User manual



KOHBEPTEP KNX-301-72-TUYA-DIN (BUS, ZigBee)

Арт. 037759



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

KNX Gateway for Tuya ZigBee as the interface between KNX system and Tuya ZigBee system, realizing the connection between the Tuya ZigBee ecosystem and the KNX system. Based on the gateway, it can easily control the KNX devices with Tuya APP, and upload status information of KNX devices to Tuya platform, for monitoring and managing the devices conveniently.

This manual provides detailed technical information about the KNX Gateway for Tuya ZigBee, including installation and programming details, and explains how to use it in the practical examples. After setting up KNX Gateway for Tuya ZigBee on the ETS, you can smartly manage the KNX and Zigbee system products, add and use the devices through the supporting mobile APP——Tuya Smart.

KNX Gateway for Tuya ZigBee powered from KNX bus, and need a 12-30V DC auxiliary supply voltage. 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).

The functions are summarized as followed:

- As a ZigBee Gateway function, it can connect to Tuya Cloud, and add ZigBee device of Tuya ecosystem to the cloud
- Support uploading KNX devices to Tuya platform for management, to control KNX device and display status
- Support KNX devices functions, including Switch, Dimming, Curtains, Scenes, Color and Color temperature control, Audio control, HVAC control(Room temperature control, Air conditioner and Ventilation system), multiple sensors(Air Quality,Temperature and humidity, Brightness, Gas, I/O signal and etc.), and Current,Energy Metering display
- ▼ Logic functions
- ▼ Support bidirectional communication between ZigBee and KNX



Power Supply	Bus voltage	21-30V DC, via the KNX bus	
	Bus current	<4.5mA, 24V	
		<4mA, 30V	
	Bus consumption	<120 mW	
AuxiliarySupply	Voltage	12-30V DC	
	Current	<60mA, 24V	
		<50mA, 30V	
	Consumption	<1.5W	
Connection	KNX	Bus connection terminal(Red/Black)	
	Auxiliary Supply	Bus connection terminal(Yellow/White)	
	LAN	RJ45 socket for 100 Mbit and 10 Mbit BaseT,	
		IEEE802.3 networks	
	Antenna	Rubber rod antenna or extension antenna (3m)	
	Wireless	Network without barriers:>100m	
	communication	Network with barriers:>10m (Across two walls)	
Operation and	Connect button	Long press 5s will disconnect gateway	
display			
	Connect status LED	On: connecting; Off: connected	
		Fast flashing: Tuya authorization code is	
		abnormal	
		(Unprogram)	
	LAN LED	On: connected; Off: disconnected	
	D	Flashing: Data communication	
	Programming button and LED	Red on: assign physical address	
Temperature	Operation	Green flashing: running normally − 5 °C 45 °C	
	Storage	- 25 ℃ 55 ℃	
	Transport	- 25 °C 70 °C	
Environment	Humidity	<93%, except dewing	
Design	Standard 35mm DIN rai	linstallation	
Dimension	36 x 90 x 64mm		

Chapter 2. Technical Data



Chapter 3. Dimension and Structural Diagram

3.1 Dimension Diagram



3.2 Structural Diagram



 $\textcircled{1}\mathsf{LAN}$ connection

2Connect button

③Connect status LED

(4)LAN LED

⑤Programming LED

⑥Programming button
⑦Antenna interface
⑧Auxiliary supply connection terminal
⑨KNX bus connection



	Maximum of	Maximum	Maximum
Application	communication	number of group	number of
	objects	addresses	associations
KNX-301-72-TUYA-DIN	3933	8000	8000

Chapter 4. Project Design and Programming

General function

General function includes device In operation setting and IP setting.

KNX channel function

Support to upload the KNX device to the Tuya platform for management, which to control the device and display status. Up to support 150 devices. Each device can be customized its name with the engineering design tools ETS, and has In operation setting to monitor whether the device is online and upload to APP.

Top 100 device channels support the whole functions, including switch, dimming, curtain, scene switch, color and color temperature (RGB, RGBW and color temperature), audio control, HVAC control (Room temperature control, Air conditioner and Ventilation), multiple sensors (Air quality, humidity and temperature, brightness, gas, I/O signal and etc.), and current, energy display.

The latter 50 device channels only support the functions, including switch, dimming, curtain, air quality sensor and energy display.

Note: Request each device status when the gateway power on.



Zigbee channel function

Support bidirectional communication between ZigBee and KNX device, for integrating Zigbee devices into KNX system, up to 32 device data points, which can be set with name and MAC address information on the ETS. Use the website (Tuya Zigbee Gateway Management System) to configure and manger the linkage between Zigbee devices and KNX system.

Support to control the following Zigbee devices with the KNX system:

Sensor: Air quality sensor, Temperature and humidity sensor, Brightness sensor, Gas sensor, and I/O signal (Switch, Boolean, Alarm, Occupancy sensor, Window/door sensor);

Zigbee lamp: lamp, dimmable lamp, RGB bulb/strip, color temperature light and RGBCW bulb; Electric curtain.

Room temperature controller

Up to support 10 room temperature controllers. Mainly used to control the room temperature, Automatically and optimally cooling/heating control according to the room use or the occupants needs.

Support to manual switch to heating/cooling control, optionally three fan speeds and the auto fan speed, 4 operation modes: comfort, standby, economy and protection mode.

The temperature setpoint value supports the relative setting method, and is adjustable range setting. Support 2 points and PI control.

Ventilation controller

Support 1 ventilation controller, and fan speed can be linked to PM2.5/CO2/VOC, optionally output types of 1bit of 1byte.

Logic function

Up to support 8 channels oflogic, each channel up to support 8 inputs and 1 logic result.

Logic function support functions, including AND, OR, XOR, Gate forwarding, Threshold comparator, Format convert, Gate function, Delay function and Staircase lighting.

5



Chapter 5. Parameter setting description in the ETS

5.1. Parameter window "General"

5.1.1. Parameter window "General setting"

1.2.31 KNX Gateway Tuya-ZigBee > General > General setting

– General	Device ID	0 *
General setting	Device name	
IP setting	Send delay after power on [015]	5 * s
- KNX Channel	Send cycle of "In operation" telegram [1240,0=inactive]	0 * s

Fig.5.1.1 "General setting" Parameter window

Parameter "Device ID"

This parameter is for setting the device ID. Options: 0...65535

Parameter "Device name"

This parameter is for setting the device name. Up to input 32 characters.

Parameter "Send delay after power on [0..15]s"

This parameter is for setting the delay time to send to bus after the gateway power on. Options: **0..15**

The setting dose not contain the gateway initialization time, and bus telegrams received during delay time will be recorded.

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

This parameter is for setting the time interval when this device cycle send telegrams through the bus to indicate this module 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: **0...240s, 0= inactive**

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



5.1.2. Parameter window "IP setting"

1.2.31 KNX Gateway Tuya-ZigBee > General > IP setting			
— General	IP assignment	DHCP O Fixed	
General setting	IP address (device)	192.168.1.10	
IP setting	Default Gateway Subnet Mask	192.168.1.1 255.255.255.0	
- KNX Channel	DNS server	192.168.1.1	

Fig.5.1.2 "IP setting" Parameter window

Parameter "IP assignment"

This parameter is for setting the assignment of IP address. Options:

DHCP

Fixed

Fixed: the assignment of IP address is fixed, can be assigned address for device via the parameters as follow.

DHCP: the parameters as follow are not visible when DHCP enabled, and no need to configure.

——Parameter "IP address (device)"

This parameter is for setting the IP address of device, and the IP address must be unique in the LAN, otherwise causing a conflict between IP.

Enter the address in IPv4 format, for example: 192.168.1.10

Options: 0-255.0-255.0-255.0-255

——Parameter "Default Gateway"

This parameter is for setting the default gateway. That is the default gateway of network segment which the device connects to.

Enter the address in IPv4 format, for example: 192.168.1.1

Options: 0-255.0-255.0-255.0-255

——Parameter "Subnet Mask"

This parameter is for setting the subnet mask. That is the subnet mask of network segment which the device connects to.

Enter the address in IPv4 format, for example: 255.255.255.0 Options: **0-255.0-255.0-255.0-255**

——Parameter "DNS server"

This parameter is for setting the DNS server of device. Use string with IPv4 to input address, for example: 192.168.1.1 Options: **0-255.0-255.0-255**



5.2. Parameter window "KNX Channel "

5.2.1. Parameter window "General setting"

1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > General setting

— General	Status object read request after restart	✓	
General setting	Send request delay between status objects	100	▼ ms
IP setting	Device online status request setting f	or common x	
-	Time period request for common 1 [0255,0=inactive]	0	min
 KNX Channel 	Time period request for common 2	0	min
General setting	 [0255,0=inactive] Time period request for common 3 	-	
KNX Channel setting	[0255,0=inactive]	0	min
+ Zigbee Channel	Time period request for common 4 [0255,0=inactive]	0	min
+ Room temperature controller	Time period request for common 5 [0255,0=inactive]	0	min
+ Ventilation controller	Time period request for common 6 [0255,0=inactive]	0	min
+ Logic	Time period request for common 7 [0255,0=inactive]	0	min
	Time period request for common 8 [0255,0=inactive]	0	min
	Time period request for common 9 [0255,0=inactive]	0	min
	Time period request for common 10 [0255,0=inactive]	0	min

Fig.5.2.1 "General setting" Parameter window

Parameter "Status object read request after restart"

This parameter is for setting whether to send read request telegram of status after restart device.

Parameter "Send request delay between status objects"

This parameter is visible when previous parameter is enabled. Set the interval time for sending between request telegrams when power on. Options:

50ms 100ms 200ms

Device online status request setting for common x

Parameter "Time period request for common x [0..255,0=inactive] min"(x=1~10)

This parameter is for setting the read request period to send to query the online status of the common device, 0 is not enable query function. Options: **0..255**

The function is used to query the online status of the KNX device. Requests begin after the gateway power-up send delay time complete.



5.2.2. Parameter window "KNX Channel setting"

1.2.31 KNX Gateway Tuya-ZigB	ee > KNX Channel > KNX Chan	nel setting	
— General	Channel 1-10	~	
	Channel 11-20	\checkmark	
General setting	Channel 21-30	\checkmark	
IP setting	Channel 31-40	\checkmark	
	Channel 41-50	\checkmark	
 KNX Channel 	Channel 51-60	\checkmark	
General setting	Channel 61-70	\checkmark	
KNX Channel setting	Channel 71-80	\checkmark	
KNX Channel setting	Channel 81-90	\checkmark	
Channel 1-10	Channel 91-100	\checkmark	
Channel 11-20	Channel 101-110	\checkmark	
Channel 21-30	Channel 111-120	\checkmark	
Channel 31-40	Channel 121-130	\checkmark	
	Channel 131-140	\checkmark	
Channel 41-50	Channel 141-150		

Fig.5.2.2(1) "KNX Channel setting" Parameter window

1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > Channel 1-10			
— General	Channel 1	\checkmark	
	Channel 2	\checkmark	
General setting	Channel 3	\checkmark	
IP setting	Channel 4	\checkmark	
10.07 71 1	Channel 5	\checkmark	
 KNX Channel 	Channel 6	\checkmark	
General setting	Channel 7	\checkmark	
KNV Channel anti-	Channel 8	\checkmark	
KNX Channel setting	Channel 9	\checkmark	
+ Channel 1-10	Channel 10		

Fig.5.2.2(2) "Channel 1-10" Parameter window

Parameter "Channel 1-10/11-20/21-30/..."

This parameter is for setting the enable KNX device. Display 10 KNX channels per page when enabled. Up to support 150 channels.

Parameter "Channel 1/2/3/..."

This parameter is for setting the KNX device setting. Display corresponding window when enabled.



5.2.3. Parameter window "Channel x"(x=1~150)

1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > Channel 1-10 > Channel 1				
-	General	Device type	Switch	•
	General setting	Description (max 30char.)		
	IP setting	Device online status reference by	Individual	-
-	KNX Channel	Time period for request [1255]	10	; min
	General setting			
	KNX Channel setting			
-	Channel 1-10			
	Channel 1			

Fig.5.2.3 "Channel 1" Parameter window

Parameters as follow is general setting parameters for KNX device type. Later chapters will not be repeated.

Parameter "Device type"

Note: do not change KNX Channel Device type parameter when this channel is added to Tuya. First delete existing device, otherwise you will not be able to delete it and you will need to delete KNX-Tuya gateway

This parameter is for setting the device type of KNX channel. Options:

Switch	Ventilation system
Switch/Dimming	Audio control
RGB dimming	Audio control(with on/off)
RGBW dimming	Air quality sensor
Color temperature	CO2 sensor
Curtain step/move	PM2.5 sensor
Rollerblind step/move	VOC sensor
Curtain position	Presence sensor
Rollerblind position	Motion sensor
Venetian blind position and slat	Brightness sensor
Value sender	I/O signal
Scene switch	Currentmetering
Air conditioner	Energy metering
Air conditioner(with swing)	
Room temperatureunit	
Room temperatureunit(with operation mode)	
Room temperature unit(with operation mode & fa	n speed)

Note: Channel 1~100 support all of the above function options, but channel 101~150 only support the functions as follow:

Switch Switch/Dimming Curtain step/move Rollerblind step/move Air quality sensor Energy metering



Parameter "Description (max 30char.)"

This parameter is for setting the name description for current channel device, up to input 30 characters.

Parameter "Device online status reference by"

This parameter is for setting the reference type sending read request to KNX device, you can select request for individual or common device, and optionally 10 common device requests. Options:

Common 1 ... Common 10 Individual Always online

When select "Common ...", common device request, apply to the device with multiple circuits. For example, multiple channels of gateway may be multiple circuits that control the same KNX device, so each channel can share one request.

When select "Individual", apply to a device only is controlled by gateway single channel.

When select "Always online", apply to the KNX device without heartbeat pack, especially scene. That is, once configure the device, it will always online.

---Parameter "Time period for request [1..255] min"

This parameter is visible when "Individual" is selected, set the time period for the online status request of single device. Options: **1..255**



5.2.3.1. Parameter of basic function

This chapter explains the basic functions parameters of KNX channel, including switch, dimming, curtain, color, color temperature, value sender and KNX scene switch.

.2.31 KNX Gateway Tuya-ZigB	iee > KNX Channel > Channel 1-10 > Ch	nannel 1	
- General	Device type	Switch	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	•
	Time period for request [1255]	10	‡ min
 KNX Channel 	_		
General setting			
KNX Channel setting			
- Channel 1-10			
Channel 1		("C) ."	
	Parametersetting	of Switch	
1.2.31 KNX Gateway Tuya-Zig	gBee > KNX Channel > Channel 1-10 > 0	Channel 1	
– General	Device type	Switch/Dimming	•
General setting	Description (max 30char.) Default Valu	e: Switch	
IP setting	Device online status reference by	Individual	•
in acturing	Time period for request [1255]	10	‡ min
- KNX Channel	Min. brightness value [050]	0	÷ %
General setting	Max. brightness value [51100]	100	÷ %
KNX Channel setting			
— Channel 1-10			
Channel 1			
	Parameter setting of "S	witch/Dimming"	
1231 KNX Gateway Tuya-Zi	gBee > KNX Channel > Channel 1-10 >	- Channel 1	
- General	-		
V	Device type Description (max 30char.)	Curtain step/move	
General setting	Device online status reference by	Individual	
IP setting	Time period for request [1255]	10	‡ min
 KNX Channel 	Time period for request [Timess]	10	•
General setting			
KNX Channel setting			
— Channel 1-10			
Channel 1			
	Parametersetting	g of curtain	
1.2.31 KNX Gateway Tuya-Zig	gBee > KNX Channel > Channel 1-10 > C	Channel 1	
- General	Device type	RGB dimming	•
	Description (max 30char.)		
General setting	Device online status reference by	Individual	•
IP setting	Time period for request [1255]	10	‡ min
 KNX Channel 	Object datatype	1x3byte 3x1byte	
General setting			
KNX Channel setting			
- Channel 1-10			
Channel 1			
	Parameter setting of '	"RGB dimming"	
1.2.31 KNX Gateway Tuya-Zi	gBee > KNX Channel > Channel 1-10 >	Channel 1	
– General	Device type	RGBW dimming	•
	Description (max 30char.)		
General setting	Device online status reference by	Individual	•
IP setting	Time period for request [1255]	10	‡ min
 KNX Channel 		-	¥

Parameter setting of "RGBW dimming"

Object datatype

General setting KNX Channel setting Channel 1-10 Channel 1 1x6byte 4x1byte



1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > Channel 1-10 > Channel 1

– General	Device type	Color temperature	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	*
	Time period for request [1255]	10	‡ min
 KNX Channel 	Min. color temperature [20007000]	2700	‡ K
General setting	Max. color temperature [20007000]	6500	\$ К
KNX Channel setting			
- Channel 1-10			
Channel 1			

Parameter setting of "Color temperature"

General	Device type	Value sender	•
General setting	Description (max 30char.) Default Value: Device comme suads reference by	Individual	•
IP setting	Time period for request [1255]	10	‡ mir
KNX Channel	Output object datatype for trigger	1bit[On/Off]	•
General setting	Output value	OFF ON	
KNX Channel setting			
Channel 1-10			
Channel 1			
	Parametersetting of "	Value sender"	
1 KNX Gateway Tuya-Zig	" Parametersetting of		
	-		•
General	gBee > KNX Channel > Channel 1-10 > C	hannel 1	•
General General setting	gBee > KNX Channel > Channel 1-10 > C	hannel 1	•
General General setting IP setting	gBee > KNX Channel > Channel 1-10 > C Device type Description (max 30char.)	hannel 1 Scene switch	
General General setting IP setting	gBee > KNX Channel > Channel 1-10 > C Device type Description (max 30char.) Device online status reference by	hannel 1 Scene switch	
General General setting IP setting	gBee > KNX Channel > Channel 1-10 > C Device type Description (max 30char.) Device online status reference by Time period for request [1255]	hannel 1 Scene switch Individual 10	‡ mir
General General setting IP setting KNX Channel	gBee > KNX Channel > Channel 1-10 > C Device type Description (max 30char.) Device online status reference by Time period for request [1255]	hannel 1 Scene switch Individual 10	‡ mir

Fig.5.2.3.1 Parameter setting of basic function

Parameter "Min. brightness value [0..50]%"

Parameter "Max. brightness value [51..100]%"

These two parameters are visible when device type is selected "Switch/Dimming". Set the upper and lower limit threshold value of brightness.

The lower limit threshold value options: 0..50; the upper limit threshold value options: 51..100

Parameter "Object datatype"

This parameter is visible when device type is selected "RGB dimming" or "RGBW dimming". Set the object datatype of RGB or RGBW dimming.

