

Steps dimming

If the "Start-stop dimming" option is selected, the relative dimming method is the start-stop dimming method. A dimming or brightening message is sent when dimming, and a stop message is sent when dimming ends. In the start and stop dimming mode, dimming messages do not need to be sent cyclically.

If the "Steps dimming" option is selected, the relative dimming mode is step dimming mode, and dimming messages are sent cyclically. When the dimming ends, a stop dimming message is sent immediately.

Parameter “Brightness change on every sent”

This parameter is visible when the parameter "Dimming mode" option is "Steps dimming". Here it sets the brightness (percentage) that can be changed when sending a dimming message cyclically.

Optional:

100%

50%

.....

1.56%

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

When the parameter "Dimming mode" option is "Steps dimming", this parameter is visible, and here sets the time interval for sending dimming messages cyclically. Optional: 0..25, 0=send only once

3.2-2.3 “Scene control”Function

The “Scene control” function parameter setting interface is shown in Figure 3.2.12.

+	General	Function of the channel	Scene control
-	General seting 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 seting 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 3.2.12 “Rocker X- Scene control”parameter

Parameter “Distinction between long and short operation”

This parameter sets whether key operations distinguish long/short operations. If you select the "Yes" option, it will be determined whether the operation is a long operation or a short operation only after pressing the button for a certain period of time, and then the panel will perform the set action.Optional:

Yes

No

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation.Optional: 3..25

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

(for Left/Right of Rocker)

Here sets the type of scene operation performed when the button is pressed/released or during long/short operation.Optional:

No reaction

Recall scene

Store scene

Parameter “Scene number(1..64)”

Sets the scene number to be called or stored here. The scene number range is: Scene NO.1~64, and the corresponding message is 0~63.

3.2-2.4“Shutter control”Function

The "Shutter control" function parameter setting interface is shown in Figure 3.2.13.

Figure 3.2.13 “Rocker X- Shutter control”parameter

Parameter “Long operation after (*0.1s) ”

This parameter is visible when distinguishing long/short operations, and the validity time of long operations is set here. If the key operation time exceeds the time set here, the operation is determined as a long operation, otherwise it is a short operation.Optional: 3..25

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

This parameter sets the action performed when the button is a short operation or a long operation.

Optional:

No action

Up

Down

Up/Down

Stop (Adjust Up)

Stop (Adjust Down)

Stop (Adjust Up/Down)

"No action", no action is performed.

"Up", move the curtains up or open the curtain;

"Down", move the curtains down or close the curtain;

"Up/Down", alternately perform the actions of opening and closing the curtain (moving up/down).

"Stop (Adjust Up)", stops the curtain operation or raises the blind angle;

"Stop (Adjust Down)", stops the curtain operation or lowers the blind angle;

"Stop (Adjust Up/Down)", stops the curtain operation or alternately adjusts the blind angle up/down;

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

This parameter is visible and takes effect when the previous parameter option is "Stop...". Here you set the time interval for cyclically sending blind angle adjustment messages.

Optional: 0...25, 0=send only once

3.3 Parameter window "LED"

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

Figure 3.3.1 "LED"parameter window

Parameter "LED X function"

Sets the LED function indication type. Optional:

Disable

Control by button switch object

Control by external object

Indicate button press

"Disable", disable status light display

"Control by button switch object", LED indicates according to the switch object value of the button function, whether it is long operation or short operation, pressed or released, in the switch function, it is determined by the object "Switch", in the dimming function, it is determined by " Short operation, Switch" decision. Other functions cannot 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 pressed, the LED flashes once within 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 indication object. Optional:

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 button function, or according to the message value received by the LED status object. 1" or "0" to indicate. Optional:

OFF

Red

Green

Blue

Note: The LED colors of T10 series panel only have two colors: orange and white. Among them, 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 for LED status indication. Optional: 1...255

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 for LED status indication. Optional: 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". It is the color of the LED indication when the object value is less than the threshold. Optional:

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". It is the color of the LED indication when the object value is equal to the threshold. Optional:

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". It is the color of the LED indication when the object value is greater than the threshold.Optional:

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 LED flashing time when the button is operated.Optional:

500ms

1s

2s

3s

Parameter “LED flashing color”

This parameter is visible when the LED function is selected as "Indicate button press" and sets the color of the LED flash.Optional:

OFF

Red

Green

Blue

3.4 Parameter window “Proximity sensor”

The "Proximity sensor" parameter setting is shown in Figure 3.4.1 below. Here, the parameters related to the panel's proximity sensing 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 start,value send mode	send one time
Scene group	If proximity start:	
	1 bit [0..1]	☐ "0" ☒ "1"
	1 byte [0..255]	128
	If proximity over,value send mode	send one time

Figure 3.4.1 "Proximity sensor"parameter window

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, if it is sensitive, false triggering may occur. You can select the appropriate configuration value as needed. Optional: 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.Optional:

disable
enable

Parameter "Function of Proximity retrigger"

This parameter is used to set whether the proximity sensing turns on the re-trigger function. After it is turned on, during the re-sensing period, if the sensor trigger is received again, the sensor will count again.Optional:

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 a moving object. Delay time = time base * time factor.

Optional for Base :

100ms

1s

10s

1min

1h

Optional for Factor[1...255]: 1...255

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

This parameter is used to set the time interval for cyclically sending mobile object settings to the bus.

Two types of values can be sent (1bit 1byte). Cycle time = time base * time factor.

Optional for Base:

100ms

1s

10s

1min

1h

Optional for Factor[1...255]: 1...255

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

These two parameters are used respectively for the way the sensor detects the movement of an object and after the movement is completed, the communication object corresponding to the movement sends values.Optional:

No send

Send one time

Send cyclically

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

Parameter “1bit[0..1]/1byte[0...255]”

These two parameters are respectively used to set the value of the 1bit 1byte message sent close to the object.

3.5 Parameter window“Temperature sensor”

The "Temperature sensor" parameter setting is shown in Figure 3.5.1 below. Here, set the parameters related to the corresponding function of the panel temperature sensor.

Figure 3.5.1 “Temperature sensor”parameter window

Parameter “TempDisplay from”

This parameter is used to set the temperature parameter display or value source of the panel. Select "EIB bus" to obtain from the bus; "Local sensor" to obtain from the local sensor.Optional:

Local sensor

EIB bus

Parameter “Temperature calibration”

This parameter is to set the temperature correction value. Actual temperature output value = measured temperature value + this parameter value. The measured temperature value is the actual measured value of the sensor selected by the previous parameter.

Optional: -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)”

This parameter is set to send the current temperature measurement value to the bus when the temperature change reaches the set amount. When the value is 0, this function is turned off.

Optional: 0...10

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

This parameter sets the time for temperature cycles to be sent to the bus. When the value is set to 0, the cycle sending function is turned off. Optional: 0...255

Parameter “Send alarm telegram for low/high temperature”

This parameter sets the processing method when the temperature triggers high and low temperature alarms. When the option is "Respond after read only", the status 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 messages to remind and link other execution devices. Optional:

No respond

Respond after read only

Respond after change

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

This parameter is used to set the low temperature alarm threshold, with an optional range of 0...15 degrees Celsius. Optional: 0...15

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

This parameter is used to set the sensor high temperature alarm threshold, with an optional range of 30...45 degrees Celsius. Optional: 30...45

3.6 Parameter window“Humidity sensor”

The "Humidity sensor" parameter setting is shown in Figure 3.6.1 below. Here, the parameters related to the corresponding functions of the panel humidity sensor are set.

Figure 3.6.1 “Humidity sensor”parameter window

Parameter “HumiDisplay from”

This parameter is used to set the parameter display or value source of the panel. Select "EIB bus" to obtain from the bus; "Local sensor" to obtain from the local sensor. Optional: Local sensor
EIB bus

Parameter “Humidity calibration”

This parameter is to set the humidity parameter correction value. Actual humidity output value = measured humidity value + this parameter value. The measured humidity value is the actual measured value of the sensor selected by the previous parameter. If the result between the actual measured value and the calibration value exceeds the maximum value, it will be output according to the allowed maximum value. Optional: -20%, -15%, -10%, -5%, -3%, -1%, 0%....., 15%, 20%

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

This parameter sets the current humidity measurement value to be sent to the bus when the humidity value change exceeds the set value. When the value is 0, this function is turned off. Optional: 0...20

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

This parameter sets the time when the humidity cycle is sent to the bus. When the value is set to 0, the cycle sending function is turned off. Optional: 0...255

Parameter “Send alarm telegram for low/high humidity”

This parameter sets the processing method when humidity triggers high and low threshold alarms. When the option is "Respond after read only", the status 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 messages to remind and link other execution devices. Optional:

No respond

Respond after read only

Respond after change

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

This parameter is used to set the low humidity alarm threshold, with an optional range of 5...20%. Optional: 5...20

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

This parameter is used to set the sensor high humidity alarm threshold, with an optional range of 70...85%. Optional: 70...85

3.9 Parameter window“Switch Actuator”（Only applicable to switch version）

The "Switch Actuator" parameters are shown in Figure 3.9.1, and the specific configuration information is as follows.

