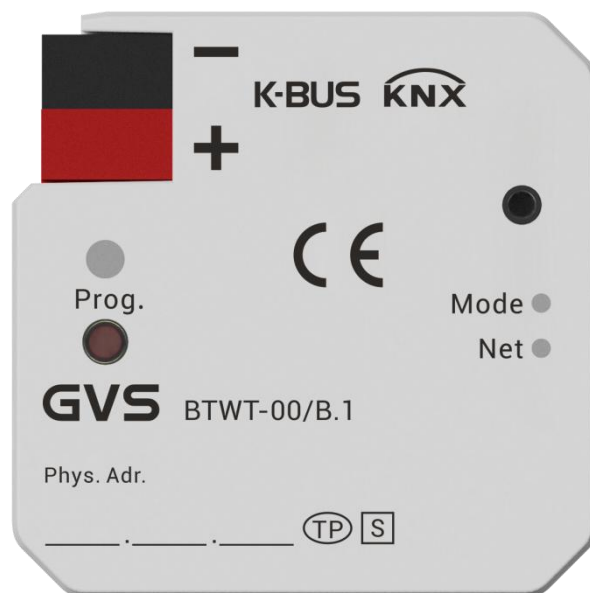


User manual

K-BUS KNX Wireless Transceiver_V1.1

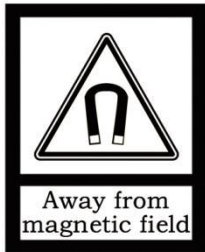
BTWT-00/B.1



KNX/EIB Home and Building Control System

Attentions

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



2. Do not fall the device to the ground or make them get hard impact;



3. Do not use wet cloth or volatile reagent to wipe the device;



4. Do not disassemble the devices.

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Chapter 1 Summary

The KNX Wireless Transceiver must be used with a KNX Wireless Remote Knob K5 (CHRK-04/B.4.2x) or KNX Wireless Remote K7(CHHR-26/B.1.22), integrates the basic control functions of Switch, Dimming, Colour temperature switching/send value, Value sender, Scene control, Blind , Colour temperature adjustment meeting most daily applications.

In addition, it support scene group, logic function, provide more possibilities for special and complex applications.

The KNX Wireless Transceiver is powered via the KNX bus. It is available to assign the physical address and configure the parameters by engineering design tools ETS with .knxprod (support edition ETS5.7 or higher).

This manual provides detailed technical information about KNX Wireless Transceiver for users as well as assembly and programming details, and explains how to use the device by the application examples.

The function of the KNX Wireless Transceiver is summarized as follows:

- Switch and dimming
- Colour temperature switching/send value
- Value sender
- Scene control
- Blind
- Colour temperature adjustment
- 8 Logic functions, with AND, OR, XOR, Gate forwarding, Threshold comparator, Format convert, Gate function, Delay function and Staircase lighting
- 8 scene groups, each with 8 configurable outputs

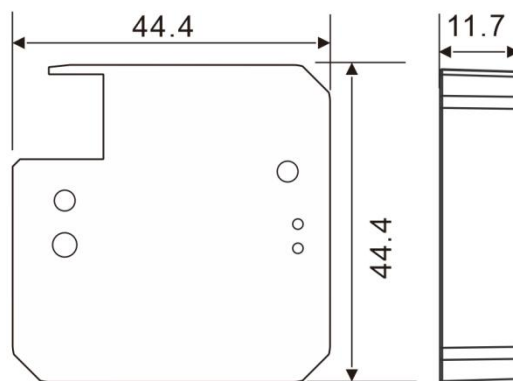
Chapter 2 Technical Data

Power Supply	Bus voltage	21-30V DC, via the KNX bus
	Bus current	4.0mA/24V; 4.0mA/30V
	Bus consumption	120mW
Connection	KNX	Bus connection terminal(Red/Black)
Operation and display	Programming button and red LED	For assigning the physical address
	Green LED flashing	For displaying the application layer running normally
Temperature	Operation	0 °C ... + 40 °C
	Storage	-10 °C ... + 40 °C
	Transport	-10 °C ... + 40 °C
Environment	Humidity	10%~90%, except dewing
Dimension/Weight	44.4 x 44.4 x 11.7mm/0.04 kg	

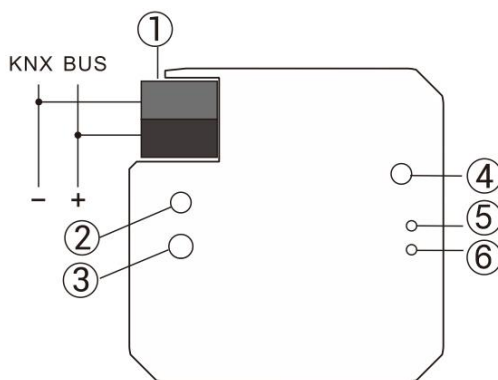
Application	Maximum of communication objects	Maximum number of group addresses	Maximum number of associations
KNX Wireless Transceiver/F07C 1.1	970	2000	2000

Chapter 3 Dimension and Structural Diagram

3.1. Dimension Diagram



3.2. Structural Diagram



①KNX bus connection terminal ②③Programming button and LED ④Pairing button

⑤Red LED: In pairing mode, the LED flashes; when a device is successfully paired, the LED turns off briefly.

During normal operation, the LED always on when no device is being paired, and turns off when a device is paired.

⑥White LED: In pairing mode, the LED always off; when a device is successfully paired, the LED turns on briefly.

During normal operation, the LED always off when no device is being paired, and turns on when a device is paired.

3.3. Operation instructions

The KNX Wireless Transceiver(BTWT-00/B.1) must be used with a KNX Wireless Remote K7(CHHR-26/B.1.22) or KNX Wireless Remote Knob K5(CHRK-04/B.4.2x)

The detailed operations are as follows:

1.Device pairing and binding:

①Long press the pairing button of the transceiver for 10s, at this time, the red LED flashes at 1s intervals.

②Long press the button 1 and button 2 of the remote K7 for 5s or the button 1 and button 2 of the remote K5 for 3s, the device sends a pairing request (clear previous pairing information before pairing; pairing timeout is 1min), at this time, the remote K7 blue LED or remote K5 button LED1 will flash at 0.5s intervals until pairing succeeds.

③During the pairing process, if pairing with a remote succeeds, the red LED will stop flashing and the white LED will high light for 1s, then the red LED will continue flashing, you may continue pairing other remote K7 or K5 at this time. For new remotes K7, long press the buttons 1 and 2 for 5s to complete pairing. For new remotes K5, long press the buttons 1 and 2 for 3s to complete pairing.

2.Exit pairing mode: Single click the pairing button 3 times to exit pairing mode. If any remote is already paired with the transceiver, the white LED stays steadily on; if no remote is paired, the red LED stays steadily on.

Note: After the transceiver exits pairing mode, re-pairing is subject to the device quantity limit. If the transceiver has already paired with 8 devices, it cannot enter pairing mode again. If the number of paired devices is less than 8, new devices can be added normally. The system will automatically exit pairing mode once the 8-device limit is reached. One transceiver supports a maximum of 8 paired remote.

3.Clear pairing data: To clear all stored pairing information on the transceiver, single click the pairing button 5 times.

Note: After this operation, all previously paired remote need to be re-paired and re-bound for normal use.

Chapter 4 Project setting description in the ETS

4.1. Parameter window "General"

Send cycle of In operation telegram
[1..240,0=inactive] s

Sensitivity of revolve action
(Apply to Switch, Start-Stop dimming,
Step dimming, Colour temperature
switching/send value, Value sender,
Scene control, Blind step/move)

Sensitivity of revolve action
(Apply to Absolute dimming, Blind
position, Colour temperature adjustment)

 Revolve a quarter cycle to adjust from 0 to 100%

Scene group function ☒

Logic function ☒

	Channel type	Wireless channel NO.
Channel 1	Push-button 4 key panel	1
Channel 2	Push-button 26 key panel	2
Channel 3	Disable	NA
Channel 4	Disable	NA
Channel 5	Disable	NA
Channel 6	Disable	NA
Channel 7	Disable	NA
Channel 8	Disable	NA

Fig.4.1 "General" Parameter window

Parameter "Send cycle of "In operation" telegram [1..240,0=inactive]"

This parameter is for setting the time interval when this device cycle send telegrams through the bus to indicate this device in normal operation. When set to "0", the object "In operation" will not send a telegram. If the setting is not "0", the object "In operation" will send a telegram according to the set

period time with logic "1" to the bus. Options: **1...240s, 0= inactive**

As to reduce the bus load as much as possible, the maximum time interval should be selected according to actual needs.

Parameter "Sensitivity of revolve action (Apply to Switch, Start-Stop dimming, Step dimming, Colour temperature switching/send value, Value sender, Scene control, Blind step/move)"

This parameter is for setting the sensitivity of revolve action, apply to switch, start-stop dimming, step dimming, colour temperature switching/send value, value sender, scene control, blind step/move.

Options:

Low: every 14 steps of the knob corresponds to one KNX telegram sending

Medium: every 10 steps of the knob corresponds to one KNX telegram sending

High: every 7 steps of the knob corresponds to one KNX telegram sending

Parameter "Sensitivity of revolve action (Apply to Absolute dimming, Blind position, Colour temperature adjustment)"

This parameter is for setting the sensitivity of revolve action, apply to absolute dimming, blind position, colour temperature adjustment.