Suitable for RGB type:

1x3byte

3x1byte



Suitable for RGBW type:

1x6byte

4x1byte

Parameter "Min. color temperature[2000..7000]K"

Parameter "Max. color temperature[2000..7000]K"

These two parameters are visible when device type is selected "Color temperature". Set the upper and lower limit threshold value of color temperature. Options: **2000..7000**

When the minimum value and maximum value are set incorrect, The selected range is the whole range, for example the minimum value is larger than the maximum value. There is only one value when equal.

For colour temperature, 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. color temperature [20007000]	7000	÷ Ŧ	к
Max. color temperature [20007000]	6500	÷	к

Parameter "Output object datatype for trigger"

This parameter is visible when device type is selected "Value sender". Set telegram type for sending to KNX bus when trigger calling command on the APP. Options:

1bit[On/Off] 2bit[0..3] 1byte[0..100%] 1byte[0..255] 1byte[scene control] 2byte[Float] 2byte[0..65535]

Parameter "Output value"

This parameter is visible when device type is selected "Value sender", and corresponding datatype is selected. Set the telegram value for sending to KNX bus when trigger calling command on the APP. Options are according to the datatype:

```
OFF ON(1bit) / 0..3(2bit) / 0..100(1byte) / 0..255(1byte) / 1..64(1byte) /
```

```
-671 088.64..670 760.96(2byte) / 0..65535(2byte)
```



Parameter "Triggerscene No. from KNX"

This parameter is visible when device type is selected "Scene switch". Set the scene calling command of KNX system to receive. Options:**1..64**

5.2.3.2. Parameter of air condition

This chapter explains the air condition function of KNX channel, including the basic and air conditioning control with swing. Parameters as follow are visible when "Air conditioner" or "Air conditioner(with swing)" is selected.

General	Device type	Air conditioner	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	•
	Time period for request [1255]	10	‡ min
KNX Channel	Time period for request room temperature sensor [0255]	10	‡ min
General setting	Min. setpoint temperature [1632]	16	▼ °(
KNX Channel setting	Max. setpoint temperature [1632]	32	▼ °(
Channel 1-10	Control mode setting		
Channel 1	Auto mode	🔵 Disable 🔘 Enable	
Channel 2	Output value for auto [0255]	0	* *
Channel 3	Status value for auto [0255]	0	* *
Channel 4	Heating mode	🔵 Disable 🔘 Enable	
Channel 5	Output value for heating [0255]	1	* *
Channel 6	Status value for heating [0255]	1	÷
Channel 7	Cooling mode	🔿 Disable 🔘 Enable	
Channel 8	Output value for cooling [0255]	3	*
Channel 9	Status value for cooling [0255]	3	
Channel 10	Fan mode	Disable Disable	•
Channel 11-20			
Channel 21-30	Output value for fan [0255]	9	•
Channel 31-40	Status value for fan [0255]	9	÷
Channel 41-50	Dehumidification mode	🔵 Disable 🔘 Enable	
Channel 51-60	Output value for dehumidification [0255]	14	*
Channel 61-70	Status value for dehumidification [0255]	14	* *
Channel 71-80	Object datatype of 1byte fan speed	Fan stage (DPT_5.100)	

Fig.5.2.3.2(1) Parameter setting of air condition function



Channel 71-80	Object datatype of 1byte fan sp	eed Fan stage (DPT_5.100) Percentage (DPT_5.001))	
Channel 81-90	Output value for fan speed	I		
Channel 91-100	Output value for fan speed au	uto 0	▲ ▼	%
Channel 101-110	Output value for fan speed lo	w 33	* *	%
Channel 111-120	Output value for fan speed m	edium 67	* *	%
Channel 121-130	Output value for fan speed hi	gh 100	* *	%
Channel 131-140	Status feedback for fan spe	ed		
Channel 141-150	Status value for fan speed aut	to 0	▲ ▼	%
+ Zigbee Channel	Status value for fan speed low	33	* *	%
+ Room temperature	Status value for fan speed me	dium 67	*	%
	Status value for fan speed hig	h 100	 ▼	%
+ Ventilation controlle	er			

Fig.5.2.3.2(2) Parameter setting of air condition function

Parameter "Time period for request room temperaturesensor [0...255]min"

This parameter is for setting the time period for read request room temperature sensor.

Options: 0..255

Send read request as default when the device voltage recovery.

Parameter "Min./Max. setpoint temperature[16..32]°C"

These two parameters are for setting the adjustable range of the setpoint temperature. If the setpoint temperaturebeyond the limited range, the will output the limited temperature. Options:

16°C
17℃
32°C

For setpoint temperature, the Min. value must less than the Max., if not, it can not be modified on ETS.

Control mode setting

Parameter "Auto/Heating/Cooling/Fan/Dehumidificationmode"

Corresponding mode setting is visible when these parameters are enabled.

——Parameter "Output value for auto/heating/cooling/fan/dehumidification [0..255]"

These parameters are visible when the modes are enabled. Set the output value for switching to each mode.

Options: 0...255



---Parameter "Status value for auto/heating/cooling/fan/dehumidification [0..255]"

These parameters are visible when the modes are enabled. Set the status feedback value of each mode.

Options: 0..255

Parameter "Object datatype of 1byte fan speed"

This parameter is for setting the object datatype of 1byte fan speed. Options:

Fan stage (DPT 5.100)

Percentage (DPT 5.001)

Output value for fan speed

---Parameter "Output value for fan speed auto/low/medium/high"

These parameters are for setting the output value for switching to each fan speed, support 4 fan speeds: auto, low, medium, high. Options are according to the object datatype of previous parameter: **0..255/0..100**

Status feedback for fan speed

---Parameter "Status value for fan speed auto/low/medium/high"

These parameters are for setting the status feedback value of each fan speed, support 4 fan speeds: auto, low, medium, high. Options are according to the object datatype of previous parameter: **0..255/0..100**

Note: the out value and status value must meet the condition low<medium<high, if not, they can not be configured on ETS, and display red box warning(Only applicable to BTMO-TY/00.1(2)), as shown as follow:

Output value for fan speed



5.2.3.3. Parameter of room temperature unit

This chapter explains the room temperature unit function of KNX channel, including the basic, control with control mode, and with fan speed. Parameters as follow are visible when "Room temperature unit", "Room temperature unit(with operation mode)" or "Room temperature unit(with operation mode)" is selected.



1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > Channel 1-10 > Channel 1

General	Device type	Room temperature unit(with operation mode & fan speed)	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	•
KNX Channel	Time period for request [1255]	10	mir
General setting	Time period for request room temperature sensor [0255]	10 *	mir
KNX Channel setting	Min. setpoint temperature [540]	5 -	°C
Channel 1-10	Max. setpoint temperature [540]	40 -	°C
Channel 1	Control mode	Heating	•
Channel 2		neaung	•
Channel 3	Fan speed setting		
Channel 3 Channel 4		Fan stage (DPT_5.100)	
	Fan speed setting Object datatype of 1byte fan speed	 Fan stage (DPT_5.100) Percentage (DPT_5.001) 	
Channel 4			
Channel 4 Channel 5	Object datatype of 1byte fan speed		; %
Channel 4 Channel 5 Channel 6	Object datatype of 1byte fan speed Output value for fan speed	Percentage (DPT_5.001)	. 74
Channel 4 Channel 5 Channel 6 Channel 7	Object datatype of 1byte fan speed Output value for fan speed Output value for fan speed low	 Percentage (DPT_5.001) 33 	, 74 ; %
Channel 4 Channel 5 Channel 6 Channel 7 Channel 8	Object datatype of 1byte fan speed Output value for fan speed Output value for fan speed low Output value for fan speed medium	 Percentage (DPT_5.001) 33 67 100 	, 74 ; %
Channel 4 Channel 5 Channel 6 Channel 7 Channel 8 Channel 9	Object datatype of 1byte fan speed Output value for fan speed Output value for fan speed low Output value for fan speed medium Output value for fan speed high	 Percentage (DPT_5.001) 33 67 100 	· ~ ; % ; %
Channel 4 Channel 5 Channel 6 Channel 7 Channel 8 Channel 9 Channel 10	Object datatype of 1byte fan speed Output value for fan speed Output value for fan speed low Output value for fan speed medium Output value for fan speed high Status feedback for fan speed	 Percentage (DPT_5.001) 33 67 100 22 	· ~ ; % ; %
Channel 4 Channel 5 Channel 6 Channel 7 Channel 8 Channel 9 Channel 10 Channel 11-20	Object datatype of 1byte fan speed Output value for fan speed Output value for fan speed low Output value for fan speed medium Output value for fan speed high Status feedback for fan speed Status value for fan speed low	 Percentage (DPT_5.001) 33 67 100 33 57 	·] % ;] % ;] % ;] %
Channel 4 Channel 5 Channel 6 Channel 7 Channel 8 Channel 9 Channel 10 Channel 11-20 Channel 21-30	Object datatype of 1byte fan speed Output value for fan speed Output value for fan speed low Output value for fan speed medium Output value for fan speed high Status feedback for fan speed Status value for fan speed low Status value for fan speed medium	 Percentage (DPT_5.001) 33 67 100 33 67 67 100 	·

Fig.5.2.3.3 Parameter setting of room temperature unit

Parameter "Time period for request room temperaturesensor [0...255]min"

This parameter is for setting the time period for read request room temperature sensor. Options: **0..255**

Send read request as default when the device voltage recovery.

Parameter "Min./Max. setpoint temperature[5..40]°C"

These two parameters are for setting the adjustable range of the setpoint temperature. If the setpoint temperaturebeyond the limited range, the will output the limited temperature. Options:

5°C 6°C ... 40°C



For setpoint temperature, the Min. value must less than the Max., if not, it can not be modified on ETS.

Parameter "Control mode"

This parameter is for setting temperature control mode, support 3 types: heating, cooling and heating/cooling.

Options:

Heating Cooling Heating and Cooling

Fan speed setting

This setting is visible when "Room temperatureunit(with operation mode & fan speed)" is selected

Parameter "Object datatype of 1byte fan speed"

This parameter is for setting the object datatype of 1byte fan speed. Options:

Fan stage (DPT 5.100)

Percentage (DPT 5.001)

Output value for fan speed

---Parameteroutput value for fan speed low/medium/high"

These parameters are for setting the output value for switching to each fan speed, support 3 fan speeds: low, medium, high. Options are according to the object datatype of previous parameter: **0..255/0..100**

Status feedback for fan speed

---Parameter Status value for fan speed low/medium/high"

These parameters are for setting the status feedback value of each fan speed, support 3 fan speeds: low, medium, high. Options are according to the object datatype of previous parameter: **0..255/0..100**

Note: the out value and status value must meet the condition low<medium<high, if not, they can not be configured on ETS, and display red box warning, as shown as follow:

Output value for fan speed low	68	÷	%
Output value for fan speed medium	67	÷	%
Output value for fan speed high	100	∴ ▼	%



Parameter "1 bit object function for fan speed"

This parameter is for setting whether to enable the object datatype of 1bit fan speed. When enabled, the 1 bit object of each fan speed is visible. When three objects value is 0, turn off the fan.

——Parameter "1 bit object for fan speed off "

This parameter is visible when previous parameter is enabled. Set whether to enable the object "1bit fan speed off" to visible.

5.2.3.4. Parameter of ventilation system

This chapter explains the ventilation system function of KNX channel. Parameters as follow are visible when "Ventilation system" is selected.

-	General	Device type	Ventilation system	•	r
	General setting	Description (max 30char.)			
	IP setting	Device online status reference by	Individual	•	,
		Time period for request [1255]	10 ‡] m	nin
	KNX Channel	Default fan speed after ventilation on	Low	•	,
	General setting	Data type of fan speed	🗌 1bit 🔘 1byte		
	KNX Channel setting	Object datatype of 1byte fan speed	Fan stage (DPT_5.100)		
-	Channel 1-10		Percentage (DPT_5.001)		
	Channel 1	Output value for fan speed			
	Channel 2	Output value for fan speed low	33	•	%
	Channel 3	Output value for fan speed medium	67	÷	%
	Channel 4	Output value for fan speed high		Ť	%
	Channel 5	Status feedback for fan speed			
	Channel 6	Status value for fan speed low	33	÷	%
	Channel 7	Status value for fan speed medium	67	÷	%
	Channel 8	Status value for fan speed high	100	÷ Ŧ	%

1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > Channel 1-10 > Channel 1





Parameter "Default fan speed after ventilation on"

This parameter is for setting the initial fan speed after ventilation on. Switch status of ventilation is read from bus after download or reset, and default as off if can not read. Options:

Low Medium High Last status

Parameter "Data type of fan speed"

This parameter is for setting the data type of ventilation fan speed. Options:

1bit

1byte

---Parameter "Object datatype of 1byte fan speed"

This parameter is visible when fan speed datatype is selected "1byte". Set the datatype of 1byte fan speed object. Options:

Fan stage (DPT 5.100)

Percentage (DPT 5.001)

Output value for fan speed

---Parameter "Output value for fan speed low/medium/high"

These parameters are for setting the output value for switching to each fan speed, support 3 fan speeds: low, medium, high. Value=0 is fan speed off. Options are according to the object datatype of previous parameter: **0..255/0..100**

Status feedback for fan speed

---Parameter "Status value for fan speed low/medium/high"

These parameters are for setting the status feedback value of each fan speed, support 3 fan speeds: low, medium, high. Value=0 is fan speed off. Options are according to the object datatype of previous parameter: **0..255/0..100**

Note: the out value and status value must meet the condition low<medium<high, if not, they can not be configured on ETS, and display red box warning, as shown as follow:

Output value for fan speed low	68	•	%
Output value for fan speed medium	67	•	%
Output value for fan speed high	100	ñ. 7	%



---Parameter "Object value of fan speed off/low/medium/high"

This parameter is visible when fan speed datatype is selected "1bit". Set the control value for switching to each fan speed and the status feedback value. support 4 fan speeds: off, low, medium, high. Device will be update the fan speed display according to the feedback value. Options:

Low=0,Medium=0,High=0 Low=1,Medium=0,High=0 Low=0,Medium=1,High=0 Low=1,Medium=1,High=0 Low=0,Medium=0,High=1 Low=1,Medium=0,High=1 Low=1,Medium=1,High=1

——Parameter "Delay between fan speed switch [0..100]*50ms "

This parameter is visible when fan speed datatype is selected "1bit". Set the delay time between fan speeds switchover. Options: **0..100**

Turn off fan speed before switch the fan speed, and turn on it after the delay time. When delay time is set as 0, it will not turn off first then turn on, but switch to next fan speed directly.



5.2.3.5. Parameter of audio control

This chapter explains the audio control function of KNX channel, including the basic and audio control with power on/off. Parameters as follow are visible when "Audio control" or "Audio control (with on/off) " is selected.

2.31 KNX Gateway Tuya-Zig	Bee > KNX Channel > Channel 1-10 > Cha	annel 1	
General	Device type	Audio control	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	•
KNX Channel	Time period for request [1255]	10	‡ min
General setting	Object datatype of absolute volume	Percentage (DPT 5.001) Percentage (DPT 5.004)	
KNX Channel setting	Output value for play mode		
Channel 1-10	Output value for play in single cycle	1	*
Channel 1	Output value for play in order	2	÷
Channel 2	Output value for play in random	3	* *
Channel 3	Status feedback for play mode		
Channel 4	Status value for play in single cycle	1	* *
Channel 5	Status value for play in order	2	* *
Channel 6	Status value for play in random	3	*

Fig.5.2.3.5 Parameter setting of audio control

Parameter "Object datatype of absolute volume"

This parameter is for setting the datatype of audio control object. Options:

Percentage (DPT 5.001)

Percentage (DPT 5.004)

Output value for play mode

---Parameter "Output value for play in single cycle/order/random"

These parameters are for setting the control value of each mode, including single cycle/order/random play.

Options: 0..255

Status feedback for play mode

---Parameter "Status value for for play in single cycle/order/random"

These parameters are for setting the status value of each mode, including single cycle/order/random play. Device will be update the play mode display according to the feedback value. Options: **0..255**



5.2.3.6. Parameter of sensor function

This chapter explains the sensor function of KNX channel, including air quality sensor, presence sensor, motion sensor, brightness sensor, I/O sensor and etc.

or KivA Gateway Tuya-Zigi	3ee > KNX Channel > Channel 1-10 > C		
General	Device type	Air quality sensor	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	•
KNX Channel	Time period for request [1255]	10	‡ min
	Object datatype of PM2.5	Value in ug/m3(DPT_7.001)	
General setting		Float value in ug/m3(DPT_9.030)	
KNX Channel setting	Object datatype of PM10	 Value in ug/m3(DPT_7.001) Float value in ug/m3(DPT_9.030) 	
Channel 1-10	01	Value in ug/m3(DPT_7.001)	
Channel 1	Object datatype of VOC	Float value in ug/m3(DPT_9.030)	
Channel 2	Object datatype of CO2	Value in ppm (DPT 7.001)	
Channel 3		Float value in ppm(DPT_9.008)	
	Parameter setting of "Air	quality sensor"	
		hannal 1	
T KNX Gateway Tuya-Zigt	Bee > KNX Channel > Channel 1-10 > C	nannei i	
General	Device type	CO2 sensor	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	•
	Time period for request [1255]	10	‡ min
KNX Channel	Object datatype of CO2	Value in ppm (DPT 7.001)	
General setting		Float value in ppm(DPT_9.008)	
KNX Channel setting			
Channel 1-10			
Channel 1			
	Parameter setting of "	CO2 sensor"	
1 KNX Gateway Tuya-ZigB	ee > KNX Channel > Channel 1-10 > C	hannel 1	
Jeneral	Device type	PM2.5 sensor	•
с. I. и:	Description (max 30char.)		
General setting	Device online status reference by	Individual	•
IP setting	Time period for request [1255]	10	‡ min
		Value in ug/m3(DPT_7.001)	•
NX Channel			
	Object datatype of PM2.5	Float value in ug/m3(DPT_9.030)	
General setting KNX Channel setting	Object datatype of PMZ.5	Float value in ug/m3(DPT_9.030)	
-	Object datatype of PMZ.5	Float value in ug/m3(DPT_9.030)	

Parameter setting of "PM2.5 sensor"



1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > Channel 1-10 > Channel 1

-	General	Device type	VOC sensor		•
	General setting	Description (max 30char.)			
	IP setting	Device online status reference by	Individual		•
_	KNX Channel	Time period for request [1255]	10	‡ n	min
		Object datatype of VOC	 Value in ug/m3(DPT_7.001) Float value in ug/m3(DPT_9.030) 		
	General setting		• Hoat value in ug/ins(si 1_5isso)		
	KNX Channel setting				
-	Channel 1-10				
	Channel 1				

Parametersetting of "VOC sensor"

1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > Channel 1-10 > Channel 1

-	General	Device type	Presence sensor	•
	General setting	Description (max 30char.)		
	IP setting	Device online status reference by	Individual	•
		Time period for request [1255]	10	‡ min
— к	KNX Channel	Object datatype of brightness(lux)	Value in lux (DPT 7.013)	
	General setting		Float value in lux (DPT 9.004)	
	KNX Channel setting			
-	Channel 1-10			
	Channel 1			

Parameter setting of "Presence sensor"

1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > Channel 1-10 > Channel 1			
- General	Device type	Motion sensor	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	•
- KNX Channel	Time period for request [1255]	10	‡ min
General setting			
KNX Channel setting			
- Channel 1-10			
Channel 1			

Parametersetting of "Motion sensor"

1.2.31 KNX Gateway Tuya-ZigBe	e > KNX Channel > Channel 1-10 > Ch	annel 1	
— General	Device type	Brightness sensor	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	•
- KNX Channel	Time period for request [1255]		‡ min
	Object datatype of brightness(lux)	Value in lux (DPT 7.013)	
General setting		Float value in lux (DPT 9.004)	
KNX Channel setting			
- Channel 1-10			
Channel 1			

Parameter setting of "Brightness sensor"

1.2.3	1 KNX Gateway Tuya-ZigBee	> KNX Channel > Channel 1-10 > Channel	nel 1	
- (Seneral	Device type	I/O signal	•
	General setting	Description (max 30char.)		
	IP setting	Device online status reference by	Individual	•
- *	KNX Channel	Time period for request [1255]	10 *	min
	General setting			
	KNX Channel setting			
-	Channel 1-10			
	Channel 1			

Parametersetting of "I/O signal"

Fig.5.2.3.6 Parameter setting of sensor function



Parameter "Object datatype of PM2.5"

This parameter is visible when device type is selected "Air quality sensor" or "PM2.5 sensor". Set the object datatype of PM2.5. Options:

Value in ug/m3 (DPT 7.001)

Float value in ug/m3 (DPT 9.030)

Parameter "Object datatype of PM10"

This parameter is visible when device type is selected "Air quality sensor". Set the object datatype of PM10.

