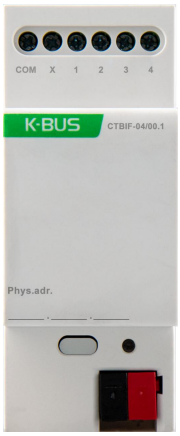
User Manual

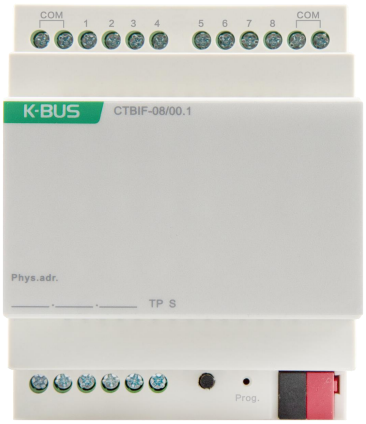
K-BUS® Binary Input for floating contact, 4/8/16-Fold_V1.2

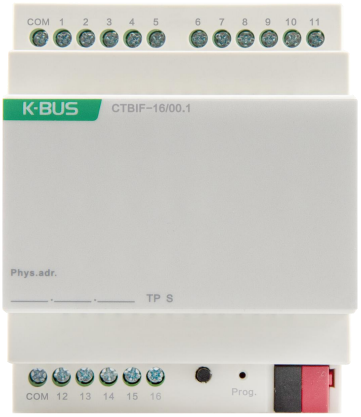
CTBIF-04/00.1

CTBIF-08/00.1

CTBIF-16/00.1



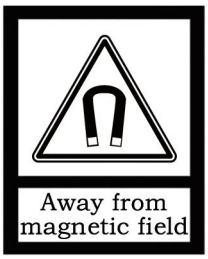




KNX/EIB Home and Building Control System

Attentions

1. **Please keep devices away from strong magnetic field, high temperature, wet environment;**



2. **Please do not fall the device to the ground or make them get hard impact;**

3. **Please do not use wet cloth or volatile reagent to wipe the device;**

4. **Please do not disassemble the devices.**

Content

Chapter 1 Summary

The Binary Input for floating contact (hereinafter being referred as Binary Input) are mainly used in building control system. Via connection of KNX terminals (black/red), these devices will be connected to the KNX BUS system to realize different functions in KNX system, and their functions are both simple to operate and intuitive, users can program it according to the requirement to implement the function systematically.

This manual provides technical information about the Binary Input in detail for users as well as assembly and programming, and explains how to use the Binary Input by the application examples.

The Binary Input has 4-Fold, 8-Fold and 16-Fold inputs, and these devices are designed for modular installation devices, which are easy to install in the distribution boards on 35mm mounting rails according to EN60715. It can be used in ON/OFF switch, dimming, shutter control, scenario, RGB control, multiple control, delay sending etc. When selecting products, users can choose them according to own require.

The Binary Input connect to KNX bus directly, no extra power is needed. In programming, both physical addressing and parameter setting can be realized by using ETS with .knxprod files (ETS4 or above). The Binary Input have many functions that can be used in a wide variety of application areas. The following list provides an overview:

- **Switching and dimming**
- **Shutter control and Value sending**
- **Scenario function**
- **Shift register function**
- **RGB and RGBW dimming**
- **Multiple control**
- **Delay sending(e.g. switching value, dimming value)**
- **8 logic function**
- **8 event group function (with 8 parameterizable output in each group)**

Each input of a device can adopt any of the functions described above. In order to ensure the normal work of device in the actual use, the selection of the hardware type in the database must conform to the product type used.

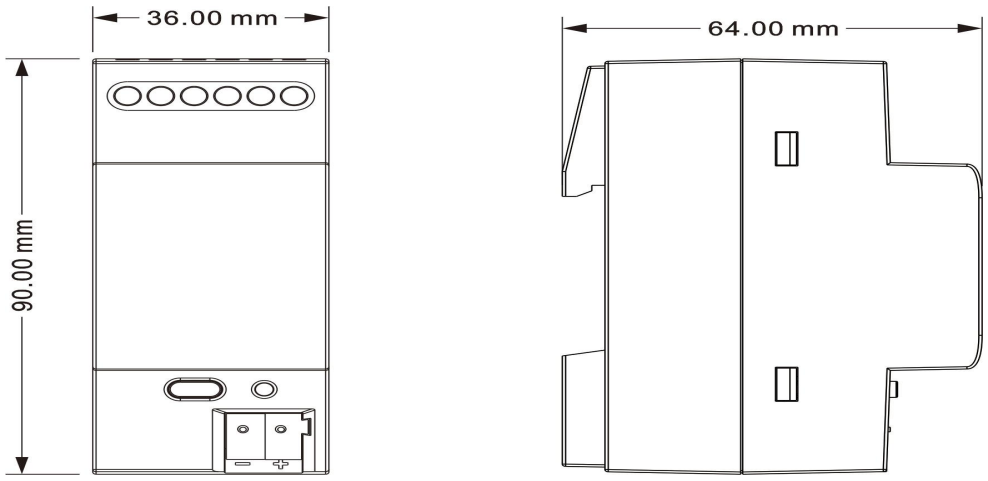
Chapter 2 Technical Parameter

Power Supply	Bus voltage	21-30V DC, via KNX bus
	Bus current	4-Fold: <11mA, 24V; <9.5mA, 30V 8-Fold: <14.5mA, 24V; <12mA, 30V 16-Fold: <15mA, 24V; <13mA, 30V
	Bus consumption	<390mW
Inputs	4/8/16-Fold input channels	Can be individually configured function of input
	Input scanning voltage	>12V DC
	Input current	Approximately 0.7mA
	Permitted cable length	≤100m (cross section for 1.5mm^2)
Operation and display	Red LED and push button	Physical address programming
	Green LED flashing	For displaying application layer running normally
Connection	KNX	Via bus connecting terminal (Diameter 0.8mm)
	Input connection terminal	Using screw terminals Cable cross-section: 0.5-2.5mm^2 Tightening torque: max. 0.4Nm
Temperature	Operation	−5 °C ... 45 °C
	Storage	− 25 °C ... 55 °C
	Transport	− 25 °C ... 70 °C
Environment	Humidity	<93%,except condensation
Design	Modular DIN-Rail Component	35mm Din rail, modular installation
	Size / Weight	CTBIF-04/00.1: 36mm×90mm×64mm / 0.1KG CTBIF-08/00.1: 72mm×90mm×64mm / 0.15KG CTBIF-16/00.1: 72mm×90mm×64mm / 0.15KG

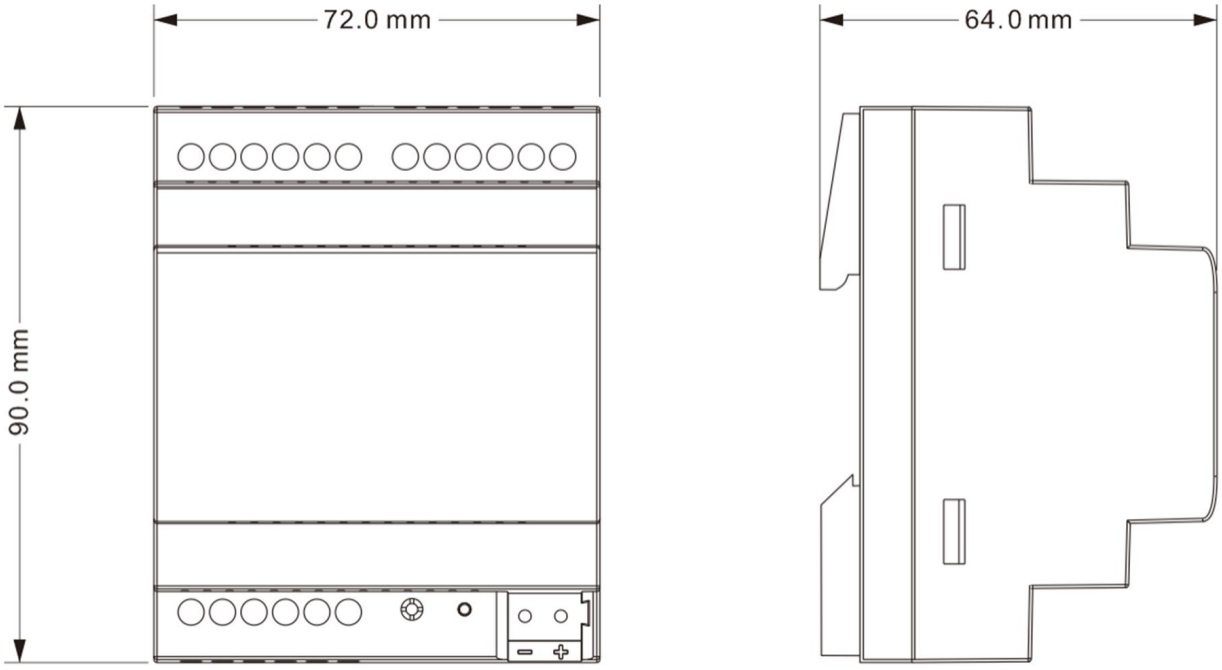
Application Program	Max. Communication Object number	Max. Group address Number	Max. Combined Address Number
Binary Input for floating contact, 4/8/16-Fold	217	400	400

Chapter 3 Dimension and Wiring Diagram

3.1. Dimension

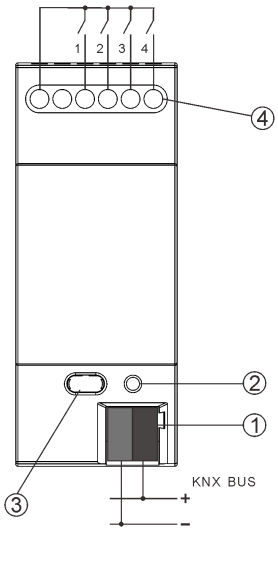


CTBIF-04/00.1

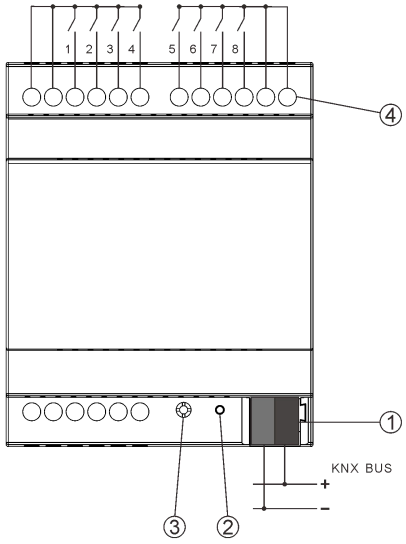


CTBIF-08/00.1 (CTBIF-16/00.1)

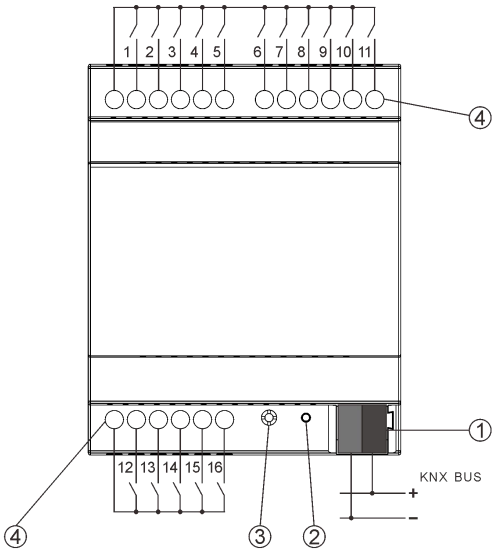
3.2. Wiring Diagram



CTBIF-04/00.1



CTBIF-08/00.1



CTBIF-16/00.1

①KNX bus connection terminal

②Red LED for entering the physical address, green LED for application process normally running

③Programming button

④Input connect terminal

Chapter 4 Parameter setting description in the ETS

4.1. Parameter window “General”

“General” Parameter Setting Interface is shown as in Fig.4.1, here you can set the hardware type.

The hardware type of the Binary Input has 4-Fold input, 8-Fold input and 16-Fold input. The products are designed for 35mm Din-rail installation.

The selection of the product type is based on the actual product used.

Fig. 4.1 Parameter Setting page “General”

Parameter “Hardware type”

This parameter is to set the types of the hardware, and in use choose the matched hardware type via the ETS . Options:

4-Fold input **apply to CTBIF-04/00.1**

8-Fold input **apply to CTBIF-08/00.1**

16-Fold input **apply to CTBIF-16/00.1**

Next chapter 4.2 we will take one of input channels as example to introduce the parameters of each function and communication objects under different applications.

Note: After the bus power-on recovery or programming, the value of all communication objects is 0.

Parameter “Debounce time”

It can set the vibration time to prevent unwanted multiple operation by bouncing of contacts in vibration time, which means the effective time of the contact operation. Options:

10ms

20ms

...