Options:

Low: each step of the knob corresponds to a 3.6% adjustment (one full cycle adjusts from 0% to 100%)

Medium: each step of the knob corresponds to a 7.2% adjustment (half a cycle adjusts from 0% to 100%)

High: each step of the knob corresponds to a 14.4% adjustment (a quarter cycle adjusts from 0% to 100%)

Parameter "Scene group function"

When this parameter is enabled, the "Scene group function" is visible. This function is described in detail in [chapter 4.3](#).

Parameter "Logic function"

When this parameter is enabled, the "Logic function" is visible. This function is described in detail in [chapter 4.4](#).

Parameter "Channel type"

This parameter is for setting the channel type. Options:

Disable

Push-button 4 key panel

Push-button 26 key panel

Push-button 4 key panel: Each channel can be configured with 4 buttons, supporting three operation types: single click, left revolve, and right revolve.

Push-button 26 key panel: Each channel can be configured with 26 buttons, supporting four operation types: single click, double click, three click, long operation.

——Parameter "Channel NO."

This parameter is visible when previous parameter is enabled. Used to assign a channel to each channel. Options: 1...8

Note: 1.Each successfully paired and bound device occupies one channel number. Newly bound devices will be automatically assigned channel numbers in incremental order.

2.Exist multiple channel NO. Assignment conflict, the valid channel NO. can't be the same, please correct, otherwise only the first one of those conflict channel NO. Is valid and others will be ignored.



Exist multiple bluetooth channel NO. assignment conflict, the valid bluetooth channel NO. can't be the same, please correct, otherwise only the first one of those conflict bluetooth channel NO. is valid and others will be ignored

4.2. Parameter window“Channel”

Function of Channel	Switch
Description	

Fig.4.2“Channel” Parameter window

Parameter “Function of Channel”

This parameter is for setting the function of channel.

When “Push-button 4 key panel” is selected, Options:

- Disable**
- Switch**
- Dimming**
- Colour temperature switching/send value**
- Value sender**
- Scene control**
- Blind step/move**
- Blind position**
- Colour temperature adjustment**

When “Push-button 26 key panel” is selected, Options:

- Disable**
- Switch**
- Dimming**
- Colour temperature switching/send value**
- Value sender**
- Scene control**
- Blind**

Chapters as follow explain the channel function separately.

Parameter "Description"

This parameter is for setting the name description for the current button function, up to input 12 characters.

4.2.1.Push-button 4 key panel

4.2.1.1.Switch

Function of Channel	Switch ▼
Description	
Reaction on single click	TOGGLE ▼
Reaction on left revolve	TOGGLE ▼
Reaction on right revolve	TOGGLE ▼

Fig.4.2.1.1 Switch

Parameter "Reaction on single click"

Parameter "Reaction on left revolve"

Parameter "Reaction on right revolve"

These parameters are for setting the performed actions when single click the contact or left/right revolve operation. The object value is updated when the input is determined. Options:

No reaction

OFF

ON

TOGGLE

No action: no telegram to be sent.

ON: send on telegram.

OFF: send off telegram.

TOGGLE: each operation will toggle the switch between on and off. For example, if send an On telegram(or received) at the last, then the next operation will trigger an Off telegram. When the contact is operated again, it will send an On telegram, etc. So the contact will always remember the previous status and convert to opposite value during next operation. When the device is powered on for the first time or restarted after downloading, the default value for "Switch" is 0, meaning the first operation is ON.

4.2.1.2.Dimming

Function of Channel	Dimming
Description	
Reaction on single click	TOGGLE
Reaction on left revolve	Darker
Reaction on right revolve	Brighter
Dimming mode	☐ Start-Stop dimming ☒ Step dimming
Step size	12.5 %
Interval of tele. cyclic send [0..25,0=send once]	0 *0.1s

Fig.4.2.1.2 Dimming

Parameter "Reaction on single click"

This parameter is for setting the switch value to send when single click the contact . Options:

No reaction

OFF

ON

TOGGLE

No action: no telegram to be sent.

ON: send on telegram.

OFF: send off telegram.

TOGGLE: each operation will toggle the switch between on and off. When the device is powered on for the first time or restarted after downloading, the default value for "Switch" is 0, meaning the first operation is ON.

Parameter "Reaction on left revolve---Darker"

Parameter "Reaction on right revolve---Brighter"

These parameters are for setting the relative dimming value to send when left/right revolve operation.

Parameter "Dimming mode"

This parameter is for setting the way of relative dimming. Options:

Start-Stop dimming

Step dimming

Absolute dimming

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

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

Absolute dimming: ①Rotating left dims down, rotating right dims up. The dimming range is limited to the maximum/minimum values; If the dimming value beyond the limited range, will output the limited value.

②Before adjusting with the knob, the current status value must be obtained to determine the current position within the range, and then the knob is rotated left/right to adjust to the target position.

③Correspondence between rotation amplitude and absolute dimming telegrams: for example, if the current brightness is 50% and sensitivity is set to Low, rotating right by 1 step sends 53.6%, rotating left by 1 step sends 46.4%.

Note: The current status must be compared with the new control value; if there is no change, no telegram is sent. If a new status cannot be obtained, the previously obtained old status is used as the reference.

——Parameter "Step size"

This parameter is visible when the dimming way is selected "Step dimming". Set a cyclically sending dimming telegram which changes the brightness percentage, Options:

100%

50%

...

1.56%

——Parameter “Interval of tele. cyclic send [0..25,0=send once]”

This parameter is visible when the dimming way is selected “Step dimming”. Set intervals of two cyclically sending dimming telegram. Options: [0..25]*0.1s, 0=send once

——Parameter “Min.brightness [0...100]”

——Parameter “Max.brightness [0...100]”

These parameters are visible when the dimming way is selected “Absolute dimming”. Set the adjustable range of brightness. Options: 0...100%

Note: the Min. value must less than the Max., if not, if not, they can not be modified on ETS, and display red box warning, as shown as follow:

Min. brightness [0..100]

30

▲▼ %

Max. brightness [0..100]

20

▲▼ %

4.2.1.3. Colour temperature switching/send value

Function of Channel	Colour temperature switching/send value ▼
Description	
Reaction on single click	TOGGLE ▼
Reaction on left revolve	Absolute value ▼
Send brightness value	100 ▲▼ %
Send Colour temperature value	4000 ▲▼ K
Reaction on right revolve	Absolute value ▼
Send brightness value	100 ▲▼ %
Send Colour temperature value	4000 ▲▼ K

Fig.4.2.1.3 Colour temperature switching/send value

Parameter "Reaction on single click"

Parameter "Reaction on left revolve"

Parameter "Reaction on right revolve"

These parameters are for setting the performed actions when single click the contact or left/right revolve operation. Options:

No reaction

OFF

ON

TOGGLE

Absolute value

——Parameter "Send brightness value"

This parameter is visible when previous parameter is selected "Absolute value". Set the sending brightness value when single click the contact or left/right revolve operation. Options: **0..100%**

Parameter "Send Colour temperature value"

This parameter is visible when previous parameter is selected "Absolute value". Set the sending colour temperature value when single click the contact or left/right revolve operation.

Options: **1000...10000K**

4.2.1.4. Value sender

Function of Channel	Value sender
Description	
Reaction on single click	1bit value[ON/OFF]
Value 1	☐ OFF ☒ ON
Reaction on left revolve	No reaction
Reaction on right revolve	No reaction

Fig.4.2.1.4 Value sender

Parameter "Reaction on single click"

Parameter "Reaction on left revolve"

Parameter "Reaction on right revolve"

These parameters are for setting the datatype to send when single click the contact or left/right revolve operation. Options:

No reaction

1bit value[On/Off]

2bit value[0..3]

4bit value[0..15]

1byte value[0..255]

2byte value[0..65535]

2byte float value

4byte value[0..4294967295]

4byte float value

——Parameter "Value 1"

This parameter is visible when "No reaction" is not selected. Set the data value to send. Range of value is determined according to the previous parameter selected datatype.

4.2.1.5. Scene control

Function of Channel	Scene control ▼
Description	
Reaction on single click	Recall scene ▼
8 bit scene number	Scene No.1 ▼
Reaction on left revolve	Recall scene ▼
8 bit scene number	Scene No.1 ▼
Reaction on right revolve	Store scene ▼
8 bit scene number	Scene No.1 ▼

Fig.4.2.1.5 Scene control

Parameter "Reaction on single click"

Parameter "Reaction on left revolve"

Parameter "Reaction on right revolve"

These parameters are for setting to recall or storage scene when single click the contact or left/right revolve operation. Options:

No reaction

Recall scene

Store scene

——Parameter "8 bit scene number"

This parameter is visible when "No reaction" is not selected. Set the scene number. Options:

Scene NO.1

Scene NO.2

...

Scene NO.64

Corresponding telegram is 0~63

4.2.1.6. Blind step/move

Function of Channel	Blind step/move ▼
Description	
Reaction on single click	Up/Down ▼
Reaction on left revolve	Stop(Adjust Up/Down) ▼
Reaction on right revolve	Stop(Adjust Up/Down) ▼
Interval of tele. cyclic send [0..25,0=send once]	0 *0.1s

Fig.4.2.1.6 Blind step/move

Parameter "Reaction on single click"

Parameter "Reaction on left revolve"

Parameter "Reaction on right revolve"

These parameters are for setting to performed actions when single click the contact or left/right revolve operation. Options:

No reaction

Up

Down

Up/Down

Stop(Adjust Up)

Stop(Adjust Down)

Stop(Adjust Up/Down)

No action: no telegram to be sent.