Options:

Value in ug/m3 (DPT 7.001)

Float value in ug/m3 (DPT 9.030)

Parameter "Object datatype of VOC"

This parameter is visible when device type is selected "Air quality sensor" or "VOC sensor". Set the

object datatype of VOC. Options:

Value in ug/m3 (DPT 7.001)

Float value in ug/m3 (DPT 9.030)

Parameter "Object datatype of CO2"

This parameter is visible when device type is selected "Air quality sensor" or "CO2 sensor". Set the object datatype of CO2. Options:

Value in ppm (DPT 7.001)

Float value in ppm (DPT 9.008)

Parameter "Object datatype of brightness(lux)"

This parameter is visible when device type is selected "Presence sensor" or "Brightness sensor". Set the object datatype of brightness. Options:

Value in lux (DPT 7.013) Float value in lux (DPT 9.004)



5.2.3.7. Parameter of currentmetering function

This chapter explains the current metering function of KNX channel. Parameters as follow are visible when device type is selected "Current metering".

General	Device type	Current metering	•
General setting	Description (max 30char.)		
IP setting	Device online status reference by	Individual	•
	Time period for request [1255]	10	‡ min
KNX Channel	Object datatype of current	Float value in mA (DPT 9.021)	•
General setting	Object datatype of power	Float value in kW (DPT 9.024)	
KNX Channel setting		 Float value in W (DPT 14.056) 	
Channel 1-10			

Fig.5.2.3.7 Parameter setting of current metering function

Parameter "Object datatype of current"

This parameter is for setting the object datatype of current. Options:

Value in mA (DPT 7.012)

Float value in mA (DPT 9.021)

Float value in A (DPT 14.019)

Parameter "Object datatype of power"

This parameter is for setting the object datatype of power. Options:

Float value in kW (DPT 9.024) Float value in W (DPT 14.056)



5.2.3.8. Parameter of energy metering function

This chapter explains the energy metering function of KNX channel. Parameters as follow are visible when device type is selected "Energy metering".

1.2.31 KNX Gateway Tuya-ZigBee > KNX Channel > Channel 1-10 > Channel 1				
— General	Device type	Energy metering	•	
General setting	Description (max 30char.)			
IP setting	Device online status reference by	Individual	•	
	Time period for request [1255]	10	‡ min	
- KNX Channel	Object datatype of current	Float value in mA (DPT 9.021)	•	
General setting	Object datatype of voltage	Float value in mV (DPT 9.020)		
KNX Channel setting		Float value in V (DPT 14.027)		
 Channel 1-10 	Object datatype of power	Float value in kW (DPT 9.024) Float value in W (DPT 14.056)		
Channel 1		Value in Wh (DPT 13.010)		
Channel 2	Object datatype of energy	Value in kWh (DPT 13.013)		

Fig.5.2.3.8 Parameter setting of energy metering function

Parameter "Object datatype of current"

This parameter is for setting the object datatype of current. Options:

Value in mA (DPT 7.012) Float

value in mA (DPT 9.021) Float

value in A (DPT 14.019)

Parameter "Object datatype of voltage"

This parameter is for setting the object datatype of voltage. Options:

Float value in mV (DPT 9.020)

Float value in V (DPT 14.027)

Parameter "Object datatype of power"

This parameter is for setting the object datatype of power. Options:

Float value in kW (DPT 9.024)

Float value in W (DPT 14.056)

Parameter "Object datatype of energy"

This parameter is for setting the object datatype of energy. Options:

Value in Wh (DPT 13.010)

Value in kWh (DPT 13.013)



5.3. Parameter window "Zigbee Channel"

5.3.1. Parameter window "Zigbee Channel setting"

Channels 6 [#] Group Objects 41				
1.2.31 KNX Gateway Tuya-ZigBee > Zigbee Channel > Zigbee Channel setting				
— General	Channel 1	×		
×	Channel 2	\checkmark		
General setting	Channel 3	\checkmark		
IP setting	Channel 4	\checkmark		
+ WW Channel	Channel 5	\checkmark		
+ KNX Channel	Channel 6	\checkmark		
– Zigbee Channel	Channel 7	\checkmark		
	Channel 8	\checkmark		
Zigbee Channel setting	Channel 9	\checkmark		
Channel 1	Channel 10	\checkmark		
Channel 2	Channel 11	\checkmark		
	CI 112	-		
	Fig.5.3.1 "Zigbee	e Channel setting" Parameter window		

Parameter "Channel 1/2/3/..."

This parameter is for setting the Zigbee device setting. Display corresponding window when enabled. Up to support 32 channels.



5.3.2. Parameter window "Channel x" (x=1~32)

-	General	Description (max 24char.)		
		Preset Mac address of zigbee device		
	General setting			
	IP setting	8 hexadecimal data format, which car	n get from the property of ZigBee device on App	
ŀ	KNX Channel	Device type	Air quality sensor	•
_	Zigbee Channel	Object datatype of VOC	 Value in ug/m3(DPT_7.001) Float value in ug/m3(DPT_9.030) 	
	Zigbee Channel setting	Object datatype of CO2	Value in ppm (DPT 7.001)	
	Channel 1		Float value in ppm(DPT_9.008)	
	Channel 2	Object datatype of formaldehyde	 Value in ug/m3(DPT_7.001) Float value in ug/m3(DPT_9.030) 	
ŀ	KNX Channel	Device type	Temperature and humidity sensor	•
ŀ	KNX Channel	Device type	Brightness sensor	
_	Zigbee Channel	Object datatype of brightness(lux)	Value in lux (DPT 7.013) Float value in lux (DPT 9.004)	
ŀ	KNX Channel	Device type	Gas sensor	•
-	Zigbee Channel	Object datatype of gas concentration	Float value in ug/m3 (DPT_9.030)	•
F	KNX Channel	Device type	I/O signal	•
-	Zigbee Channel	Object datatype of I/O signal	Switch (DPT 1.001)	•
ŀ	KNX Channel	Device type	Switch	•
	Zigbee Channel	Number of output	1	•
F	KNX Channel	Device type	Switch/Dimming	•
-	KNX Channel	Device type	RGB dimming	•
ŀ	KNX Channel	Device type	Color temperature	•
	Zigbee Channel	Min. color temperature [20007000]	2700	;
	Zigbee Channel setting	Max. color temperature [20007000]	6500	,
ŀ	KNX Channel	Device type	RGBCW	,
-	Zigbee Channel	Min. color temperature [20007000]	2700	
		Max. color temperature [20007000]	6500	,
F	KNX Channel	Device type	Curtain position	,
	Zigbee Channel	Number of output	1 2	



KNX Channel

Device type

ce type

Temperature, humidity and brightness sensor

```
    Zigbee Channel
```

Object datatype of brightness(lux)

Value in lux (DPT 7.013)
 Float value in lux (DPT 9.004)

Zigbee Channel setting

Fig.5.3.2 "Channel setting" Parameter window

Parameter "Description (max 24char.)"

This parameter is for setting the name description for current channel device, up to input 24 characters.

characters.

Parameter "Preset Mac address of zigbee device"

This parameter is for presetting MAC address of the current channel.

8 hexadecimal data format, which can get from the property of ZigBee device on App

Parameter "Device type"

This parameter is for setting the device type of the Zigbee channel. Options:

- Air quality sensor
- Temperature and humidity sensor
- Brightness sensor
- Gas sensor
- I/O signal
- Switch
- Switch/Dimming
- **RGB** dimming
- **Color temperature**
- RGBCW
- Curtain position
- Temperature, humidity and brightness sensor

Parameter "Object datatype of VOC"

This parameter is visible when "Air quality sensor" is selected. Set the object datatype of VOC.

Options:

Value in ug/m3 (DPT 7.001)

Float value in ug/m3 (DPT 9.030)


Parameter "Object datatype of CO2"

This parameter is visible when "Air quality sensor" is selected. Set the object datatype of CO2. Options:

Value in ppm (DPT 7.001)

Float value in ppm (DPT 9.008)

Parameter "Object datatype of formaldehyde"

This parameter is visible when "Air quality sensor" is selected. Set the object datatype of formaldehyde.

Options:

Value in ppm (DPT 7.001)

Float value in ppm (DPT 9.008)

Parameter "Object datatype of brightness(lux)"

This parameter is visible when "Brightness sensor" or "Temperature, humidity and brightness sensor" is selected. Set the object datatype of brightness. Options:

Value in lux (DPT 7.013)

Float value in lux (DPT 9.004)

Parameter "Object datatype of gas concentration"

This parameter is visible when "Gas sensor" is selected. Set the object datatype of gas concentration.

Options:

Value in ug/m3 (DPT 7.001)

Float value in ppm (DPT 9.008)

Float value in ug/m3 (DPT 9.030)

Parameter "Object datatype of I/O signal"

This parameter is visible when "I/O signal" is selected. Set the object datatype of I/O signal. Options:

Switch (DPT 1.001)

Boolean (DPT 1.002)



Alarm (DPT 1.005) Occupancy (DPT 1.018) Window/door (DPT 1.019)

Parameter "Number of output"

This parameter is visible when "Switch" or "Curtain position" is selected. Set the output channel of Switch or Curtain.

Options for switch output: 1 / 2 / 3

Options for curtain output: **1 / 2**

Parameter "Min. color temperature[2000..7000]K"

Parameter "Max. color temperature[2000..7000]K"

These two parameters are visible when "Color temperature" or "RGBCW" is selected. Set the upper and lower limit threshold value of color temperature. Options: **2000..7000**

When the minimum value and maximum value are set incorrect, The selected range is the whole range, for example the minimum value is larger than the maximum value. There is only one value when equal.

For colour temperature, 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. color temperature [20007000]	7000	∴ ▼	к
Max. color temperature [20007000]	6500	* *	к



5.4. Parameter window "Room temperature controller"

5.4.1. Parameter window "RTC Channel setting"

1.2.31 KNX Gateway Tuya-ZigBee > Room temperature controller > RTC Channel setting

+ General	Room temperature controller 1	\checkmark
	Room temperature controller 2	\checkmark
+ KNX Channel	Room temperature controller 3	\checkmark
+ Zigbee Channel	Room temperature controller 4	\checkmark
	Room temperature controller 5	\checkmark
 Room temperature controller 	Room temperature controller 6	\checkmark
RTC Channel setting	Room temperature controller 7	\checkmark
Krc channel setting	Room temperature controller 8	\checkmark
+ RTC 1	Room temperature controller 9	~
+ RTC 2	Room temperature controller 10	

Fig.5.4.1 "RTC Channel setting" Parameter window

Parameter "Room temperature controller 1/2/3/..."

This parameter is for setting whether to enable the setting interface of RTC device, display corresponding interface. Up to enable 10 channels.

5.4.2. Parameter window "RTC x"(x=1~10)

1.2.	1.2.31 KNX Gateway Tuya-ZigBee > Room temperature controller > RTC 1					
+	General	Time period for request room temperature sensor [0255]	10	‡ min		
+	KNX Channel	Control value after temp. error[0100] (if 2-point control, set value '0'=0, set value	0	<u></u> %		
+	Zigbee Channel	'>0'=1)	0			
-	Room temperature controller	Room temperature control mode	Heating and Cooling	•		
	RTC Channel setting	Heating/Cooling switchover	Via object Automatic changeover			
-	RTC 1	Heating/Cooling status after download	Heating O Cooling			
	Setpoint	Heating/Cooling status after power on	As before power off	•		
	Heating control	Room temperature control system	🔵 2 pipes system 🔘 4 pipes system			
	Cooling control					
	Fan	Operation mode	🔵 Disable 🔘 Enable			
+	RTC 2	Controller status after download	Comfort mode	•		
+	RTC 3	Controller status after power on	As before power off	-		

Fig.5.4.2(1) "RTC 1" parameter window



+	RTC 4	1 bit object function for operation mode	🔵 Disable 🔘 Enable		
+	RTC 5	1 bit object for standby mode	Disable Enable		
+	RTC 6				
+	RTC 7	Fan speed auto.control function	🔵 Disable 🔘 Enable		
+	RTC 8	Window contact input function	🔵 Disable 🔘 Enable		
+	RTC 9	Delay for window contact [065535]	15	÷	s
+	RTC 10	Controller mode for open window	Economy mode O Frost/heat protection		
+	Ventilation controller	Bus presence detector function	🔵 Disable 🔘 Enable		
+	Logic				

Fig.5.4.2(2) "RTC 1" parameter window

Parameter "Time period for request room temperature sensor [0...255]min"

This parameter is for setting the time period for read request external temperature sensor. Send read request to external temperature sensor after the device voltage recovery or finish programming. Options: **0..255**

Parameter "Control value after temp. error[0..100]%(if 2-point control, set value '0'=0, set value

'>0'=1)''

This parameter is for setting the control value when temperature erroroccur. Options: 0..100

If 2-Point control, then the parameter value is 0, as well as the control value; if the parameter value is more than 0, then the control value will be 1.

Parameter "Room temperature control mode"

This parameter is for setting RTC control mode, support 3 types: heating, cooling and heating/cooling.

Options:

Heating Cooling Heating and Cooling

Heating and Cooling: heating and cooling are available. At the same time, four parameters as follow are visible.

——Parameter "Heating/Cooling switchover"

This parameter is for setting the switchover way of Heating/Cooling. Options:

Via object

Automatic changeover

---Parameter "Heating/Cooling status after download"

This parameter is for setting the heating/cooling control mode of device after download.

Options:



Heating

Cooling

—— Parameter "Heating/Cooling status after power on"

This parameter is for setting the heating/cooling control mode of device after voltage recovery. Options:

Heating

Cooling

As before power off

As before voltage failure: When the device is reset after power on, the control mode will recover as before voltage failure or restart. If it is the first time the device is used or a newly enabled function page, the control mode after the device is started is in an uncertain state, and it needs to be manually selected at this time.

---- Parameter "Room temperature control system"

This parameter is for setting the type of RTC control system, that is, pipe types of fan coil water inlet/outlet. Options:

2 pipes system

4 pipes system

2 pipes system: Shares an inlet and outlet pipe for heating and cooling, that is, both hot and cold water are controlled by a valve.

4 pipes system: Has its own inlet and outlet pipes for heating and cooling, and two valves are needed to control the entry and exit of hot water and cold water respectively.

Parameter "Operation mode"

This parameter is for setting whether to enable RTC operation mode. Options:

Disable

Enable

When enable, support 4 modes: comfort, standby, economy and frost/heat protection. Support datatype of 1bit and 1byte, and preset a operation mode when download and voltage recovery.

Four parameters as follow are visible when RTC operation mode enabled.

—— Parameter "Controller status after download"

This parameter is for setting the operation mode after download. Options:

- Standby mode
- Comfort mode
- Economy mode



---- Parameter "Controller status after power on"

This parameter is for setting the operation mode after voltage recovery. Options:

Standby mode Comfort mode

Economy mode

Frost/heatprotection

As before power off

---- Parameter "1 bit object function for operation mode"

This parameter is for setting whether to enable 1 bit objects of operation mode are visible. Options:

Disable

Enable

——Parameter "1 bit object for standby mode"

This parameter is visible when previous parameter enabled. Set whether to enable 1 bit object of standby mode is visible. Options:

Disable

Enable

Three parameters as follow are visible when RTC operation mode disabled.

----Parameter "Initial setpoint temperature(°C)"

This parameter is for setting the initial value of setpoint temperature. Options:

10.0
10.5
35.0

When initial setpoint temperature is less than the min. setpoint temperature, display following warning:

😢 The setpoint is less than minimum,so minimum will regard as setpoint in fact

When initial setpoint temperature is greater than the max. setpoint temperature, display following warning:

S The setpoint is greater than maximum, so maximum will regard as setpoint in fact.



Automatic H/C mode changeover dead zone

---- Parameter " Upper/Lowerdead zone"

These two parameters are visible when control mode "Heating and Cooling" is selected, and "Automatic changeover" is selected. Setting the dead zone range of auto switchover heating/cooling. Options:

0.5℃ 1.0℃ ... 10℃

Under heating control, when the actual temperature(T) greater than or equal to the setpoint temperature+ the upper dead zone, then mode heating switch to cooling;

Under cooling control, when the actual temperature(T) less than or equal to the setpoint temperature+ the upper dead zone, then mode cooling switch to heating.

Parameter "Fan speed auto.control function"

This parameter is for setting whether to enable fan auto control interface is visible. Options:

Disable

Enable

Parameter "Window contact input function"

This parameter is visible when operation mode enabled. Set whether to link to window contact status.

Options:

Disable

Enable

—— Parameter "Delay for window contact [0..65535]s"

This parameter is visible when operation mode and window contact input function are enabled. Set the delay time to window contact detection. That is, when receive a telegram "window open", the controller will regard that as a valid signal and execute the behaviour after this delay time. Options:

0..65535

--- Parameter "Controllermode for open window"

This parameter is visible when operation mode and window contact input function are enabled. If window status is open, perform corresponding operation according to configuration. Options:



Economy mode

Frost/heatprotection

Other control telegram receiving will be record during window is open and performed after receiving the telegram "Close window". If there is no telegram receiving when window is open, keep the current mode.