150ms

4.2. Input function

The parameter settings and communication objects for each input are described as follow:

4.2.1. "Switch" Function

"Switch" Parameter Setting Interface is shown as in Fig.4.2, with this application, the users can press or release the contact to send a switch telegram.

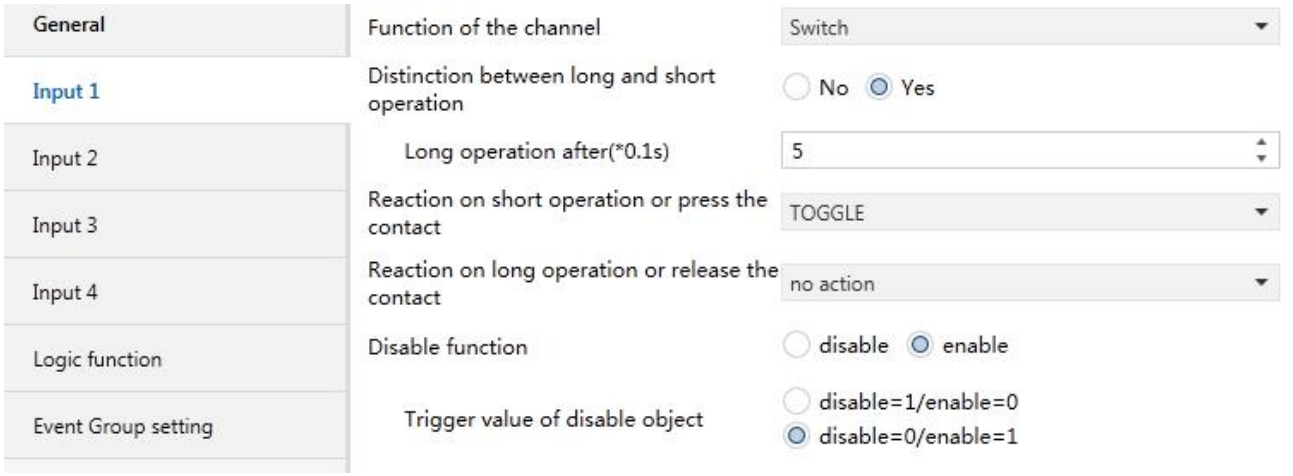


Fig. 4.2 Parameter Setting Page "Input x- Switch"

Parameter "Distinction between long and short operation"

This parameter is to set if to choose "distinction between long and short operation". If choose "Yes", you should press it for certain time, so it can be identified as long operation and will act accordingly.

Parameter "Long operation after（*0.1s）"

This parameter can be seen under "Distinction between long and short operation", you can set the valid time for long operation. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation. Options: **3...25**

Parameter "Reaction on short operation or press the contact"

Parameter "Reaction on long operation or release the contact"

You can set the operation to be performed while pressing the contact / release contact or during long / short operation. When the input is confirmed, the object value will be updated immediately. Options:

No action

ON

OFF

TOGGLE

No action: No telegram to be sent.

ON: Send telegram for on.

OFF: Send telegram for off.

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

Parameter "Disable function"

This parameter is to set whether to enable the disable function of the contact. Options

Disable

Enable

If choose "Enable", then you can enable or disable the contact function through objects. It is enabled by default.

This parameter will not be illustrated in next chapters, the usage is similar.

Parameter "Trigger value of disable object"

This parameter is set the trigger value of disable/enable the contact. Options:

Disable=1/enable=0

Disable=0/enable=1

This parameter will not be illustrated in next chapters; the usage is similar.

4.2.2. "Switch/Dimming" Function

"Switch/Dimming" parameter setting is shown in fig. 4.3.

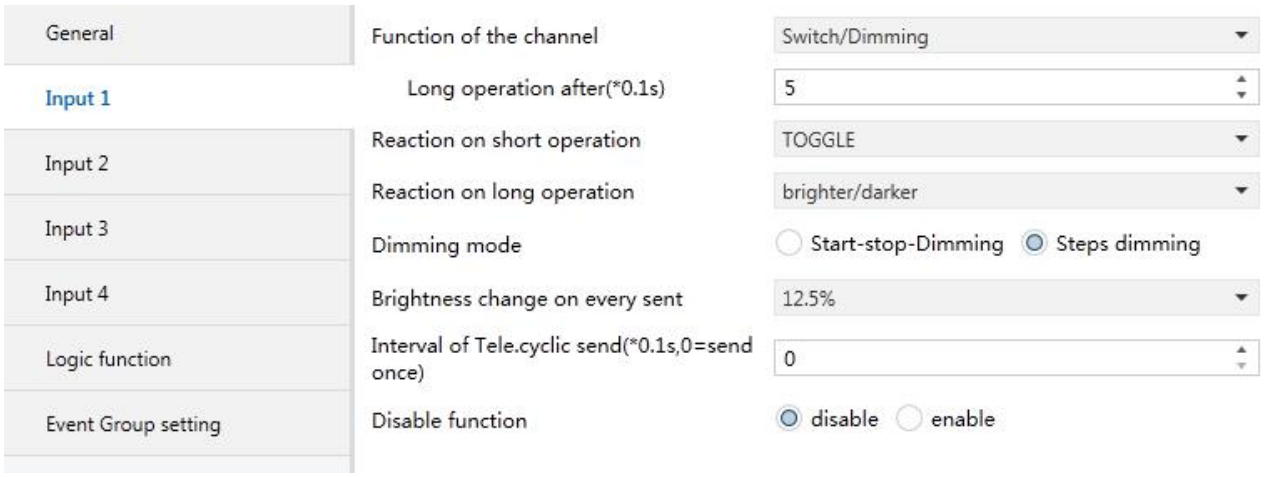


Fig 4.3 Parameter Setting Page "Input x- Switch/Dimming"

Parameter"Long operation after（*0.1s）"

This parameter is used to define the time for a long operation. If operation time is longer than the time set here, the operation will be identified as long operation, otherwise as short operation.

Option: **3..25**

Parameter"Reaction on short operation"

This parameter is used to define the value sent by short operation, Options:

No action

ON

OFF

TOGGLE

No action: no telegram sent to the bus.

ON: ON telegram sent to the bus.

OFF: OFF telegram sent to the bus.

TOGGLE: every operation is alternately ON or OFF.

Parameter "Reaction on long operation"

This parameter is used to send the relative dimming value (up or down) during long operation, releasing the contact will stop the dimming, Options:

Brighter

Darker

Brighter/darker

Brighter: the dimming up value will be sent.

Darker: the dimming down value will be sent.

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

Note: In "TOGGLE" mode of this parameter setting, the value sent will be linked. For example, if the last value is switching on status, then it will be dimmed down in next dimming operation; if the last value is switching off, then it will be dimmed up in next dimming operation.

Parameter"Dimming mode"

This parameter is used to set the way of relative dimming, to define whether the dimming is a start-stop one or step one, Options:

Start-stop dimming

Step dimming

If "Start-stop dimming" is used, the dimming mode will be start-stop, i.e. a dimming up or down telegram will be sent when the dimming starts, and a stop telegram will be sent when dimming ends. Here the dimming telegram will not be sent cyclically.

If "Step dimming" is used, the dimming mode will be a step one and the dimming telegram will be sent cyclically. When dimming ends, a stop dimming telegram will be sent immediately.

Parameter"Brightness change on every sent"

Under Step dimming mode, this parameter is used to set a cyclically sending dimming telegram which changes the brightness percentage, Options:

100%

50%

…

1.56%

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

Under Step dimming mode, this parameter is used to set intervals of two cyclically sending dimming telegram, the range is from 0 to 25, 0 means the telegram will be sent once only.

4.2.3. "Value/Forced output" Function

"Value/Force output" parameter setting page is shown as fig. 4.4.

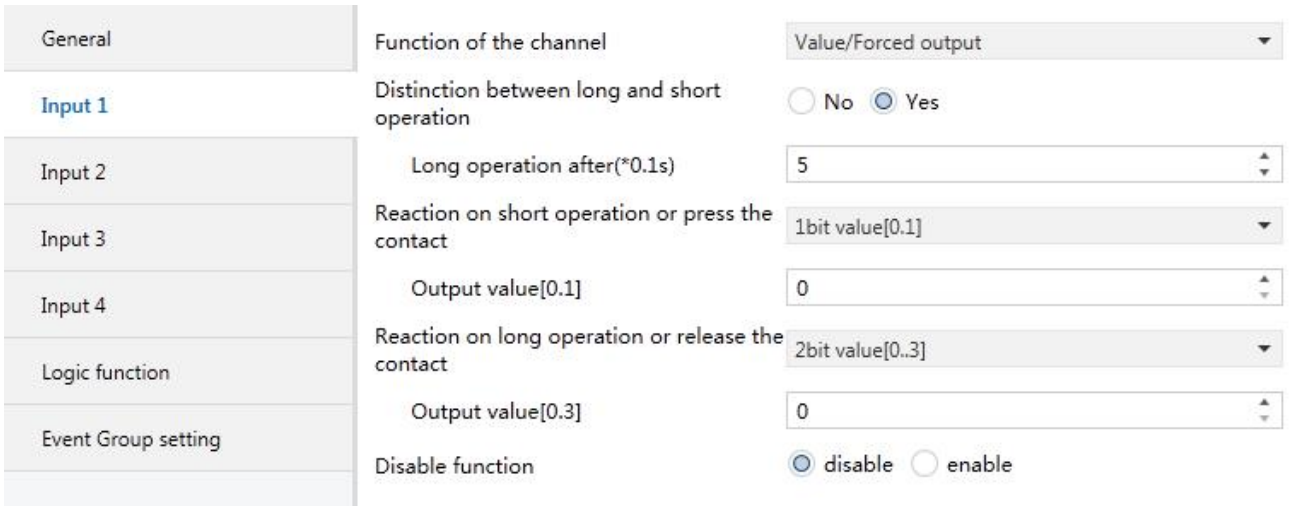


Fig. 4.4 Parameter Setting Page "Input x- Value/Forced output"

Parameter "Distinction between long and short operation"

This parameter defines whether the contact use long/short operation or not. If "yes", the operation must be long/short enough to be recognized as long/short operation, then long/short operation command will be executed, Options:

Yes

No

Parameter"Long operation after（*0.1s）"

This parameter is used to distinguish long/short operation, here the long operation activation time can be set. In operation when the contact is pressed longer than the time set here, it will be recognized as long operation, or else short operation.

Parameter "Reaction on short operation or press the contact"

Parameter "Reaction on long operation or release the contact"

This parameter is used to set the data type sent when contact is pressed/released, Options:

No reaction

1bit value [0...1]

.....

2 byte value [0…65535]

Parameter"Output value[...]"

This parameter is used to define the data value sent after operation, range of the value is defined by the above parameter data type.

4.2.4. "Scene control" Function

"Scene control" parameter setting page is shown in fig. 4.5.

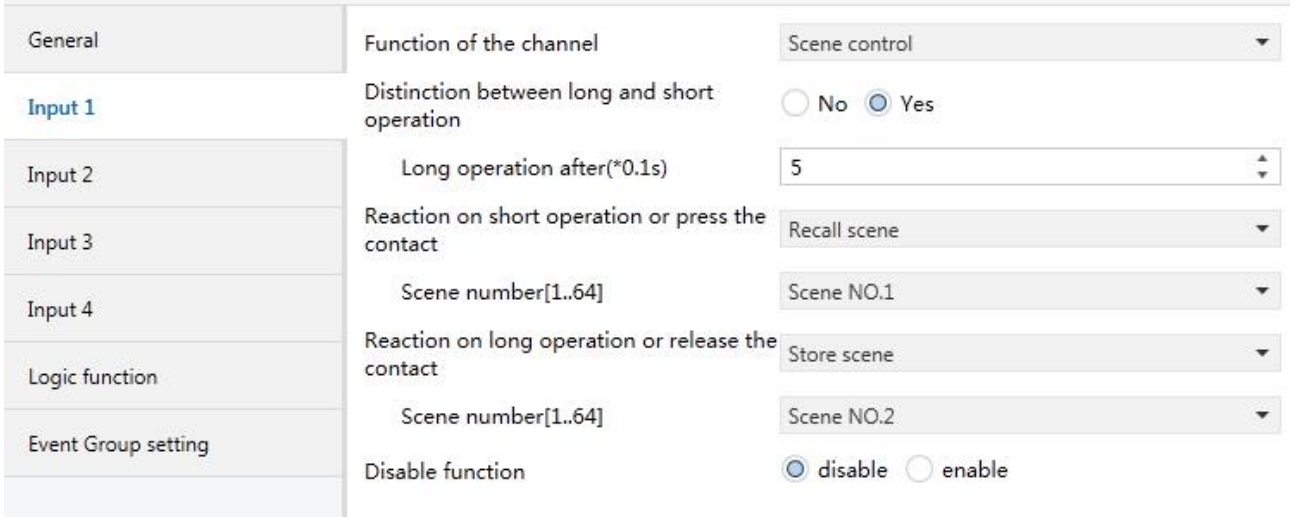


Fig. 4.5 Parameter Setting Page "Input x- Scene control"

Parameter "Distinction between long and short operation"

This parameter defines whether the contact use long/short operation or not. If "yes", the operation must be long/short enough to be recognized as long/short operation, then long/short operation command will be executed. Options:

Yes

No

Parameter"Long operation after（*0.1s）"

This parameter is used to distinguish long/short operation, here the long operation activation time can be set. In operation when the contact is pressed longer than the time set here, it will be recognized as long operation, or else short operation, Options: **3..25.**

Parameter "Reaction on short operation or press the contact"

Parameter "Reaction on long operation or release the contact"

This parameter is used to set the reaction for the scene use or storage when contact is pressed/released, Options:

No reaction

Recall scene

Store scene

Parameter"Scene number(1..64)"

This parameter is used to set the scene number, range NO.1~64 is correspondent to telegram 0~63.