Up: the blinds will be opened or moved up.

Down: the blinds will be closed or moved down.

Up/Down: alternately open/close or move up/down the blinds. When the device is powered on for the first time or restarted after downloading, the default value for "Up/Down, Blind" is 0, meaning the first operation is closing or moving down the blinds.

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

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

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

When the device is powered on for the first time or restarted after downloading, the default value for "Stop/Adjust Blind" is 0, meaning the first operation is stop or move down the angle of blinds.

——Parameter "Interval of tele. cyclic send [0..25,0=send once]"

This parameter is visible when previous parameter is selected "Stop...". Set the time interval of cyclical blinds angle adjustment telegram sent. Options: **[0..25]*0.1s,0=send once**

4.2.1.7. Blind position

Function of Channel	Blind position ▼
Description	
Reaction on single click	Up/Down ▼
Reaction on left revolve	Up
Reaction on right revolve	Down
Upper position [0..100]	0 %
Lower position [0..100]	100 %

Fig.4.2.1.7 Blind position

Parameter "Reaction on single click"

These parameters are for setting to performed actions when single click the contact.

Options:

No reaction

Up

Down

Up/Down

Stop(Adjust Up)

Stop(Adjust Down)

Stop(Adjust Up/Down)

No action: no telegram to be sent.

Up: the blinds will be opened or moved up.

Down: the blinds will be closed or moved down.

Up/Down: alternately open/close or move up/down the blinds. When the device is powered on for the first time or restarted after downloading, the default value for "Up/Down, Blind" is 0, meaning the first operation is closing or moving down the blinds.

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

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

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

When the device is powered on for the first time or restarted after downloading, the default value for

“Stop/Adjust Blind” is 0, meaning the first operation is stop or move down the angle of blinds.

Parameter “Reaction on left revolve---Up”

Parameter “Reaction on right revolve---Down”

These parameters are for setting to performed actions when left/right revolve operation.

——Parameter “Upper position [0..100]”

——Parameter “Lower position [0..100]”

These parameters are for setting the adjustable range of blind position. Options: **0..100%**

Note: the lower position must less than the Upper, if not, if not, they can not be modified on ETS,

and display red box warning, as shown as follow:

Upper position [0..100]

20 %

Lower position [0..100]

10 %

4.2.1.8. Colour temperature adjustment

Function of Channel	Colour temperature adjustment
Description	
Reaction on single click	TOGGLE
Reaction on left revolve	Decrease colour temperature
Reaction on right revolve	Increase colour temperature
Min. colour temperature [1000..10000]	1000 K
Max. colour temperature [1000..10000]	10000 K

Fig.4.2.1.8 Colour temperature adjustment

Parameter "Reaction on single click"

This parameter is for setting the switch value to send when single click the contact. Options:

No reaction

OFF

ON

TOGGLE

Parameter "Reaction on left revolve---Decrease colour temperature"

Parameter "Reaction on right revolve---Increase colour temperature"

These parameters are for setting the performed actions when left/right revolve operation.

Parameter "Min.colour temperature [1000...10000]"

Parameter "Max.colour temperature [1000...10000]"

These parameters are for setting the adjustable range of colour temperature.

Options: **1000..10000K**

Note: the Min. value must less than the Max., if not, if not, they can not be modified on ETS, and display red box warning, as shown as follow:

Min. colour temperature [1000..10000]	1500	K
Max. colour temperature [1000..10000]	1200	K

4.2.2. Push-button 26 key panel

4.2.2.1. Switch

Function of Channel	Switch
Description	
Reaction on single click	TOGGLE
Reaction on double click	TOGGLE
Reaction on three click	TOGGLE
Reaction on long operation	TOGGLE

Fig.4.2.2.1 Switch

Parameter "Reaction on single click"

Parameter "Reaction on double click"

Parameter "Reaction on three click"

Parameter "Reaction on long operation"

These parameters are for setting the performed actions when single/double/three the contact or long operation. The object value is updated when the input is determined. Options:

No reaction

OFF

ON

TOGGLE

No action: no telegram to be sent.

ON: send on telegram.

OFF: send off telegram.

TOGGLE: each operation will toggle the switch between on and off. For example, if send an On telegram(or received) at the last, then the next operation will trigger an Off telegram. When the contact is operated again, it will send an On telegram, etc. So the contact will always remember the previous

status and convert to opposite value during next operation. When the device is powered on for the first time or restarted after downloading, the default value for “Switch” is 0, meaning the first operation is ON.

4.2.2.2. Dimming

Function of Channel	Dimming
Description	
Reaction on single click	TOGGLE
Reaction on double click	TOGGLE
Reaction on three click	TOGGLE
Reaction on long operation	Brighter/Darker
Dimming mode	☐ Start-Stop dimming ☒ Step dimming
Step size	12.5 %
Interval of tele. cyclic send [0..25,0=send once]	0 *0.1s

Fig.4.2.2.2 Dimming

Parameter "Reaction on single click"

Parameter "Reaction on double click"

Parameter "Reaction on three click"

This parameter is for setting the switch value to send when single/double/three the contact.

Options:

No reaction

OFF

ON

TOGGLE

No action: no telegram to be sent.

ON: send on telegram.

OFF: send off telegram.

TOGGLE: each operation will toggle the switch between on and off. When the device is powered on for the first time or restarted after downloading, the default value for "Switch" is 0, meaning the first operation is ON.

Parameter "Reaction on long operation"

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

No reaction

Brighter

Darker

Brighter/Darker

No action: no telegram to be sent.

Brighter: send the dimming up value.

Darker: send the dimming down value.

Brighter/darker: each operation will toggle the dimming between up and down. When the device is powered on for the first time or restarted after downloading, the default value for "Dimming" is 0, meaning the first operation is dim up the brightness.

Note: In the options of "TOGGLE" and "Brighter/Darker", there are a linkage between the received switch status and the dimming. For example, if receive an On value from object "Switch" at the last, then it will dim down the brightness in next dimming operation. If receive an Off value first, then it will dim up the brightness in next dimming operation.

Parameter "Dimming mode"

This parameter is visible when previous parameter is not "No reaction". Set the way of relative dimming. Options:

Start-Stop dimming

Step dimming

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

Steps dimming: The dimming mode will be a step one and the dimming telegram will be sent

cyclically. When dimming ends, a stop dimming telegram will be sent immediately.

——**Parameter “Step size”**

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

100%

50%

...

1.56%

——**Parameter “Interval of tele. cyclic send [0..25,0=send once]”**

This parameter is visible when the dimming way is selected “Step dimming”. Set intervals of two cyclically sending dimming telegram. Options: **[0..25]*0.1s, 0=send once**

4.2.2.3. Colour temperature switching/send value

Function of Channel	Colour temperature switching/send value ▼
Description	
Reaction on single click	TOGGLE ▼
Reaction on double click	TOGGLE ▼
Reaction on three click	TOGGLE ▼
Reaction on long operation	Absolute value ▼
Send brightness value	100 %
Send Colour temperature value	4000 K

Fig.4.2.2.3 Colour temperature switching/send value

Parameter "Reaction on single click"

Parameter "Reaction on double click"

Parameter "Reaction on three click"

Parameter "Reaction on long operation"

These parameters are for setting the performed actions when single/double/three the contact or long operation. Options:

No reaction

OFF

ON

TOGGLE

Absolute value

——Parameter "Send brightness value"

This parameter is visible when previous parameter is selected "Absolute value". Set the sending brightness value when single/double/three the contact or long operation. Options: **0..100%**

Parameter "Send Colour temperature value"

This parameter is visible when previous parameter is selected "Absolute value". Set the sending colour temperature value when single/double/three the contact or long operation.

Options: **1000...10000K**

4.2.2.4. Value sender

Function of Channel	Value sender ▼
Description	
Reaction on single click	1bit value[ON/OFF] ▼
Value 1	☐ OFF ☒ ON
Reaction on double click	No reaction ▼
Reaction on three click	No reaction ▼
Reaction on long operation	No reaction ▼

Fig.4.2.2.4 Value sender

Parameter "Reaction on single click"

Parameter "Reaction on double click"

Parameter "Reaction on three click"

Parameter "Reaction on long operation"

These parameters are for setting the datatype to send when single/double/three the contact or long operation. Options:

No reaction

1bit value[On/Off]

2bit value[0..3]

4bit value[0..15]

1byte value[0..255]

2byte value[0..65535]

2byte float value

4byte value[0..4294967295]

4byte float value

——Parameter "Value 1"

This parameter is visible when "No reaction" is not selected. Set the data value to send. Range of value is determined according to the previous parameter selected datatype.

4.2.2.5. Scene control

Function of Channel	Scene control ▼
Description	
Reaction on single click	Recall scene ▼
8 bit scene number	Scene No.1 ▼
Reaction on double click	Recall scene ▼
8 bit scene number	Scene No.2 ▼
Reaction on three click	Recall scene ▼
8 bit scene number	Scene No.3 ▼
Reaction on long operation	No reaction ▼

Fig.4.2.2.5 Scene control

Parameter "Reaction on single click"

Parameter "Reaction on double click"

Parameter "Reaction on three click"

Parameter "Reaction on long operation"

These parameters are for setting to recall or storage scene when single/double/three the contact or long operation. Options:

No reaction

Recall scene

Store scene

——Parameter "8 bit scene number"

This parameter is visible when "No reaction" is not selected. Set the scene number. Options:

Scene NO.1

Scene NO.2

Scene NO.3

...