Parameter "Bus presence detector function"

This parameter is visible when operation mode enabled. Set whether to link to bus presence detector status. Options:

Disable

Enable

If presence is detected, enter the comfort mode, and it will be restored to original mode after leaving. If there is a telegram/manual operation to adjust the mode during the period, the telegram is logged in the background, and it will be exited comfort mode and restored to the mode after leaving. If there is no telegram receiving during timing, return to original mode. (If receive the presence status cyclically, comfort mode can not be re-triggered, and only can be after leaving.)

Parameter "Min./Max. setpoint temperature[5..40]°C"

These parameters are visible when operation mode disabled. Set to limit the adjustable range of the setpoint temperature. If the setpoint temperature beyond the limited range, the will output the limited temperature. Options:

> 5°C 6°C ... 40°C

These parameters are display below the parameters settings interface "Setpoint" when enable operation mode.

For setpoint temperature, the Min. value must less than the Max., if not, it can not be modified on ETS.



5.4.2.1. Parameter window "Setpoint"

	General	Heating			
	KNX Channel	Setpoint temperature in comfort mode [540]	21	•	°C
	Zigbee Channel	Setpoint temperature in standby mode [540]	19	•	°C
	Room temperature controller	Setpoint temperature in economy mode [540]	17	•	°C
	RTC Channel setting	Setpoint temperature in frost protection mode [540]	7	•	°C
-	RTC 1	Cooling			
	Setpoint	Setpoint temperature in comfort mode	23	•	°C
	Heating control Cooling control	[540] Setpoint temperature in standby mode [540]	25	•	°C
	Fan	Setpoint temperature in economy mode [540]	27	•	°C
ŀ	RTC 2	Setpoint temperature in heat protection mode [5.40]	35	•	°C
ŀ	RTC 3	11000 [5.40]			
ŀ	RTC 4	Note: The heating setpoint must be alv	vays less than the cooling setpoint		
ŀ	RTC 5				
ŀ	RTC 6	Min. setpoint temperature [540]	5	•	°C
F	RTC 7	Max. setpoint temperature [540]	40	•	°C

1.2.31 KNX Gateway Tuya-ZigBee > Room temperature controller > RTC 1 > Setpoint



Parameters of this window are visible when RTC operation mode enabled, display according to control mode. The temperature setpoint value uses the way of absolute adjustment.

Parameter "Setpoint temperaturein comfort mode [5...40]°C"

Parameter "Setpoint temperaturein standby mode [5...40]°C"

Parameter "Setpoint temperaturein economy mode [5...40]°C"

Parameter "Setpoint temperaturein frost protection mode [5...40]°C" (forheating)

Parameter "Setpoint temperaturein heat protection mode [5...40]°C" (for cooling)

These parameters are for setting the temperature setpoint value of each mode. Options:

5°C
6°C
40°C



+ RTC 8

Note: The heating setpoint must be always less than the cooling setpoint.



When "Heating and Cooling" is selected, whether it is manual changeover, bus changeover or automatic changeover, the heating setpoint value must be less than or equal to the cooling of the same operation mode, if not, it can not be configured on ETS.

1.When the ambient temperature is higher than the setpoint temperature of current mode, it is changed to cooling mode; When the ambient temperature is lower than the setpoint temperature of current mode, it is changed to heating mode.

2.In the same operation mode, the setpoint temperature difference between cooling and heating remains constant, whether it is written on the bus or adjusted on the panel. That is, when adjust the setpoint temperature, it need to update cooling and heating setpoint temperature of current operation mode at the same time.

3.When the bus is received setpoint temperature, it is still necessary to limit the value according to the high and low thresholds, that is heating and cooling temperature neither can not be lower than the min., or can not be higher than the max.. If parameters configuration of ETS is not met the condition, it will be noted warnings:

When the setpoint temperature of comfort/standby/economy mode is less than the min. setpoint temperature, display following warning:

S The setpoint is less than minimum, so minimum will regard as setpoint in fact.

When the setpoint temperature of comfort/standby/economy mode is greater than the max. setpoint temperature, display following warning:

O The setpoint is greater than maximum, so maximum will regard as setpoint in fact

Note: for protection mode, the setpoint temperature is only configured via ETS, and not limited with the min./max. value. When the received setpoint value from bus is different from the ETS configuration, the value is not updated and returned to the current setpoint temperature, to update synchronously to other devices on the bus.



5.4.2.2. Parameter window "Heating/Cooling control"

1.2.31 KNX Gateway Tuya-ZigBee > Room temperature controller > RTC 1 > Heating control			
— General	Type of heating control	Switching on/off(use 2-point control)	•
General setting	Invert control value	No Yes	
IP setting	Lower Hysteresis [0200]*0.1	10 +	°C
+ KNX Channel	Upper Hysteresis [0200]*0.1	10 +	°C
	Cyclically send control value [0255]	10 ‡	min
+ Zigbee Channel			
 Room temperature controller 			
RTC Channel setting			
— RTC 1			
Parameter setting of "Switching on/off[use 2-point control]"			
1.2.31 KNX Gateway Tuya-ZigBee	> Room temperature controller > RTC	1 > Cooling control	
— General	Type of cooling control	Switching PWM(use PI control)	•

🔘 No 🔵 Yes Invert control value General setting 15 ‡ min PWM cycle time [1...255] IP setting • Cooling ceiling (5K/240min) Cooling speed ÷ KNX Channel ‡ min Cyclically send control value [0...255] 10 Zigbee Channel ÷ Room temperature controller

RTC Channel setting

- RTC 1

Setpoint

Parameter setting of "Switching PWM(use PI control)"

General	Type of heating control	Continuous control(use PI control)	•
General setting	Invert control value	No Ves	
IP setting	Heating speed	User defined	•
KNX Channel	Proportional range [10100]*0.1	40	÷
KINA Channel	Reset time [0255]	150	‡ mi
Zigbee Channel	Send control value on change by [0 100,0=inactive]	4	÷
Room temperature controller	Cyclically send control value [0255]	10	‡ mi
RTC Channel setting			
RTC 1			
Setpoint			

Parameter setting of "Continuous control(use PI control)"

Fig.5.4.2.2(1) "Heating/Cooling control" parameter window



Parameters of this window display according to control mode and control system(2 pipe or 4pipe).

Parameter "Type of heating/cooling control"

This parameter is for setting the type of heating/cooling control. Different control types are suitable for controlling different temperature controllers. Options:

Switching on/off(use 2-point control)

Switching PWM(use PI control)

Continuous control(use PI control)

Parameter "Invert control value"

This parameter is for setting whether to invert control value or normal sending control value, so that the control value will be suitable for the valve type. Options:

No

Yes

Yes: Sending the control value to the bus through objects after inverting the control value.

Two parameters as follow are suitable for 2 point control:

——Parameter "LowerHysteresis [0...200]*0.1°C"

——Parameter "Upper Hysteresis [0...200]*0.1°C "

These two parameters are for setting the lower/upper hysteresis temperature in HVAC heating or cooling. Options: **0..200**

Under heating control,

When the actual temperature(T) > the setting temperature + the upper hysteresis temperature, then will stop heating;

When the actual temperature(T) < the setting temperature - the lower hysteresis temperature, then will start heating.

For example, the lower hysteresis temperature is 1°, the upper hysteresis temperature is 2°, the setting temperature is 22°, if T is higher than 24°, then it will stop heating; if T is lower than 24°, then it will start heating; if T is between 21~24°, then it will maintain the previous status.



Under the cooling control,

When the actual temperature (T) < the setting temperature -the lower hysteresis temperature, then will stop cooling;

When the actual temperature (T) > the setting temperature + the upper hysteresis temperature, then will start cooling.

For example, the lower hysteresis temperature is 1°, the upper hysteresis temperature is 2°, the setting temperature is 26°, if T is lower than 25°, then it will stop cooling; if T is lower than 28°, then it will start cooling; if T is between 28~25°, then it will maintain the previous status.

2-point control mode is a very simple control mode. When adopting this control mode, it is necessary to set the upper hysteresis temperature and the lower hysteresis temperature through parameters. When setting the hysteresis temperature, the following effects need to be considered:

1. When hysteresis interval is small, the temperature range will be small, however, frequent sending of control value will bring large load to the bus;

2. When hysteresis interval is large, the switch switching frequency will be low, but it is easy to cause uncomfortable temperature change.



Fig.5.4.2.2(2) Effects of hysteresis on control value switch action(heating) under2-point control mode



Two parametersas follow are suitable for PI control:

—— Parameter "Heating speed "

—— Parameter "Cooling speed"

These two parameters are for setting the responding speed of heating or cooling PI controller. Different responding speeds are suitable for different environments.

Options:

Hot water heating (5K/150min) Underfloor heating (5K/240 min) Electrical heating (4K/100min) Split unit (4K/90min) Fan coil unit (4K/90min) User defined

Options:

Cooling ceiling (5K/240min) Split unit (4K/90min) Fan coil unit(4K/90min)

User defined

—— Parameter "Proportional range [10..100]*0.1°C" (P value)

—— Parameter "Reset time [0..255]min"(I value)

These two parameters are visible when "User defined" is selected. Set the PI value of PI controller.

Options: 10..100 (P value)

Options: 0..255 (I value)

——Parameter "PWM cycle time [1...255]min"

This parameter is only visible when the control type is "Switching PWM(use PI control)". Set the period of the control object cycle to send the switch value, the object sends the switch value according to the duty cycle of the control value. For example, if the set period is 10 min and the control value is 80%, then the object will send an open telegram for 8 min. If the control value is changed, the time duty



ratio of the on/ off telegram of the object will also change, but the period is still the time of parameter setting.

Options: 1..255

The PI values of "Switching PWM (use PI control)" and "Continuous control (use PI control)" are the same, only different in control objects, the control object of "Continuous control" output PI value(1byte) directly, while the control value of "Switching PWM" output a "on/off" telegram according to the duty cycle of the control value.

——Parameter "Send control value on change by [0...100,0=inactive]%"

This parameter is visible when control type is "Continuous control (use PI control)", for setting the changing value of the control value to be sent to the bus. Options: **0..100**, **0=inactive**

Parameter "Cyclically send control value [0...255]min"

This parameter is for setting the period for cyclically sending the control value to the bus. Options: **0..255**

In PI control mode, the predefined control parameters of each PI controller in heating or cooling system are recommended as follows:

(1) Heating

Heating type	P value	I value (integration	Recommended	Recommended PWM
		time)	PI control type	period
Hot water Heating	5K	150min	Continuous/PWM	15min
Underfloorheating	5K	240min	PWM	15-20min
Electricalheating	4K	100min	PWM	10-15min
Split unit	4K	90min	PWM	10-15min
Fan coil unit	4K	90min	Continuous	



Cooling type	P value	I value (integration	Recommended	Recommended PWM
		time)	PI control type	period
Cooling ceiling	5K	240min	PWM	15-20mIn
Split unit	4K	90min	PWM	10-15min
Fan coil unit	4K	90min	Continuous	

(2) Cooling

(3) User defined

When the parameter "Heating/Cooling speed" is set to "User defined", the parameter value of P (scale factor) and I (integration time) can be set through the parameter. When adjusting the parameters, refer to the fixed PI value mentioned in the above table. Even if the control parameters are adjusted slightly, the control behavior will be significantly different.

In addition, the integration time should be set properly. If the integration time is too long, the adjustment will be slow, and the oscillation will not be obvious; if the integration time is too small, the adjustment will be fast, but the oscillation will occur. O means the integral term is not used.



Fig.5.4.3 (7) control value of PI control mode

Y: control value

- Y1: last control value
- X1: temperature deviation = set temperature actual temperature

X2: last temperature deviation = set temperature - actual temperature

T_N: integration time

K: scale factor (the scale factor is not zero)

PI control algorithm: $Y = K * (X1-X2) + X1 * K * t / T_N + Y1$



When the integration time is set to zero, the PI control algorithm is: Y = K (X1-X2) + Y2

Setting and influence of user-defined parameters:

Parameter setting	Effect
K: If the scale range is too small	Quick adjustment, and overshoot will occur
K: If the scale range is too big	Slow adjustment, but no overshoot
$T_{N}{:}$ If the integration time is too short	Quick adjustment, but there will be oscillation
$T_{N}:$ If the integration time is too long	Slow adjustment, no obvious oscillation

5.4.2.3. Parameter window "Fan"

	General	Auto. operation on object value	Auto=1/Man.=0 Auto=0/Man.=1	
	General setting	Fan speed output setting		
	IP setting	Object datatype of 1byte fan speed	 Fan stage (DPT_5.100) Percentage (DPT_5.001) 	
	KNX Channel	Output value for fan speed low		\$ %
	Zigbee Channel	Output value for fan speed medium		\$ %
	Room temperature controller	Output value for fan speed high		÷ %
	RTC Channel setting	Fan speed output setting		
	RTC 1	Condition setting for using 2-point control		
	Setpoint	Temperature difference speed OFF<>low [1200] *0.1	20	¢ °(
	Heating control	Temperature difference speed low< >medium [1200]*0.1	30	¢ °(
	Cooling control	Temperature difference speed medium <	40	÷ °(
	Fan	>high [1200]*0.1		
	RTC 2	Hysteresis temperature difference in [050] *0.1	10	¢°(
-	RTC 3	Condition setting for using PI control		
-	RTC 4	Threshold value speed OFF<>low [1255]	80	÷
	RTC 5	Threshold value speed low<>medium [1255]	150	÷
	RTC 6	Threshold value speed medium<>high [1255]	200	÷
	RTC 7		10	
-	RTC 7 RTC 8	Hysteresis threshold value in +/-[050]	10	+

Fig.5.4.2.3 "Fan" parameter window



Parameters of this window are visible when fan auto control enabled.

Parameter "Auto. operation on object value"

This parameter is for setting the telegram value to activate automatic operation. Options:

Auto=1/Man.=0

Auto=0/Man.=1

Auto=1/Man.=0: When the object "Fan automatic operation" receives the telegram value "0", activate the automatic operation, when receive "1", exit the automatic operation.

Auto=0/Man.=1: When the object "Fan automatic operation" receives the telegram value "1", activate the automatic operation, when receive "0", exit the automatic operation.

After power-on, automatic operation is not activated by default.

Fan speed output setting

Parameter "Object datatype of 1byte fan speed"

This parameter is for setting the object datatype of 1 byte fan speed. Options:

Fan stage (DPT 5.100)

Percentage (DPT 5.001)

---Parameter "Output value for fan speed low/medium/high"

These three parameters are for setting the value sent for each fan speed switchover. Fan speed off when value is 0. Options according to fan object datatype: **1..255 /1..100**

Note: the out value and status value must meet the condition low<medium<high, if not, they can not be configured on ETS, and display red box warning, as shown as follow:

Output value for fan speed low Output value for fan speed medium Output value for fan speed high

68	*	%
67	* *	%
100	÷	%

Fan speed control setting

Condition setting for using 2-point control

Under 2-point control, controller will decide the fan power on/off or fan speed according to the

temperature difference between the actual temperature and setpoint temperature.

Cooling: Temperature difference = actual temperature - setpoint temperature;

Heating: Temperature difference = setpoint temperature - actual temperature.



Parameter "Temperature difference speed OFF<-->low[1..200] *0.1°C"

This parameter is for setting the temperature difference between off-fan and low-level fan speeds.

Options: 1..200

If the temperature difference is greater than or equal to this setting temperature difference, low-level fan speed will start running; if less than this setting temperature difference, the fan will be turned off.

Parameter "Temperature difference speed low<-->medium[1..200]*0.1°C"

Define the temperature difference for switching the fan speed to medium fan speed, if the control value is greater than or equal to this setting temperature difference, the medium fan speed will start running.

Options: 1..200

Parameter "Temperature difference speed medium<-->high[1..200]*0.1°C"

Define the temperature difference for switching the fan speed to high fan speed, if the control value is greater than or equal to this setting temperature difference, the high fan speed will start running. Options: **1..200**

Parameter "Hysteresis temperature difference in [0..50] *0.1°C"

This parameter is for setting the hysteresis value of the temperature difference, which can avoid the unnecessary action of the fan when the control value fluctuates near the temperature difference. Options: **0..50**

If value is 0, no hysteresis. Fan switch to speed once control value greater than temperature difference;

Suppose that hysteresis value is 0.5° and the temperature difference is 1°, then the upper limit temperature difference 1.5° (Temperature difference+Hysteresis value) and the lower limit temperature difference 0.5° (Temperature difference-Hysteresis value). When the control value is between 0.5° ~ 1.5° , fan action will not be caused, and the previous status will still be maintained. Only less than 0.5° or greater than or equal to 1.5° will change the running status of the fan.



Condition setting for using PI control

Under PI control, control value is PI operated within program, controller will power on/off fan or switch fan speed according to the threshold range of the control values.

Parameter "Threshold value speed OFF<-->low[1..255]"

Define threshold value for off-fan and low-levelfan speeds, options: 1..255

If the control value is greater than or equal to this setting threshold value, low-level fan speed will start running; if the control value is less than this setting threshold value, the fan will be turned off.

Parameter "Thresholdvalue speed low<-->medium[1..255]"

Define the threshold value for switching the fan speed to medium fan speed, if the control value is

greater than or equal to this setting threshold, the medium fan speed will start running. Options: 1..255

Parameter "Threshold value speed medium<-->high[1..255]"

Define the threshold for switching the fan speed to high fan speed, if the control value is greater than or equal to this setting threshold, the high fan speed will start running. Options: **1..255**

Tip: The controllerevaluates the threshold in ascending order.

First check \rightarrow OFF <->low fan speed threshold \rightarrow low fan speed <->medium fan speed \rightarrow medium fan speed <->high fan speed.

The correctness of functional execution is guaranteed only in this case:

The threshold of OFF <-> low fan speed is lower than that of low fan speed <-> medium fan speed, and the threshold of low fan speed <-> medium fan speed is lower than that of medium fan speed <-> high fan speed.

Parameter "Hysteresis threshold value in +/-[0..50]"

This parameter is for setting the hysteresis value of the threshold value, which can avoid the unnecessary action of the fan when the control value fluctuates near the threshold. Options: **0..50**

If value is 0, no hysteresis. Fan switch to speed once control value greater than threshold value;

Suppose that hysteresis value is 10 and the threshold is 50, then the upper limit threshold 60 (Threshold value+Hysteresis value) and the lower limit threshold 40 (Threshold value-Hysteresis value). When the control value is between 40 ~60, fan action will not be caused, and the previous status will still be maintained. Only less than 40 or greater than or equal to 60 will change the running status of the fan.

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

Defines the residence time of the fan from the current fan speed to a higher fan speed or lower fan speed, that is, the minimum time for a fan speed operation.



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

If the current fan speed has been running long enough, the fan speed can be changed quickly.

Options: 0..65535

0: there is no minimum running time, but the delay switching time of fan speed still needs to be considered.