There are four output channels in the switch actuator. The configuration parameters and communication objects of each channel are the same. Now one of the channels is used for configuration instructions.

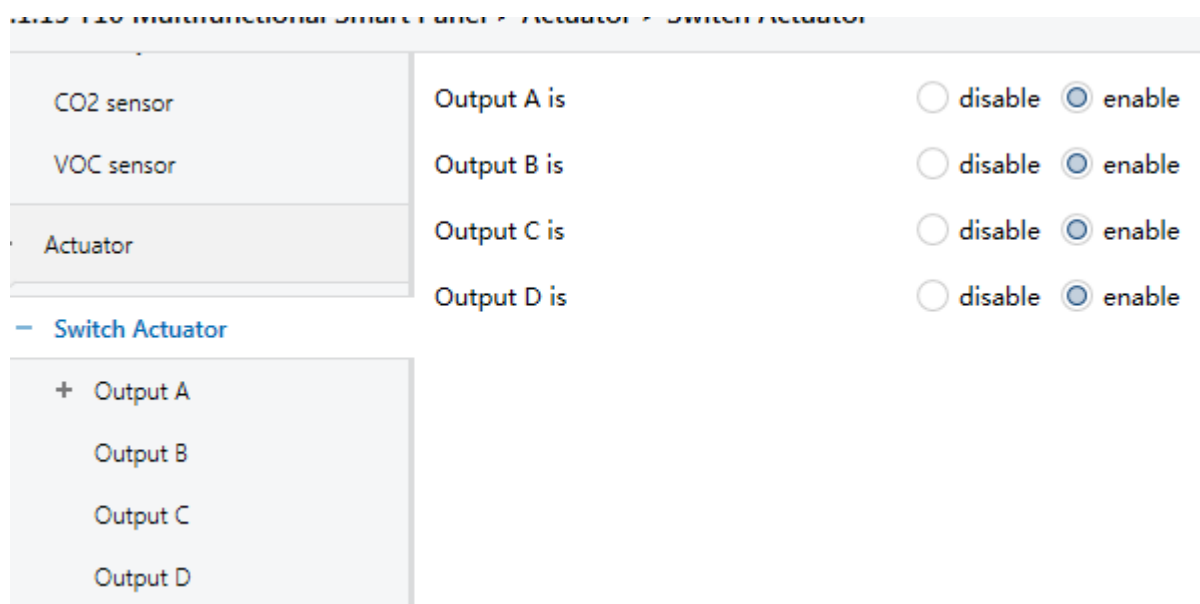


Figure3.9.1 “Switch Actuator”parameter window

Parameter “Output X is”

This parameter is used to set whether to enable the actuator control channel.Optional:

disable

enable

The following interface is visible when "enable" is selected for 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 3.9.2 "Output X"parameter window

Parameter "If bus voltage recovery, contact is"

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

Optional: unchange

open

close

As before bus voltage fail

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

when "open" is selected, the relay contact of the output will be disconnected after the bus voltage recovers;

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

When "As before bus voltage fail" is selected, the relay contacts of this output will return to the position before the power failure after the bus voltage is restored.

Parameter "If bus voltage failure, contact is"

This parameter sets the opening and closing status of the relay after the bus is powered off. Optional:

unchange

open

close

Parameter “set the reply mode of switch status”

This parameter sets the way the relay feedbacks its own status to the bus. Optional:

Respond only read request

Respond after change

Respond always

When "Respond only read request" is selected, the object "Switch, Status X" will send the current 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, when the channel switch status changes, the object "Switch, Status X" immediately sends the current status to the bus.

When "Respond always" is selected, the object "Switch, Status X" will send the status of the current channel to the bus every time the relay is triggered.

Parameter “Delay switch function”

This parameter is used to activate the delay switch function. Optional: disable/enable

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

When the delay switch is enabled, this parameter is visible and is used to set the delay time for opening the relay. Optional: 0...65535

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

When the delay switch is enabled, this parameter is visible and is used to set the delay time for closing the relay. Optional: 0..65535

Parameter “Staircase lighting function”

This parameter is used to activate the stair light function. Optional: disable/enable

Stair light function

The stair light of each channel is turned on through the communication object "Output of staircase lighting" of the 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 started. When the stair light warning is not set, the stair light will be turned off immediately after the set duration of the stair light expires.

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

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

Optional: 0...1000

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

This parameter sets the duration of stair lighting after the stair light is turned on: seconds. Available options: 0...59

Parameter “The mode of control for Staircase lighting is”

This parameter sets the mode to control the start and stop of the stair light. Optional:

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 stair light will be turned on when the communication object "Output of staircase lighting" receives a logical value of "1", and will stop when the communication object "Output of staircase lighting" receives a logical value of "0". The timing operation of the light maintains the current contact state until it is changed by other operations.

When "Start with '1', no action with '0'" is selected, the stair light will turn on when the communication object "Output of staircase lighting" receives the logical value "1", and will not respond when it receives "0". ;

When "Start with '0/1', cannot be stopped" is selected, the stair light will be turned on when the communication object "Output of staircase lighting" receives logic "0" or "1", but it cannot be ended with the communication object.

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

Optional:

Rrestart duration of staircase lighting

Ignored the “switch on” telegram

If "restart duration of staircase lighting" is selected, if a message from the communication object "Output of staircase lighting" is received during the stair lighting time, the stair lighting will be turned on again and the timing will be restarted.

If “Ignored the ‘switch on’ telegram” is selected, the message of the communication object “Output of staircase lighting” will be ignored during the stair lighting time.

Parameter “Warning mode for ending of staircase lighting”

This parameter sets the warning method when the stair light is about to end. Before the stair lighting time ends, the user can be informed that the stair lighting is about to turn off. The warning time of the stair light is not included in the turn-on time of the stair light. If "nothing" is selected, no warning will be issued.

If the stair lighting is switched off before the warning time, there will be no warning. Optional:

nothing

via object

flashing the channel output with OFF/ON

via object & flashing the channel output

Two types of warnings are provided:

Warning through the communication object: Set the value of the communication object "Warning of staircase" to "1" when starting the warning and send it to the bus;

Warning through light flashing: control the output flashing (short switch), and the the interval is 1 second.

These two methods can be used independently or mixed. When the parameter selects "via object", it is an early warning through the communication object; when "flashing the channel output with OFF/ON" is selected, it is an early warning through light flashing; when "via object & flashing the channel output" is selected, it is a mixed use early warning.

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

This parameter is visible after selecting an early warning method. This parameter sets the warning time length in seconds. Optional: 0...59

Parameter "Modify the duration via object"

When "enable" is selected, a 2-byte communication object "Duration of staircase" will be activated. The stair lighting time can be modified through this communication object. If "disable" is selected, the lighting time of the stairs cannot be modified through the bus.

Optional: disable /enable

Parameter "Scene function"

This parameter is used to activate the channel scene function. Optional: 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 3.9.3 "X: Scene"parameter window

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

Each output can be assigned 64 different scene numbers and can support 8 different scene settings at the same time. When set to 0, the scene function of this channel is invalid. Optional: 1...64, 0=no allocation

Note: The valid scene numbers for parameter setting are 1~64, and the corresponding message values are 0~63.

Parameter “Standard output value is”

This parameter sets the execution action of this relay channel when the scene is called. It can be normally open or normally closed. Optional: OFF/ON

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

This parameter sets the delay time for the device relay to execute the set action after receiving the scene call message.

Optional: 0...255

3.13 Parameter window “Room thermostat”

The "Room thermostat" parameter setting interface is shown in Figure 3.13.1. It is used for basic parameter setting of the thermostat, including the configuration of three equipment: air conditioning, floor heating and fresh air.

Figure3.13.1 “General setting of Room thermostat”parameter window

Parameter “Device address”

This parameter setting can set the address corresponding to the panel. The default is 10. This feature is not currently enabled, so the address of the panel cannot be set.