Scene NO.64

Corresponding telegram is 0~63

4.2.2.6.Blind

Function of Channel	Blind
Description	
Reaction on single click	Up/Down
Reaction on double click	Up/Down
Reaction on three click	Up/Down
Reaction on long operation	Stop(Adjust Up/Down)
Interval of tele. cyclic send [0..25,0=send once]	0 *0.1s

Fig.4.2.2.6 Blind

Parameter "Reaction on single click"

Parameter "Reaction on double click"

Parameter "Reaction on three click"

Parameter "Reaction on long operation"

These parameters are for setting to performed actions when single/double/three the contact or long operation. Options:

No reaction

Up

Down

Up/Down

Stop(Adjust Up)

Stop(Adjust Down)

Stop(Adjust Up/Down)

No action: no telegram to be sent.

Up: the blinds will be opened or moved up.

Down: the blinds will be closed or moved down.

Up/Down: alternately open/close or move up/down the blinds. When the device is powered on for the first time or restarted after downloading, the default value for "Up/Down, Blind" is 0, meaning the first operation is closing or moving down the blinds.

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

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

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

When the device is powered on for the first time or restarted after downloading, the default value for "Stop/Adjust Blind" is 0, meaning the first operation is stop or move down the angle of blinds.

——Parameter "Interval of tele. cyclic send [0..25,0=send once]"

This parameter is visible when previous parameter is selected "Stop...". Set the time interval of cyclical blinds angle adjustment telegram sent. Options: **[0..25]*0.1s,0=send once**

4.3. Parameter window "Scene Group"

Scene Group 1 Function	☒
Scene Group 2 Function	☐
Scene Group 3 Function	☐
Scene Group 4 Function	☐
Scene Group 5 Function	☐
Scene Group 6 Function	☐
Scene Group 7 Function	☐
Scene Group 8 Function	☐
Output 1 Function	☒
Output 2 Function	☐
Output 3 Function	☐
Output 4 Function	☐
Output 5 Function	☐
Output 6 Function	☐
Output 7 Function	☐
Output 8 Function	☐

Description for Output 1 function	
Object type of Output 1	1bit v
1->Output 1 trigger scene NO. is [1~64,0=inactive]	0 v
Object value of Output 1	☒ 0 ☐ 1
Delay time for sending [0..255]	0 v *0.1s

2->Output 1 trigger scene NO. is [1~64,0=inactive]	0 v
Object value of Output 1	☒ 0 ☐ 1
Delay time for sending [0..255]	0 v *0.1s

Fig.4.3 "Scene Group" Parameter window

Parameter "Scene Group x Function,(x=1-8)"

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

Parameter "Output y Function,(y=1-8)"

This parameter is for setting whether to enable output y of scene group x, up to 8 output functions for each scene group.

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

Parameter "Description for Output y function,(y=1-8)"

This parameter is for setting the name description for output y of group x, up to input 30 characters.

Parameter "Object type of Output y,y=(1-8)"

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

1bit

1byte

2byte

RGB

RGBW

——Parameter "Object datatype"

This parameter is for setting the datatype of 1byte or 2byte.

When the datatype is 1byte, options:

1byte unsigned value

HVAC mode

When the datatype is 2byte, options:

2byte unsigned value

Temperature value

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

This parameter is for setting the triggered scene number of output y of group x. Up to 8 triggered scene of each output can be configured. Options: **1..64, 0=inactive**

——Parameter "Object value of Output y"

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

When the datatype is 1bit, options: **0..1**

When the datatype is 1byte-1byte unsigned value, options: **0..255**

When the datatype is 1byte-HVAC mode, options:

Comfort mode

Standby mode

Economy mode

Frost/heat protection

When the datatype is 2byte-2byte unsigned value, options: **0..65535**

When the datatype is 2byte-Temperature value, options:

-5°C

-4°C

...

45°C

——Parameter "RGB value of Output y"

When the datatype is RGB/RGBW this parameter is visible, used for setting the RGB value of output y. Options: **#000000...#FFFFFF**

——Parameter "White value of Output y"

When the datatype is RGBW this parameter is visible, used for setting the white value of output y.

Options: **0...255**

——Parameter “Delay time for sending [0...255] ”

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

Options: [0..255]*0.1s

4.4. Parameter window“Logic”

1st Logic function	☒
2nd Logic function	☒
3rd Logic function	☒
4th Logic function	☒
5th Logic function	☒
6th Logic function	☒
7th Logic function	☒
8th Logic function	☒

Description for logic function

Function of channel

AND ▾

Fig.4.4 “Logic function setting” Parameter window

Parameter “1st/2nd/3rd... Logic function”

This parameter is for setting the setting interface of logic function, display corresponding logic function page when select. Up to enable 8 logic functions.

Parameter “Description for logic function”

This parameter is for setting the name description for logic function, up to input 30 characters.

Parameter “Function of channel”

This parameter is for setting function of the channel. Options:

AND

OR

XOR

Gate forwarding

Threshold comparator

Format convert

Gate function

Delay function

Staircase lighting

AND/OR/XOR: as the parameter is similar to the communication object (only the logic algorithm is different), the following parameters taking one options for example.

4.4.1. "AND/OR/XOR"

Description for logic function	
Function of channel	AND ▾
Input a	Disconnected ▾
Default value	☒ 0 ☐ 1
Input b	Disconnected ▾
Default value	☒ 0 ☐ 1
Input c	Disconnected ▾
Default value	☒ 0 ☐ 1
Input d	Disconnected ▾
Default value	☒ 0 ☐ 1
Input e	Disconnected ▾
Default value	☒ 0 ☐ 1
Input f	Disconnected ▾
Default value	☒ 0 ☐ 1
Input g	Disconnected ▾
Default value	☒ 0 ☐ 1
Input h	Disconnected ▾
Default value	☒ 0 ☐ 1
Result is inverted	☐
Read input object value after bus voltage recovery	☐
Output send when	☒ Receiving a new telegram ☐ Every change of output object
Send delay time: Base	None ▾
Factor: 1..255	1 ▲▼

Fig.4.4.1 "AND/OR/XOR"

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

This parameter is for setting whether input x to calculate, whether to normally calculate or inverted calculate. Options:

Disconnected

Normal

Inverted

Disconnected: not to calculate;

Normal: to directly calculate the input value;

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

——Parameter "Default value"

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

0

1

Parameter "Result is inverted"

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

Disable: output directly;

Enable: output after inverting.

Parameter "Read input object value after bus voltage recovery"

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

Parameter "Output send when"

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

Receiving a new telegram

Every change of output object

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

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

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

Parameter "Send delay time"

Base: **None**

0.1s

1s

...

10s

25s

Factor: **1..255**

This parameter is for setting the delay time for sending the logic calculation result to the bus.

Delay time = Base × Factor, if option "None" of Base is selected, then there is no delay.

4.4.2. "Gate forwarding"

Description for logic function	
Function of channel	Gate forwarding ▼
Object type of Input/Output	1bit ▼
Default scene NO. of Gate after startup [1~64,0=inactive]	0 ▲▼
1->Gate trigger scene NO. is [1~64,0=inactive]	0 ▲▼
Input A send on	Output A ▼
Input B send on	Output B ▼
Input C send on	Output C ▼
Input D send on	Output D ▼
2->Gate trigger scene NO. is [1~64,0=inactive]	0 ▲▼
Input A send on	Output A ▼
Input B send on	Output B ▼
Input C send on	Output C ▼
Input D send on	Output D ▼

Fig.4.4.2 "Gate forwarding"

Parameter "Object type of Input/Output"

This parameter is for setting the object type of input/output. Options:

1bit

4bit

1byte

Parameter "Default scene NO. of Gate after startup [1~64,0=inactive]"

This parameter is for setting the initial scene where logical gate forwarding can be performed by default after device starts, which needs to be configured in the parameters. Options: **1..64, 0=inactive**

Note: gate scene is recommended to be selected before operating, or it will enable the initial

scene by default.

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

This parameter is for setting scene number of logic gate forwarding. Up to 8 trigger scene number can be set for each logic. Options: **1..64, 0=inactive**

——Parameter "Input A/B/C/D send on"

This parameter is for setting the output of input X (X=A/B/C/D) after gate forwarding. Options:

Disable

Output A

Output B

...

Output B,C,D

According to the options, one input can be forwarded into one or more outputs, the output value is the same as the input value.