4.2.5. "Shutter control" Function

"Shutter control" parameter setting is shown in fig. 4.6.

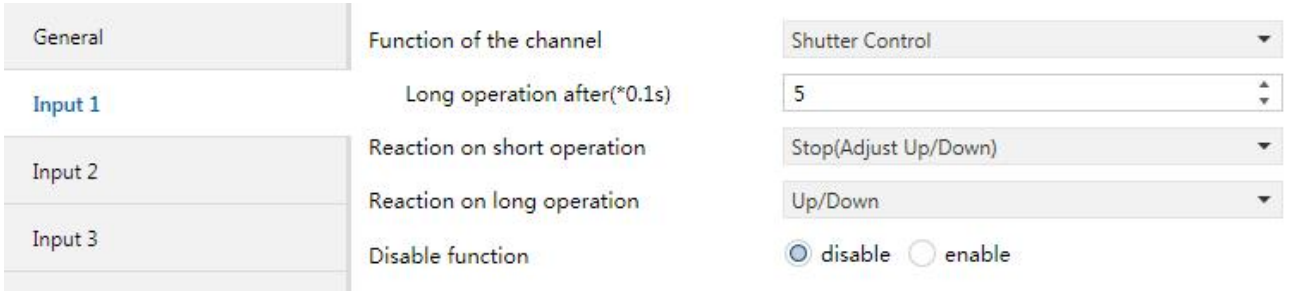


Fig. 4.6 Parameter Setting Page "Input x- Shutter control"

Parameter"Long operation after (*0.1s) "

This parameter is used to set the activation time of long operation. If the contact is pressed longer than the time set here, the operation will be defined as long operation, or else short operation.

Options: **3..25.**

Parameter "Reaction on short/long operation"

This Parameter is used to set the actions when the contact is operated in short/long operation,

Options:

No action

Up

Down

Up/Down

Stop (Adjust Up)

Stop (Adjust Down)

Stop (Adjust Up/Down)

No action: no action is performed.

Up: the shutter/blinds will be opened or moved up.

Down: the shutter/blinds will be closed or moved down.

Up/Down: alternately open/close or move up/down the shutter/blinds

Stop (Adjust Up): stop the shutter movement or move up one angle of blinds.

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

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

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

This parameter is visible when last one is chosen as "*Stop...*", it is used to set the time interval of cyclical blinds angle adjustment telegram sent, Options are 0..25, means once only.

4.2.6. “Shift register” Function

“Shift register” parameter setting page is shown in fig. 4.7, this function can send value by the way of shift register.

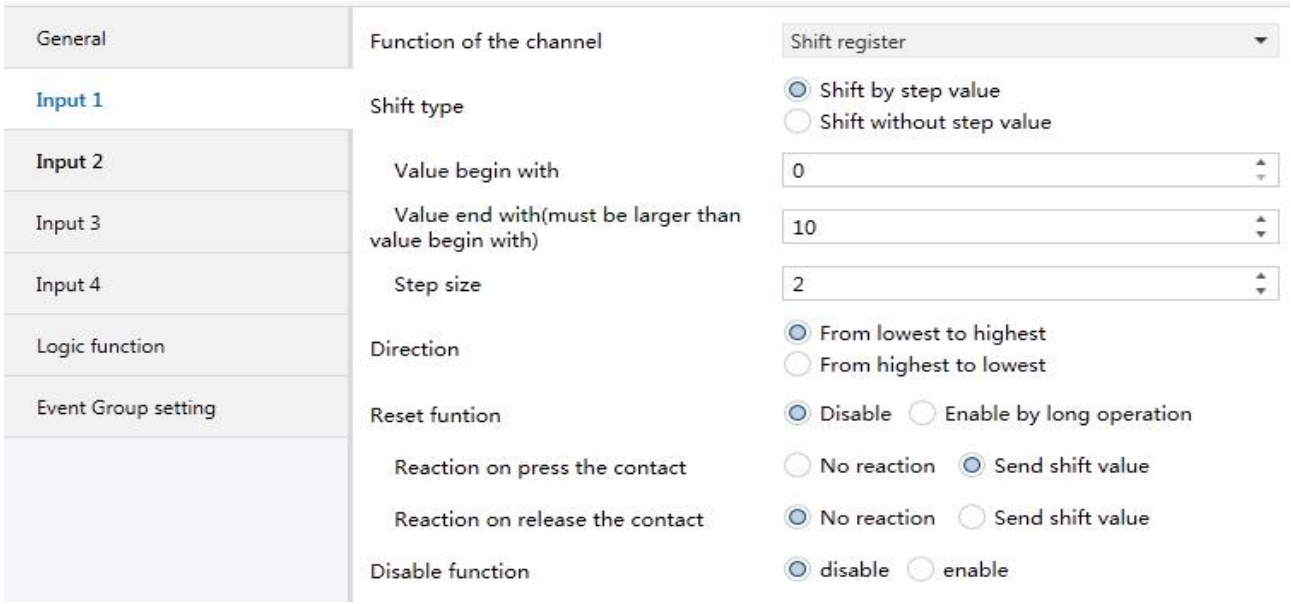


Fig. 4.7 Parameter Setting Page “Input x- Shift register”

Parameter "Shift type"

This parameter is used to set the shift type, whether shift by step value or without step value, Options:

Shift by step value

Shift without step value

Shift by step value: here the starting value and stopping value of shift can be set, the value increased (from low to high) or decreased (from high to low) from every shift can also be set.

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

Parameter "Value begin with"

This parameter is available when the “Shift by step value” is activated. It is used to set the starting value of the shift, Options: **0..240.**

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

This parameter is available when the “Shift by step value” is activated. It is used to set the stopping value of the shift, Options: **1..250.**

The stopping value must be larger than begin value.

Parameter "Step size"

This parameter is available when the "Shift by step value" is activated. It is used to set the increase (from low to high) or decrease (from high to low) value, Options: **0...240.**

Parameter "Shift number"

This parameter is available when "Shift without step value" is activated. It is used to set number of shift, with maximum 10 value, Options: **1/2/.../10.**

Setting the value sent from each shift in the following parameters:

Parameter "Value 1...10"

This parameter is used to set the value of every shifting operation, Options: **0..255**

Parameter "Direction"

This parameter is used to set the shift direction, Options:

From lowest to highest

From highest to lowest

From lowest to highest: shift from low to high, e.g. from starting value to stopping value, or value 1 to value 10; when it reaches stopping value or value 10, the shift will start once more from starting value or value 1.

From highest to lowest: shift from high to low, e.g. from stopping value to starting value, or value 10 to value 1; when it reaches starting value or value 1, the shift will start once more from stopping value or value 10.

Parameter "Reset function"

This parameter is used to set the possibility of enable/disable shift reset function, Options:

Disable

Enable by long operation

Disable: not possible to reset shift.

Enable by long operation: possible to reset shift by long operation, when reset, shift will start new.

Parameter "Reaction on press/release the contact"

This parameter is available when the shift reset function is disabled. It is used to define whether the shift operation will be effected when the contact is pressed/released, Options:

No reaction

Send shift value

Parameter"Long operation after（*0.1s）"

This parameter is available when the shift reset function is enabled. It is used to set the effective time of long operation. So when the contact is pressed for longer time than time set here, it will be defined as long operation, or else short operation, Options: **3..25.**

4.2.7. “RGB dimming” Function

Parameter window “RGB dimming” can be shown in Fig. 4.8.

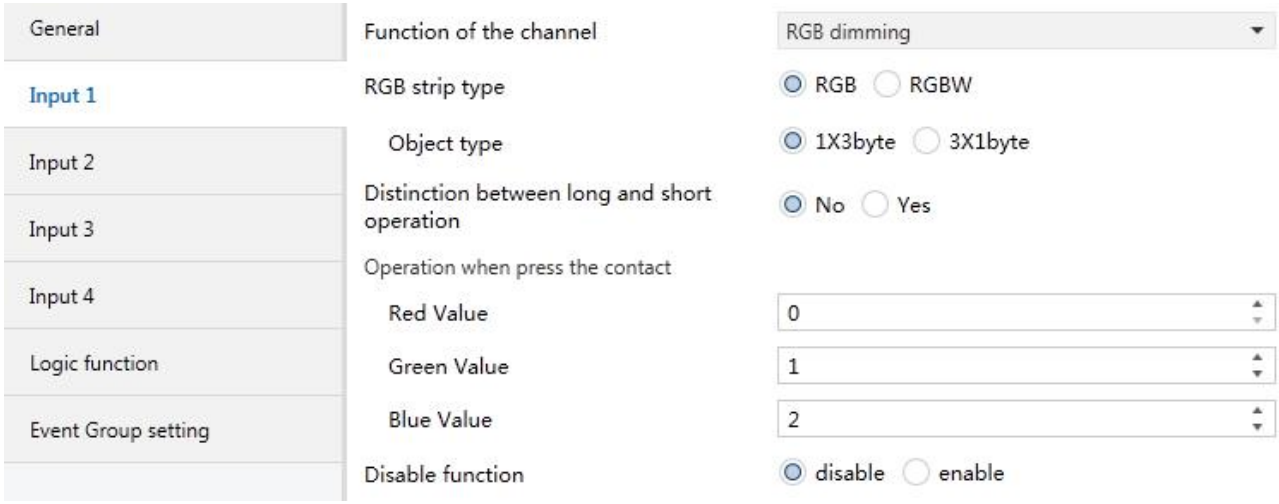


Fig. 4.8 Parameter Setting Page “Input x- RGB dimming” (1)

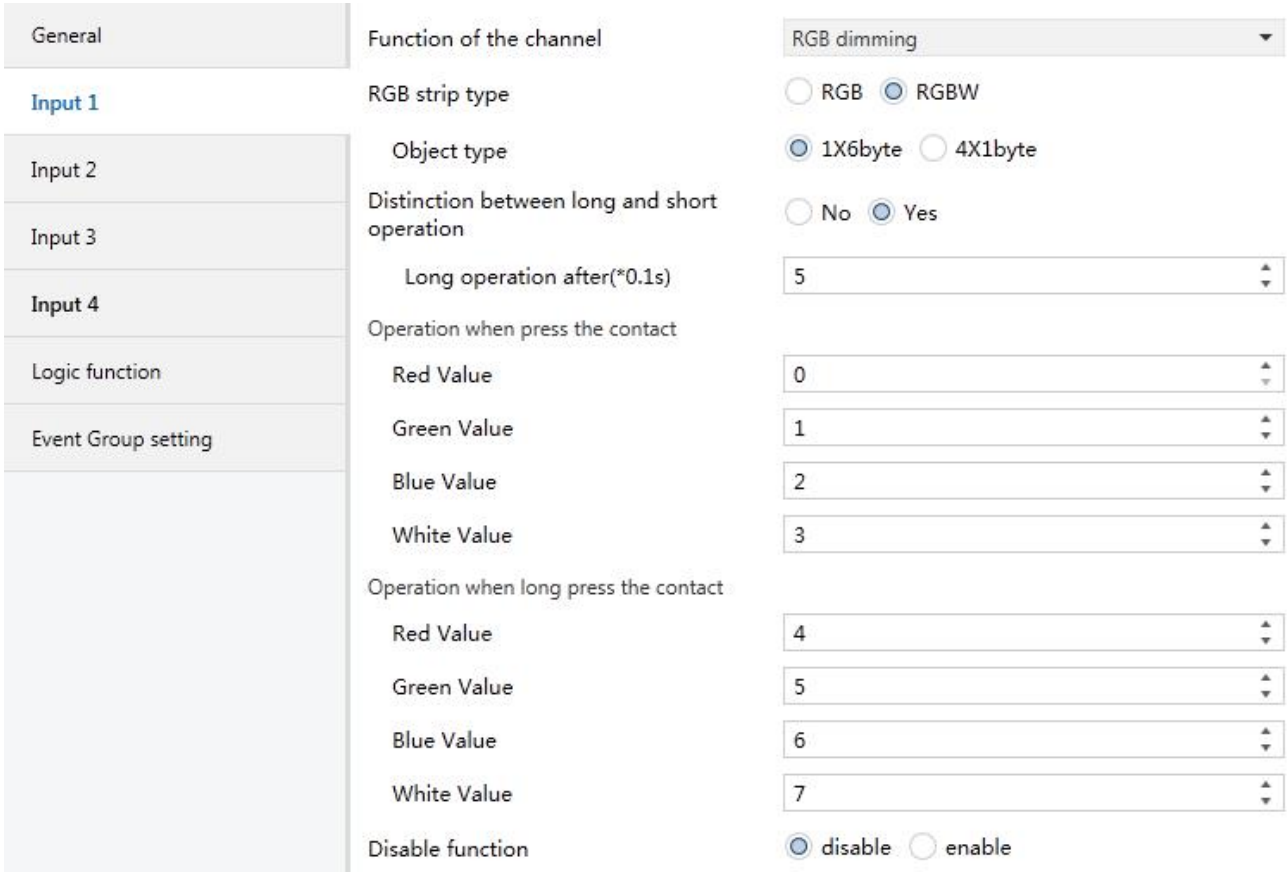


Fig. 4.8 Parameter Setting Page “Input x- RGBW dimming” (2)

Parameter "RGB strip type"

The parameter is used to set the type of RGB strip lights, Options:

RGB

RGBW

RGB：Apply to adjust RGB these three colors lights;

RGBW：Apply to adjust RGBW these four colors lights.