Note: The residence time for this parameter setting is only enabled in Auto mode.

5.5. Parameter window "Ventilation controller"

5.5.1. Parameter window "Control setting"

General	Ventilation controller	\checkmark	
General setting	Auto.operation on object value	O Auto=1/Man.=0 Auto=0/Man.=1	
IP setting	State of Auto.operation after startup	O Disable C Enable	
	Fan speed output setting		
KNX Channel	Data type of fan speed	🔵 1bit 🔘 1byte	
Zigbee Channel	Object datatype of 1byte fan speed	 Fan stage (DPT_5.100) Percentage (DPT_5.001) 	
Room temperature controller	Output value for fan speed low	33	%
Ventilation controller	Output value for fan speed medium	67 ‡	%
Controller setting	Output value for fan speed high	100	%
Logic	Fan speed control setting		
Logic	Control value reference from	PM2.5	•
	Object datatype of PM2.5	 Value in ug/m3(DPT_7.001) Float value in ug/m3(DPT_9.030) 	
	Time period for request control value [0255]	10 *	min
	The fan speed status when the control value error	Off	•
	Threshold value OFF<>speed low [1999]	35	* *
	Threshold value speed low<>medium [1999]	75	* *
	Threshold value speed medium<>high [1999]	115	* *
	Hysteresis value is threshold value in +/- [1030]	10	* *
	Minimum time in fan speed [065535]	10	; s

Fig.5.5.1 "Control setting" parameter window



Parameter "Ventilation controller"

This parameter is for setting whether to enable ventilation controller, to realize the automatic control of the fan speed, and link the fan speed to the detection value of PM2.5 or CO2, VOC. Parameters as follow are visible when enabled.

Parameter "Auto. operation on object value"

This parameter is for setting the telegram value to activate automatic operation. Options:

Auto=1/Man.=0

Auto=0/Man.=1

Auto=1/Man.=0: When the object "Fan automatic operation" receives the telegram value "0", activate the automatic operation, when receive "1", exit the automatic operation.

Auto=0/Man.=1: When the object "Fan automatic operation" receives the telegram value "1", activate the automatic operation, when receive "0", exit the automatic operation.

After power-on, automatic operation is not activated by default.

Parameter "State of Auto.operation after startup"

This parameter is for setting whether to enable state of Auto.operation after startup the device. Options:

Disable

Enable

Fan speed output setting

Parameter "Data type of fan speed"

This parameter is for setting the data type of fan speed. Options:

1bit

1byte

---Parameter "Object datatype of 1byte fan speed"

This parameter is visible when "1byte" is selected. Set the object datatype of 1byte fan speed. Options:

> Fan stage (DPT 5.100) Percentage (DPT 5.001)



---Parameter "Output value for fan speed low/medium/high"

This parameter is visible when "1byte" is selected. Set the value sent for each fan speed switchover. Fan speed off when value is 0. Options according to fan object datatype: **1..255 /1..100**

Note: the out value and status value must meet the condition low<medium<high, if not, they can not be configured on ETS, and display red box warning, as shown as follow:

Output value for fan speed low	68	÷	%
Output value for fan speed medium	67	÷	%
Output value for fan speed high	100	÷	%

---Parameter "Object value of fan speed off/low/medium/high"

This parameter is visible when 1bit" is selected. Set the value sent for each fan speed, sent by three 1 bit objects at the same time. Options:

Low=0,Medium=0,High=0 Low=1,Medium=0,High=0 Low=0,Medium=1,High=0 Low=1,Medium=0,High=1 Low=1,Medium=0,High=1 Low=0,Medium=1,High=1 Low=1,Medium=1,High=1

---Parameter "Delay between fan speed switch [0..100]*50ms"

This parameter is visible when 1bit" is selected. Set the delay time between fan speed switchover, and consider it according to the fan technical characters. Options: **0..100**

Turn off fan speed before switch the fan speed, and turn on it after the delay time. When delay time is set as 0, it will not turn off first then turn on, but switch to next fan speed directly.



Fan speed control setting

Parameter "Control value reference from"

This parameter is for setting the reference of control value under automatic operation. Options:

РМ2.5 С02

VOC

——Parameter "Object datatype of PM2.5/VOC"

These parameters are for setting the datatype of PM2.5/VOC. Datatype determines object type,

select it according to the docking PM2.5 or VOC sensor data type. Options:

Value in ug/m3(DPT 7.001)

Float value in ug/m3(DPT 9.030)

DPT_7.001: Suitable for integrated value. DPT_9.030: Suitable for float value.

——Parameter "Object datatype of CO2"

This parameter is for setting the datatype of CO2. Datatype determines object type, select it according to the docking CO2 sensor data type. Options:

Value in ppm(DPT 7.001)

Float value in ppm(DPT 9.008)

DPT_7.001: Suitable for integrated value.

DPT_9.008: Suitable for float value.

Parameter "Time period for request control value [0...255]min"

This parameter is for setting the time period for device to send a control value read request to

external sensor after bus recovery or finish programming (After stabilization time 2min, then read).

Options: 0..255

Parameter "The fan speed status when the control value error"

This parameter is for setting the default fan speed of ventilation system when control value is error. Options:

> Off Low



Medium

High

Parameter "Threshold value speed OFF<-->low[1..999]/[1...4000]"

Define threshold value for off-fan and low-levelfan speeds, options: **1..999/1..4000** If the control value is greater than or equal to this setting threshold value, low-levelfan speed will start running; if the control value is less than this setting threshold value, the fan will be turned off. **Parameter**

"Threshold value speed low<-->medium[1..999]/[1...4000]"

Define the threshold value for switching the fan speed to medium fan speed, if the control value is greater than or equal to this setting threshold, the medium fan speed will start running. Options:

1..999/1..4000

Parameter "Threshold value speed medium<--->high[1..999]/[1...4000]"

Define the threshold for switching the fan speed to high fan speed, if the control value is greater than or equal to this setting threshold, the high fan speed will start running. Options: **1..999/1..4000**

Tip: The controller evaluates the threshold in ascending order.

Firstcheck →OFF <->lowfan speed threshold →low fan speed <->medium fan speed →medium fan speed <->high fan speed.

The correctness of functional execution is guaranteed only in this case:

The threshold of OFF <-> low fan speed is lower than that oflow fan speed <-> medium fan speed, and the threshold of low fan speed <-> medium fan speed is lower than that of medium fan speed <-> high fan speed.

Parameter "Hysteresis threshold value in +/- [10...30]/[100..400]"

This parameter is for setting the hysteresis value of the threshold value, which can avoid the unnecessary action of the fan when the control value fluctuates near the threshold. Options: **10..30/100..400**

For example, the control type is CO2, the Hysteresis value is 100 and the threshold is 450, then the upper limit threshold 550 (Threshold value+Hysteresis value) and the lower limit threshold 350 (Threshold value-Hysteresis value). When the control value is between 350 ~550, fan action will not be caused, and the previous status will still be maintained. Only less than 350 or greater than or equal to



550 will change the running status of the fan. As shown in the following figure:



Note:

When hysteresis is enabled, if the threshold overlap occurs, fan action is specified as follows:

1) Hysteresis determines the control point where Fan speed conversion occurs;

2) If Fan speed conversion occurs, new fan speed is determined by control value and threshold value, irrespective of hysteresis.

For example (1):

Take PM2.5 as an example

OFF <-> Low fan speed thresholdvalue is 35

Low fan speed <->Medium fan speed thresholdvalue is 55

Medium fan speed <-> High fan speed thresholdvalue is 75

Hysteresis value is 25

The fan speed of the fan turbine increases from OFF:

Fan OFF status will change at a control value of 60 (\geq 25+35), and new fan speed will be the

mid-fan speed (because 60 is between 55 and 75, irrespective of hysteresis at this time), so the low

fan speed is ignored;

The behavior of fan speed when descending from a high fan speed:

The high fan speed will change at a control value of 50 (<75-25), and new fan speed will be low fan speed (because 50 is between 35 and 55, irrespective of hysteresis), so the fan speed is ignored.



For example(2):

Take PM2.5 as an exampleOFF <-> Low fan speed threshold value is 20Low fan speed <-> Medium fan speed threshold value is 40Medium fan speed <-> High fan speed threshold value is 70Hysteresis value is 10When fan speed is increasing from OFF:The OFF status will be turned when the control value is 30 (≥20+10)

When the control value 41 is received, the new speed will be at medium(because the hysteresis is ignored when the value 41 is between 40 and 70), therefore the low speed is ignored. When the control value 39 is received, the new speed will be at low (because the hysteresis is ignored when the value 39 is between 20 and 40)

When Fan Speed decreasing from high:

The high speed will be turned when the control value is 60 (<70-10)

When the control value 39 is received, the new speed will be at low(because the hysteresis is

ignored when the value 39 is between 20 and 40), therefore the medium speed is ignored.

3) When the control value is 0, the fan will be off at any circumstances.

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

Defines the residence time of the fan from the current fan speed to a higher fan speed or lower fan speed, that is, the minimum time for a fan speed operation. Options: **0..65535**

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

If the current fan speed has been running long enough, the fan speed can be changed quickly.

0: there is no minimum running time, but the delay switching time of fan speed still needs to be considered.

Note: The residence time for this parameter setting is only enabled in Auto mode.



5.6. Parameter window "Logic"

1.2.31 KNX Gateway Tuya-Zig	Bee > Logic > Logic function s	setting	
— General	1st Logic function	\checkmark	
General setting IP setting + KNX Channel + Zigbee Channel	2nd Logic function 3rd Logic function 4th Logic function 5th Logic function 6th Logic function 7th Logic function 8th Logic function		
+ Room temperature controller	Sur Logic function		
- Ventilation controller			
Controller setting			
– Logic	_		
Logic function setting			
– General	Function of channel	AND	•

Fig.5.6 "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 "Function of channel"

This parameter is for setting the logic 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.



5.6.1. Parameter window "AND/OR/XOR"

General	Function of channel	AND	•
General setting	Input a	Disconnected	•
IP setting	Default value	◎ 0 ○ 1	
KNX Channel	Input b	Disconnected	•
	Default value	◎ 0 ○ 1	
Zigbee Channel	Input c	Disconnected	•
Room temperature controller	Default value	◎ 0 ○ 1	
Ventilation controller	Input d	Disconnected	•
Controller setting	Default value	◎ 0 ○ 1	
controller setting	Input e	Disconnected	•
Logic	Default value	◎ 0 ○ 1	
Logic function setting	Input f	Disconnected	•
1st Logic	Default value	◎ 0 ○ 1	
2nd Logic	Input g	Disconnected	•
3rd Logic	Default value	◎ 0 ○ 1	
4th Logic	Input h	Disconnected	•
5th Logic	Default value	◎ 0 ○ 1	
бth Logic	Result is inverted	🔘 No 🔵 Yes	
7th Logic	Read input object value after bus voltage recovery	◎ No ○ Yes	
8th Logic	Output send when	Receiving a new telegram Every change of output object	
	Send delay time: Base	None	•
	Factor: 1255	1	* *

1.2.31 KNX Gateway Tuya-ZigBee > Logic > 1st Logic

Fig.5.6.1 "AND/OR/XOR " parameter window

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 initiate value.



——Parameter "Default value"

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

0 1

Parameter "Resultis inverted"

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

No Yes

No: output directly;

Yes: output after inverting.

Parameter "Read input object value after bus voltage recovery"

This parameter is for setting whether to send the read request to the logic input object after device

voltage recovery or finish programming. Options:

No Yes

Parameter "Output send when"

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

Receiving a new telegram Every change of output object

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

sent to the bus;

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

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:	1255	

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.



5.6.2. Parameter window "Gate forwarding"

1.2.31 KNX Gateway Tuya-Zig	Bee > Logic > 1st Logic		
+ General	Function of channel	Gate forwarding	•
+ KNX Channel	Object type of Input/Output	1bit	•
+ Zigbee Channel	Default scene NO. of Gate after startup [1~64,0=inactive]	0	* *
+ Room temperature controller	1->Gate trigger scene NO. is [1~64,0=inactive]	0	▲ ▼
+ Ventilation controller	Input A send on	Output A	•
	Input B send on	Output B	•
– Logic	Input C send on	Output C	•
Logic function setting	Input D send on	Output D	•
1st Logic	2->Gate trigger scene NO. is [1~64.0=inactive]	0	▲ ▼
2nd Logic	Input A send on	Output A	•
3rd Logic	Input B send on	Output B	•
4th Logic	Input C send on	Output C	•
5th Logic	Input D send on	Output D	•
Sala La aria	,		

Fig.5.6.2 "Gate forwarding" parameter window

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 initiate 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:

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.

5.6.3. Parameter window "Threshold comparator"

1.2.31 KNX Gateway Tuya-ZigBee > Logic > 1st Logic

+	General	Function of channel	Threshold comparator	•
+	KNX Channel	Threshold value data type	1byte	•
+	Zigbee Channel	Threshold value 0255	0	* *
	-	If Object value <threshold td="" value<=""><td>Do not send telegram</td><td>•</td></threshold>	Do not send telegram	•
+	Room temperature controller	If Object value=Threshold value	Do not send telegram	•
+	Ventilation controller	If Object value!=Threshold value	Do not send telegram	•
_	Logic	If Object value>Threshold value	Do not send telegram	•
		If Object value<=Threshold value	Do not send telegram	•
	Logic function setting	If Object value>=Threshold value	Do not send telegram	•
	1st Logic		 Receiving a new telegram 	
	2nd Logic	Output send when	Every change of output object	
	3rd Logic	Send delay time: Base	None	•
	4th Logic	Factor: 1255	1	*

Fig.5.6.3 "Threshold comparator" parameter window

Parameter "Threshold value data type"

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

4bit 1byte 2byte 4byte



Parameter "Threshold value 0..255"

This parameter is for setting threshold value, the range depends on the data type. Options: 4bit

0..15/1byte 0..255/ 2byte 0..65535 /4byte 0..4294967295

Parameter "If Object value<Thresholdvalue"

Parameter"If Object value!=Thresholdvalue"

Parameter "If Object value<Thresholdvalue"

Parameter "If Object value<Thresholdvalue"

Parameter "If Object value<Thresholdvalue"

This parameter is for setting the logic result value that should be sent when threshold value Less than, equal to, not equal to, greater than, less than or equal to the setting 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:	1255	

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.

5.6.4. Parameter window "Format convert"

1.2.31 KNX Gateway Tuya-ZigBee > Logic > 1st Logic						
+ General	Function of channel	Format convert	•			
+ KNX Channel	Function	2x1Bit>1x2Bit	•			
+ Zigbee Channel	Output send when	Receiving a new telegram Every change of output object				
+ Room temperature controller						
+ Ventilation controller						
– Logic						

Fig.5.6.4 "Format convert" parameter window

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.

5.6.5. Parameter window "Gate function"

1.2.31 KNX Gateway Tuya-ZigBee > Logic > 1st Logic

+ General	Function of channel	Gate function	•
+ KNX Channel	Object type of Input/Output	1bit[On/Off]	•
+ Zigbee Channel	Filter function	Deactivate	•
	Value output	Normal Inverted	
+ Room temperature controller	Gate object value	Normal Inverted	
+ Ventilation controller	Gate status after power on	Disable Enable	
— Logic	Save input signal when gate close	No Ves	
Logic function setting			
1st Logic			



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 "Filterfunction"

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 power on"

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

Disable

Enable

Parameter "Save input signal when gate close"

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

No

Yes

No: disable to save the input, the input values received during the gate closing period are ignored;

Yes: 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).


5.6.6. Parameter window "Delay function"

1.2.31 KNX Gateway Tuya-ZigBee > Logic > 1st Logic											
+	General	Function of channel	Delay function	•							
+	KNX Channel	Object type of Input/Output	1bit[On/Off]	•							
+	Zigbee Channel	Delay time [06500]	10	÷ s							
+	Room temperature controller										
+	Ventilation controller										
-	Logic										

Fig.5.6.6 "Delay function" parameter window

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 "Delaytime [0..6500]s"

This parameter is for setting the delay time that output object forwards the value when the input

object receives the telegram. Options: 0..6500

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

5.6.7. Parameter window "Staircase lighting"

1.2.31 KNX Gateway Tuya-ZigBee > Logic > 1st Logic												
+ General	Function of channel	Staircase lighting	•									
+ KNX Channel	Trigger value	1	•									
+ Zigbee Channel	Object type of output	1bit 1byte										
+ Room temperature controller	Duration time of staircase lighting[106500]	10 OFF O ON	* S									
+ Ventilation controller	Send value 1 when trigger Send value 2 after duration time											
— Logic	Retriggering	🔵 Disable 🔘 Enable										
Logic function setting												

Fig.5.6.7 "Staircase lighting" parameter window



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 "Durationtime 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-timingwhen received trigger value in delay time.

Options:

Disable

Enable



Chapter 6 Description of Communication Object

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

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.

6.1. "General" Communication Object

Number	Name	Object Function	Description	Group Address	Length	С	R	W	Т	U	Data Type	Priority
■ ≵ 1	General	In operation			1 bit	С	R	-	Т	- 3	switch	Low
		Fig.6.1	"General" Com	munication 0	bject							
N0.	Object Function		Name [Data	Flag				E	P1	Г	
			1	уре								
1	In operation		General 1	bit	C,R,T				1	.00	1 switch	
The communication object is used to periodically send a telegram "1" to the bus to indicate that												
the dev	ne device is working properly.											