Parameter “Brightness of LED OFF”

This parameter sets the brightness of the corresponding LED indicator when the touch button is "not pressed". Optional:

4%

OFF

Parameter“Brightness of LED ON”

This parameter sets the brightness of the corresponding indicator light when the touch button is "pressed". Optional:

Auto

35%

45%

55%

65%

75%

85%

Parameter “Standby time”

This parameter sets the time for the panel to enter standby state.Optional:

30sec

1min

2min

3min

4min

5min

Disable

3.13.1 Parameter window“Air-condition”

This parameter sets the time for the panel to enter standby state.

+ General	Actual temperature (Celsius degree):	☒ Local sensor ☐ Via EIB
+ General seting of push button	Temperature correction value(-5C..+5C) :	0°C
- General seting of Room thermostat	Fan speed:	
	Fan speed control type :	☐ 1 bit object ☒ 1 byte object
Air condition	Automatic speed value :	0
Floor heating	Low speed value :	85
Ventilation	Medium speed value :	170
+ Sensor	High speed value :	255

Figure 3.13.2 “Air-condition”parameter window

Parameter “Actual temperature (Celsius degree)”

This parameter sets the source of obtaining the actual ambient temperature when the panel air conditioner output is controlled. The temperature unit is degrees Celsius. Optional: Local sensor
Via EIB

Parameter “Temperature correction value”

This parameter setting corresponds to the correction value for obtaining temperature data, and the range is -5°C...+5°C. Optional: -5, -4.5, -4, -3.5..... 3, 3.5, 4, 4.5, 5°C

Parameter “Fan speed control type”

This parameter sets the object data type of air conditioning equipment fan speed control.

Optional:

1 bit object

1 byte object

Parameter “Automatic speed value”

This parameter can be set only after selecting "1 byte object" for the object type mentioned above. The parameter is set to the control value of the automatic wind speed and the status reception feedback value, with a range of 0-255.

Parameter “Low speed value”

This parameter can be set only after selecting "1 byte object" for the above parameter object type. The number is set to the low-speed wind control value and status reception feedback value, with a range of 0-255.

Parameter “Medium speed value”

This parameter can be set only after selecting "1 byte object" for the above parameter object type. The parameter is set to the control value of medium speed wind and the status reception feedback value, with a range of 0-255.

Parameter “High speed value”

This parameter can be set only after "1 byte object" is selected for the above parameter object type. The parameter is set to the high-speed wind control value and status reception feedback value, with a range of 0-255.

Parameter “Control mode type”

This parameter sets the object data type of the air conditioning equipment control mode.

Optional:

1 bit object

1 byte object

Parameter “Cooling value”

This parameter can be set only after selecting "1 byte object" for the above-mentioned mode control object type. The parameter is set to the control value and status reception feedback value of the cooling mode, with a range of 0-255.

Parameter “Heating value”

This parameter can be set only when "1 byte object" is selected for the above-mentioned mode control object type. The parameter is set to the control value and status reception feedback value of the heating mode, with a range of 0-255.

Parameter “Dehumidification value”

This parameter can be set only after selecting "1 byte object" for the above-mentioned mode control object type. The parameter is set to the control value and status reception feedback value of the dehumidification mode, with a range of 0-255.

Parameter “Fan value”

This parameter can be set only when "1 byte object" is selected for the above-mentioned mode control object type. The parameter is set to the control value and status reception feedback value of the air supply mode, with a range of 0-255.

Parameter “Output control the relay actuator”

This parameter setting enables the output of the air conditioning fan coil control actuator.

Optional:

Disable

Enable

Parameter“Temperature hysteresis(0.1℃)”

This parameter is used to set the hysteresis value for cooling or heating output control temperature. The range is 1-200, and the unit is 0.1 degrees.

Heating output mode:

When the actual temperature collected (T) $\geq$ set value + hysteresis value, the heating message output is stopped;

When the collected actual temperature (T) $<$ set value - hysteresis value, the heating message starts to be output.

For example: the hysteresis value is 1K and the set temperature is 25K. When T exceeds 26K, heating is stopped; if T is lower than 24K, heating is turned on; when T is between 24K...26K, the equipment maintains the previous control operation state.

Cooling output mode:

When the collected actual temperature (T) > set value + hysteresis value, the cooling message starts to be output;

When the collected actual temperature (T) ≤ set value - hysteresis value, the cooling message output will be stopped.

For example: the hysteresis value is 1K and the set temperature is 25K. When T exceeds 26K, cooling starts; if T is lower than 24K, cooling stops; when T is between 24K...26K, the equipment maintains the previous control operation state.

The two-point control method is a very simple control method. When using this control method, the hysteresis temperature value needs to be set through parameters. The following effects need to be considered when setting the hysteresis temperature:

1. The hysteresis interval is small, and the temperature change range will also be small, but frequent sending of control values will bring a greater load to the bus and execution equipment;
2. When the hysteresis interval is large, the switching frequency is low, but it is easy to cause uncomfortable temperature curve changes, and the cooling and heating effects are poor.

Setting of automatic fan control parameters:

Parameter “Fan output control type”

Condition setting for wind speed conversion when using two-point switch control method

When using the 2-point control method, the controller determines the fan switch or wind speed based on the temperature difference between the actual temperature and the set temperature.

Under refrigeration: temperature difference = actual temperature - set temperature;

Under heating: temperature difference = set temperature - actual temperature.

Parameter“ Fan OFF&Low speed Temp Difference[1..200] (*0.1C)”

This parameter defines the temperature difference between the fan off and the low wind speed. Optional: 1..200

If the temperature difference is greater than or equal to the temperature difference set by this parameter, the fan will run at low speed; if it is less than the temperature difference, the fan will be turned off.

Parameter “ Fan Low&Medium speed Temp Difference[1..200] (*0.1C)”

This parameter defines the threshold for switching the wind speed to mid-range wind speed. If the temperature difference is greater than or equal to the temperature difference value set by this parameter, the mid-range wind speed will be operated. Optional: 1..200

Parameter “ Fan Medium&High speed Temp Difference[1..200] (*0.1C)”

This parameter defines the temperature difference value that switches the wind speed to high speed. If the temperature difference is greater than or equal to the temperature difference value set by this parameter, the high-speed wind speed will be run. Optional: 1..200

Parameter “Fancoil Temp hysteresis[1..200] *0.1C”

This parameter sets the hysteresis value of the temperature difference. The hysteresis can avoid unnecessary fan actions when the control value fluctuates near the threshold.

Optional: 0..200

If it is 0, there is no hysteresis, once the temperature difference is greater than the defined temperature difference value, the fan will switch the wind speed immediately; assuming that the hysteresis value is 0.5°C and the defined temperature difference value is 1°C , then there will be an upper limit of temperature difference value of 1.5°C (defined temperature difference value + hysteresis value), the lower limit temperature difference value is 0.5°C (definition temperature difference value - hysteresis value), then when the temperature difference is between $0.5^{\circ}\text{C}\sim 1.5^{\circ}\text{C}$, it will not cause the fan to operate and will still maintain the previous state. Only when the temperature is less than 0.5°C or greater than (or equal to) 1.5°C will the operating status of the fan change.

Parameter “Minimum time in fan speed [0..65535]s”

This parameter defines the dwell time for the fan to switch from the current wind speed to other wind speeds, which is the minimum time for one wind speed to operate.

If you need to switch to another wind speed, you need to wait for this period of time before switching.

If the current wind speed has been running for a long enough time, it can be quickly switched when the wind speed changes.

Optional: 0..200

0: Indicates no minimum running time, but the delay switching time of wind speed still needs to be considered.

Note: The dwell time set by this parameter is only enabled in automatic mode

Setting of heating output mode parameters:**Parameter “Control type”**

This parameter sets the heating output control method.

Optional:

Two-step(ON/OFF)control: Two-point switch control, need to set hysteresis value

PWM control: Control by PWM PI

Parameter “Heating speed (For PI)”

This parameter sets the speed of air conditioning heating control. The main thing is to switch and set the correlation coefficient of PI control. Optional:

Lower

Low

Medium

Fast

Faster

Parameter “PWM control object”

This parameter sets the PWM control value output data type of PI control. Optional:

PWM(1bit)

PWM(1byte)

Parameter “PWM period”

This parameter setting can only be set if "PWM control object" is set to "PWM(1bit)". The PWM period range is 1-255, and the unit is minutes.

Parameter “Minimum PWM valve”

This parameter sets the minimum limit for the PWM heating output control valve.

Optional: 0% 5% 10% 15% 20% 25% 30% 35% 40%

Parameter “Maximum PWM valve”

This parameter sets the maximum limit of the PWM heating output control valve. When the output control value is greater than this value, it is automatically set to this value.