Parameter "object type"

The parameter is used to object type, Options:

Applicable to RGB type:

1x3byte Perform the RGB dimming by a 3byte object

3x1byte Execute the RGB dimming by three 1byte objects

Applicable to RGBW type:

1x6byte Perform the RGBW dimming by a 6byte object

4x1byte Execute the RGBW dimming by four 1byte objects

Parameter "Distinction between long and short operation"

The parameter is used to set the operation of rocker switch whether to distinguish long or short operation. If selecting the “yes” option, long or short operation can be confirmed only after a certain amount of time, and the contact will execute setup actions. Options:

Yes

No

Parameter“Long operation after（*0.1s）”

This parameter can be seen under “Distinction between long and short operation”, you can set the valid time for long operation. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation. Options: **3...25**

Parameter "Operation when press/long press the contact—Red/ Green/Blue/White Value (0..255)"

When setting the operational contact or long/short operation here, the brightness value of sending various colors of strip lights is: **0...255**

4.2.8. “Multiple operation” Functions

Parameter setting interface of “Multiple operation” can be shown in fig. 4.9. Multiple operation functions are set here, with the application, different predefined values can be sent out and different types of functions can be invoked for an operation of the rocker switch. Max. 4 different objects value can be set for each input. Parameter is described as below:

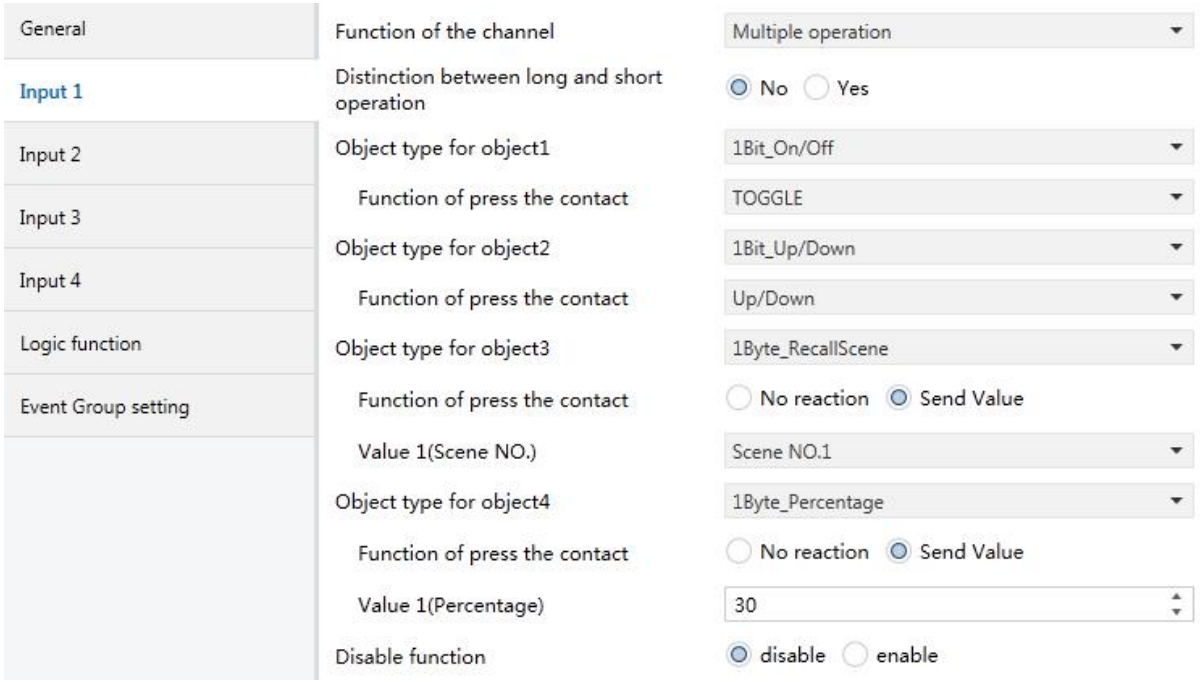
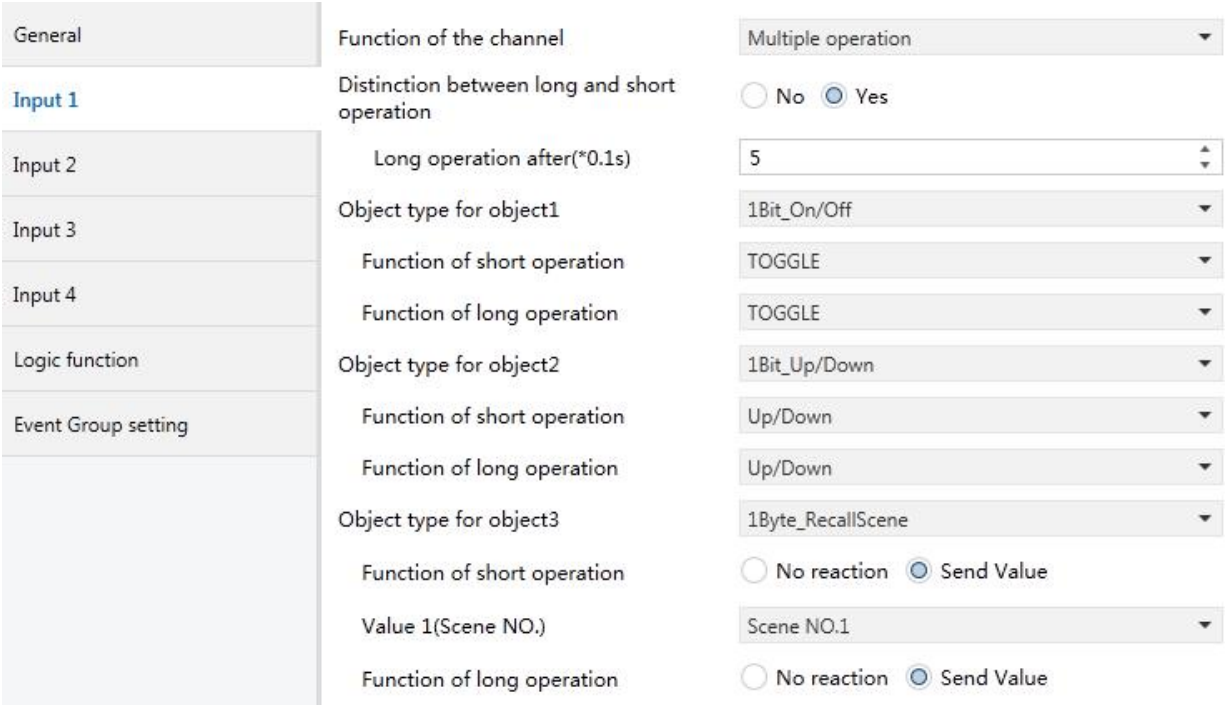


Fig. 4.9 Parameter Setting Page “Input x- Multiple Operation” (no distinctions between long & short operation)



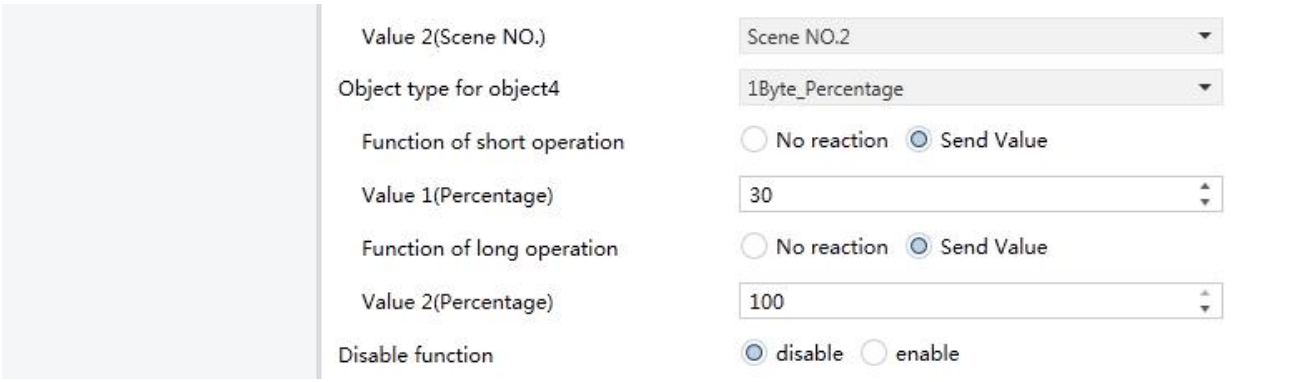


Fig. 4.9 Parameter Setting Page "Input x- Multiple Operation" (Distinctions of Long & Short Operation)

Parameter "Distinction between long and short operation"

The parameter is used to set the operation of rocker switch by whether to distinguish long & short operation. If selecting "yes", long or short operation can be confirmed only after operating for a certain amount of time, and the contact point will execute the setup actions. Options:

Yes

No

Parameter"Long operation after（*0.1s）"

This parameter can be seen under "Distinction between long and short operation", you can set the valid time for long operation. So, when you press longer than the time set here, it will be identified as long operation, otherwise, it will be taken as short operation. Options: **3...25**

Parameter "Object type for object x(x=1..4)"

Setting here when pressing contact or long/short operation, the data type of sending out. Options:

Disable

1Bit_On/Off

……

1Byte_Unsigned value

Parameter"Function of press the contact/ Function of short operation/ Function of long operation"

Setting the specific values of sending here when executing the operation, either no action or sending value (the specific value will be set in next parameter).

Parameter"Value 1/2（...）"

The parameter is visible when object type is selecting "1byte_RecallScene" "1byte_StoreScene" "1byte_Percentage" "1byte_Unsigned value". It's used to set sending values when executing operations. The range of value is up to the data type selected by the parameter before last one.

4.2.9. “Delay mode” Function

Parameter window of “Delay mode” can be shown in fig. 4.10. It’s used to set delay mode function here. Sending a value or none when operating, then delaying for a period, another value will be sent out.