Table 6.1 "General" communication object table

6.2. "KNX Channel" Communication Object

Num	nb Name	Object Function	Description	Group Address	Length	С	R	W	Т	U	Data Type	Priority
2 300	KNX General	Device online common 1, status			1 bit	С	-	W	Т	U	switch	Low
■2 301	KNX General	Device online common 2, status			1 bit	С	2	W	Т	U	switch	Low
2 302	KNX General	Device online common 3, status			1 bit	С	-	W	т	U	switch	Low
2 303	KNX General	Device online common 4, status			1 bit	С	-	W	Т	U	switch	Low
2 304	KNX General	Device online common 5, status			1 bit	С	-	W	Т	U	switch	Low
■2 305	KNX General	Device online common 6, status			1 bit	С	2	W	Т	U	switch	Low
2 306	KNX General	Device online common 7, status			1 bit	С	-	W	т	U	switch	Low
2 307	KNX General	Device online common 8, status			1 bit	С	21	W	т	U	switch	Low
2 308	KNX General	Device online common 9, status			1 bit	С	-	W	Т	U	switch	Low
■2 309	KNX General	Device online common 10, status			1 bit	С	20	W	Т	U	switch	Low
■ ‡ 310	KNX: Channel 1	Device online, status			1 bit	С	-	W	Т	U	switch	Low

Fig.6.2 KNX general communication Object



N0.	Object Function	Name	Data	Flag	DPT					
			Туре							
300//309	Device online common x, status	KNX General	1bit	C,W,T,U	1.001 switch					
The co	mmunication object is used	to send the request t	to the bus, f	or commo	n device to query the					
KNX device	online status, and also can	receive the feedback.	. Telegrams	5:						
	0——Offline									
1——Online										
Suitabl	e for devices with multiple	circuits. For examp	le, multiple	channels	of gateway may be					
multiplecir	cuits that control the same k	(NX device, so each d	channel can	share one	e request.					
310	Device online, status	KNX: {{Channel1}}	1bit	C,W,T,U	1.001 switch					
The co	mmunication object is used	to send the request	to the bus, f	or indepe	ndent device to query					
the KNX dev	vice online status, and also o	an receive the feedb	ack. Telegr	ams:						
	0——Offline									
	1——Online									
Suitable for a device that only controlled by the single channel of gateway.										
The na	me in parentheses changes	with the parameter '	'Descriptior	n (max 30	char.)". If description					
is empty, di	splay "Channel x" by defau	lt. The same below.								
Table 6.2 KNY general communication object table										

Table 6.2 KNX general communication object table

6.2.1. Communication Object of basic function

Num	b Name	Object Function	Description	Group Address	Length	С	R	W	Т	U	Data Type	Priority
■2 311	KNX: Channel 1	Switch			1 bit	С	-	-	T		switch	Low
∎₽ 312	KNX: Channel 1	Switch, status			1 bit	С	-	W	Т	U	switch	Low
			Switch									
Num	b Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
■2 311	KNX: Channel 1	Switch			1 bit	С	-	858	Т	8.78	switch	Low
₽‡ 312	KNX: Channel 1	Brightness dimming			1 byte	С	2	2	Т	4	percentage (0100%)	Low
₽2 313	KNX: Channel 1	Brightness, status			1 byte	C	-	W	т	U	percentage (0100%)	Low
			Switch/Dimm	ning								
Numb	Name	Object Function	Description	Group Address	Length	С	R	W	Т	U	Data Type	Priority
₽311	KNX: Channel 1	Switch			1 bit	С	-	-	T	्नः	switch	Low
₹ 312	KNX: Channel 1	Switch, status			1 bit	С	2	W	Т	U	switch	Low
₹ 313	KNX: Channel 1	RGB dimming value			3 bytes	С	÷		Т		RGB value 3x(0255)	Low
₹ 317	KNX: Channel 1	RGB brightness, status			3 bytes	С	4	W	Т	U	RGB value 3x(0255)	Low



≵ 313 ≵ 314	KNX: Channel 1	Pod dimension weben			4.6		-				Ť.	DOCORT (0 1009/1	l our
	KNX: Channel 1 KNX: Channel 1	Red dimming value Green dimming value										 percentage (0100%) percentage (0100%) 	Low Low
≠ 315	KNX: Channel 1 KNX: Channel 1	Blue dimming value										 percentage (0100%) percentage (0100%) 	Low
₹ 317	KNX: Channel 1	Red brightness, status										U percentage (0100%)	Low
₹318	KNX: Channel 1	Green brightness, status			1 by							U percentage (0100%)	Low
¢ 319	KNX: Channel 1											U percentage (0100%)	Low
+loia	KINA: Channel I	Blue brightness, status	RGB dimm	ning	I Dy	/te	5	1		vv		0 percentage (0100%)	LOW
				I BEALL BARRIES									
	nb Name	Object Function	Descriptio	on Group Addre				-				U Data Type	Priorit
⊉ 311	KNX: Channel 1	Switch			1 bi							- switch	Low
₹ 312	KNX: Channel 1	Switch, status			1 bi	it	C	1	- 1	W	T	U switch	Low
₹ 313	KNX: Channel 1	RGBW dimming value			6 b	ytes	C		• 3	78	Т	- RGBW value 4x(0100%)	Low
‡ 317	KNX: Channel 1	RGBW brightness, status			6 b	ytes	C	-	i j	W	T	U RGBW value 4x(0100%)	Low
			RGBW dimm	ing(1)									
₽313	KNX: Channel 1	Red dimming value			1 by	yte	C		- 19	48	Т	- percentage (0100%)	Low
₹ 314	KNX: Channel 1	Green dimming value			1 by	yte	C			-	Т	- percentage (0100%)	Low
₹ 315	KNX: Channel 1	Blue dimming value			1 by	yte	C		2 8	4	Т	- percentage (0100%)	Low
₹ 316	KNX: Channel 1	White dimming value			1 b	yte	C			-	Т	- percentage (0100%)	Low
₹ 317	KNX: Channel 1	Red brightness, status			1 b	yte	C		- 10	W	Т	U percentage (0100%)	Low
₹ 318	KNX: Channel 1	Green brightness, status				100						U percentage (0100%)	Low
₹ 319	KNX: Channel 1	Blue brightness, status										U percentage (0100%)	Low
₹ 320	KNX: Channel 1	White brightness, status				a hite						U percentage (0100%)	Low
			RGBW dimm	ina(2)									
1910				-	1010100				4.		8 8		
	nb Name	Object Function	Description	Group Address									Priori
2 311	KNX: Channel 1	Switch			1 bit	C						switch	Low
₽312	KNX: Channel 1	Switch, status			1 bit			W		- 53		switch	Low
₹ 313	KNX: Channel 1	Color temperature value			100							absolute colour temperature (K	
₹ 314	KNX: Channel 1	Brightness value			112011000	C						percentage (0100%)	Low
2 317	KNX: Channel 1	Color temperature, status			6							absolute c <mark>olour t</mark> emperature (K	
‡ 318	KNX: Channel 1	Brightness, status			1 byte	C	-	W	T	U	F	percentage (0100%)	Low
			Color tempe	rature									
Num	nb Name	Object Function	Description	Course Address	Loueth	c	D	14				Data Tura	Detecto
≵ 311	KNX: Channel 1	Open/Close	Description	Group Address				1.035				open/close	Priorit Low
₹ 312	KNX: Channel 1	Stop				C ·							Low
4 3 12	KNA. Channel I	300			1 DIL	C .	-	-		-	2	teb.	LOW
			Curtain step,	move									
Nu	mh Name	Object Function			Length	C	R	W	/ т	1	1	Data Type	Priorit
	mb Name	Object Function		Group Address	and the second second							And and a second s	Priorit
7 311	KNX: Channel 1	Up/Down		Group Address	1 bit	с	-3	÷	т	÷	u	ip/down	Low
≠ 311			Description	Group Address	1 bit		-3	÷	т	÷	u	ip/down	
2 311	KNX: Channel 1	Up/Down		Group Address	1 bit	с	-3	÷	т	÷	u	ip/down	Low
≵ 311 ≵ 312	KNX: Channel 1	Up/Down Stop	Description Rollerblind ste	Group Address	1 bit 1 bit	c c	-	-	T	-	u s'	ip/down tep	Low Low
i⊄ 311 i⊄ 312 Nun	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function	Description Rollerblind ste	Group Address p/move Group Address	1 bit 1 bit Length	c c	- - R	-	т Т	-	s'	ip/down tep Data Type	Low Low Priorit
2 311 2 312 Nun 2 311	KNX: Channel 1 KNX: Channel 1 ht Name KNX: Channel 1	Up/Down Stop Object Function Open/Close	Description Rollerblind ste	Group Address p/move Group Address	1 bit 1 bit Length 1 bit	с с с	- - R	- - -	T T T T	-	s J	p/down tep Data Type open/close	Low Low Priorit
2 311 2 312 Nun 2 311 2 311 2 312	KNX: Channel 1 KNX: Channel 1 Name KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop	Description Rollerblind ste	Group Address p/move Group Address	1 bit 1 bit Length 1 bit 1 bit	с с с с	- - R	- - -	T T T T T	- - -	u s' J o s'	p/down tep Data Type open/close tep	Low Low Priorit Low Low
2 311 2 312 Nun 2 311 2 311 2 312 2 313	KNX: Channel 1 KNX: Channel 1 Name KNX: Channel 1 KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position	Description Rollerblind ste	Group Address p/move Group Address	1 bit 1 bit Length 1 bit 1 bit 1 bit 1 byte	C C C C C C	- - -	- - - -	T T T T T T	-	u s' o s' p	Data Type Data Type open/close tep vercentage (0100%)	Low Low Priorit Low Low Low
2 311 2 312 Nun 2 311 2 311 2 312 2 313	KNX: Channel 1 KNX: Channel 1 Name KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop	Description Rollerblind stee Description	Group Address p/move Group Address	1 bit 1 bit Length 1 bit 1 bit 1 bit 1 byte	C C C C C C	- - -	- - - -	T T T T T T	-	u s' o s' p	p/down tep Data Type open/close tep	Low Low Priorit Low Low
2 311 2 312 Nun 2 311 2 311 2 312 2 313	KNX: Channel 1 KNX: Channel 1 Name KNX: Channel 1 KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position	Description Rollerblind ste	Group Address p/move Group Address	1 bit 1 bit Length 1 bit 1 bit 1 bit 1 byte	C C C C C C	- - -	- - - -	T T T T T T	-	u s' o s' p	Data Type Data Type open/close tep vercentage (0100%)	Low Low Priorit Low Low
2 311 2 312 Nun 2 311 2 313 2 313 2 315	KNX: Channel 1 KNX: Channel 1 Name KNX: Channel 1 KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position	Description Rollerblind ste Description Curtain pos	Group Address p/move Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte	C C C C C C C	- R -	- - - W	T T T T T T	- - - - U	u s' p p	p/down tep Data Type open/close tep vercentage (0100%) vercentage (0100%)	Low Low Priorit Low Low Low
 ↓ 311 ↓ 312 ▶ Nun ↓ 312 ↓ 313 ↓ 313 ↓ 315 ▶ Nun 	KNX: Channel 1 KNX: Channel 1 KNX: Channel 1 KNX: Channel 1 KNX: Channel 1 KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function	Description Rollerblind ste Description Curtain pos	Group Address p/move Group Address ition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte 1 byte	C C C C C C C	- - - - R	- - - W	T T T T T T	- - - - -	u s' p p	p/down tep Data Type open/close tep percentage (0100%) percentage (0100%)	Low Low Priorit Low Low Low
 ↓ 311 ↓ 312 ↓ 312 ↓ 313 ↓ 313 ↓ 315 ▲ 315 	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down	Description Rollerblind ste Description Curtain pos	Group Address p/move Group Address ition Group Address	1 bit 1 bit Length 1 bit 1 bit 1 byte 1 byte Length 1 bit	C C C C C C C C C C C C C C C C C C C	- - - - R	- - - W	T T T T T T	- - - U	J O P P J J	p/down tep Data Type open/close tep percentage (0100%) percentage (0100%) Data Type p/down	Low Priorit Low Low Low Priorit Low
	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop	Description Rollerblind ste Description Curtain pos	Group Address p/move Group Address ition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte Length 1 bit 1 bit 1 bit	c c c c c c c c c	- - - - R	w	T T T T T T T	- - - - - - - -	u s o s P P J u st	p/down tep Data Type open/close tep percentage (0100%) percentage (0100%) Data Type p/down tep	Priorit Low Low Low Low Low Priorit Low Low
 ↓ 311 ↓ 312 ↓ 312 ↓ 311 ↓ 312 ↓ 313 ↓ 315 ▶ Nun ↓ 311 ↓ 312 ↓ 312 ↓ 313 	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop Blind position	Description Rollerblind ste Description Curtain pos	Group Address p/move Group Address ition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte Length 1 bit 1 bit 1 bit 1 bit 1 byte	C C C C C C C C C C C C C C C C C C C	- - - - -	w	T T T T T T T T	- - - - -	u s' p p q p t s t z	p/down tep Data Type open/close tep bercentage (0100%) bercentage (0100%) Data Type up/down tep ercentage (0100%)	Priorit Low Low Low Low Low Low Low Low Low Low
	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop	Description Curtain pos Description	Group Address p/move Group Address ition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte Length 1 bit 1 bit 1 bit 1 bit 1 byte	C C C C C C C C C C C C C C C C C C C	- - - - -	w	T T T T T T T T	- - - - -	u s' p p q p t s t z	p/down tep Data Type open/close tep percentage (0100%) percentage (0100%) Data Type p/down tep	Priorit Low Low Low Low Low Priorit Low Low
 ↓ 311 ↓ 312 ↓ 312 ↓ 311 ↓ 312 ↓ 313 ↓ 315 ▶ Nun ↓ 311 ↓ 312 ↓ 312 ↓ 313 	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop Blind position	Description Rollerblind ste Description Curtain pos	Group Address p/move Group Address ition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte Length 1 bit 1 bit 1 bit 1 bit 1 byte	C C C C C C C C C C C C C C C C C C C	- - - - -	w	T T T T T T T T	- - - - -	u s' p p q p t s t z	p/down tep Data Type open/close tep bercentage (0100%) bercentage (0100%) Data Type up/down tep ercentage (0100%)	Low Priorit Low Low Low Low Priorit Low Low Low Low
↓ 311 ↓ 312 ↓ 312 ↓ 313 ↓ 315 Num ↓ ↓ 313 ↓ 312 ↓ 313 ↓ 313 ↓ 313 ↓ 315	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop Blind position	Description	Group Address p/move Group Address ition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 bit	c c c c c c c c c c c c c c c c c c c	- - - - -	- - W	T T T T T T T T	- - - - - - - -	J S P P J J U S T S T P P P P	p/down tep Data Type open/close tep bercentage (0100%) bercentage (0100%) Data Type p/down tep ercentage (0100%) ercentage (0100%)	Low Low Prioriti Low Low Low Low Low Low Low
Image: 100 minipage 311 Image: 100 minipage 311 Image: 100 minipage 313 Image: 100 minipage 311 Image: 100 minipage 313 Image: 100 minipage 315	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop Blind position Blind position Blind position	Description	Group Address p/move Group Address ition Group Address osition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte Length 1 byte 1 byte 1 bit 1 bit 1 bit 1 byte 1 bit 1 b	c c c c c c c c c c c c c c c c c c c	- - - - - - - - -	- - - - - - - - - - - - - - - - - - -	T T T T T T T T	- - - - - - - - - - - - - - -	J S P P J J J J J J J J J J J J J J J J	p/down tep Data Type open/close tep bercentage (0100%) bercentage (0100%) Data Type p/down tep ercentage (0100%) ercentage (0100%)	Low Low Priorit Low Low Low Low Low Low Low
I 311 I 312 I 311 I 312 I 313 I 313 I 311 I 313 I 311 I 311 I 313 I 313 I 313 I 315 I 313 I 313 I 311	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop Blind position Blind position Blind position Blind position	Description	Group Address p/move Group Address ition Group Address osition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte 1 bit 1 bit	c c c c c c c c c c c c c c c c c c c	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	T T T T T T T T T	- - - - - - - - - - - - - - - - - - -	u s p p q u s t s t s t z f q q t z	p/down tep Data Type open/close tep bercentage (0100%) bercentage (0100%) Data Type ip/down tep iercentage (0100%) iercentage (0100%)	Low Prioriti Low Low Low Low Low Low Low Prioriti
Image: 1 Image: 1	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop Blind position, status Blind position Blind position, status Object Function Up/Down	Description	Group Address p/move Group Address ition Group Address osition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 bit 1 bit 1 bit 1 byte 1 byte 1 byte 1 byte 1 bit 1	c c c c c c c c c c c c c c c c c c c	R 	- - - W			J C C P P J J J J J J J J J J J J J J J	p/down tep Data Type open/close tep bercentage (0100%) bercentage (0100%) Data Type ip/down tep ercentage (0100%) ercentage (0100%) Data Type iercentage (0100%)	Low Low Priorit Low
↓ 311 ↓ 312 ↓ 312 ↓ 312 ↓ 313 ↓ 315 Num ↓ ↓ 313 ↓ 312 ↓ 313 ↓ 313 ↓ 315	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop Blind position, status Blind position, status Object Function Up/Down Stop/Slat adj.	Description	Group Address p/move Group Address ition Group Address osition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte Length 1 bit 1 byte 1 byte Length 1 bit 1 b	c c c c c c c c c c c c c c c c c c c	- - - - - - - - - - -	- - - W	T T T T T T T T T T T		U S P P U U S T P D S T S T S T S T S T S S S S S S S S S	p/down tep Data Type open/close tep bercentage (0100%) bercentage (0100%) Data Type ip/down tep ip/down tep bercentage (0100%) iercentage (0100%) Data Type iercentage (0100%)	Low Priorit Low
Image: 1 Image: 1 Image	KNX: Channel 1 KNX: Channel 1	Up/Down Stop Object Function Open/Close Stop Blind position Blind position, status Object Function Up/Down Stop Blind position, status Object Function Blind position, status Object Function Up/Down Stop/Slat adj. Blind position	Description	Group Address p/move Group Address ition Group Address osition Group Address	1 bit 1 bit 1 bit 1 bit 1 bit 1 bit 1 byte 1 byte 1 bit 1 byte 1 byte 1 byte 1 bit 1 byte 1 byte	C C C C C C C C C C C C C C C C C C C	- - - - - - - -	w w w			U S P P U U U S T P P S T I I I I I I P P S T I I P P P P I I I I P P P I I I I I I	p/down tep Data Type open/close tep bercentage (0100%) bercentage (0100%) Data Type p/down tep percentage (0100%) ercentage (0100%) Data Type ercentage (0100%)	Priorit Low Low Low Low Low Low Low Low Low Low

Venetian blind position and slat



Nun	nb Name	Object Function	Description	Group Address	Length	С	R	V	νT	U	Data Type	Priority
■‡ 311	KNX: Channel 1	Send 1bit value			1 bit	С	-	<i>(</i> =	Т	10	switch	Low
■‡ 311	KNX: Channel 1	Send 2bit value			2 bit	С	- 22	5	T	5	switch control	Low
■ ‡ 311	KNX: Channel 1	Send 1byte percent value			1 byte	С	23	32	т	32	percentage (0100%)	Low
■‡ 311	KNX: Channel 1	Send 1byte unsigned value			1 byte	С		æ	Т	<u>ن</u> و	counter pulses (0255)	Low
■‡ 311	KNX: Channel 1	Recall scene No.			1 byte	С	-	æ	Т	8	scene number	Low
■‡ 311	KNX: Channel 1	Send 2byte float value			2 bytes	С	-	æ	Т	æ .	2-byte float value	Low
₹ 311	KNX: Channel 1	Send 2byte unsigned value			2 bytes	С	42	4	т	14	pulses	Low
			Value se	nder								
Nun	nb Name	Object Function	Description	Group Address	Length	C	R	V	V T	U	Data Type	Priority
2 311	KNX: Channel 1	Triager scene No.			1 byte	C		W	-	-	scene number	Low

Scene switch

Fig.6.2.1 Basic function communication object

N0.	Object Function	Name	Data Type	Flag	DPT
311	Switch	KNX: {{Channel1}}	1bit	С,Т	1.001 switch
312	Switch, status	KNX: {{Channel1}}	1bit	C,W,T,U	1.001 switch

These two communication objects apply to switch, dimming, color and color temperature control. Telegrams:

0——Turn off the light

1——Turn on the light

Obj.311: Used for sending On/Off telegrams to the bus, to control the light on/off.