Optional: 60% 65% 70% 75% 80% 85% 90% 95% 100%

Settings of cooling output mode parameters:

Parameter “Control type”

This parameter sets the cooling output control method. Optional:

Two-step(ON/OFF)control: Two-point switch control, need to set hysteresis value

PWM control: Control by PWM PI

Parameter “Cooling speed (For PI)”

This parameter sets the speed of the air conditioning refrigeration control output. The main thing is to switch and set the correlation coefficient of PI control. Optional:

Lower

Low

Medium

Fast

Faster

Parameter “PWM control object”

This parameter sets the PWM control value output data type of PI control. Optional:

PWM(1bit)

PWM(1byte)

Parameter“PWM period”

This parameter setting can only be set if "PWM control object" is set to "PWM(1bit)". The PWM period range is 1-255, and the unit is minutes.

Parameter “Minimum PWM valve”

This parameter sets the minimum limit of the PWM cooling output control valve. Optional: 0% 5% 10% 15% 20% 25% 30% 35% 40%

Parameter “Maximum PWM valve”

This parameter sets the maximum limit of the PWM refrigeration output control valve. When the output control value is greater than this value, it is automatically set to this value.可选项: 60% 65% 70% 75% 80% 85% 90% 95% 100%

3.13.2 Parameter window “Floor heating”

The “Floor heating” function parameter interface is shown in Figure 3.13.3.

+ General	Actual temperature (Celsius degree):	☐ Local sensor ☒ Via EIB
+ General setting of push button	Actual temperature correction value:	0°C
- General setting of Room thermostat	Output control:	
Air condition	Output control the relay actuator :	☐ disable ☒ enable
Floor heating	Temperature hysteresis(0.1°C)	1
Ventilation	Stop heating	☐ No ☒ Yes
+ Sensor	Enable safety protect	☐ No ☒ Yes
+ Actuator	Temperature source :	☒ Local sensor ☐ Via EIB
Voice controller	Active protection(0..99°C)	35
+ Gateway	Active operation	Unchange
+ Logic	Cancel protection:(0..99°C)	25
	Cancel operation	Unchange
	Control type	☐ Two-step (ON/OFF) control

Figure 3.13.3 “Floor heating”parameter window

Parameter “Actual temperature (Celsius degree)”

This parameter sets the source of the actual ambient temperature when controlling the panel floor heating output. The temperature unit is degrees Celsius. Optional:

Local sensor

Via EIB

Parameter “Actual temperature correction value”

This parameter setting corresponds to the correction value for obtaining temperature data, and the range is -5°C...+5°C. Optional: -5, -4.5, -4, -3.5..... 3, 3.5, 4, 4.5, 5°C

Parameter “Output control the relay actuator”

This parameter setting enables the output electric heating valve control actuator. Optional:
disable
enable

Parameter“Temperature hysteresis(0.1°C)”

This parameter is used to set the hysteresis value of the floor heating two-point output control temperature. The range is 1-200, and the unit is 0.1 degrees.

Parameter“Enable safety protect”

This parameter sets whether to enable the floor heating to perform the device overheating protection function.Optional:
No/Yes

Parameter “Temperature source”

This parameter can be set only after "Enable safety protect" is enabled. This parameter sets the source of the actual ambient sampling temperature for high temperature protection.Optional:
Local sensor
Via EIB

Parameter “Active protection(0..99°C)”

This parameter sets the temperature protection threshold. When the actual temperature exceeds this temperature, the temperature protection function is turned on. The range is 0-99, in degrees Celsius.

Parameter “Active operation”

This parameter sets the operation to be performed when the protection sampling temperature exceeds the set protection temperature threshold.Optional:
Unchange
OFF
ON

Parameter “Cancel protection:(0..99°C)”

This parameter sets the threshold for canceling high temperature protection. When the actual temperature is lower than this temperature, the temperature protection function is turned off. The range is 0-99, in degrees Celsius.

Parameter “Cancel operation”

This parameter sets the action that the panel device performs when temperature protection is canceled.Optional:

Unchange

OFF

ON

Setting of floor heating output control parameters:

Parameter“Control type”

This parameter sets the floor heating valve output control mode.Optional:

Two-step(ON/OFF)control

PWM control

Parameter “Floor heating speed (For PI)”

This parameter sets the speed of floor heating PWM output control. It is mainly used to switch and set the relevant coefficient of PI control.Optional:

Lower

Low

Medium

Fast

Faster

Parameter “PWM control object”

This parameter sets the type of PWM control value output data for PI control.Optional:

PWM(1bit)

PWM(1byte)

Parameter “PWM period”

This parameter can only be set when "PWM control object" is set to "PWM (1bit)". The PWM period range is 1-255, unit in minutes.

Parameter “Minimum PWM valve”

This parameter sets the minimum limit of the PWM output to control the valve.

Optional: 0% 5% 10% 15% 20% 25% 30% 35% 40%

Parameter “Maximum PWM valve”

This parameter sets the maximum limit of the PWM output control valve. When the output control value is greater than this value, it is automatically set to this value.

Optional: 60% 65% 70% 75% 80% 85% 90% 95% 100%

3.13.3 Parameter window“Ventilation”

The “Ventilation” function parameter interface is shown in Figure 3.13.4.

+ General	Fan speed	
+ General seting of push button	Fan control type	☐ 1 bit object ☒ 1 byte object
- General seting of Room therm...	Speed 1 value	85
Air condition	Speed 2 value	170
Floor heating	Speed 3 value	1
Ventilation	Output control	
+ Sensor	Output control the relay actuator	☐ disable ☒ enable
+ Actuator	Fan output control type	☒ Changeover ☐ Step
Voice controller	Starting characteristic of fan	Switch on at speed 1
	Duration time at starting speed(2..255)	2
	Changeover delay between fan speeds(s)	0.5

Figure 3.13.4 “Ventilation”parameter window

Parameter “Fan control type”

This parameter sets the object data type of the fresh air speed control. Optional:

1 bit object

1 byte object

Parameter “Speed 1 value”

This parameter can be set only after “1 byte object” is selected as the data type of the above parameter. It is the fresh air speed 1 value or status feedback value, and the value range is 0-255.

Parameter “Speed 2 value”

This parameter can be set only after “1 byte object” is selected as the data type of the above parameter. It is the fresh air speed 2 value or status feedback value, and the value range is 0-255.

Parameter “Speed 3 value”

This parameter can be set only after “1 byte object” is selected as the data type of the above parameter. It is the fresh air speed 3 value or status feedback value, and the value range is 0-255.

Parameter “Output control the relay actuator”

This parameter setting enables the output of fresh air fan control actuator function. Optional:

disable

enable

Parameter “Fan output control type”

This parameter sets the fresh air fan output control mode.Optional:

Changeover

Step

Parameter “Starting characteristic of fan”

This parameter sets the output wind speed of the fresh air fan after it is powered on. The speed in the option corresponds to the three levels in "Speed X value". Optional:

Switch on at speed 1

Switch on at speed 2

Switch on at speed 3

Parameter “Duration time at starting speed”

This parameter sets the period of time that the fresh air fan runs at the default wind speed after power-on. The range is 2-255, unit in seconds.

Parameter“Changeover delay between fan speed”

This parameter sets the delay time for the fresh air fan to adjust from a certain wind speed to another level, unit in seconds.Optional: 0.5 1 1.5 2 2.5 3 3.5 4 4.5 5 5.5 6 6.5 7 7.5 8 8.5 9 9.5 10

3.14 Parameter window “Logic”

The “Logic” parameter setting interface is shown in Figure 3.14.1. It is used to enable the logic function. There are a total of 8 logic functions available for setting.