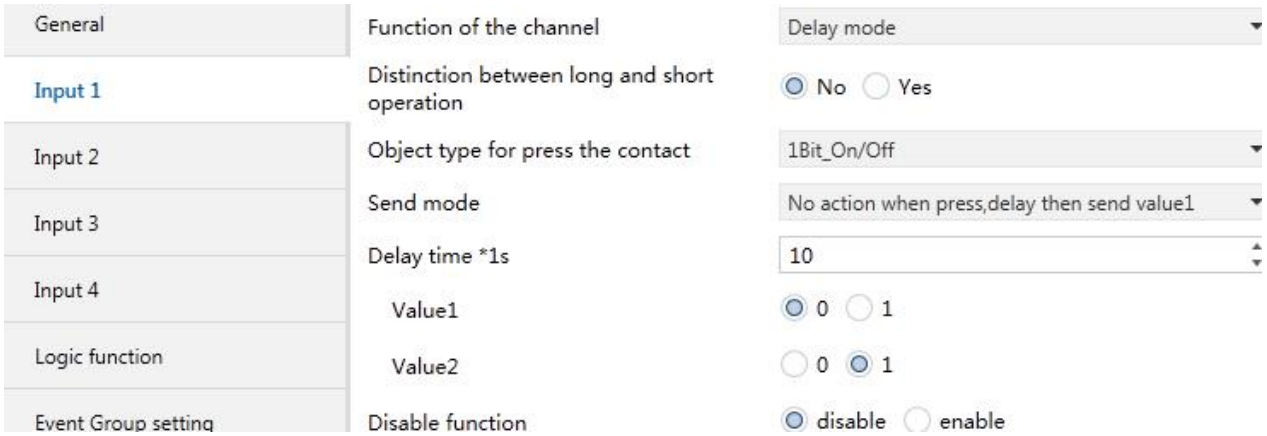


Fig.4.10 Parameter Setting Page “Input x- Delay mode” (no distinction between long & short operation)

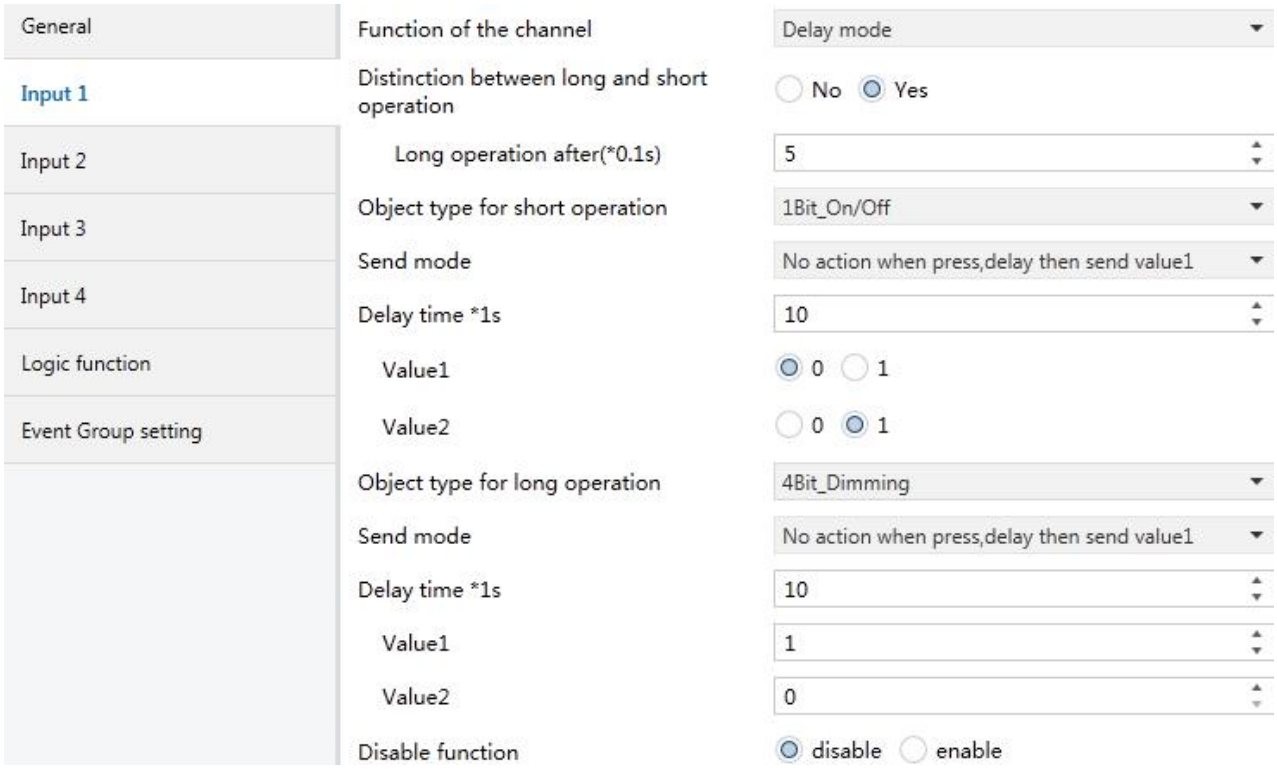


Fig.4.10 Parameter Setting Page “Input x- Delay Mode” (Distinction between long & short operation)

Parameter "Distinction between long and short operation"

The parameter is used to set the operation of rocker switch whether to distinguish long or short operation. If choosing "yes", the operation will be confirmed only after operating for a certain amount of time, and then the contact point will execute the setup actions. Options:

Yes

No

Parameter"Long operation after（*0.1s）"

The parameter is visible when distinguishing the long and short operation, and setting the valid time for long operation here. Therefore, when the operating time of contact surpasses the setting time here, the operation is defined as long operation, otherwise, it's considered as short operation. Options:

3..25

Parameter"Object type of press the contact/ Object type of short operation/ Object type of long operation"

Setting here when pressing contact or long/short operation, the data type of sending out. Options:

Disable

1Bit_On/Off

4Bit_Dimming

1Byte_Unsigned value

Parameter"Send mode"

Setting the sending mode here. Options:

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"

Setting delay time here. Options: 0..6500s

Parameter"value1/2[...]"

Setting the data value 1/2 to send. The range of value is up to the selected data type.

4.3. Parameter window “Logic function”

Parameter window “Logic function “can be shown in fig. 4.11. It can enable the Logic function. And there are 8 logic functions in total.

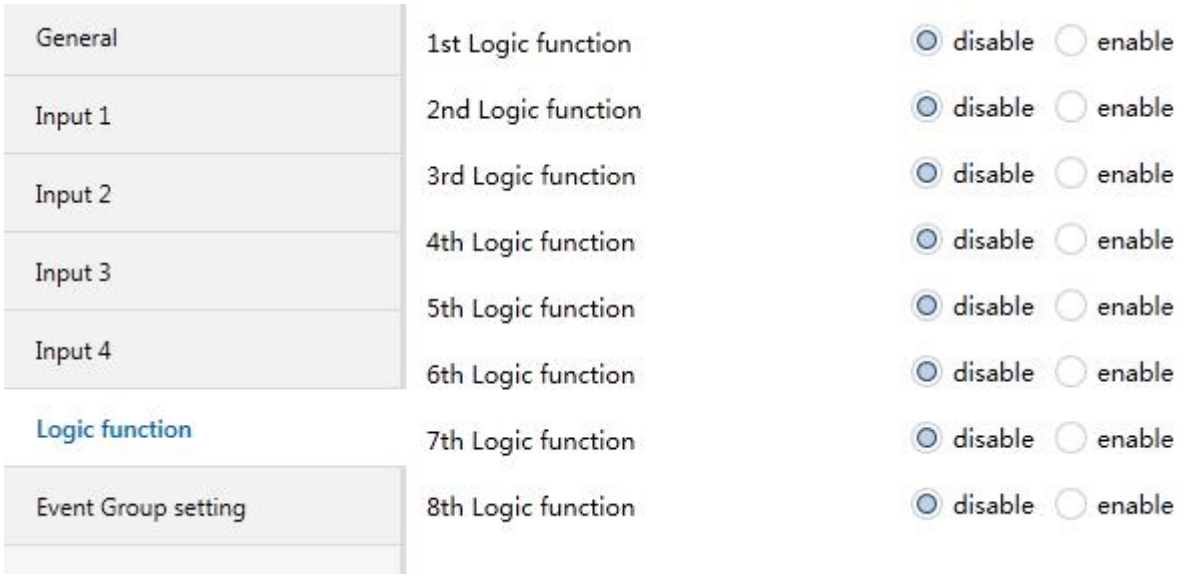


Fig. 4.11 Parameter Setting Page “Logic function -- disable/enable”

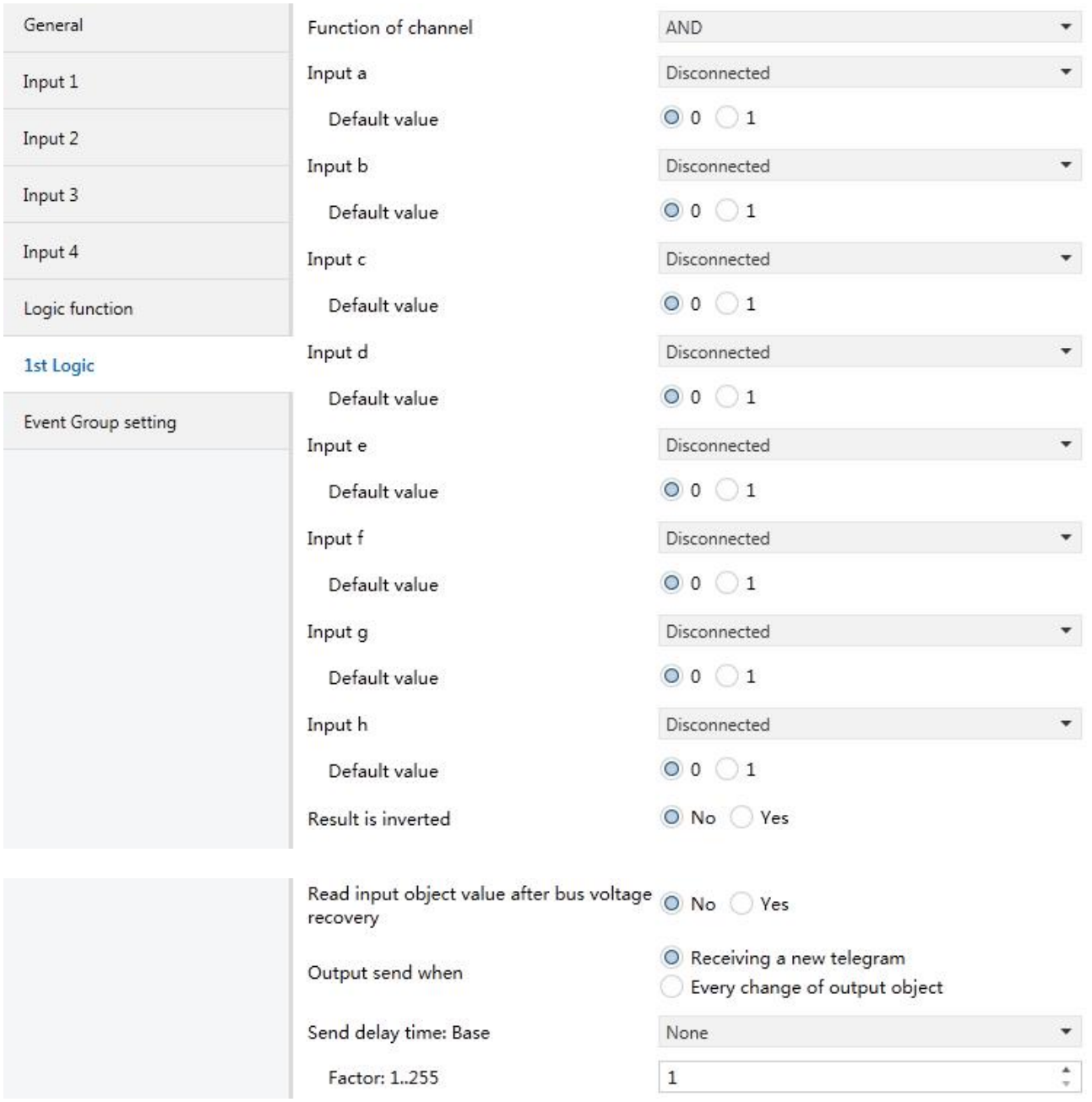


Fig. 4.12 Parameter Setting Page “Logic function -- AND/OR/XOR”

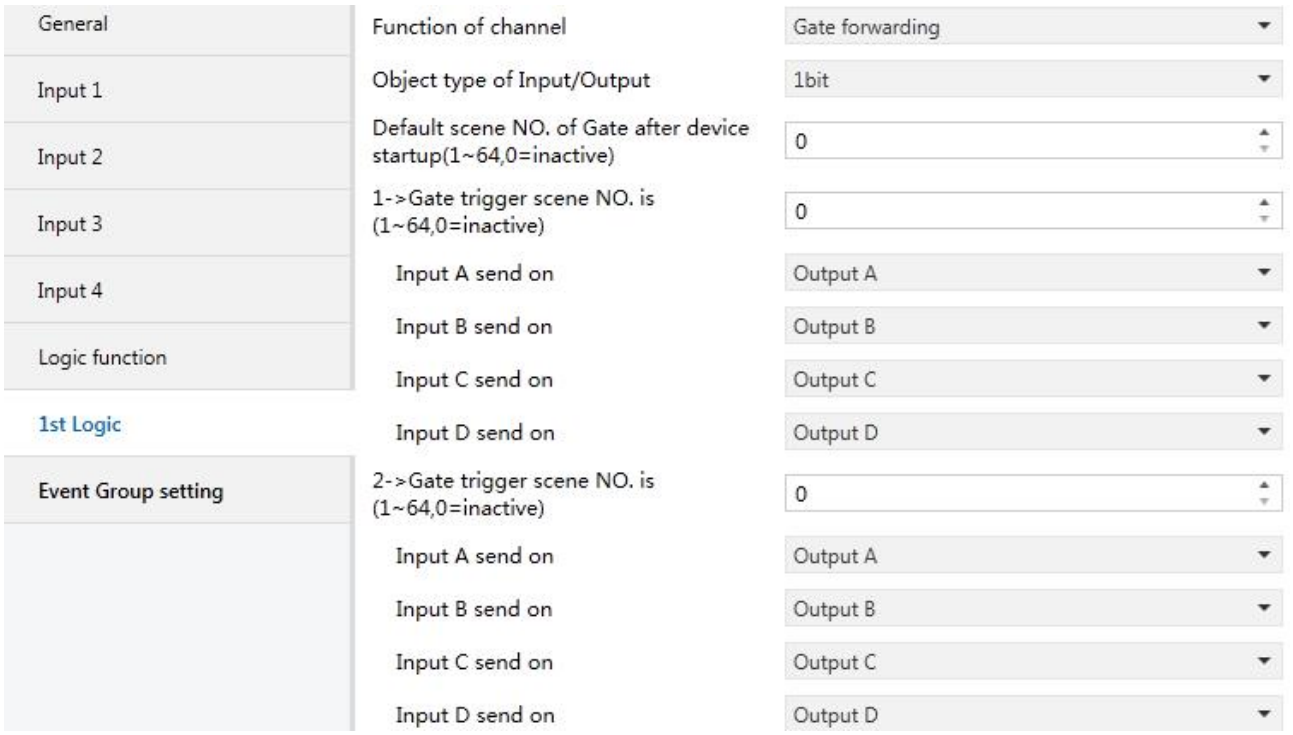


Fig. 4.13 Parameter Setting Page “Logic function -- Gate forwarding”