Obj.312: Used for receiving On/Off status responded from other bus devices, such as dimming actuator, switch actuator.

312	Brightnessdimming	KNX: {{Channel1}}	1byte	C,T	5.001 percentage(0100%)
313	Brightness, status	KNX: {{Channel1}}	1byte	C,W,T,U	5.001 percentage(0100%)

These two communication objects apply to brightness dimming. Telegrams: 0~100%

Obj.312: Used for sending dimming telegrams to the bus, that is, sending the brightness value.

Obj.313: Used for receiving brightness status responded from dimming actuator.

313	Red dimming value	KNX: {{Channel1}}	1byte	C,T	5.001 percentage(0100%)
317	Red brightness, status	KNX: {{Channel1}}	1byte	C,W,T,U	5.001 percentage(0100%)

These two communication objects are visible when 3x1byte for the RGB object type or 4x1byte for the RGBW object type is selected. Apply to control brightness of multi-color lamp, and also support color temperature adjustment. Telegrams: 0...100%

Obj.313 Used for sending brightness value of the control R (red) channel to the bus.

Obj.317: Used for receiving brightness value of the control R (red) channel from bus.

314	Green dimming value	KNX: {{Channel1}}	1byte	C,T	5.001 percentage(0100%)	
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318	Green brightness, status	KNX: {{Channel1}}	1byte	C,W,T,U	5.001 percentage(0100%)
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These two communication objects are visible when 3x1byte for the RGB object type or 4x1byte for the RGBW object type is selected. Apply to control brightness of multi-colorlamp, and also support color temperature adjustment. Telegrams: 0...100%

Obj.314: Used for sending brightness value of the control G (green) channel to the bus.

Obj.318: Used for receiving brightness value of the control G (green) channel from bus.

315	Blue dimming value	KNX: {{Channel1}}	1byte	C,T	5.001 percentage(0100%)
319	Blue brightness, status	KNX: {{Channel1}}	1byte	C,W,T,U	5.001 percentage(0100%)

These two communication objects are visible when 3x1byte for the RGB object type or 4x1byte for the RGBW object type is selected. Apply to control brightness of multi-color lamp, and also support color temperature adjustment. Telegrams: 0...100%

Obj.315: Used for sending brightness value of the control B (blue) channel to the bus.

Obj.319: Used for receiving brightness value of the control B (blue) channel from bus.

316	White dimming value	KNX: {{Channel1}}	1byte	C,T	5.001 percentage(0100%)
320	White brightness, status	KNX: {{Channel1}}	1byte	C,W,T,U	5.001 percentage(0100%)

These two communication objects are visible when 4x1byte for the RGBW object type is selected. Apply to control brightness of multi-color lamp, and also support color temperature adjustment. Telegrams: 0...100%

Obj.316: Used for sending brightness value of the control W (white) channel to the bus.

Obj.320: Used for receiving brightness value of the control W (white) channel from bus.

313	RGB dimming value	KNX: {{Channel1}}	3byte	C,T	232.600 RGB value 3x(0255)
317	RGB brightness, status	KNX: {{Channel1}}	3byte	C,W,T,U	232.600 RGB value 3x(0255)

These two communication objects are visible when 1x3byte for the RGB object type is selected. Apply to control brightness of multi-colorlamp, and also support color temperature adjustment.

Obj.313: Used for sending brightness value of RGB three-colorlamp to the bus.

Obj.317: Used for receiving brightness value of RGB three-colorlamp from bus.

3-Byte Code for RGB Dimming Object Data Type: U8 U8 U8, as follows:

3 _{MSB}	2	1 _{LSB}
R	G	В
υυυυυυυ	υυυυυυυ	UUUUUUU

R: red dimming value; G: green dimming value; B: blue dimming value.



313	RGBW dimr	ning value	KNX: {{Channel1}}	6byte	C,T		251.0	600 DPT_Colour_F	RGBW
317	RGBW brig	ntness, status	KNX: {{Channel1}}	6byte	C,V	V,T,U	251.0	GBW	
			bjects are visible ulti-colorlamp, an						
6 _{MSB}	3	5	4	3		2		1 _{LSB}	
R		G	В	W		Rese	rve	rrrrmR mG m	BmW
		υυυυυυυ	υυυυυυυ	υυυυυυ	U	00000	000	0000BBBB	
						0			
			green dimming v	alue is valid	, 0 =	invalid		alid;	
n n	nB: determi nW: Determ	nes whether the ines whether the	green dimming v	alue is valid ue is valid,	, 0 =) = ir	invalid Ivalid, 1 invalid	, 1 = v l = val ,1 =va 7.60	valid; lid; lid. D absolute	colo
m m 813	nB: determi nW: Determ Color temp	nes whether the ines whether the erature value	green dimming v blue dimming val e white dimming v	alue is valid ue is valid, value is valio	, 0 =) = ir 1,0 = C,T	invalid Ivalid, 1 invalid	, 1 = v l = val ,1 =va 7.600 temp 7.600	ralid; lid; lid. 0 absolute perature	colo
m 13	nB: determi nW: Determ Color temp Color temp	nes whether the ines whether the erature value erature, status	green dimming v blue dimming val e white dimming v KNX: {{Channel1}}	alue is valid ue is valid, value is valid 2byte 2byte	, 0 =) = ir 1,0 = C,T C,V	invalid ivalid, 1 invalid v,T,U	, 1 = v l = val ,1 =va 7.600 temp temp	valid; lid; lid. 0 absolute perature 0 absolute perature	colo
m 13 17	nB: determi nW: Determ Color temp Color temp	nes whether the ines whether the erature value erature, status	green dimming v blue dimming val e white dimming v KNX: {{Channel1}} KNX: {{Channel1}}	alue is valid ue is valid, value is valid 2byte 2byte	, 0 =) = ir 1,0 = C,T C,V	invalid ivalid, 1 invalid v,T,U	, 1 = v l = val ,1 =va 7.600 temp temp	valid; lid; lid. D absolute Derature D absolute Derature	colo
m 13 17 T T O	nB: determi nW: Determ Color temp Color temp hese two co elegrams: 2 0bj.313: Use	nes whether the ines whether the erature value erature, status ommunication o 20007000 K ed for sending th	green dimming v blue dimming val e white dimming v KNX: {{Channel1}} KNX: {{Channel1}}	alue is valid ue is valid, value is valid 2byte olor temperation of the colo	, 0 =) = ir 1,0 = C,T C,V ature or ter	invalid ivalid, 1 invalid v,T,U adjust nperat	, 1 = v l = val ,1 =va 7.600 temp 7.600 temp ment	alid; lid; lid. 0 absolute 0 absolute	colo
m 313 317 T T 0 0	nB: determi nW: Determ Color temp Color temp hese two co elegrams: 2 0bj.313: Use	nes whether the ines whether the erature value erature, status ommunication o 20007000 K ed for sending th	green dimming v blue dimming val e white dimming v KNX: {{Channel1}} KNX: {{Channel1}} bjects apply to co e control telegram	alue is valid ue is valid, f value is valid 2byte olor temperation of the color	, 0 =) = in 1,0 = C,T C,V ature or ter lor ter	invalid invalid, 1 invalid v,T,U adjust mperat	, 1 = v l = val ,1 =va 7.600 temp 7.600 temp ment ureto	alid; lid; lid. 0 absolute berature 0 absolute berature of monochrome the bus. rom bus.	colo lamp.
m 813 817 T T O	nB: determi nW: Determ Color temp Color temp hese two co elegrams: 2 0bj.313: Use	nes whether the ines whether the erature value erature, status ommunication o 20007000 K ed for sending th	green dimming v blue dimming val e white dimming v KNX: {{Channel1}} KNX: {{Channel1}}	alue is valid ue is valid, value is valid 2byte olor temperation of the colo	, 0 =) = ir 1,0 = C,T C,V ature or ter	invalid invalid, 1 invalid v,T,U adjust mperat	, 1 = v l = val ,1 =va 7.600 temp 7.600 temp ment ureto	alid; lid; lid. 0 absolute 0 absolute	colo lamp.

Telegrams: 0...100%

Obj.314: Used for sending the dimming telegram of the color temperature to the bus, that is, sending the brightness value.

Obj.318: Used for receiving the brightness status responded from the dimming actuator.



311	Open/Close	KNX: {{Channel1}}	1bit	C,T	1.009 open/close		
312	Stop	KNX: {{Channel1}}	1bit	C,T	1.007 step		
С	urtain step/move: these t	wo communication o	bjects ap	ply to oper	n and close curtain. Support to		
open,	close, stop.						
	Obj.311: Used for sending	the telegram to the b	ous, to coi	ntrol curta	in open/close. Telegrams:		
	1——Closeth	e curtain					
0	——Openthe curtain						
0	bj.312: Used for sending t	he telegram to the bu	ıs, to stop	o curtain m	novement. Telegrams:		
	1——Stop	1					
311	Up/Down	KNX: {{Channel1}}	1bit	C,T	1.008 up/down		
312	Stop	KNX: {{Channel1}}	1bit	C,T	1.007 step		
R	coller blind step/move: th	ese two communicat	tion obje	cts apply	to roller blind. Support to up		
down,	, stop.						
0	bj.311: Used for sending t	he telegram to the bu	is to con	trol blind u	n/down_Telegrams		
		•	ove down		p,		
		0——M					
		Dbj.312 is the same a	•				
311	Open/Close	KNX: {{Channel1}}	1bit	C,T	1.009 open/close		
312	Stop	KNX: {{Channel1}}	1bit	C,T	1.007 step		
313	Blind position	KNX: {{Channel1}}	1byte	C,T	5.001 percentage(0100%)		
315	Blind position, status	KNX: {{Channel1}}	1byte	C,W,T,U	5.001 percentage(0100%)		
	•				o open, close, stop, position		
	tment and position status	•					
2	·		ous to cou	ntrol curta	in open/close. Telegrams:		
	1——Closeth	-	,				
	0——Openthe						
0	bj.312: Used for sending t		us to stor	o curtain m	novement Telegrams		
0	1——Stop	ine telegram to the bo	15, 10 5104		iovement. retegrams:		
Obj.31	13: Used for sending a tel	egram to control the	position (of the curt	ain to the bus. Telegrams:0		
Obj.31 100%	13: Used for sending a tel	egram to control the	position (of the curt	ain to the bus. Telegrams:0		
100%	-	-			ain to the bus. Telegrams:0 o the window curtain actuato		



311	Up/Down	KNX: {{Channel1}}			1.008 up/down
312	Stop	KNX: {{Channel1}}			1.007 step
313	Blind position	KNX: {{Channel1}}	1byte	C,T	5.001 percentage(0100%)
315	Blind position, status	KNX: {{Channel1}}	1byte	C,W,T,U	5.001 percentage(0100%)

Roller blind position: apply to a roller blind without slat. Support to up, down, stop, position adjustment and position status feedback.

Obj.3 11: Used for sending the telegram to the bus, to control blind up/down. Telegrams:

1——Move down

0--Move up

Obj.312, Obj.313, Obj.315 are the same as above.

					•
311	Up/Down	KNX: {{Channel1}}	1bit	C,T	1.008 up/down
312	Stop/Slat adj.	KNX: {{Channel1}}	1bit	C,T	1.007 step
313	Blind position	KNX: {{Channel1}}	1byte	C,T	5.001 percentage(0100%)
314	Slat position	KNX: {{Channel1}}	1byte	C,T	5.001 percentage(0100%)
315	Blind position, status	KNX: {{Channel1}}	1byte	C,W,T,U	5.001 percentage(0100%)
316	Slat position, status	KNX: {{Channel1}}	1byte	C,W,T,U	5.001 percentage(0100%)

Venetian blind position and slat: apply to a blind with slat. Support to up, down, stop, position and slat adjustment, position and slat status feedback.

Obj.311: Obj.313 and Obj.315 are same as above.

Obj.312: Used for sending a telegram to the bus to stop the curtain movement or adjust the slat angle. Telegrams:

1—— Stop/Slat adj. Down

0—— Stop/Slat adj. Up

Obj.314: Used for sending a telegram to control the position of the blind to the bus. Telegrams: 0...100%

Obj.316: Used for receiving a blind position status in response to the blind actuator on the bus. Telegrams: 0...100%



The communication object is used for receiving the scene triggered telegram from KNX system. Telegram: 1..64



6.2.2. Communication Object of Air condition

Num	nb Name	Object Function	Description	Group Address	Length	C	R	W	Т	U	Data Type	Priority
₽‡ 311	KNX: Channel 1	Power on/off			1 bit	C	-	-	Т	19 4 93	switch	Low
■2 312	KNX: Channel 1	Current setpoint adjustment			2 bytes	С	-	-	Т	1.50	temperature (°C)	Low
■2 313	KNX: Channel 1	Control mode			1 byte	С	2	-	Т	-	HVAC control mode	Low
∎‡ 314	KNX: Channel 1	Fan speed			1 byte	С	-	-	Т	1.5	percentage (0100%)	Low
2 317	KNX: Channel 1	Power on/off, status			1 bit	С	-	W	-	1 4 20	switch	Low
■‡ 318	KNX: Channel 1	Room temperature sensor			2 bytes	С	-	W	Т	U	temperature (°C)	Low
2 319	KNX: Channel 1	Current temperature setpoint, status			2 bytes	C	-	W	-	U	temperature (°C)	Low
■2 320	KNX: Channel 1	Control mode, status			1 byte	С	-	W	-	1.5	HVAC control mode	Low
₹ 321	KNX: Channel 1	Fan speed, status			1 byte	C	2	W	2		percentage (0100%)	Low

Air conditioner

Num	nb Name	Object Function	Description	Group Address	Length	С	R	V	VT	U	Data Type	Priority
■2 311	KNX: Channel 1	Power on/off			1 bit	С	-	10	Т	10	switch	Low
■2 312	KNX: Channel 1	Current setpoint adjustment			2 bytes	С	2	<u>81</u>	Т	82	temperature (°C)	Low
■2 313	KNX: Channel 1	Control mode			1 byte	С	-	(÷	Т	10	HVAC control mode	Low
■2 314	KNX: Channel 1	Fan speed			1 byte	С	2	2	Т	82	percentage (0100%)	Low
■≵ 315	KNX: Channel 1	Vanes swing (1-swing,0-stop)			1 bit	С	-	ie.	Т	17	start/stop	Low
317	KNX: Channel 1	Power on/off, status			1 bit	С	22	W	2	82	switch	Low
■2 318	KNX: Channel 1	Room temperature sensor			2 bytes	С	-	W	Т	U	temperature (°C)	Low
■2 319	KNX: Channel 1	Current temperature setpoint, status			2 bytes	С	2	W	-	U	temperature (°C)	Low
■2 320	KNX: Channel 1	Control mode, status			1 byte	С	-	W		17	HVAC control mode	Low
■2 321	KNX: Channel 1	Fan speed, status			1 byte	С	2	W	2	S2 -	percentage (0100%)	Low
■2 322	KNX: Channel 1	Vanes swing (1-swing,0-stop), status			1 bit	С	-	W	-	<i></i>	start/stop	Low

Air conditioner(with swing)

Fig.6.2.2 Air condition function communication object



N0.	Object Function	Name	Data Type	Flag	DPT
311	Power on/off	KNX: {{Channel1}}	1bit	C,T	1.001 switch
Т	he communication object is use	ed to control air conc	lition pow	er on/off \	<i>i</i> ia the APP, and send the
telegr	ram value to the bus. Telegrams	:			
	1——On				
	0——Off				
312	Currentsetpoint adjustment	KNX: {{Channel1}}	2byte	C,T	9.001 temperature
Т	he communication object is use	ed to adjust setpoint	temperat	urevia the	APP, and send telegram
value	to the bus.				
040					20.105 HVAC control
313	Control mode	KNX: {{Channel1}}	1byte	C,T	mode
Т	he communication object is us	sed to send control	telegram	of each a	ir condition mode to the
bus.					
D)ifferent telegram means differe	nt control mode:			
0	-Auto, 1- Heating, 3-Cooling, 9-F	an, 14-Dehumidity, ot	her reser	ved.	
314	Fan speed	KNX: {{Channel1}}	1byte	C,T	5.001 percentage
514	Tan speed		Ibyte	0,1	5.100 fan stage
Т	he communication object is u	used to send contro	ol telegra	m of each	fan speed to the bus.
Teleg	ram value is determined by para	meter setting dataty	pe.		1
315	Vanes swing (1-swing,0-stop)	KNX: {{Channel1}}	1bit	C,T	1.010 start/stop
Т	he communication object is vis	ible only when "Air o	conditione	r(with swi	ng)" is selected. Used to
send	telegram controlling vanes swin	g to the bus. Telegra	ms:		
	1——Swing				
	0——Stop				
317	Power on/off, status	KNX: {{Channel1}	} 1bit	C,W	1.001 switch
Т	he communication object is us	ed to receive the pov	ver on/off	telegram	of air condition from the
bus, a	and feedback to the APP display	. Telegrams:			
	1——On				
	0——Off				
318	Room temperaturesensor	KNX: {{Channel1}	} 2byte	C,W,T,U	9.001 temperature
		I		1	
Т	he communication object is us	ed to receive the roo	om tempe	rature fror	n the bus, and send read



319	Currenttemperaturesetpoint, status	KNX: {{Channel1}}	2byte	C,W,U	9.001 temperature						
7	The communication object is used t	to receive the curre	nt setpo	oint tempe	erature from the bus, and						
feedb	back to the APP display.										
320	320 Control mode, status KNX: {{Channel1}} 1byte C,W 20.105 HVAC control mode										
]	The communication object is use	d to receive the c	urrent	control n	node from the bus, and						
feedb	back to the APP display. Different te	legram means diffe	rent cor	ntrol mode	2:						
()-Auto, 1- Heating, 3-Cooling, 9-Fan,	14-Dehumidity, othe	er reser	ved.							
321	Fan speed, status	KNX: {{Channel1}}	1byte	C,W	5.001 percentage						
321	Fan speed, status	KNX: {{Channet1}}	Tbyte	C, W	5.100 fan stage						
٦	The communication object is used t	o receive the currer	ntfan sp	eed from	the bus, and feedback to						
the A	PP display. Telegram value is deter	mined by parameter	setting	datatype							
322	Vanes swing (1-swing,0-stop), status	KNX: {{Channel1}}	1bit	C,W	1.010 start/stop						
٦	The communication object is visible	only when "Air cor	nditione	r(with sw	ing)" is selected. Used to						
recei	ve vanes swing status from the bus.	Telegrams:									
	1——Swing										
	0——Stop										