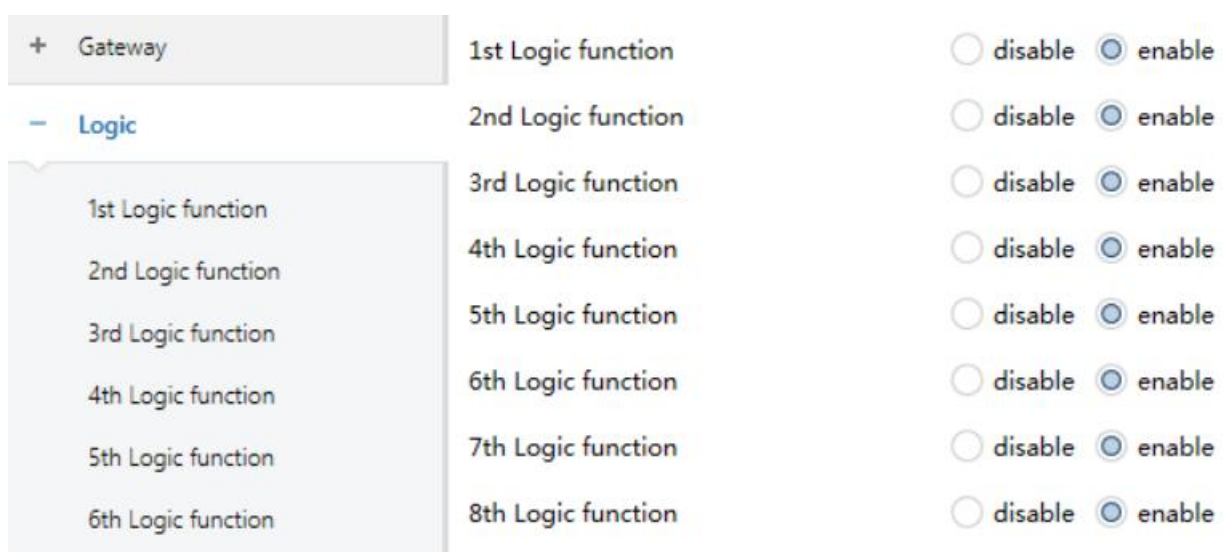


Figure 3.14.1 “Logic disable/enable”parameter window

Parameter “Function of channel”

This is used to set the logical function of the channel. Optional:

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 operations are different. The following will take the parameters of one of the options as an example to illustrate.

3.14.1 Parameter window“AND/OR/NAND/NOR/XOR”

The “AND/OR/NAND/NOR/XOR” function parameter interface is shown in Figure 3.14.2.

Figure 3.14.2 “AND/OR/NAND/NOR/XOR”parameter window

Parameter “Input a/b/c/d/e/f/g/h”

Here sets whether the logic input x participates in the operation, whether it participates in the operation normally, or participates in the operation inversely. Optional:

Disconnected

Normal

Inverted

Disconnected: Not connected, not involved in the operation;

Normal: The input value directly participates in the operation;

Inverted: Invert the input value before performing the operation. **Note: The initial value is not inverted.**

Parameter“Default value”

Sets the initial value of the logical input x.Optional: 0/1

Parameter “Result is inverted”

Sets whether to invert the result of the logical operation. Optional: No/Yes

No: Direct output;

Yes: Invert and output.

Parameter “Read input object value after bus voltage recovery”

This is used to set whether a read request is sent to the logic input object after a bus reset or programming.Optional: No/Yes

Parameter “Output send when”

Here you can set the conditions for sending the logic operation results.Optional:

Receiving a new telegram

Every change of output object

Option "Receiving a new telegram", each time a logic input value is received, the logic result will be sent to the bus.

Option "Every change of output object", the logic result is sent to the bus only when it changes. Note: When performing a logic operation for the first time, the logic operation result will be sent even if it does not change.

Parameter “Send delay time”

Base:

None

0.1s

1s

...

10s

25s

Factor: 1..255

This parameter is used to set the delay time for sending the logic operation result to the bus. Delay = Base x Factor. If the Base option is "None", there is no delay.

3.14.2 Parameter window “Threshold comparator”

The parameter interface of the “Threshold comparator” function is shown in 3.12.3.

+ 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 3.14.3 "Logic Threshold comparator"parameter window

Parameter "Threshold value data byte"

Sets the data type of threshold.Optional:

4bit

1byte

2byte

4byte

Parameter "Threshold value..."

The threshold is set here, and the range of the threshold 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"

These parameters are used to set the logical result value that should be sent when the threshold value of the object input is less than, equal to, not equal to, greater than, less than or equal to the set threshold value.Optional:

Do not send telegram

Send value "0"

Send value "1"

Do not send telegram: The parameters for which this option is selected are not considered for calculation processing.

Send value "0"/"1": When the condition is met, the message value 0 or 1 is sent. If there is a conflict between the options set between parameters, the value that should be sent when the last parameter condition is met will prevail. For example, if the parameter "If Object value=Threshold value" is set to

Send value "0", and the parameter "If Object value<=Threshold value" is set to Send value "1", then when the object value is equal to the threshold, the logical result will send "1".

Parameter “Output send when”

Sets the conditions for sending the logic operation results. Optional:

Receiving a new telegram

Every change of output object

Option "Receiving a new telegram", every time a logic input value is received, the logic result will be sent to the bus.

Option "Every change of output object", the logic result will be sent to the bus only when it changes. Note: When performing a logic operation for the first time, the logic operation result will be sent even if it does not change.

Parameter “Send delay time”

Base:

None

0.1s

1s

...

10s

25s

Factor: 1..255

This parameter is used to set the delay time for sending the logic operation result to the bus. Delay = Base x Factor. If the Base option is "None", there is no delay.

3.14.3 Parameter window “Format convert”

The parameter interface of the “Format convert” function is shown in 3.10.4.

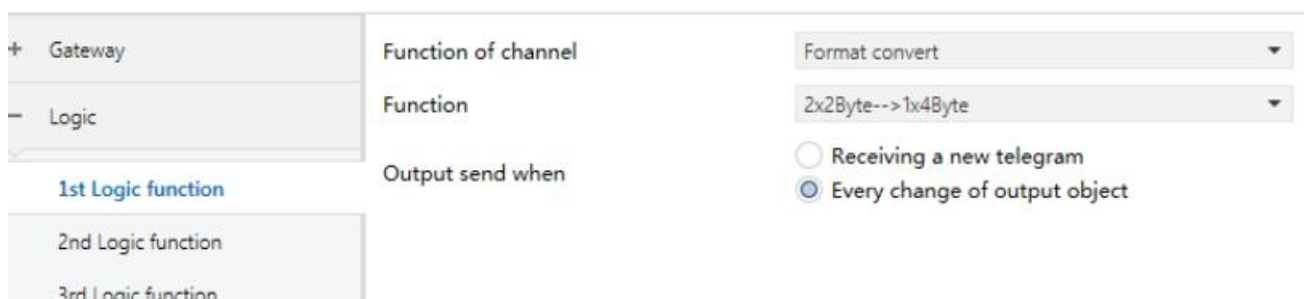


Figure 3.14.4 “Logic Format convert” parameter window

Parameter “Function”

This parameter sets the source and target data types for the forced conversion.Optional: 2x1bit→1x2bit

8x1bit→1x1byte

1x1byte→1x2byte

2x1byte→1x2byte

2x2byte→1x4byte

1x1byte→8x1bit

1x2byte→2x1byte

1x4byte→2x2byte

1x3byte→3x1byte

3x1byte→1x3byte

Parameter “Output send when”

Here sets the conditions for sending the logic operation results.Optional:

Receiving a new telegram

Every change of output object

Option "Receiving a new telegram", every time a logic input value is received, the logic result will be sent to the bus.

Option "Every change of output object", the logic result will be sent to the bus only when it changes. Note: When performing a logic operation for the first time, the logic operation result will be sent even if it does not change.

3.15 Parameter window “Event Group”

The “Event Group setting” parameter setting interface is shown in Figure 3.15.1. It is used to enable the event group function. There are a total of 8 groups of event functions available for setting, and each group has 8 function outputs.

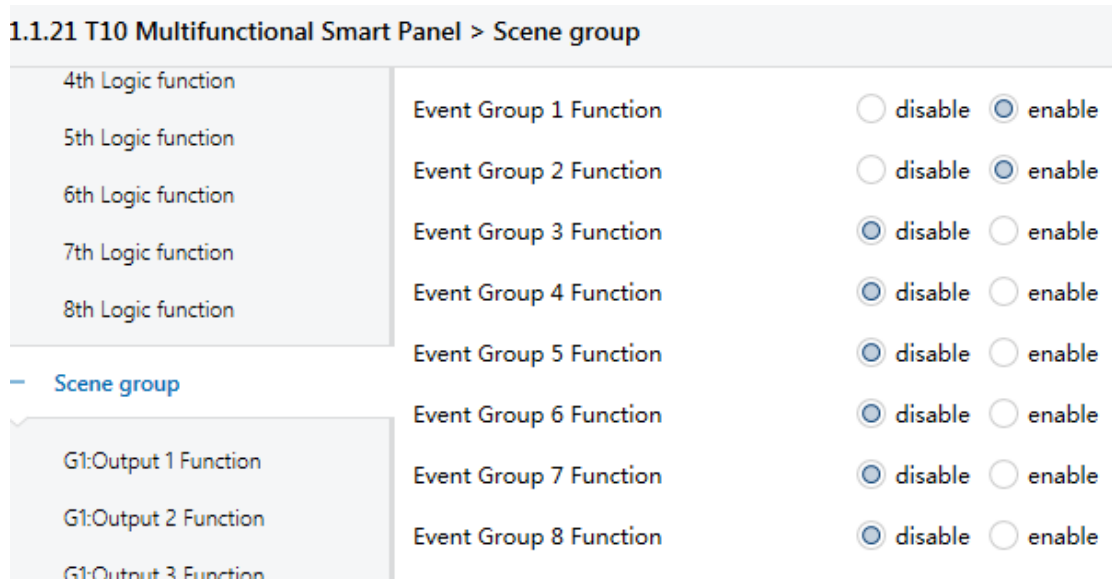


Figure 3.15.1 “Scene group disable/enable”parameter window

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

Figure 3.15.2 “GX: Output y Function”parameter window

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

This parameter is used to enable the event group function.Optional: disable/enable