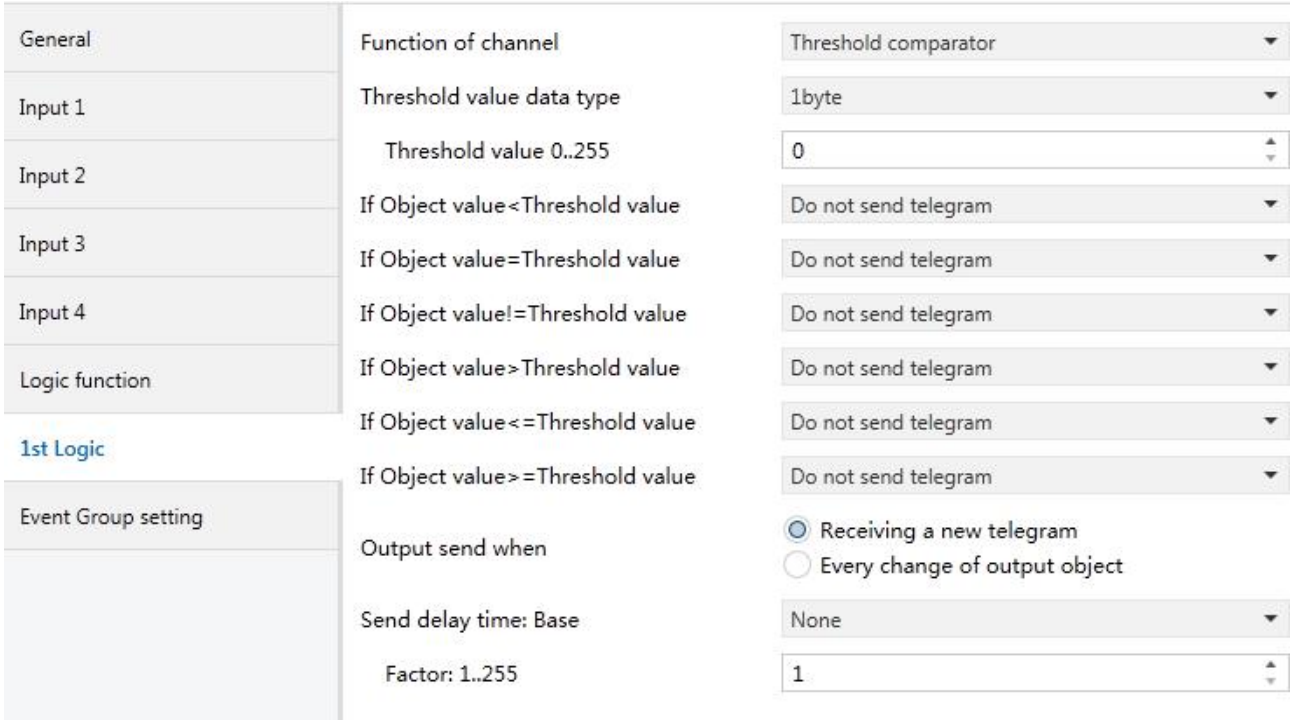


Fig. 4.14 Parameter Setting Page “Logic function -- Threshold comparator”

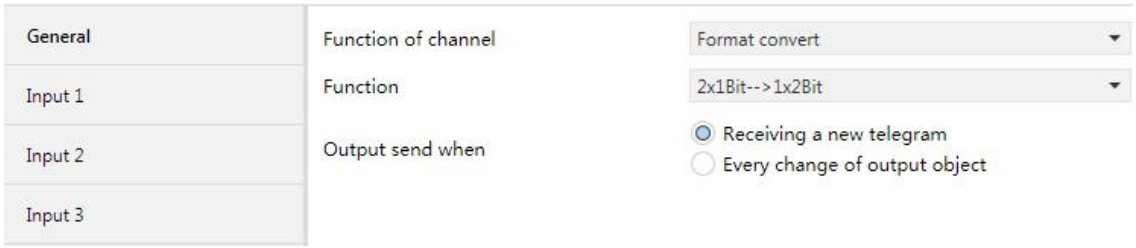


Fig. 4.15 Parameter Setting Page “Logic function -- Format convert”

Parameter "Function of channel"

This parameter is used for setting the Logic function of the channel, Options:

Disable

AND

OR

XOR

Gate forwarding

Threshold comparator

Format convert

AND/OR/XOR: These parameter is similar with the communication object. The only difference is the Logical algorithm. Take one of the logical function for detailed instruction as follows.

4.3.1. "AND/OR/XOR" Function

Parameter window "AND/OR/XOR" can be shown in fig. 4.12

Parameter"Input a/b/c/d/e/f/g//h"

This parameter is used for setting whether the logic input x will be involved in the logical operating, or normal operating or inverted operating.

Disconnected

Normal

Inverted

Disconnected: not involved in the logical operating;

Normal：Involved in the logical operating directly;

Inverted：the inverted value will be Involved in the logical operating.

Note: The "inverted operation" will not applied to the default value.

Parameter"Default value"

This parameter is used for setting the default value of the logical input x, Options:

0

1

Parameter"Result is inverted"

This parameter is used for setting whether the "inverted operation "is applied to the logical operation result, Options:

No

Yes

No: Output directly;

Yes: output the inverted value.

Parameter"Read input object value after bus voltage recovery"

This parameter is used for setting whether the reading telegram will be sent to the logical input object after the programming or resetting.

No

Yes

Parameter"Output send when"

This parameter is used for setting the conditions of sending logical operating result.

Receiving a new telegram

Every change of output object

Option"Receiving a new telegram",the logical result will be sent to the bus every time when there is logical input.

Option"Every change of output object",the logical result will be sent to the bus when there is changes of logical result. **Note: Although there is no change of the logical result for first logical operating, the logical result will still be sent to the bus.**

Parameter"Send delay time"

Base:

None

0.1s

1s

...

10s

25s

Factor: **1..255**

This parameter is used for setting the delay time of the logical result to be sent to the bus.

Delay time =Base x Factor. If the option Base is “None”, then there is no delay.

4.3.2. "Gate forwarding" Function

Parameter window “Gate forwarding” can be shown in fig. 4.13

Parameter"Object type of Input/Output"

To set the object type of the input/output object. Options:

1bit

4bit

1byte

Parameter"Default scene NO. Of Gate after device startup (1..64, 0=inactive)"

After the device is started, the scenario of logical gate forwarding can be performed by default. This scenario needs to be configured in the parameters. Options: **1..64,0=inactive**

Parameter"z->Gate trigger scene NO. is(1..64,0=inactive)" (z:1~8)

To set the scene number of logic gate forwarding. Each logic can trigger maximum 8 scenes. Options: **1..64, 0=inactive**.

Parameter"Input A/B/C/D send on"

To set the output after gate forwarding input. Options:

Output A

Output B

..

Output B,C,D

Usually the input value is the same as the output value, and depending on the option, one input can be forwarded to single or multiple outputs.

Note: Select the gate scene before operation, otherwise the default scene will be activated.

4.3.3. "Threshold comparator" Function

Parameter window " Threshold comparator " can be shown in fig. 4.14.

Parameter " Threshold value data byte "

Here set the threshold data types. Optional:

4bit

1byte

2byte

4byte

Parameter " Threshold value.... "

Sets the threshold, threshold value range 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 input threshold is less than, equal to, not equal to, greater than, less than, equal to or greater than or equal to the set threshold value, the logical result values should be sent. Options:

Do not send telegram

Send value “0”

Send value “1”

Do not send telegram: Select this option regardless of the parameters;

Send value "0"/ "1": When the condition is satisfied, send telegram 0 or 1. If the parameter sets Options that conflict, so the final result will be considered by the last valid parameter. For example, when parameter "If Object value=Threshold value" set Send value "0", while the parameter "If Object value< =Threshold value" settings Send value "1" , and so when an object value is equal to the threshold value, the logical result will be sent " 1 ".

Parameter " Output send when "

Here to set conditions for sending results of logical operations. Optional:

Receiving a new telegram

Every change of output object

Option " Receiving a new telegram "Each receives an input value; the logical result will be sent to the bus;

Option " Every change of output object " When the logic changes occur to the results, are sent to the bus. **Note: when you first perform logical operations, logical operations results do not change, will also be sent.**

Parameter " Send delay time "

Base:

None

0.1s

1s

...

25s

Factor: 1..255

This parameter is used to set the delay time of sending results of logical operations to the bus. Delay =Base x Factor, if the Base option to "None", there is no delay.

4.3.4. "Format convert" Function

Parameter window “Format convert” can be shown in fig. 4.15

Parameter"Format convert type"

To set the format convert type. Options:

2x1bit-->1x2bit

8x1bit-->1x1byte

1x1byte-->1x2byte

2x1byte-->1x2byte

2x2byte-->1x4byte

1x1byte-->8x1bit

1x2byte-->2x1byte

1x4byte-->2x2byte

1x3byte-->3x1byte

3x1byte-->1x3byte

Parameter"Output send when"

To set the conditions for sending logical results. Options:

Receiving a new telegram

Every change of output object

Receiving a new telegram： Each time an object receives a new input value, the result is sent to the bus;

Every change of output object: Only when the logic result changes, the result will be sent to the bus.

Note: When the logic operation is performed for the first time, the logical operation result will be sent even when it does not change.

4.4. Parameter window " Event Group setting "

"Event Group setting" Parameter settings window as in Figure 4.16 as shown, this function is used to enable the event group, total 8 Group events feature can be set for each group and 8 Output.

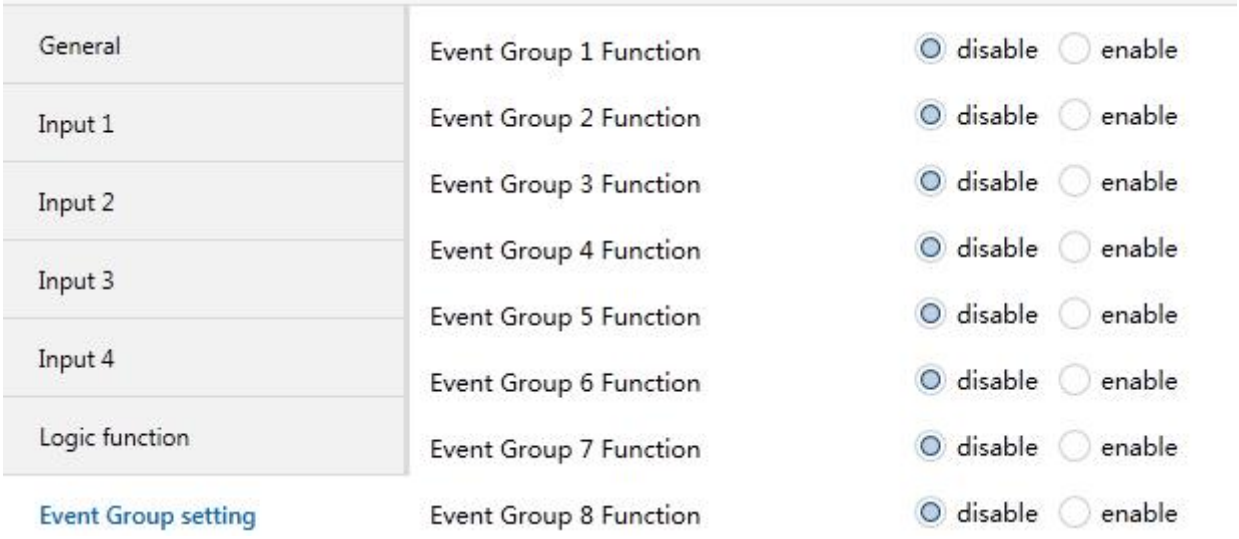


Fig.4.16 Parameter Setting Page "Event Group setting -- disable/enable"