4.4.3. "Threshold comparator"

Description for logic function	
Function of channel	Threshold comparator ▼
Threshold value data type	1byte unsigned value (DPT5.010) ▼
Threshold value	0 ▲▼
If Object value < Threshold value	Do not send telegram ▼
If Object value = Threshold value	Do not send telegram ▼
If Object value != Threshold value	Do not send telegram ▼
If Object value > Threshold value	Do not send telegram ▼
If Object value <= Threshold value	Do not send telegram ▼
If Object value >= Threshold value	Do not send telegram ▼
Output send when	☐ Receiving a new telegram ☒ Every change of output object
Send delay time: Base	5s ▼
Factor: 1..255	2 ▲▼

Fig.4.4.3 "Threshold comparator"

Parameter "Threshold value data type"

This parameter is for setting the threshold value data type. Options:

- | | |
|--|--|
| 4bit value (DPT3.007) | 4byte unsigned value[0..4294967295] |
| 1byte unsigned value (DPT5.010) | Ext. temperature value (DPT 9.001) |
| 2byte unsigned value (DPT7.001) | Ext. humidity value (DPT 9.007) |
| 2byte signed value (DPT8.x) | Illuminance value (DPT 9.004) |
| 2byte float value (DPT9.x) | |

Parameter "Threshold value"

This parameter is for setting threshold value, the range depends on the data type. Options:

4bit value (DPT3.007) 0..15 / 1byte unsigned value (DPT5.010) 0..255 /

2byte unsigned value (DPT7.001) 0..65535 / 2byte signed value (DPT8.x) -32768..32767 /

2byte float value (DPT9.x) -670760...670760 / 4byte unsigned value[0..4294967295]

0..4294967295 /

Ext. temperature value (DPT 9.001) -20..95°C / Ext. humidity value (DPT 9.007) 0..100% /

Illuminance value (DPT 9.004) 0..65535lux

Parameter "Hysteresis threshold value"

This parameter is visible when object datatype is selected "2byte float value (DPT9.x)",

"Illuminance value (DPT 9.004)". Set the hysteresis threshold value. Options: **0..500**

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 for setting the logic result value that should be sent when threshold value Less than, equal to, not equal to, greater than, less than or equal to, greater than or equal to the setting value. When object datatype is selected "2byte float value (DPT9.x)" or "Illuminance value (DPT 9.004)", can only set the object value less than or greater than threshold value. Options:

Do not send telegram

Send value "0"

Send value "1"

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

Send value "0"/"1": when condition is satisfied, send telegram 0 or 1.

If there is a conflict between the setting options between parameters, the base on the value that should be sent when reach the final parameter condition. **For example: parameter "If Object**

value=Threshold value" is set to be "Send value "0" "; parameter "If Object value<=Threshold value"

is set to be "Send value "1" "; when object value is equal to the threshold value, then the logic result will send "1".

Parameter "Output send when"

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

Receiving a new telegram

Every change of output object

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

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

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

Parameter "Send delay time"

Base: **None**

0.1s

1s

...

10s

25s

Factor: **1..255**

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

4.4.4. "Format convert"

Description for logic function	
Function of channel	Format convert ▾
Function	2x1Bit-->1x2Bit ▾
Output send when	☒ Receiving a new telegram ☐ Every change of output object

Fig.4.4.4 "Format convert"

Parameter "Function"

This parameter is for setting the format convert type. Options:

2x1bit-->1x2bit

8x1bit-->1x1byte

1x1byte-->1x2byte

2x1byte-->1x2byte

2x2byte-->1x4byte

1x1byte-->8x1bit

1x2byte-->2x1byte

1x4byte-->2x2byte

1x3byte-->3x1byte

3x1byte-->1x3byte

Parameter "Output send when"

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

Receiving a new telegram

Every change of output object

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

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

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

4.4.5. "Gate function"

Description for logic function	
Function of channel	Gate function ▼
Object type of Input/Output	1bit[On/Off] ▼
Filter function	Deactivate ▼
Value output	☒ Normal ☐ Inverted
Gate object value	☒ Normal ☐ Inverted
Gate status after voltage recovery	☐ Close ☒ Open
Save input signal when gate close	☐

Fig.4.4.5 "Gate function"

Parameter "Object type of Input/Output"

This parameter is for setting the object type of input/output. Options:

1bit[On/Off]

1byte[0..100%]

1byte[0..255]

2byte[Float]

2byte[0..65535]

Parameter "Filter function"

This parameter is visible when "1bit[On/Off]" is selected. Set whether to filter On or Off telegram, only pass one of them or pass all. Options:

Deactivate

On filter out

Off filter out

Deactivate: Do not filter the On or Off telegrams;

On filter out: Off can pass, On cannot pass;

Off filter out: On can pass, Off cannot pass.

Parameter "Value output"

This parameter is visible when "1bit[On/Off]" is selected. Set whether to invert the value then output it. Options:

Normal

Inverted

Parameter "Gate object value"

This parameter is for setting whether to invert the gate object value then output it. Options:

Normal

Inverted

Parameter "Gate status after voltage recovery"

This parameter is for setting the gate status after power on. Options:

Close

Open

Parameter "Save input signal when gate close"

This parameter is for setting whether to save input signal on gate close. Options:

Disable: disable to save the input, the input values received during the gate closing period are ignored;

Enable: enable to save the input, the input values received during the gate closing period are output when gate is open (whether the input value is changed or not).

4.4.6. "Delay function"

Description for logic function	
Function of channel	Delay function ▼
Object type of Input/Output	1bit[On/Off] ▼
Delay time [0..6500]	10 s

Fig.4.4.6 "Delay function"

Parameter "Object type of Input/Output"

This parameter is for setting the object type of input/output. Options:

1bit[On/Off]

1byte[0..100%]

1byte[0..255]

2byte[Float]

2byte[0..65535]

Parameter "Delay time [0..6500]"

This parameter is for setting the delay time that output object forwards the value when the input object receives the telegram. Options: **0..6500 s**

Note: Receive telegram again in delay time, re-timing.

4.4.7. "Staircase lighting"

Description for logic function	
Function of channel	Staircase lighting ▼
Trigger value	1 ▼
Object type of output	☒ 1bit ☐ 1byte
Duration time of staircase lighting [10..6500]	10 s
Send value 1 when trigger	☐ OFF ☒ ON
Send value 2 after duration time	☒ OFF ☐ ON
Retriggering	☒

Fig.4.4.7 "Staircase lighting"

Parameter "Trigger value"

This parameter is for setting the telegram value of the object "Trigger value". Options:

- 0
- 1
- 0 or 1

Parameter "Object type of output"

This parameter is for setting the object type of output. Options:

- 1bit
- 1byte

Parameter "Duration time of staircase lighting[10..6500]s"

This parameter is for setting duration time of staircase lighting after the stair light power on.

Options: 10..6500

—Parameter "Send value 1 when trigger"

—Parameter "Send value 2 after duration time"

These parameters are for setting the value to send. Send value 1 when trigger, and then send

value 2 after duration time. Options display according to the output object datatype.

When 1 bit, options:

OFF

ON

When 1 byte , options: **0..255**

Parameter "Retriggering"

This parameter is for setting whether to trigger re-timing when received trigger value in delay time.

Chapter 5 Communication object description

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

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

5.1. “General”Communication Object

	Number ^	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
	1	General	In operation			1 bit	C	R	-	T	-	switch	Low

Fig.5.1 “General”Communication Object

NO.	Object Function	Name	Data Type	Flag	DPT
1	In operation	General	1bit	C,R,T	1.001 switch
The communication object is used to periodically send a telegram “1” to the bus to indicate that the device is working properly.					

Table 5.1 “General”Communication Object

5.2. "Channel" Communication Object

	Number ^	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
🔧	67	CH1 Button 1 - ...	Switch			1 bit	C	-	-	T	-	switch	Low
🔧	70	CH1 Button 1 - ...	Switch status			1 bit	C	-	W	T	U	switch	Low

Switch

	Number ^	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
🔧	67	CH1 Button 1 - ...	Click, Switch			1 bit	C	-	-	T	-	switch	Low
🔧	68	CH1 Button 1 - ...	Revolve, Dimming			4 bit	C	-	W	T	-	dimming control	Low
🔧	70	CH1 Button 1 - ...	Switch status			1 bit	C	-	W	T	U	switch	Low

	Number ^	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
🔧	171	CH2 Button 1 - ...	Click, Switch			1 bit	C	-	-	T	-	switch	Low
🔧	172	CH2 Button 1 - ...	Long, Dimming			4 bit	C	-	W	T	-	dimming control	Low
🔧	174	CH2 Button 1 - ...	Switch status			1 bit	C	-	W	T	U	switch	Low

Dimming

	Number ^	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
🔧	171	CH2 Button 1 - ...	Switch			1 bit	C	-	-	T	-	switch	Low
🔧	172	CH2 Button 1 - ...	Brightness value			1 byte	C	-	-	T	-	percentage (0..100%)	Low
🔧	173	CH2 Button 1 - ...	Colour temperature value			2 bytes	C	-	-	T	-	absolute colour temperature (K)	Low
🔧	174	CH2 Button 1 - ...	Switch status			1 bit	C	-	W	T	U	switch	Low

Colour temperature switching/send value

	Number ^	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
🔧	67	CH1 Button 1 - ...	Single click, 1bit value			1 bit	C	-	-	T	-	switch	Low
🔧	69	CH1 Button 1 - ...	Left revolve, 1bit value			1 bit	C	-	-	T	-	switch	Low
🔧	70	CH1 Button 1 - ...	Right revolve, 1bit value			1 bit	C	-	-	T	-	switch	Low

Value sender

	Number ^	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
🔧	171	CH2 Button 1 - ...	Scene			1 byte	C	-	-	T	-	scene control	Low

Scene control

	Number ^	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
🔧	171	CH2 Button 1 - ...	Up/Down, Blind			1 bit	C	-	W	T	-	up/down	Low
🔧	172	CH2 Button 1 - ...	Stop/Adjust, Blind			1 bit	C	-	W	T	-	step	Low

Blind step/move

	Number ^	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
🔧	67	CH1 Button 1 - ...	Up/Down, Blind			1 bit	C	-	W	T	-	up/down	Low
🔧	68	CH1 Button 1 - ...	Stop/Adjust, Blind			1 bit	C	-	W	T	-	step	Low
🔧	69	CH1 Button 1 - ...	Blind position			1 byte	C	-	-	T	-	percentage (0..100%)	Low
🔧	70	CH1 Button 1 - ...	Blind position, status			1 byte	C	-	W	T	U	percentage (0..100%)	Low