When a group of parameter functions is enabled, the 8 output configuration parameters of the group are visible. Since the functions of the 8 groups are exactly the same, and the 8 output functions in the group are also the same, we will take one of the outputs of one group as an example to explain the parameter configuration:

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

This parameter defines the data type of the output y in this group.Optional: 1bit/1byte/2byte

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

This parameter defines the scene number that can be triggered by output y in this group. Each output can support triggering up to 6 scenes.Optional: 0...64, 0=Inactive。

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

Here, the event output value after receiving the scene trigger is set. The value range is determined by the data type of output y。1bit 0..1/1byte 0..255/ 2byte 0..65535

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

Sets the delay time for the event output value to be sent to the bus.Optional: 0..63s

4. Description of Communication Object

The communication object is the medium for the device to communicate with other devices on the bus, that is, only the communication object can perform bus communication. The following is a detailed introduction to the role of each communication object.

Note: In the table attribute column below, "C" means that the communication function of the communication object is enabled, "W" means that the value of the communication object can be rewritten through the bus, "R" means that the value of the communication object can be read through the bus, "T" means that the communication object has a transmission function, and "U" means that the value of the communication 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.	Function	Name	Type	Flag	DPT
1	Heartbeat telegram	General	1bit	C,T	1.003 DPT_Enable
This communication object is used by the device to periodically send heartbeat packets to the bus.					
2	Lock buttons	General	1bit	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: The current button panel does not support this function					
3	Day/Night mode	Panel indicator LED	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to set the switch of the panel indicator light to day or night mode.					
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 light. It will not be saved					

after configuration. When the device changes the day and night mode, the brightness will restore the configuration value in the database.					
5	ON/OFF	Backlight LED	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to turn on or off the backlight indicator. 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	1bit	C,W	1.003 DPT_Enable
This communication object is used to set the buzzer on or off. If the database is not configured with the prompt feedback function, this object will not work. It will not be saved after configuration and will be restored to 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, this object will not work. It will not be saved after configuration and will be restored to the original setting after power failure. Value range: 0: weak loudness 1: normal loudness 2: strong loudness					
11	Disable	Vibration	1bit	C,W	1.003 DPT_Enable
The communication object is used to set the vibration feedback prompt to be on or off. If the database is not configured with the prompt feedback function, the object will not work. It will not be saved after configuration and will be restored to 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, this object will not work. It will not be saved after configuration and will be restored to the original setting after power failure. The value range is: 0...9. The larger the value, the stronger the vibration.					
13	Parameter setting	Silent mode	1bit	C,W,T	1.009 DPT_OpenClose
This communication object is used to set the silent mode on or off. This parameter can be saved after power failure. After it is turned on, the device does not support voice broadcast feedback prompts (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 of the voice prompt tone, and supports percentage settings.					
Note: The panel does not currently support this function					

Tabel 4.1 "General"Communication object

4.2 "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.	Function	Name	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. "Press/release" is visible when it does not distinguish between long and short operations.					
19	Disable	Button/Rocker X	1bit	C,W	1.003 DPT_Enable
This communication object is used to enable and disable the single or 1 rocket button function operation.					

“Switch” Function (Distinguish between 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.	Function	Name	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 button.					
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 button. "Short/Long operation" is visible when distinguishing between long and short operations.					
19	Disable	Button/Rocker X	1bit	C,W	1.003 DPT_Enable
This communication object is used to enable and disable the single or single-key function operation.					

“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.	Function	Name	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
This communication object is used to trigger a relative dimming operation. When the message value is 1...7, it is dimming down. The larger the value in this range, the smaller the dimming amplitude. When it is 1, the dimming amplitude is the largest, when it is 7, the smallest, and 0 is to stop dimming; when the input value is 9...15, it is dimming up. In this range, the larger the value, the smaller the dimming amplitude. When it is 9, the dimming amplitude is the largest, when it is 15, the dimming amplitude is the smallest, and 8 is to stop dimming.					
19	Disable	Button/Rocker X	1bit	C,W	1.003 DPT_Enable
This communication object is used to enable and disable the single or 1 rocket function operation.					

“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.	Function	Name	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

This communication object sends an 8-bit message to call or store the scene. The meaning of the 8-bit data is explained in detail below.

Assume an 8-bit data (binary encoding): FXNNNNNN

F: '0' means to call the scene; '1' means to store the scene

X: 0;

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

The parameter setting options are 1...64, but the scene message received by the communication object "Scene" actually corresponds to 0...63. If the parameter setting is scene 1, the scene message value received by the communication object "Scene" is 0. As shown below:

The message value of the object	Description
0	Calling scene 1
1	Calling scene 2
2	Calling scene 3
...	...
63	Calling scene 64
128	Storage Scene 1
129	Storage Scene 2
130	Storage Scene 3
...	...
191	Storage 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.	Function	Name	Type	Flag	DPT
15	Up/Down, Blind	Button/Rocker X	1bit	C,W,T,U	1.008 DPT_up/down
This communication object is used to send messages for moving up/down curtains. Messages: 0 - Move up curtains/blinds 1 - Move down curtains/blinds					
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 operation or stop adjusting the blinds 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.	Function	Name	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

This communication object is used to send fixed values. The range of values that can be sent is determined by the data type, which is set by the parameter "Reaction on short operation or press the button" on the corresponding button configuration page.

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
----	--	-----------------	--	---------	--

This communication object is used to send fixed values. The range of values that can be sent is determined by the data type, which is set by the parameter "Reaction on long operation or release the button" on the corresponding button configuration page.

“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.	Function	Name	Type	Flag	DPT
15	Register value	Button X	1byte	C,W,T,U	5.010 DPT_counter pulses

This communication object is used to send the value of the key function shift register. The specific value is set by the corresponding function page parameter.

“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.	Function	Name	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 the dimming value of R (red) in RGB/RGBW.

16	Green dimming value	Button X	1byte	C,W,T,U	5.010 DPT_counter pulses
----	---------------------	----------	-------	---------	-----------------------------

This communication object is used to send the dimming value of G (green) in RGB/RGBW.

17	Blue dimming value	Button X	1byte	C,T	5.010 DPT_counter pulses
----	--------------------	----------	-------	-----	-----------------------------

This communication object is used to send the dimming value of B (blue) in RGB/RGBW.

18	White dimming value	Button X	1byte	C,T	5.010 DPT_counter pulses
----	---------------------	----------	-------	-----	-----------------------------

This communication object is used to send the dimming value of W (white) in RGBW.

15	RGB dimming value	Button X	3byte	C,W,T,U	232.600 DPT_RGB value 3x(0..255)
----	-------------------	----------	-------	---------	-------------------------------------

This communication object is used to send the brightness value of the RGB tri-color light, and the highest byte is the dimming value of R (red).

15	RGBW dimming	Button X	6byte	C,W,T,U	251.600
----	--------------	----------	-------	---------	---------

	value				DPT_Colour_RGBW
This communication object is used to send the brightness value of the RGBW four-color light. The highest byte is the dimming value of R (red).					
The encoding of the 6-byte RGBW dimming object data type is: U8 U8 U8 R8 R4 B4, details are as follows:					
6MSB	5	4	3	2	1LSB
R	G	B	W	Retain	r r r r mR mG mB m
UUUUUUUU	UUUUUUUU	UUUUUUUU	UUUUUUUU	00000000	0000BBBB

R: Red dimming value;
G: Green dimming value;
B: Green 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.	Function	Name	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

These objects are multi-operation objects, and up to 4 objects (x=1, 2, 3, 4) can be activated at the same time. Through these objects, one operation can send 4 values of different data types to the bus at the same time.

“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.	Function	Name	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

This communication object is used to send the value of the delay mode for short operation. There are three types of values to choose from.