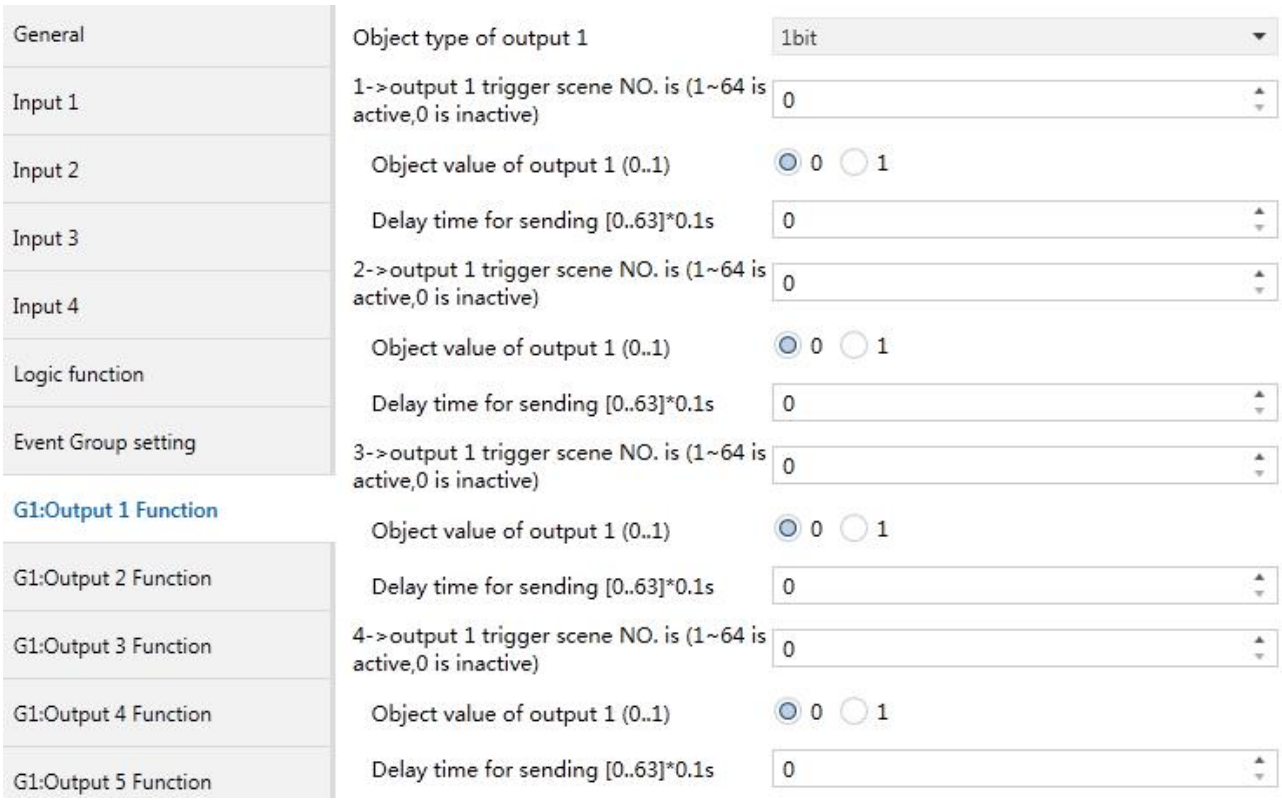


Fig.4.17 Parameter Setting page "G x: Output y Function"

Parameter " Event Group x Function" (x:1~8)

This parameter is used to enable Event group function. Optional:

Disable

Enable

When a event group function is enable, 8 sub Outputs configuration parameters are visible. As every event group function is the same, and each outputs of event group function is the same, so, here we have one group of one output parameter description, for example:

Parameter " Object type of output y (y:1~8) "

This parameter defines the set of output y data type. 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 set of output y. To define the trigger scenarios that need to execute. Each output can be triggered for up to 6 scenes, Options: **0..64,0= is not activated.**

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

Set output value, range of values, by Output y Type of data. **1bit 0..1/1byte 0..255/ 2byte 0..65535**

Parameter " Delay time for send [0...63]*0.1s "

Set the delay time of sending for output value. Option: **0..63.**

Chapter 5 Communication object description

The medium for One devices communicate with other devices on the bus is Communication object, Each communications object is detailed below.

Note: in the property column in the table below "C" Communications represents a communication object functionality is enabled, the "W" On behalf of a distribution object to rewriting across the bus, "R" On behalf of a distribution object's value can be read via the bus, "T" Represents a communication object with transfer function, "U" On behalf of a distribution object's value can be updated.

5.1. Input function communication object description

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Press/release, Switch			1 bit	C	-	W	T	U	switch	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Short operation, Switch			1 bit	C	-	W	T	U	switch	Low
2	Input 1	Long operation, Switch			1 bit	C	-	W	T	U	switch	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low

"Switch" Function

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Short,Switch			1 bit	C	-	W	T	U	switch	Low
2	Input 1	Long,Dimming			4 bit	C	-	W	T	-	dimming...	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low

"Switch/dimming" Function

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Short/Press,1bit value			1 bit	C	-	-	T	-	switch	Low
2	Input 1	Long/Release,2bit value			2 bit	C	-	-	T	-	switch con...	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low

"Value/Force output" Function

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Short/Press,scene			1 byte	C	-	-	T	-	scene con...	Low
2	Input 1	Long/Release,scene			1 byte	C	-	-	T	-	scene con...	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low

"Scene control" Function

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Up/Down,Blind			1 bit	C	-	-	T	-	up/down	Low
2	Input 1	Stop/Adjust,Blind			1 bit	C	-	-	T	-	step	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low

"Shutter control" Function

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Register value			1 byte	C	-	W	T	-	counter p...	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low

"Shift register" Function

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Red dimming value			1 byte	C	-	-	T	-	counter p...	Low
2	Input 1	Green dimming value			1 byte	C	-	-	T	-	counter p...	Low
3	Input 1	Blue dimming value			1 byte	C	-	-	T	-	counter p...	Low
4	Input 1	White dimming value			1 byte	C	-	-	T	-	counter p...	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low
1	Input 1	RGB dimming value			3 bytes	C	-	-	T	-	RGB value...	Low
1	Input 1	RGBW dimming value			6 bytes	C	-	-	T	-	RGB value...	Low

"RGB dimming" Function

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Object1-On/Off			1 bit	C	-	W	T	-	switch	Low
2	Input 1	Object2-Up/Down			1 bit	C	-	W	T	-	up/down	Low
3	Input 1	Object3-SceneControl			1 byte	C	-	-	T	-	scene con...	Low
4	Input 1	Object4-Percentage			1 byte	C	-	-	T	-	percentag...	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low

"Multiple operation" Function

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
1	Input 1	Press,Delay mode			1 bit	C	-	-	T	-	switch	Low
5	Input 1	Disable			1 bit	C	-	W	-	-	enable	Low

"Delay mode" Function

Fig. 5.1 Communication objects of input

Object No.	Function	Name	Type	Property	DPT
1	**Press/release, Switch**	**Input/Rocker X**	**1bit**	**C,W,T,U**	**1.001 DPT_Switch**
1	**Short operation, Switch**	**Input/Rocker X**	**1bit**	**C,W,T,U**	**1.001 DPT_Switch**
2	**Long operation, Switch**	**Input/Rocker X**	**1bit**	**C,W,T,U**	**1.001 DPT_Switch**

The communication object is used to trigger a switching operation. "Press/release" is visible when there is no distinguish for short/long operation. "Short/Long operation" is visible when there is distinguish for short/long operation.

1	**Short, Switch**	**Input/Rocker X**	**1bit**	**C,W,T,U**	**1.001 DPT_Switch**

The communication objects are used to trigger switch Operation. Telegram:0 – off, 1 – on

2	**Long, Dimming**	**Input/Rocker X**	**4bit**	**C,W,T**	**3.007 DPT_Dimming control**

This communication objects triggers a dimming operation.

The telegram 1~7 is to dim down, larger values of this range, smaller amplitude of dimming down , 0 is to stop dimming; while the telegram 9~15 dim up,larger values of this range, smaller amplitude of dimming up. 8 is to stop the dimming.

1	**Short/Press,1bit/2bit/4bit/ 1byte/2byte value**	**Input X**	**1bit/2bit/4bit /1byte/2byte**	**C,T**	**1.001 DPT_Switch/ 2.001 DPT_Switch control/ 3.007DPT_Dimming control/ 5.010 DPT_counter pulses/ 7.001 DPT_pulses**
2	**Long/Release,1bit/2bit/ 4bit/1byte/2byte value**	**Input X**	**1bit/2bit/4bit /1byte/2byte**	**C,T**	

The communication object is used to send a fixed value, to send a range of values determined by the data type, the data type is determined by the parameter "Reaction on short operation or press the contact"/ "Reaction on long operation or release the contact" Set

1	**Short/Press, Scene**	**Input/Rocker X**	**1byte**	**C,T**	**18.001 DPT_SceneControl**
2	**Long/Release, Scene**	**Input/Rocker X**	**1byte**	**C,T**	**18.001 DPT_SceneControl**

Sending a communication object 8bit Instruction calls or store scenes. Detailed 8bit the meaning of the directive.

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

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

X : 0 ;

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

Parameter setting Options are 1~64 Actually communication object "Scene" Corresponds to the telegram received is 0~63 . Such as parameter settings is the scene 1, Communication object "Scene" sends the scene for 0. As follows:

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

1	**Up/Down, Blind**	**Input/Rocker X**	**1bit**	**C,T**	**1.008 DPT_up/down**
This object is used to move up/down the curtain. Telegram: 0 —— Move up the curtains / blinds 1 —— Move down the curtains / blinds					
2	**Stop/Adjust,Blind**	**Input/Rocker X**	**1bit**	**C,T**	**1.007 DPT_Step**
This object is used to stop the curtain moving or adjusting the shutter angle.					
1	**Register value**	**Input X**	**1bit**	**C,T**	**5.010 DPT_counter pulses**
This address is used to send shift register value.					
1	**Red dimming value**	**Input X**	**1byte**	**C,T**	**5.010 DPT_counter pulses**
This object is used to send R (Red) The dimming value.					
2	**Green dimming value**	**Input X**	**1byte**	**C,T**	**5.010 DPT_counter pulses**
This object is used to send G (Green) The dimming value.					
3	**Blue dimming value**	**Input X**	**1byte**	**C,T**	**5.010 DPT_counter pulses**
This object is used to send B (Blue) The dimming value.					
4	**White dimming value**	**Input X**	**1byte**	**C,T**	**5.010 DPT_counter pulses**
This object is used to send W (white) The dimming value.					
1	**RGB dimming value**	**Input X**	**3byte**	**C,T**	**232.600 RGB value 3x(0..255)**

This object is used to send RGB Tri-color lamp brightness values. The highest bit is the dimming value of R (red).

1	**RGBW dimming value**	**Input X**	**6byte**	**C,T**	**251.600 DPT_Colour_RGBW**

This object is used to send RGBW Four-colour light brightness value. The highest bit is the dimming value of R (red).

The encoding of the RGBW dimming value is: U8 U8 U8 U8 R8 R4 B4， Details as follow:

6_{MSB}	5	4	3	2	1_{LSB}
R	G	B	W	Reserved	r r r r mR mG mB mW
UUUUUUUU	UUUUUUUU	UUUUUUUU	UUUUUUUU	00000000	0000BBBB

R: Colour Level Red ;

G: Colour Level Green;

B: Colour Level Blue;

W: Colour Level White;

mR: Shall specify whether the colour information red in the field R is valid or not. , 0=not valid, 1=valid;

mG: Shall specify whether the colour information green in the field G is valid or not. , 0=not valid, 1=valid;

mB: Shall specify whether the colour information blue in the field B is valid or not. , 0=not valid, 1=valid;

mW: Shall specify whether the colour information white in the field W is valid or not. , 0=not valid, 1=valid.

1	**Object x-On/Off** **Object x-Up/Down** **Object x-SceneControl** **Object x-Percentage** **Object x-Unsigned value**	**Input X**	**1bit** **1bit** **1byte** **1byte** **1byte**	**C,W,T** **C,W,T** **C,T** **C,T** **C,T**	**1.001DPT_Switch** **1.008DPT_up/down** **18.001DPT_SceneControl** **5.001DPT_Scaling** **5.010DPT_counter pulses**

These objects for multiple object up and activate 4 (x=1,2,3,4), Through these objects, once, can be sent simultaneously 4 A different type of object values to the bus.

1	**Press, Delay mode**	**Input X**	**1bit** **4bit** **1byte**	**C,T**	**1.001 DPT_Switch** **3.007 DPT_Dimming control** **5.010 DPT_counter pulses**

The value of this object is used to send time-delay mode of communication, there are three types of values to choose from.

5	**Disable**	**Input /Rocker X**	**1bit**	**C,W**	**1.003 DPT_enable**

This object is used to disable/ enable the input function.