Blind position

	Number ^	Name	Object Function	Descriptio	Group Address	Length	C	R	W	T	U	Data Type	Priority
	171	CH2 Button 1 - ...	Up/Down, Blind			1 bit	C	-	W	T	-	up/down	Low
	172	CH2 Button 1 - ...	Stop/Adjust, Blind			1 bit	C	-	W	T	-	step	Low

Blind

	Number ^	Name	Object Function	Descriptio	Group Address	Length	C	R	W	T	U	Data Type	Priority
	67	CH1 Button 1 - ...	Switch			1 bit	C	-	-	T	-	switch	Low
	68	CH1 Button 1 - ...	Absolute colour temperature			2 bytes	C	-	-	T	-	absolute colour temperature (K)	Low
	69	CH1 Button 1 - ...	Absolute colour temperature, status			2 bytes	C	-	W	T	U	absolute colour temperature (K)	Low
	70	CH1 Button 1 - ...	Switch status			1 bit	C	-	W	T	U	switch	Low

Colour temperature adjustment

Fig.5.2 "Channel"Communication Object

NO.	Object Function	Name	Data Type	Flag	DPT
67	Switch	CH 1 Button 1 - {{...}}	1bit	C,T	1.001 switch
70	Switch status	CH 1 Button 1 - {{...}}	1bit	C,W,T, U	1.001 switch

These two communication objects apply to switch function. Telegrams:

0—OFF

1—ON

Obj.67: Used to send switch control telegram to the bus.

Obj.70: Used to receive switch status feedback on the bus. Sends status request telegram upon restart.

The name in parentheses changes with the parameter "Description". If description is empty, display "CH 1 Button 1 - {{...}}" by default. The same below.

67	Click, Switch	CH 1 Button 1 - {{...}}	1bit	C,T	1.001 switch
68	Long, Dimming Revolve, Dimming	CH 1 Button 1 - {{...}}	4bit	C,W,T	3.007 dimming
70	Switch status	CH 1 Button 1 - {{...}}	1bit	C,W,T, U	1.001 switch

These three communication objects apply to dimming function.

Obj.67, Obj.70 are same as above.

Obj.68: Used to trigger a relative dimming operation.

Dimming down when telegram is 1~7, and the larger this range the adjust step is smaller. That is, the maximum step of dimming down when is 1, and the minimum step of dimming down when is 7, stop dimming when is 0;

Dimming up when telegram is 9~15, and the larger this range the adjust step is smaller. That is, the maximum step of dimming up when is 9, and the minimum step of dimming up when is 15, stop dimming when is 8.

68	Brightness dimming	CH 1 Button 1 - {...}	1byte	C,T	5.001 percentage(0..100%)
69	Brightness, status	CH 1 Button 1 - {...}	1byte	C,W,T,U	5.001 percentage(0..100%)

These two communication objects apply to absolute dimming function.

Obj.68: Used to send brightness dimming telegram to the bus.

Obj.69: Used to receive brightness status feedback on the bus. Sends status request telegram upon restart.

67	Switch	CH 1 Button 1 - {...}	1bit	C,T	1.001 switch
68	Brightness value	CH 1 Button 1 - {...}	1byte	C,T	5.001 percentage(0..100%)
69	Colour temperature value	CH 1 Button 1 - {...}	2bytes	C,T	7.600 absolute colour temperature
70	Switch status	CH 1 Button 1 - {...}	1bit	C,W,T,U	1.001 switch

These four communication objects apply to colour temperature switching/send value function.

Obj.67, Obj.70 are same as above.

Obj.68: Used to send the dimming telegram of the colour temperature to the bus, that is, sending the brightness value. Telegrams: 0...100%

Obj.69: Used to send the control telegram of the colour temperature to the bus.

Telegrams: 1000...10000 K

67	Scene	CH 1 Button 1 - {{...}}	1byte	C,T	18.001 scene control
-----------	--------------	--------------------------------	--------------	------------	-----------------------------

This communication objects is apply to scene control function.

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).

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

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.

67	Up/Down, Blind	CH 1 Button 1 - {{...}}	1bit	C,W, T	1.008 up/down
68	Stop/Adjust, Blind	CH 1 Button 1 - {{...}}	1bit	C,W, T	1.007 step
69	Blind position	CH 1 Button 1 - {{...}}	1byte	C,T	5.001 percentage(0..100%)
70	Blind position, status	CH 1 Button 1 - {{...}}	1byte	C,W, T,U	5.001 percentage(0..100%)

These four communication objects apply to blind function.

Obj.67: Used to send the telegram to the bus, to control blind up/down. Telegrams:

1—move down

0—move up

Obj.68: Used to send the telegram to the bus, to stop curtain movement. Telegrams:

1—Stop

Obj.69: The communication object is visible when "Blind position" is selected, used to send the blind position telegram to the bus.

Obj.70: The communication object is visible when "Blind position" is selected, used to receive blind position status feedback on the bus. Sends status request telegram upon restart.

67	Switch	CH 1 Button 1 - {{...}}	1bit	C,T	1.001 switch
68	Absolute colour temperature	CH 1 Button 1 - {{...}}	2byte	C,T	7.600 absolute colour temperature
69	Absolute colour temperature, status	CH 1 Button 1 - {{...}}	2byte	C,W, T,U	7.600 absolute colour temperature
70	Switch, status	CH 1 Button 1 - {{...}}	1bit	C,W,	1.001 switch

				T,U	
These four communication objects apply to colour temperature adjustment function. Obj.67, Obj.70 are same as above. Obj.68: Used to send the absolute colour temperature to the bus. Obj.69: Used to receive absolute colour temperature status feedback on the bus. Sends status request telegram upon restart.					
67	Single click, 1bit value Single click, 2bit value Single click, 4bit value Single click, 1byte value Single click, 2byte value Single click, 2byte float value Single click, 4byte value Single click, 4byte float value	CH 1 Button 1 - {...}	1bit 2bit 4bit 1byte 2byte 2byte 4byte 4byte	C,T	1.001 switch 2.001 switch control 3.007 dimming 5.010 counter pulses 7.001 pulses 9.x float value 12.001 counter pulses 14.x float value
68	Double click, 1bit value Double click, 2bit value	CH 1 Button 1 - {...}	1bit 2bit 4bit 1byte	C,T	1.001 switch 2.001 switch control 3.007 dimming 5.010 counter pulses

	Double click, 4bit value		2byte		7.001 pulses
	Double click, 1byte value		2byte		9.x float value
	Double click, 2byte value		4byte		12.001 counter pulses
	Double click, 2byte float value		4byte		14.x float value
	Double click, 4byte value				
	Double click, 4byte float value				
69	Three click, 1bit value	CH 1 Button 1 - {{...}}			1.001 switch
	Three click, 2bit value		1bit		2.001 switch control
	Three click, 4bit value		2bit		3.007 dimming
	Three click, 1byte value		4bit		5.010 counter pulses
	Three click, 2byte value		1byte		7.001 pulses
	Three click, 2byte float value		2byte	C,T	9.x float value
	Three click, 4byte value		4byte		12.001 counter pulses
			2byte		14.x float value
			4byte		

	Three click, 4byte float value				
70	Long, 1bit value Long, 2bit value Long, 4bit value Long, 1byte value Long, 2byte value Long, 2byte float value Long, 4byte value Long, 4byte float value	CH 1 Button 1 - {{...}}	1bit 2bit 4bit 1byte 2byte 2byte 4byte 4byte	C,T	1.001 switch 2.001 switch control 3.007 dimming 5.010 counter pulses 7.001 pulses 9.x float value 12.001 counter pulses 14.x float value
These four communication objects are used for sending a fixed value to the bus, distinguish single/double/three the contact or long operation. Range of values that can be sent are determined by the datatype, and the datatype is determined by the parameter setting.					

Table 5.2 "Channel"Communication Object

5.3. "Scene Group" Communication Object

	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
	2	Scene Group	Main scene trigger			1 byte	C	-	W	-	-	scene number	Low
	3	1st Scene Group - Output 1 - ...	1bit value			1 bit	C	-	-	T	-	switch	Low

1 bit value

	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
	2	Scene Group	Main scene trigger			1 byte	C	-	W	-	-	scene number	Low
	3	1st Scene Group - Output 1 - ...	1byte unsigned value			1 byte	C	-	-	T	-	counter pulses (0..255)	Low

1 byte_1byte unsigned value

	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
	2	Scene Group	Main scene trigger			1 byte	C	-	W	-	-	scene number	Low
	3	1st Scene Group - Output 1 - ...	HVAC mode			1 byte	C	-	-	T	-	HVAC mode	Low

1 byte_HVAC mode

	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
	2	Scene Group	Main scene trigger			1 byte	C	-	W	-	-	scene number	Low
	3	1st Scene Group - Output 1 - ...	2byte unsigned value			2 bytes	C	-	-	T	-	pulses	Low

2 byte_2byte unsigned value

	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
	2	Scene Group	Main scene trigger			1 byte	C	-	W	-	-	scene number	Low
	3	1st Scene Group - Output 1 - ...	Temperature			2 bytes	C	-	-	T	-	temperature (°C)	Low

2 byte_Temperature

	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
	2	Scene Group	Main scene trigger			1 byte	C	-	W	-	-	scene number	Low
	3	1st Scene Group - Output 1 - ...	RGB value			3 bytes	C	-	-	T	-	RGB value 3x(0..255)	Low