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
----	------------------	-----------------	-----------------------	---------	---

This communication object is used to send the value of the delay mode for long operations. There are three types of values to choose from.

4.3 “LED” Communication object

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” Communication object

No.	Function	Name	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 1bit/1byte type messages. The LED indicates the status according to the received message value and parameter settings.

Table 4.3 “LED”Communication object

4.4 “Proximity sensor”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 sensor” Communication object

No.	Function	Name	Type	Flag	DPT
285	Disable proximity function	Proximity sensor	1bit	C,W	1.003 DPT_Enable

This communication object is used to disable or enable the proximity sensing function via the bus. 0 - Disable, 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 value 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 sensing linkage. The type is 1bit. When someone approaches or leaves, 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 sensing linkage. The type is 1 byte. When someone approaches or leaves, it is sent through this object.

Table 4.4 “Proximity sensor” Communication object

4.5 “Temperature sensor” Communication object

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 “Temperature sensor” Communication object

No.	Function	Name	Type	Flag	DPT
289	Temperature value	Temperature	2bytes	C,R,T	9.001 DPT_Temperature
This communication object is used to send the value of the device temperature sensor to the bus. The value source can be a local sensor or other sensors from the bus.					
290	Extern temperature value	Temperature	2bytes	C,W,T,U	9.001 DPT_Temperature
This communication object is used to receive the value from the external temperature sensor from the bus.					
291	Low temperature alarm	Temperature	1bit	C,R,T	1.005 DPT_Alarm
This communication object is used to output the bus message of low temperature alarm.					
292	Low temperature alarm	Temperature	1bit	C,R,T	1.005 DPT_Alarm
This communication object is used to output the bus message of high temperature alarm.					

Table 4.5 “Temperature sensor” Communication object

4.6 “Humidity sensor” Communication object

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 “Humidity sensor” Communication object

No.	Function	Name	Type	Flag	DPT
293	Humidity value	Humidity	2bytes	C,R,T	9.007 DPT_Humidity
This communication object is used to send the humidity sensor value of the device to the bus. The value source can be a local sensor or other sensors from the bus.					
294	Extern Humidity value	Humidity	2bytes	C,W,T,U	9.007 DPT_Humidity
This communication object is used to receive the value from the 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 the bus message of low humidity alarm.					
296	Low humidity alarm	Humidity	1bit	C,R,T	1.005 DPT_Alarm
This communication object is used to output the bus message of high humidity alarm.					

Table 4.6 “Humidity sensor” Communication object

4.9“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 4.9 “Switch Actuator Output”Communication object

The following X values: A, B, C, D

No.	Function	Name	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: Receiving a message "1" triggers an open action Receiving a message "0" triggers a close 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 relay contacts.					
309	Delay switch	Main -Output X	1bit	C,W	1.001 DPT_Switch
This communication object is used to trigger the delayed switch action.					
310	Scene,X	Main -Output X	1byte	C,W	18.001 DPT_Scene Control
This communication object receives an 8-bit scene call command, and then executes the corresponding scene action according to the parameters set in 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 turn on or off the switch time related functions (currently supports the staircase 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 start or stop of the staircase light function.					
313	Warning of staicase,X	Main -Output X	1bit	C,R,T	1.001 DPT_Switch
This communication object is used to send stair light alarm messages 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 4.9 “Switch Actuator Output”Communication object

4.13“Thermostat function”Communication object

4.13.1 “Air condition”Communication object

75	Air-condition	AC,Switching ON/OFF	1 bit	C - W T U	switch	低
76	Air-condition	AC,Switching ON/OFF,Status	1 bit	C R W T U	switch	低
77	Air-condition Temperature	AC,Actual temperature from EIB	2 bytes	C - W T U	temperature (°C)	低
78	Air-condition Temperature	AC,Setpoint temperature	2 bytes	C - W T U	temperature (°C)	低
79	Air-condition Temperature	AC,Setpoint temperature,Status	2 bytes	C R W T U	temperature (°C)	低
82	Air-condition Fan	AC,ON CMD for automatic	1 bit	C - W T U	switch	低
83	Air-condition Fan	AC,ON CMD for automatic,Status	1 bit	C R W T U	switch	低
84	Air-condition Fan	AC,ON CMD for low speed	1 bit	C - W T U	switch	低
85	Air-condition Fan	AC,ON CMD for low speed,Status	1 bit	C R W T U	switch	低
86	Air-condition Fan	AC,ON CMD for medium speed	1 bit	C - W T U	switch	低
87	Air-condition Fan	AC,ON CMD for medium speed,...	1 bit	C R W T U	switch	低
88	Air-condition Fan	AC,ON CMD for high speed	1 bit	C - W T U	switch	低
89	Air-condition Fan	AC,ON CMD for high speed,Stat...	1 bit	C R W T U	switch	低
92	Air-condition Mode	AC,ON CMD for cooling	1 bit	C - W T U	switch	低
93	Air-condition Mode	AC,ON CMD for cooling,Status	1 bit	C R W T U	switch	低
94	Air-condition Mode	AC,ON CMD for heating	1 bit	C - W T U	switch	低
95	Air-condition Mode	AC,ON CMD for heating,Status	1 bit	C R W T U	switch	低
96	Air-condition Mode	AC,ON CMD for dehumidification	1 bit	C - W T U	switch	低
97	Air-condition Mode	AC,ON CMD for dehumidificatio...	1 bit	C R W T U	switch	低
98	Air-condition Mode	AC,ON CMD for fan	1 bit	C - W T U	switch	低
99	Air-condition Mode	AC,ON CMD for fan,Status	1 bit	C R W T U	switch	低
100	Air-condition Output	AC,Heating PWM value(1bit)	1 bit	C - - T -	cooling/heating	低
101	Relay heating Output	AC,Cooling PWM value(1bit)	1 bit	C - - T -	cooling/heating	低
102	Air-condition Output	AC,Relay-Fan OFF	1 bit	C - - T -	switch	低
103	Air-condition Output	AC,Relay-Fan low speed	1 bit	C - - T -	switch	低
104	Air-condition Output	AC,Relay-Fan medium speed	1 bit	C - - T -	switch	低
105	Air-condition Output	AC,Relay-Fan high speed	1 bit	C - - T -	switch	低

Figure 4.13.1 “Air condition”Communication object

No.	Function	Name	Type	Flag	DPT
75	AC ,Switching ON/OFF	Air-condition	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to control the air conditioner on and off. Send "1" to turn it on, and send "0" to turn it off.					
76	AC ,Switching ON/OFF, Status	Air-condition	1bit	C,R,W,T,U	1.001 DPT_Switch
This communication object is used to receive the switch status of the bus air conditioning equipment.					
77	AC, Actual temperature from	Air-condition Temperature	2byte	C,W,T,U	9.001 DPT_Temperature

	EIB				
This communication object is used to obtain the actual temperature value required for air conditioning equipment output control from the bus.					
78	AC, Setpoint temperature	Air-condition Temperature	2byte	C,W,T,U	9.001 DPT_Temperature
This communication object is used to set the temperature of the bus air conditioning equipment.					
79	AC, Setpoint temperature, Status	Air-condition Temperature	2byte	C,W,T,U	9.001 DPT_Temperature
This communication object is used to receive status feedback synchronization of the set temperature of the bus air conditioning equipment, and the corresponding setting information is displayed on the screen.					
80	AC, Fan speed with % value	Air-condition Fan	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to set the 1-byte wind speed of the bus air conditioning equipment.					
81	AC, Fan speed with % value, Status	Air-condition Fan	1byte	C,R,W,T,U	5.001 DPT_Percentage
This communication object is used to receive the 1-byte wind speed status value of the bus air conditioning equipment and display it on the temperature control screen synchronously.					
82,84,86,88	AC, ON CMD for automatic/low speed/medium speed/high speed	Air-condition Fan	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to set the 1-bit wind speed of the bus air conditioning equipment.					
83,85,87,89	AC, ON CMD for automatic/low speed/medium speed/high speed, Status	Air-condition Fan	1bit	C,R,W,T,U	1.001 DPT_Switch
This communication object is used to receive the 1-bit wind speed status value of the bus air conditioning equipment and display it on the temperature control screen synchronously.					
90	AC control mode (1byte)	Air-condition control mode	1byte	C,W,T,U	20.105 DPT_HVAC_MODE
This object is used to set the 1-byte mode of the bus air conditioner.					
91	AC control mode (1byte), Status	Air-condition control mode	1byte	C,R,W,T,U	20.105 DPT_HVAC_MODE
This communication object is used to receive the 1-byte mode status value of the bus air conditioning equipment and display it on the temperature control screen synchronously.					
92,94,96,98	AC ON CMD for cooling/heating/dehumidification/fan	Air-condition Mode	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to set the 1-bit mode of the bus air conditioning equipment.					
93,95,97,99	AC ON CMD for cooling/heating/dehumidification/fan, Status	Air-condition Mode	1bit	C,R,W,T,U	1.001 DPT_Switch
This communication object is used to receive the 1bi mode status value of the bus air conditioning equipment and display it on the temperature control screen synchronously.					
100,101	AC, Heating/Cooling PWM value (1bit)/(1byte)	Air-condition Output/ Relay cooling/heating Output	1bit 1byte	C,T	1.100 DPT_Cooling/heating 5.001 DPT_Percentage
This communication object is used to output the corresponding heating or cooling valve control message value in two-point or PWM mode. The specific data type can be configured in the database.					
102,103,104,105	AC, Relay-Fan OFF/low speed/medium speed/high speed	Air-condition Output	1bit	C,T	1.001 DPT_Switch
This communication object is used for two-point control to output air conditioner fan wind speed messages, which are fan off, low, medium and high wind speeds.					