Table 5.1 Communication object of Input table

5.2. Logic Function communication object description

5.2.1. “AND/OR/XOR”communication object

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input a			1 bit	C	-	W	T	U	boolean	Low
83	1st Logic	Input b			1 bit	C	-	W	T	U	boolean	Low
84	1st Logic	Input c			1 bit	C	-	W	T	U	boolean	Low
85	1st Logic	Input d			1 bit	C	-	W	T	U	boolean	Low
86	1st Logic	Input e			1 bit	C	-	W	T	U	boolean	Low
87	1st Logic	Input f			1 bit	C	-	W	T	U	boolean	Low
88	1st Logic	Input g			1 bit	C	-	W	T	U	boolean	Low
89	1st Logic	Input h			1 bit	C	-	W	T	U	boolean	Low
90	1st Logic	Logic result			1 bit	C	-	-	T	-	boolean	Low

Fig. 5.2_1 “Logic function_AND/OR/XOR” communication object

Object No.	Function	Name	Types	Property	DPT
82..89	**Input x**	**1st /.../8th Logic**	**1bit**	**C,W,T,U**	**1.002 DPT_boolean**
The communication object is used to receive the value of the logic Input x.					
90	**Logic result**	**1st /.../8th Logic**	**1bit**	**C,T**	**1.002 DPT_boolean**
The communication object is used to send logical result.					

Table. 5.2_1 “AND/OR/XOR” communication object table

5.2.2. “Gate forwarding” communication object

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Gate value select			1 byte	C	-	W	-	-	scene number	Low
83	1st Logic	Input A			1 bit	C	-	W	-	-	switch	Low
84	1st Logic	Input B			1 bit	C	-	W	-	-	switch	Low
85	1st Logic	Input C			1 bit	C	-	W	-	-	switch	Low
86	1st Logic	Input D			1 bit	C	-	W	-	-	switch	Low
87	1st Logic	Output A			1 bit	C	-	-	T	-	switch	Low
88	1st Logic	Output B			1 bit	C	-	-	T	-	switch	Low
89	1st Logic	Output C			1 bit	C	-	-	T	-	switch	Low
90	1st Logic	Output D			1 bit	C	-	-	T	-	switch	Low

Fig. 5.2_2 “Logic function_Gate forwarding” communication object

Object No.	Function	Name	Type	Property	DPT
82	**Gate value select**	**1st /.../8th Logic**	**1byte**	**C,W**	**17.001 scene number**
The communication object is used to select a scene for logic gate forwarding.					
83..86	**Input x**	**1st /.../8th Logic**	**1bit** **4bit** **1byte**	**C,W**	**1.001 switch** **3.007 DPT_Dimming control** **5.010 DPT_counter pulses**
The communication object is used to receive the value of the logic gate input Input x.					
87..90	**Output x**	**1st /.../8th Logic**	**1bit** **4bit** **1byte**	**C,T**	**1.001 switch** **3.007 DPT_Dimming control** **5.010 DPT_counter pulses**
The communication object is used to output the value after the logic gate is forwarded. The output value is the same as the input value, but an input can be forwarded to one or more outputs, set by					
parameters.					

Table 5.2_2 “Logic function_Gate forwarding” communication object table

5.2.3. “Threshold comparator” communication object

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Threshold value input			1 byte	C	-	W	-	U	counter pulses (...	Low
90	1st Logic	Logic result			1 bit	C	-	-	T	-	boolean	Low

Fig. 5.2_3 “Logic function_Threshold comparator” communication object

Object No.	Function	Name	Type	Property	DPT
82	**Threshold value input**	**1st /.../8th Logic**	**4bit 1byte 2byte 4byte**	**C,W,U**	**3.007 DPT_Dimming control 5.010 DPT_counter pulses 7.001 DPT_pulses 12.001 DPT_counter pulses**
This communication object for input the threshold value.					
90	**Logic result**	**1st /.../8th Logic**	**1bit**	**C,T**	**1.002 DPT_boolean**
This communication object for sending logic operate results. (The value which will be sent after comparing the threshold value of object input with the threshold value was set)					

Table 5.2_3 “Logic function_Threshold comparator” communication object table

5.2.4. “Format convert” communication object

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 1bit-bit0			1 bit	C	-	W	-	U	boolean	Low
83	1st Logic	Input 1bit-bit1			1 bit	C	-	W	-	U	boolean	Low
90	1st Logic	Output 2bit			2 bit	C	-	-	T	-	switch control	Low

“2x1bit --> 1x2bit” function: to change 2 of 1 bit’s value to 1 of 2 bit’s value, such as: Input bit1=1, bit0=0--> Output 2bit=2.

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 1bit-bit0			1 bit	C	-	W	-	U	boolean	Low
83	1st Logic	Input 1bit-bit1			1 bit	C	-	W	-	U	boolean	Low
84	1st Logic	Input 1bit-bit2			1 bit	C	-	W	-	U	boolean	Low
85	1st Logic	Input 1bit-bit3			1 bit	C	-	W	-	U	boolean	Low
86	1st Logic	Input 1bit-bit4			1 bit	C	-	W	-	U	boolean	Low
87	1st Logic	Input 1bit-bit5			1 bit	C	-	W	-	U	boolean	Low
88	1st Logic	Input 1bit-bit6			1 bit	C	-	W	-	U	boolean	Low
89	1st Logic	Input 1bit-bit7			1 bit	C	-	W	-	U	boolean	Low
90	1st Logic	Output 1byte			1 byte	C	-	-	T	-	counter pulses (...	Low

“8x1bit --> 1x1byte” function: to change 8 of 1bit’s value to 1 of 1 byte’s value, such as: Input bit2=1, bit1=1, bit0=1,the others are 0--> Output 1byte=7.

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 1byte			1 byte	C	-	W	-	U	counter pulses (...	Low
90	1st Logic	Output 2byte			2 bytes	C	-	-	T	-	pulses	Low

"1x1byte --> 1x2byte" function: to change 1 of 1 byte's value to 1 of 2 byte's value, such as: Input 1byte=125--> Output 2byte=125, the data type changed, even the same value.

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 1byte-low			1 byte	C	-	W	-	U	counter pulses (...	Low
83	1st Logic	Input 1byte-high			1 byte	C	-	W	-	U	counter pulses (...	Low
90	1st Logic	Output 2byte			2 bytes	C	-	-	T	-	pulses	Low

"2x1byte --> 1x2byte" function: to changed 2 of 1 byte's value to 1 of 2 byte's value, such as: Input 1byte-low = 255 ($FF), Input 1byte-high = 100 ($64) --> Output 2byte = 25855 ($64 FF).

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 2byte-low			2 bytes	C	-	W	-	U	pulses	Low
83	1st Logic	Input 2byte-high			2 bytes	C	-	W	-	U	pulses	Low
90	1st Logic	Output 4byte			4 bytes	C	-	-	T	-	counter pulses (...	Low

"2x2byte --> 1x4byte" function: to changed 2 of 2 byte's value to 1 of 4 byte's value, such as: Input 2byte-low = 65530 ($FF FA), Input 2byte-high = 32768 ($80 00)--> Output 2byte = 2147549178 ($80 00 FF FA).

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 1byte			1 byte	C	-	W	-	U	counter pulses (...	Low
83	1st Logic	Output 1bit-bit0			1 bit	C	-	-	T	-	boolean	Low
84	1st Logic	Output 1bit-bit1			1 bit	C	-	-	T	-	boolean	Low
85	1st Logic	Output 1bit-bit2			1 bit	C	-	-	T	-	boolean	Low
86	1st Logic	Output 1bit-bit3			1 bit	C	-	-	T	-	boolean	Low
87	1st Logic	Output 1bit-bit4			1 bit	C	-	-	T	-	boolean	Low
88	1st Logic	Output 1bit-bit5			1 bit	C	-	-	T	-	boolean	Low
89	1st Logic	Output 1bit-bit6			1 bit	C	-	-	T	-	boolean	Low
90	1st Logic	Output 1bit-bit7			1 bit	C	-	-	T	-	boolean	Low

"1x1byte --> 8x1bit" function: to change 1 of 1 byte's value to 8 of 1 bit's value, such as: Input 1byte=200 --> Output bit0=0, bit1=0, bit2=0, bit3=1, bit4=0, bit5=0, bit6=1, bit7=1.

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 2byte			2 bytes	C	-	W	-	U	pulses	Low
89	1st Logic	Output 1byte-low			1 byte	C	-	-	T	-	counter pulses (...	Low
90	1st Logic	Output 1byte-high			1 byte	C	-	-	T	-	counter pulses (...	Low

"1x2byte --> 2x1byte" function: to changed 1 of 2 byte's value to 2 of 1 byte's value, such as: Input 2byte = 55500 ($D8 CC) --> Output 1byte-low = 204 ($CC), Output 1byte-high =216 ($D8).

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 4byte			4 bytes	C	-	W	-	U	counter pulses (...	Low
89	1st Logic	Output 2byte-low			2 bytes	C	-	-	T	-	pulses	Low
90	1st Logic	Output 2byte-high			2 bytes	C	-	-	T	-	pulses	Low

"1x4byte --> 2x2byte" function: to changed 1 of 4 byte's value to 2 of 2 byte's value, such as: Input 4byte = 78009500 ($04 A6 54 9C) --> Output 2byte-low = 21660 ($54 9C), Output 2byte-high =1190 ($04 A6).

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 3byte			3 bytes	C	-	W	-	U		Low
88	1st Logic	Output 1byte-low			1 byte	C	-	-	T	-	counter pulses (...	Low
89	1st Logic	Output 1byte-middle			1 byte	C	-	-	T	-	counter pulses (...	Low
90	1st Logic	Output 1byte-high			1 byte	C	-	-	T	-	counter pulses (...	Low

"1x3byte --> 3x1byte" function: to changed 1 of 3 byte's value to 3 of 1 byte's value, such as: Input 3byte = $78 64 C8--> Output 1byte-low = 200 ($C8) , Output 1byte-middle = 100 ($64) , Output 1byte-high =120 ($78).

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
82	1st Logic	Input 1byte-low			1 byte	C	-	W	-	U	counter pulses (...	Low
83	1st Logic	Input 1byte-middle			1 byte	C	-	W	-	U	counter pulses (...	Low
84	1st Logic	Input 1byte-high			1 byte	C	-	W	-	U	counter pulses (...	Low
90	1st Logic	Output 3byte			3 bytes	C	-	-	T	-		Low

"3x1byte --> 1x3byte" function: to changed 3 of 1 byte's value to 1 of 3 byte's value, such as: Input 1byte-low = 150 ($96), Input 1byte-middle = 100 ($64), Input 1byte-high = 50 ($32) --> Output 3byte = $32 64 96

Object No.	Function	Name	Type	Property	DPT
50	**Input ...**	**1st /.../8th Logic**	**1bit** **1byte** **2byte** **3byte** **4byte**	**C,W,U**	**1.002 DPT_boolean** **5.010 DPT_counter pulses** **7.001 DPT_pulses** **232.600 RGB value 3x(0..255)** **12.001 DPT_counter pulses**
This communication object for inputting the transfer value in need.					
58	**Output ...**	**1st /.../8th Logic**	**2bit** **1byte** **2byte** **3byte** **4byte**	**C,T**	**2.001 DPT_Switch control** **5.010 DPT_counter pulses** **7.001 DPT_pulses** **232.600 RGB value 3x(0..255)** **12.001 DPT_counter pulses**
This communication object for outputting the value was transferred.					

Table 5.2_4 "Logic function_Format convert" communication object table

5.3. Event Group communication object description

Number	Name	Object Function	Description	Group Addres	Length	C	R	W	T	U	Data Type	Priority
154	Event	Main event trigger			1 byte	C	-	W	-	-	scene number	Low
155	1st Event Group	Sub event output 1			1 bit	C	-	-	T	-	switch	Low
156	1st Event Group	Sub event output 2			1 bit	C	-	-	T	-	switch	Low
157	1st Event Group	Sub event output 3			1 bit	C	-	-	T	-	switch	Low
158	1st Event Group	Sub event output 4			1 bit	C	-	-	T	-	switch	Low
159	1st Event Group	Sub event output 5			1 bit	C	-	-	T	-	switch	Low
160	1st Event Group	Sub event output 6			1 bit	C	-	-	T	-	switch	Low
161	1st Event Group	Sub event output 7			1 bit	C	-	-	T	-	switch	Low
162	1st Event Group	Sub event output 8			1 bit	C	-	-	T	-	switch	Low

Fig. 5.3 Event Group communication object

Object No.	Function	Name	Type	Property	DPT
154	**Main event trigger**	**Event**	**1byte**	**C,W**	**17.001 DPT_scene number**
This Communication object is used to trigger every output in event group to send certain value to bus via scenario function.					
155...	**Sub event output 1..8**	**1st /.../8th Event Group**	**1bit 1byte 2byte**	**C,T**	**1.001 DPT_Switch 5.010 DPT_counter pulses 7.001 DPT_pulses**
If the certain scene was assigned, the communication object will send certain value to bus which set in parameter. If the scene didn't active, the data will not be sent.					

Table 5.3 Event Group communication object table