RGB value

	Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
	2	Scene Group	Main scene trigger			1 byte	C	-	W	-	-	scene number	Low
	3	1st Scene Group - Output 1 - ...	RGBW value			6 bytes	C	-	-	T	-	RGBW value 4x(0..100%)	Low

RGBW value

Fig.5.3 "Scene Group setting" Communication Object

NO.	Object Function	Name	Data Type	Flag	DPT
2	Main scene trigger	Scene Group	1byte	C,W	17.001 scene number
This communication object triggers each output in the scene group to send a specific value to the bus by recalling the scene number. Telegrams: 0.. 63					
3	1bit value 1byte unsigned value HVAC mode 2byte unsigned value Temperature RGB value RGBW value	1st Scene Group-{{Output X}}	1bit 1byte 2byte 3byte 6byte	C,T	1.001 switch 5.010 counter pulses 20.102 HVAC mode 7.001 pulses 9.001 temperature 232.600 RGB value 3x(0..255) 251.600 DPT_Colour_RGBW
When a scene is recalled, the communication object is used to send the corresponding output value of the scene to the bus. If the output is not set to this scene, it will not be sent. A total of 8 scene groups can be set up, with 8 outputs per group. The name in parentheses changes with the parameter "Description for Output x function". If description is empty, display "1st Scene Group-Output x -{{...}}" by default.					

Table 5.3 "Scene Group setting"Communication Object

5.4. “Logic”Communication Object

5.4.1. “AND/OR/XOR”

899	1st Logic - ...	Input a	1 bit	C - W T U	boolean	低
900	1st Logic - ...	Input b	1 bit	C - W T U	boolean	低
901	1st Logic - ...	Input c	1 bit	C - W T U	boolean	低
902	1st Logic - ...	Input d	1 bit	C - W T U	boolean	低
903	1st Logic - ...	Input e	1 bit	C - W T U	boolean	低
904	1st Logic - ...	Input f	1 bit	C - W T U	boolean	低
905	1st Logic - ...	Input g	1 bit	C - W T U	boolean	低
906	1st Logic - ...	Input h	1 bit	C - W T U	boolean	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低

Fig.5.4.1 “AND/OR/XOR”

NO.	Object Function	Name	Data Type	Flag	DPT
899/.../906	Input x	1st Logic- {{...}}	1bit	C,W,T,U	1.002 boolean
The communication object is used to receive the value of logical input Input x. The name in parentheses changes with the parameter “Description for logic function”. If description is empty, display “1st Logic” by default. The same below.					
907	Logic result	1st Logic- {{...}}	1bit	C,T	1.002 boolean
The communication object is used to send the results of logical operation.					

Table5.4.1 “AND/OR/XOR”

5.4.2. "Gate forwarding"

899	1st Logic - ...	Gate value select	1 byte	C - W - -	scene number	低
900	1st Logic - ...	Input A	1 bit	C - W - -	switch	低
901	1st Logic - ...	Input B	1 bit	C - W - -	switch	低
902	1st Logic - ...	Input C	1 bit	C - W - -	switch	低
903	1st Logic - ...	Input D	1 bit	C - W - -	switch	低
904	1st Logic - ...	Output A	1 bit	C - - T -	switch	低
905	1st Logic - ...	Output B	1 bit	C - - T -	switch	低
906	1st Logic - ...	Output C	1 bit	C - - T -	switch	低
907	1st Logic - ...	Output D	1 bit	C - - T -	switch	低

Fig.5.4.2 "Gate forwarding"

NO.	Object Function	Name	Data Type	Flag	DPT
899	Gate value select	1st Logic- {{...}}	1byte	C,W	17.001 scene number
The communication object is used to select the scene of logical gate forwarding.					
900/.../903	Input x	1st Logic- {{...}}	1bit	C,W	1.001 switch
			4bit		3.007 dimming control
			1byte		5.010 counter pulses(0..255)
The communication object is used to receive the value of the logic gate input Input x.					
904/.../ 907	Output x	1st Logic- {{...}}	1bit	C,T	1.001 switch
			4bit		3.007 dimming control
			1byte		5.010 counter pulses(0..255)
The communication object is used to output the value forwarded by the logic gate. The output value is the same as the input value, but one input can be forwarded into one or more outputs, set by parameters.					

Table5.4.2 "Gate forwarding"

5.4.3. "Threshold comparator"

899	1st Logic - ...	Threshold value input	4 bit	C - W - U	dimming control	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低
899	1st Logic - ...	Threshold value input	1 byte	C - W - U	counter pulses (0..255)	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低
899	1st Logic - ...	Threshold value input	2 bytes	C - W - U	pulses	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低
899	1st Logic - ...	Threshold value input	2 bytes	C - W - U	2-byte signed value	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低
899	1st Logic - ...	Threshold value input	2 bytes	C - W - U	2-byte float value	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低
899	1st Logic - ...	Threshold value input	4 bytes	C - W - U	counter pulses (unsig...	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低
899	1st Logic - ...	Threshold value input	2 bytes	C - W - U	temperature (°C)	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低
899	1st Logic - ...	Threshold value input	2 bytes	C - W - U	humidity (%)	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低
899	1st Logic - ...	Threshold value input	2 bytes	C - W - U	lux (Lux)	低
907	1st Logic - ...	Logic result	1 bit	C - - T -	boolean	低

Fig.5.4.3 "Threshold comparator"

NO.	Object Function	Name	Data Type	Flag	DPT
899	Threshold value input	1st Logic- {{...}}	4bit 1byte 2byte 4byte	C,W, U	3.007 dimming 5.010 counter pulses 7.001 pulses 12.001 counter pulses 8.x signed value 9.x float value 9.001 temperature 9.007 humidity 9.004 lux

The communication object is used to input threshold value.					
907	Logic result	1st Logic- {{...}}	1bit	C,T	1.002 boolean
The communication object is used to send the results of logical operation. That is, the value that should be sent after the object input threshold is compared with the setting threshold value.					

Table5.4.3 "Threshold comparator"

5.4.4. "Format convert"

899	1st Logic - ...	Input 1bit-bit0	1 bit	C - W - U	boolean	低
900	1st Logic - ...	Input 1bit-bit1	1 bit	C - W - U	boolean	低
907	1st Logic - ...	Output 2bit	2 bit	C - - T -	switch control	低

"2x1bit -> 1x2bit"function: converts two 1bit values to a 2bit value, such as Input bit1=1, bit0=0->

Output 2bit=2

899	1st Logic - ...	Input 1bit-bit0	1 bit	C - W - U	boolean	低
900	1st Logic - ...	Input 1bit-bit1	1 bit	C - W - U	boolean	低
901	1st Logic - ...	Input 1bit-bit2	1 bit	C - W - U	boolean	低
902	1st Logic - ...	Input 1bit-bit3	1 bit	C - W - U	boolean	低
903	1st Logic - ...	Input 1bit-bit4	1 bit	C - W - U	boolean	低
904	1st Logic - ...	Input 1bit-bit5	1 bit	C - W - U	boolean	低
905	1st Logic - ...	Input 1bit-bit6	1 bit	C - W - U	boolean	低
906	1st Logic - ...	Input 1bit-bit7	1 bit	C - W - U	boolean	低
907	1st Logic - ...	Output 1byte	1 byte	C - - T -	counter pulses (0..255)	低

"8x1bit -> 1x1byte"function: converts eight 1bit values to a 1byte value, such as Input bit2=1, bit1=1, bit0=1, other bits are 0-> Output 1byte=7

899	1st Logic - ...	Input 1byte	1 byte	C - W - U	counter pulses (0..255)	低
907	1st Logic - ...	Output 2byte	2 bytes	C - - T -	pulses	低

"1x1byte -> 1x2byte"function: converts one 1byte values to a 2byte value, such as Input 1byte=125->

Output 2byte=125. Although the value remains the same, the data type of the value is different.

899	1st Logic - ...	Input 1byte-low	1 byte	C - W - U	counter pulses (0..255)	低
900	1st Logic - ...	Input 1byte-high	1 byte	C - W - U	counter pulses (0..255)	低
907	1st Logic - ...	Output 2byte	2 bytes	C - - T -	pulses	低

"2x1byte -> 1x2byte"function: converts two 1byte values to a 2byte value, such as Input 1byte-low = 255 (\$FF), Input 1byte-high = 100 (\$64) -> Output 2byte = 25855 (\$64 FF)

899	1st Logic - ...	Input 2byte-low	2 bytes	C - W - U	pulses	低
900	1st Logic - ...	Input 2byte-high	2 bytes	C - W - U	pulses	低
907	1st Logic - ...	Output 4byte	4 bytes	C - - T -	counter pulses (unsig...	低

"2x2byte -> 1x4byte"function: converts two 2 byte values to a 4byte value, such as Input 2byte-low = 65530 (\$FF FA), Input 2byte-high = 32768 (\$80 00)-> Output 2byte = 2147549178 (\$80 00 FF FA)