Table 4.13.2 "Air condition"Communication object

4.13.2 “Floor heating” Communication object

106	Floor Heating	FH,Switching ON/OFF	1 bit	C R W T U	switch	低
107	Floor Heating	FH,Switching ON/OFF,Status	1 bit	C R W T U	switch	低
108	Floor Heating	FH,Setpoint temperature	2 bytes	C - W T U	temperature (°C)	低
109	Floor Heating	FH,Setpoint temperature,Status	2 bytes	C R W T U	temperature (°C)	低
110	Floor Heating	FH,Actual temperature	2 bytes	C - W T U	temperature (°C)	低
111	Floor Heating	FH,Actual temp. error signal	1 bit	C - W T U	alarm	低
112	Floor Heating output	FH,Safety protection temperature	2 bytes	C - W T U	temperature (°C)	低
113	Relay heating Output	FH,PWM(1bit)/PWM value(1byte)	1 bit	C - W T U	switch	低

Figure 4.13.3 “Floor Heating”Communication object

No.	Function	Name	Type	Flag	DPT
106	FH ,Switching ON/OFF	Floor Heating	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to control the on/off of the floor heating equipment. Sending "1" turns it on, and sending "0" turns it off.					
107	FH ,Switching ON/OFF, Status	Floor Heating	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to receive the switch feedback status of the bus floor heating equipment.					
108	FH, Setpoint temperature	Floor Heating	2byte	C,W,T,U	9.001 DPT_Temperature
This communication object is used to set the temperature of the bus floor heating equipment.					
109	FH, Setpoint temperature, Status	Floor Heating	2byte	C,R,W,T,U	9.001 DPT_Temperature
This communication object is used to receive status feedback synchronization of the set temperature of the bus floor heating equipment, and the corresponding setting information is displayed on the screen.					
110	FH, Actual temperature	Floor Heating	1bit	C,W,T,U	9.001 DPT_Temperature
This communication object is used to obtain the actual temperature value that needs to be collected for device output control from the bus.					
111	FH, Actual temp. error signal	Floor Heating	1byte	C,W,T,U	1.005 DPT_Alarm
This communication object is used to send corresponding error messages when temperature collection is abnormal.					
112	FH, Safety protection temperature	Floor Heating output	1byte	C,R,W,T,U	5.001 DPT_Percentage
This communication object is used to receive the high temperature protection temperature setting threshold of the bus floor heating equipment.					
113	FH, PWM (1bit)/PWM value(1byte)	Floor Heating output / Relay heating Output	1bit 1byte	C,T	1.001 DPT_Switch 5.001 DPT_Percentage
This communication object is used to output the corresponding heating valve control message value in two-point or PWM mode. The specific data type can be configured in the database.					

Table 4.13.4“Floor Heating”Communication object

4.13.3 “Ventilation” Communication object

114	New Fan	FA,Switching ON/OFF	1 bit	C - W T U	switch	低
115	New Fan	FA,Switching ON/OFF,Status	1 bit	C R W T U	switch	低
118	New Fan	FA,Speed1	1 bit	C - W T U	switch	低
119	New Fan	FA,Speed1,Status	1 bit	C R W T U	switch	低
120	New Fan	FA,Speed2	1 bit	C - W T U	switch	低
121	New Fan	FA,Speed2,Status	1 bit	C R W T U	switch	低
122	New Fan	FA,Speed3	1 bit	C - W T U	switch	低
123	New Fan	FA,Speed3,Status	1 bit	C R W T U	switch	低
124	New Fan	FA,Relay-Fan speed1	1 bit	C - - T -	switch	低
125	New Fan	FA,Relay-Fan speed2	1 bit	C - - T -	switch	低
126	New Fan	FA,Relay-Fan speed3	1 bit	C - - T -	switch	低

Figure 4.13.5“Ventilation”Communication object

No.	Function	Name	Type	Flag	DPT
114	FA ,Switching ON/OFF	New Fan	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to control the fresh air on/off. Send "1" to turn it on, and send "0" to turn it off.					
115	FA ,Switching ON/OFF, Status	New Fan	1bit	C,R,W,T,U	1.001 DPT_Switch
This communication object is used to receive the switch status of the bus fresh air device.					
116	FA, Speed with % value	New Fan	1byte	C,W,T,U	5.001 DPT_Percentage
This communication object is used to set the 1-byte wind speed of the bus fresh air device.					
117	FA, Speed with % value, Status	New Fan	1byte	C,R,W,T,U	5.001 DPT_Percentage
This communication object is used to receive the 1-byte wind speed status value of the bus fresh air device and display it on the temperature control screen synchronously.					
118,120, 122	FA, Speed 1/2/3	New Fan	1bit	C,W,T,U	1.001 DPT_Switch
This communication object is used to set the 1-bit wind speed of the bus fresh air device.					
119,121, 123	FA, Speed 1/2/3,Status	New Fan	1bit	C,R,W,T,U	1.001 DPT_Switch
This communication object is used to receive the 1-bit wind speed status value of the bus fresh air device and display it on the temperature control screen synchronously.					
124,125, 126	FA, Relay-Fan speed 1/2/3	New Fan	1bit	C,T	1.001 DPT_Switch
This communication object is used to output the wind speed message of the fresh air fan, which are low, medium and high wind speeds, and are sent according to the manual change of wind speed.					

Table 4.13.6“Ventilation”Communication object

4.14 Communication object of logic function

4.14.1 “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.	Function	Name	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 logic 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 result of logic operation to the bus.					

Table 4.14.1 “AND/OR/NAND/NOR/XOR” Communication object

4.14.2 “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.	Function	Name	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 logic operation.					
722	Logic result	1st /.../8th Logic	1bit	C,T	1.002 DPT_boolean
This communication object is used to send the result of logic operation, that is, the final logic result value sent after the object input threshold is compared with the parameter setting threshold.					

Table 4.14.2 “Threshold comparator ” Communication object

4.14.3 “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

“2x1bit --> 1x2bit” function: convert 2 1bit values into a 2bit value, such as 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: Convert 8 1bit values into a 1byte value, for example, Input bit3=1, bit2=1, bit1=1, bit0=1, and 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

“1x1 byte --> 1x2 byte” function: convert a 1-byte value into a 2-byte value, such as Input 1byte=125 ==> Output 2byte=125. Although the value remains unchanged, 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: Convert 2 1-byte values into one 2-byte 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: Convert 2 2-byte values into a 4-byte 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: convert a 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: convert 1 2-byte value into 2 1-byte values, such as 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: convert 1 4-byte value into 2 2-byte values, such as 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 a 3-byte value into 3 1-byte values, such as 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: Convert 3 1byte values into 1 3byte value, such as Input 1byte-low = 150 (\$96), Input 1byte-middle = 100 (\$64), Input 1byte-high = 50 (\$32) --> Output 3byte = \$32 64 96

No.	Function	Name	Type	Flag	DPT
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 input the value whose data type needs to be converted.					
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 value after data type conversion.					

Table 4.14.3 "Format convert" function communication object

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 4.15 Communication objects of the "Scene group" function

Below X: 1...8

No.	Function	Name	Type	Flag	DPT
786	Main event trigger	Event	1byte	C,W	17.001 DPT_scene number
This communication object triggers each output channel in the event group to send a specific value to the bus by calling the scene number. The message value is: 0...64					
787...850	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 scene is called, this communication object is used to send the corresponding output value of the scene to the bus. If the parameter value corresponding to the output is set to 0, this message will not be sent.					

Table 4.15 Communication object table of "Scene group" function