899	1st Logic - ...	Input 1byte	1 byte	C - W - U	counter pulses (0..255)	低
900	1st Logic - ...	Output 1bit-bit0	1 bit	C - - T -	boolean	低
901	1st Logic - ...	Output 1bit-bit1	1 bit	C - - T -	boolean	低
902	1st Logic - ...	Output 1bit-bit2	1 bit	C - - T -	boolean	低
903	1st Logic - ...	Output 1bit-bit3	1 bit	C - - T -	boolean	低
904	1st Logic - ...	Output 1bit-bit4	1 bit	C - - T -	boolean	低
905	1st Logic - ...	Output 1bit-bit5	1 bit	C - - T -	boolean	低
906	1st Logic - ...	Output 1bit-bit6	1 bit	C - - T -	boolean	低
907	1st Logic - ...	Output 1bit-bit7	1 bit	C - - T -	boolean	低

“1x1byte → 8x1bit” function: converts one 1byte values to eight 1bit value, such as Input 1byte=200 → Output bit0=0, bit1=0, bit2=0, bit3=1, bit4=0, bit5=0, bit6=1, bit7=1

899	1st Logic - ...	Input 2byte	2 bytes	C - W - U	pulses	低
906	1st Logic - ...	Output 1byte-low	1 byte	C - - T -	counter pulses (0..255)	低
907	1st Logic - ...	Output 1byte-high	1 byte	C - - T -	counter pulses (0..255)	低

“1x2byte → 2x1byte” function: converts one 2byte values to two 2byte value, such as Input 2byte = 55500 (\$D8 CC) → Output 1byte-low = 204 (\$CC), Output 1byte-high = 216 (\$D8)

899	1st Logic - ...	Input 4byte	4 bytes	C - W - U	counter pulses (unsig...	低
906	1st Logic - ...	Output 2byte-low	2 bytes	C - - T -	pulses	低
907	1st Logic - ...	Output 2byte-high	2 bytes	C - - T -	pulses	低

“1x4byte → 2x2byte” function: converts one 4byte values to two 2byte value, such as Input 4byte = 78009500 (\$04 A6 54 9C) → Output 2byte-low = 21660 (\$54 9C), Output 2byte-high = 1190 (\$04 A6)

899	1st Logic - ...	Input 3byte	3 bytes	C - W - U	RGB value 3x(0..255)	低
905	1st Logic - ...	Output 1byte-low	1 byte	C - - T -	counter pulses (0..255)	低
906	1st Logic - ...	Output 1byte-middle	1 byte	C - - T -	counter pulses (0..255)	低
907	1st Logic - ...	Output 1byte-high	1 byte	C - - T -	counter pulses (0..255)	低

“1x3byte → 3x1byte” function: converts one 3byte values to three 1byte value, such as Input 3byte = \$78 64 C8 → Output 1byte-low = 200 (\$C8), Output 1byte-middle = 100 (\$64), Output 1byte-high = 120 (\$78)

899	1st Logic - ...	Input 1byte-low	1 byte	C - W - U	counter pulses (0..255)	低
900	1st Logic - ...	Input 1byte-middle	1 byte	C - W - U	counter pulses (0..255)	低
901	1st Logic - ...	Input 1byte-high	1 byte	C - W - U	counter pulses (0..255)	低
907	1st Logic - ...	Output 3byte	3 bytes	C - - T -	RGB value 3x(0..255)	低

“3x1byte → 1x3byte” function: converts three 1byte values to a 3byte value, such as Input 1byte-low = 150 (\$96), Input 1byte-middle = 100 (\$64), Input 1byte-high = 50 (\$32) → Output 3byte = \$32 64 96

Fig.5.4.4 “Format convert”

NO.	Object Function	Name	Data Type	Flag	DPT
899	Input ...	1st Logic- {{...}}	1bit	C,W,U	1.001 switch
			1byte		5.010 counter pulses(0..255)
			2byte		7.001 pulses
			3byte		232.600 RGB value 3x(0..255)
			4byte		12.001 counter pulses
The communication object is used to input a value that needs to be converted.					
907	Output ...	1st Logic- {{...}}	1bit	C,T	1.001 switch
			2bit		2.001 switch control

			1byte		5.010 counter pulses(0..255)
			2byte		7.001 pulses
			3byte		232.600 RGB value 3x(0..255)
			4byte		12.001 counter pulses
The communication object is used to output the converted value.					

Table5.4.4 "Format convert"

5.4.5. "Gate function"

899	1st Logic - ...	Input	1 bit	C - W - -	switch	低
900	1st Logic - ...	Gate input	1 bit	C - W - -	boolean	低
907	1st Logic - ...	Output	1 bit	C - - T -	switch	低
Input/Output - 1bit[On/Off]						
899	1st Logic - ...	Input	1 byte	C - W - -	percentage (0..100%)	低
900	1st Logic - ...	Gate input	1 bit	C - W - -	boolean	低
907	1st Logic - ...	Output	1 byte	C - - T -	percentage (0..100%)	低
Input/Output - 1byte[0..100%]						
899	1st Logic - ...	Input	1 byte	C - W - -	counter pulses (0..255)	低
900	1st Logic - ...	Gate input	1 bit	C - W - -	boolean	低
907	1st Logic - ...	Output	1 byte	C - - T -	counter pulses (0..255)	低
Input/Output - 1byte[0..255]						
899	1st Logic - ...	Input	2 bytes	C - W - -	temperature (°C)	低
900	1st Logic - ...	Gate input	1 bit	C - W - -	boolean	低
907	1st Logic - ...	Output	2 bytes	C - - T -	temperature (°C)	低
Input/Output - 2byte[Float]						
899	1st Logic - ...	Input	2 bytes	C - W - -	pulses	低
900	1st Logic - ...	Gate input	1 bit	C - W - -	boolean	低
907	1st Logic - ...	Output	2 bytes	C - - T -	pulses	低
Input/Output - 2byte[0..65535]						

Fig.5.4.5 "Gate function"

NO.	Object Function	Name	Data Type	Flag	DPT
11	Input	1st Logic- {{...}}	1bit 1byte 2byte	C,W	1.001 switch 5.001 percentage 5.010 counter pulses 9.001 temperature 7.001 pulses
The communication object is used to input a value that needs to gate filter.					
12	Gate input	1st Logic- {{...}}	1bit	C,W	1.002 boolean
The communication object is used to control the switch status of gate input. Input signal is allowed to pass when gate open, then output, and the current input status is still sent if there is a change; Can not pass when gate close.					
19	Output	1st Logic- {{...}}	1bit 1byte 2byte	C,T	1.001 switch 5.001 percentage 5.010 counter pulses

					9.001 temperature 7.001 pulses
The communication object is used to output the value after gate filtering. Only when gate input status is open, output is available, defined by the object "Gate input".					

Table5.4.5 "Gate function"

5.4.6. "Delay function"

899	1st Logic - ...	Input	1 bit	C - W - -	switch	低
907	1st Logic - ...	Output	1 bit	C - - T -	switch	低
Input/Output - 1bit[On/Off]						
899	1st Logic - ...	Input	1 byte	C - W - -	percentage (0..100%)	低
907	1st Logic - ...	Output	1 byte	C - - T -	percentage (0..100%)	低
Input/Output - 1byte[0..100%]						
899	1st Logic - ...	Input	1 byte	C - W - -	counter pulses (0..255)	低
907	1st Logic - ...	Output	1 byte	C - - T -	counter pulses (0..255)	低
Input/Output - 1byte[0..255]						
899	1st Logic - ...	Input	2 bytes	C - W - -	temperature (°C)	低
907	1st Logic - ...	Output	2 bytes	C - - T -	temperature (°C)	低
Input/Output - 2byte[Float]						
899	1st Logic - ...	Input	2 bytes	C - W - -	pulses	低
907	1st Logic - ...	Output	2 bytes	C - - T -	pulses	低
Input/Output - 2byte[0..65535]						

Fig.5.4.6 "Delay function"

NO.	Object Function	Name	Data Type	Flag	DPT
899	Input	1st Logic- {...}	1bit 1byte 2byte	C,W	1.001 switch 5.001 percentage 5.010 counter pulses 9.001 temperature 7.001 pulses
The communication object is used to input a value that needs to delay.					
907	Output	1st Logic- {...}	1bit 1byte 2byte	C,T	1.001 switch 5.001 percentage 5.010 counter pulses 9.001 temperature 7.001 pulses
The communication object is used to output that needs to delay converted value, delay time is defined by the parameter.					

Table5.4.6 "Delay function"

5.4.7. "Staircase lighting"

899	1st Logic - ...	Trigger value	1 bit	C - W - -	trigger	低
900	1st Logic - ...	Light-on duration time	2 bytes	C - W - -	time (s)	低
907	1st Logic - ...	Output	1 bit	C - - T -	switch	低
1 bit						
899	1st Logic - ...	Trigger value	1 bit	C - W - -	trigger	低
900	1st Logic - ...	Light-on duration time	2 bytes	C - W - -	time (s)	低
907	1st Logic - ...	Output	1 byte	C - - T -	counter pulses (0..255)	低
1byte						

Fig.5.4.7 "Staircase lighting"

NO.	Object Function	Name	Data Type	Flag	DPT
899	Trigger value	1st Logic- {{...}}	1bit	C,W	1.017 trigger
The communication object is used to receive the value to trigger staircase lighting.					
900	Light-on duration time	1st Logic- {{...}}	2byte	C,W	7.005 time(s)
The communication object is used to modify the staircase light-on duration time, the modified range is referenced from the range defined by the parameter, take the limit value if exceeded.					
907	Output	1st Logic- {{...}}	1bit 1byte	C,T	1.001 switch 5.010 counter pulses
The communication object is used to output value 1 when trigger, and send value 2 after duration time. Telegram value is determined by the parameter setting datatype.					

Table5.4.7 "Staircase lighting"