Table 6.2.2 Air condition function communication object table

6.2.3. Communication Object of Room temperatureunit

Num	nb Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
■‡ 311	KNX: Channel 1	Power on/off			1 bit	С	÷	-	Т	87	switch	Low
■‡ 312	KNX: Channel 1	Current setpoint adjustment			2 bytes	С	20	2	Т	12	temperature (°C)	Low
■‡ 313	KNX: Channel 1	Heating/Cooling mode			1 bit	С	-	-	Т	a.	cooling/heating	Low
₽‡ 325	KNX: Channel 1	Power on/off, status			1 bit	С	21	W	2	12	switch	Low
₽‡ 326	KNX: Channel 1	Room temperature sensor			2 bytes	С	-	W	Т	U	temperature (°C)	Low
₽‡ 327	KNX: Channel 1	Current temperature setpoint, status			2 bytes	С	20	W	2	U	temperature (°C)	Low
■2 328	KNX: Channel 1	Heating/Cooling mode, status			1 bit	С	-	W	•		cooling/heating	Low
		R	oom temper	atureunit								

Num	nb Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
■‡ 311	KNX: Channel 1	Power on/off			1 bit	С	-	1. 1.	Т	87	switch	Low
■2 312	KNX: Channel 1	Current setpoint adjustment			2 bytes	С	21	2	Т	12	temperature (°C)	Low
■₽ 313	KNX: Channel 1	Heating/Cooling mode			1 bit	С	-	-	Т	: . .	cooling/heating	Low
■2 314	KNX: Channel 1	Operation mode			1 byte	С	21	-	Т	12	HVAC mode	Low
■2 325	KNX: Channel 1	Power on/off, status			1 bit	С	- 1	W	-	87	switch	Low
■2 326	KNX: Channel 1	Room temperature sensor			2 bytes	С	2	W	Т	U	temperature (°C)	Low
■2 327	KNX: Channel 1	Current temperature setpoint, status			2 bytes	С	- 1	W	-	U	temperature (°C)	Low
■2 328	KNX: Channel 1	Heating/Cooling mode, status			1 bit	С	21	W	2	12	cooling/heating	Low
■2 329	KNX: Channel 1	Operation mode, status			1 byte	С		W	-	-	HVAC mode	Low

Room temperature unit (with operation mode)



Num	nb Name	Object Function	Description	Group Address	Length	C	R	V	/ Т	U	Data Type	Priority
■2 311	KNX: Channel 1	Power on/off			1 bit	С	÷	19	Т	4	switch	Low
2 312	KNX: Channel 1	Current setpoint adjustment			2 bytes	С	5	<u>ت</u> ة:	Т	:7	temperature (°C)	Low
∎‡ 313	KNX: Channel 1	Heating/Cooling mode			1 bit	С	-	-	Т		cooling/heating	Low
■2 314	KNX: Channel 1	Operation mode			1 byte	С	7	<u>ي</u> ة:	Т	67 I.	HVAC mode	Low
■‡ 319	KNX: Channel 1	Fan speed			1 byte	С	÷	1	Т	19 4	percentage (0100%)	Low
₽‡ 320	KNX: Channel 1	Fan speed low			1 bit	С	-	<u>ت</u>	Т	:7	switch	Low
■2 321	KNX: Channel 1	Fan speed medium			1 bit	C	4	-	Т	÷	switch	Low
₹ 322	KNX: Channel 1	Fan speed <mark>h</mark> igh			1 bit	С	5	<u>ت</u> ة:	Т	-	switch	Low
■2 324	KNX: Channel 1	Fan automatic operation			1 bit	С	-	19	Т	(in)	enable	Low
₹ 325	KNX: Channel 1	Power on/off, status			1 bit	С	7	W	-	-5	switch	Low
■2 326	KNX: Channel 1	Room temperature sensor			2 bytes	C	-	W	Т	U	temperature (°C)	Low
■2 327	KNX: Channel 1	Current temperature setpoint, status			2 bytes	С	5	W	7	U	temperature (°C)	Low
■2 328	KNX: Channel 1	Heating/Cooling mode, status			1 bit	С	-	W	÷	-	cooling/heating	Low
₹ 329	KNX: Channel 1	Operation mode, status			1 byte	С	-	W	-	-	HVAC mode	Low
∎₽ 334	KNX: Channel 1	Fan speed, status			1 byte	С	÷	W	-	-	percentage (0100%)	Low
■2 335	KNX: Channel 1	Fan speed low, status			1 bit	С	-	W	70		switch	Low
■2 336	KNX: Channel 1	Fan speed medium, status			1 bit	С	÷	W	÷	-	switch	Low
■2 337	KNX: Channel 1	Fan speed high, status			1 bit	С	-	W	-	-	switch	Low
₽	KNX: Channel 1	Fan automatic operation, status			1 bit	С	-	W	-	19	enable	Low

Room temperatureunit(with operation mode & fan speed)

Fig.6.2.3 Room temperature unit function communication Object

	Fig.6.2.3 Roon	n temperature unit funct	ion communi	cation Object	r
N0.	Object Function	Name	Data Type	Flag	DPT
311	Power on/off	KNX: {{Channel1}}	1bit	С,Т	1.001 switch
Т	he communication object is	used to control R	C power o	n/off via the	APP, and send the
telegr	ram value to the bus. Telegram	S:			
	1——On				
	0——Off				
312	Currentsetpoint adjustment	KNX: {{Channel1}}	2byte	С,Т	9.001 temperature
T	he communication object is u	sed to adjust setpoir	nt temperati	urevia the AP	P, and send telegram
value	to the bus.				
313	Heating/Cooling mode	KNX: {{Channel1}}	1bit	C,T	1.100 cooling/heating
T	he communication object is u	sed to send telegra	m for switch	ing cooling a	nd heating functions
to the	e bus. Telegrams:				
	1—— Heating				
	0—— Cooling				
314	Operation mode	KNX: {{Channel1}}	1byte	C,T	20.102 HVAC mode
T	he communication object is u	sed to send the tele	gram of the	room operat	ion mode to the bus.
Differ	ent telegram means different o	control mode:			
1	-Comfort, 2-Standby, 3-Econor	nv. 4-Protection.othe	er reserved.		
					5.001 percentage
319	Fan speed KNX: {{Channel1}} 1byte C,T		C,T	5.100 fan stage	
320	Fan speed low	KNX: {{Channel	}} 1bit	C,T	1.001 switch



321	Fan speed medium	KNX: {{Channel1}}	1bit	C,T	1.001 switch
322	Fan speed high	KNX: {{Channel1}}	1bit	C,T	1.001 switch
323	Fan speed off	KNX: {{Channel1}}	1bit	C,T	1.001 switch

These communication objects are used to control fan speed via the APP, and send telegrams to the bus.

1bit object is visible according to the parameter setting :

Object 320——Low fan speed

Object 321——Medium fan speed

Object 322——High fan speed

Object 323 ——Fan speed off

Only the corresponding object sends telegram "1" when switch to a certain fan speed. When 1bit-off object is not enable, all objects send telegrams "0" when switch to fan speed off (The situation apply to connect with fan actuator of GVS);

When 1bit-off object is enable, only 1bit-off object send telegram "1" (The situation apply to connect with fan actuator of other manufacturers).

1byte: the corresponding telegram value of each fan speed is defined by the parameter. Activate the corresponding fan speed on the APP, and object 319 sends the corresponding telegram value of the fan speed to the bus.

324	Fan automatic operation	KNX: {{Channel1}}	1bit	C,T	1.003 enable
Т	he communication object is used	to send the teleg	ram of	fan automatio	control to the bus.
Teleg	rams:				
	1—— Auto				
	0—— Exit auto				
325	Power on/off, status	KNX: {{Channel1}}	1bit	C,W	1.001 switch
Т	he communication object is used t	o receive the power	on/off	telegram of R	TC from the bus, and
feedb	ack to the APP display. Telegrams:				
	1——On				
	0——Off				
326	Room temperature sensor	KNX: {{Channel1}}	2byte	C,W,T,U	9.001 temperature
Т	he communication object is used t	to receive the room	tempe	rature from th	e bus, and send read
reque	est cyclically, and feedback to the AF	PP display.			



327	Current temperature setpoint, status	KNX: {{Channel1}}	2byte	C,W,U	9.001 temperature							
1	The communication object is used t	to receive the curre	ent setpo	pint temperatu	ure from the bus, and							
feedb	back to the APP display.											
328	Heating/Cooling mode, status	KNX: {{Channel1}}	1bit	C,W	1.100 cooling/heating							
٦	The communication object is used	for receiving the st	atus of	heating and d	cooling from the bus,							
and f	and feedback to the APP display. Telegrams:											
	1 ——Heating											
	0 ——Cooling											
329	Operation mode, status	KNX: {{Channel1}}	1byte	C,W	20.102 HVAC mode							
٦	The communication object is used	for receiving the t	elegram	n of RTC oper	ation mode from the							
bus.												
[Different telegram means different c	ontrol mode:										
1	-Comfort, 2-Standby, 3-Economy, 4-	Protection, other re	eserved.									
334	Fan speed, status	KNX: {{Channel1}}	1byte	C,W	5.001 percentage							
004			ibyte	0,11	5.100 fan stage							
335	Fan speed low, status	KNX: {{Channel1}}	1bit	C,W	1.001 switch							
336	Fan speed medium, status	KNX: {{Channel1}}	1bit	C,W	1.001 switch							
337	Fan speed high, status	KNX: {{Channel1}}	1bit	C,W	1.001 switch							
338	Fan speed off, status	KNX: {{Channel1}}	1bit	C,W	1.001 switch							
1	These communication objects are used to receive status feedback to control fan speed via four											

These communication objects are used to receive status feedback to control fan speed via four 1bit objects or a 1byte object.

1bit :

Object 335 - -Low fan speed

Object 336 — Medium fan speed

Object 337——High fan speed

Object 338——Fan speed off

The object receives telegram "1", activate corresponding fan speed, and and feedback to the APP display. When 1bit-off object is not enable, fan speed off when telegram values of low/medium/high fan speed are "0";

When 1bit-off object is enable, fan speed off when 1bit-off object receives telegram "1", and fan speed also off when telegram values of low/medium/high fan speed are "0"

1byte: the corresponding telegram value of each fan speed is defined by the parameter. When object 334 receives the corresponding value, update the fan speed status on the APP display.

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339	Fan automatic operation, status	KNX: {{Channel1}}	1bit	C,W	1.003 enable
т	The communication object is use	ed to receive feed	dback	status of fan	automatic control.
Teleg	rams:				
	1——Automatic				
	0——Cancel automatic				

Table 6.2.3 Room temperature unit function communication object table

6.2.4. Communication Object of Ventilation system

Nun	nb Name	Object Function	Description	Group Address	Length	C	R	W	/ T	U	Data Type	Priority
■2 311	KNX: Channel 1	Power on/off			1 bit	С	-	15	Т	87	switch	Low
■2 312	KNX: Channel 1	Fan speed			1 byte	С	23	1	T	12	percentage (0100%)	Low
■2 313	KNX: Channel 1	Fan speed low			1 bit	С	ų:	-	Т	-	switch	Low
■2 314	KNX: Channel 1	Fan speed medium			1 bit	С	72		т	277	switch	Low
■2 315	KNX: Channel 1	Fan speed high			1 bit	С	÷		Т	19	switch	Low
■2 316	KNX: Channel 1	Fan automatic operation			1 bit	С	73	17	т	17	enable	Low
■2 317	KNX: Channel 1	Heat recovery			1 bit	С	÷	-	Т		enable	Low
■2 318	KNX: Channel 1	Power on/off, status			1 bit	С	73	W	73	27	switch	Low
■2 319	KNX: Channel 1	Fan speed, status			1 byte	С	2	W	-	34	percentage (0100%)	Low
■2 320	KNX: Channel 1	Fan speed low, status			1 bit	С	×	W	×	1	switch	Low
■2 321	KNX: Channel 1	Fan speed medium, status			1 bit	С	28	W	2	32	switch	Low
■2 322	KNX: Channel 1	Fan speed high, status			1 bit	С	-	W	-	1	switch	Low
■≵ 323	KNX: Channel 1	Fan automatic operation, status			1 bit	С	28	W	22	22.1	enable	Low
■2 324	KNX: Channel 1	Heat recovery, status			1 bit	С	-	W	-	1	enable	Low
₹ 325	KNX: Channel 1	Filter alarm, status			1 bit	С	28	W	2	32	alarm	Low

Ventilation system

Fig.6.2.4 Ventilation system function communication object

N0.	Object Function	Name	Data Type	Flag	DPT						
311	Power on/off	KNX: {{Channel1}}	1bit	C,T	1.001 switch						
Т	The communication object is used to control ventilation power on/off via the APP, and send the										
telegi	elegram value to the bus. Telegrams:										
	1——On										
	0——Off										
312	Fan speed	KNX: {{Channel1}}	1byte	C,T	5.001 percentage 5.100 fan stage						
313	Fan speed low	KNX: {{Channel1}}	1bit	C,T	1.001 switch						
314	Fan speed medium	C,T	1.001 switch								
315	Fan speed high	KNX: {{Channel1}}	1bit	C,T	1.001 switch						

These communication objects are used to send the control telegrams of fan speed to the bus.

1byte: the corresponding telegram value of each fan speed is defined by the parameter. Activate the corresponding fan speed on the APP, and object 312 sends the corresponding telegram value of the fan speed to the bus.

1bit:

Object 313 — — Low fan speed

Object 314 — Medium fan speed

Object 315 ——High fan speed

The corresponding object sends telegram "1" to activate corresponding fan speed on the APP. Turn off fan speed when send telegram "0".



communication object is used ns: 1——Auto 0——Exit auto	to send the teleg	ram of	fan automatic	control to the bus
1—— Auto 0—— Exit auto				
0—— Exit auto				
eat recovery				
	KNX: {{Channel1}}	1bit	C,T	1.003 enable
communication object is used to	o control heat reco	very mo	de via the API	P, and send telegrar
s. Telegrams:				
1—— Active				
0——Inactive				
ower on/off, status	KNX: {{Channel1}}	1bit	C,W	1.001 switch
communication object is used	to receive the pow	er on/o	ff telegram of	ventilation from th
feedback to the APP display. Tel	legrams:			
1——On				
0——Off				
in speed, status	KNY, {{Channel1}}	1 hvto	C W	5.001 percentage
ni speed, status		Tbyte	0,11	5.100 fan stage
n speed low, status	KNX: {{Channel1}}	1bit	C,W	1.001 switch
n speed medium, status	KNX: {{Channel1}}	1bit	C,W	1.001 switch
n speed high, status	KNX: {{Channel1}}	1bit	C,W	1.001 switch
	1—— Active 0—— Inactive wer on/off, status communication object is used feedback to the APP display. Te 1——On 0——Off n speed, status n speed low, status	1——Active 0——Inactive wer on/off, status KNX: {{Channel1}} communication object is used to receive the power reedback to the APP display. Telegrams: 1——On 0——Off n speed, status KNX: {{Channel1}} n speed low, status	1——Active 0——Inactive wer on/off, status KNX: {{Channel1}} 1bit communication object is used to receive the power on/off reedback to the APP display. Telegrams: 1——On 0——Off n speed, status KNX: {{Channel1}} 1bit	1——Active 0——Inactive wer on/off, status KNX: {{Channel1}} 1bit C,W communication object is used to receive the power on/off telegram of feedback to the APP display. Telegrams: 1——On 0——Off n speed, status KNX: {{Channel1}} n speed low, status KNX: {{Channel1}}

1byte: the corresponding telegram value of each fan speed is defined by the parameter. When object 319 receives the corresponding value, update the fan speed status on the APP display.

1bit :

Object 320 —— Low fan speed

Object 321 —— Medium fan speed

Object 322 —— High fan speed

The object receives telegram "1", activate corresponding fan speed, and and feedback to the APP display. All telegram values of fan speed should be 0 when turn off fan speed;



323	Fan automatic operation, status	KNX: {{Channel1}}	1bit	C,W	1.003 enable					
Т	The communication object is used to receive feedback status of fan automatic control.									
Teleg	irams:									
	1——Automatic									
	0——Cancel automatic									
324	Heat recovery, status	KNX: {{Channel1}}	1bit	C,W	1.003 enable					
Т	The communication object is used to receive status of heat recovery mode, and feedback to the									
APP o	display. Telegrams:									
	1——Active									
	0——Inactive									
325	Filteralarm, status	KNX: {{Channel1}}	1bit	C,W	1.005 alarm					
Т	The communication object is used t	o receive filter stat	us from	n the bus, and	feedback to the APP					
displa	ay. Telegrams:									
	1—— In normal use 0—— Replace alarm									

Table 6.2.4 Ventilation system function communication object table

6.2.5. Communication Object of Audio control

Num	ib Name	Object Function	Description	Group Address	Length	С	R	W	T	U	Data Type	Priority
₹ 312	KNX: Channel 1	Play=1/Pause=0			1 bit	С	-	1	Т		start/stop	Low
₽ 313	KNX: Channel 1	Next track=1/Previous track=0			1 bit	С	28	2	Т	2	step	Low
₹ 314	KNX: Channel 1	Volume+=1/Volume-=0			1 bit	С	-	æ	т	×.	step	Low
₹ 315	KNX: Channel 1	Absolute volume			1 byte	С	2	2	Т	2	percentage (0100%)	Low
₽316	KNX: Channel 1	Mute			1 bit	С	-	æ Í	Т	2	enable	Low
₹ 317	KNX: Channel 1	Play mode			1 byte	С	2	<u>a</u>	Т	<u></u>	counter pulses (0255)	Low
₽319	KNX: Channel 1	Play=1/Pause=0, status			1 bit	С	-	W	Т	U	start/stop	Low
₽ 320	KNX: Channel 1	Absolute volume, status			1 byte	С	2	W	Т	U	percentage (0100%)	Low
₽321	KNX: Channel 1	Mute; status			1 bit	С	-	W	Т	U	enable	Low
322	KNX: Channel 1	Play mode, status			1 byte	С	2	W	Т	U	counter pulses (0255)	Low
			Audio co	ntrol								
Nun	nb Name	Object Function	Description	Group Address	Length	C	R	W	Т	U	Data Type	Priority
\$ 311	KNX: Channel 1	Power on/off			1 bit	С	-	8.58	Т	6 5 6	switch	Low
₹ 312	KNX: Channel 1	Play=1/Pause=0			1 bit	С	2	4	т	40	start/stop	Low
₹ 313	KNX: Channel 1	Next track=1/Previous track=0			1 bit	С	-	3 7 88	т	8 7 8	step	Low
₹ 314	KNX: Channel 1	Volume+=1/Volume-=0			1 bit	С	а.	4	т	44	step	Low
₹ 317	KNX: Channel 1	Play mode			1 byte	С	-	. .	Т	878	counter pulses (0255)	Low
₹ 318	KNX: Channel 1	Power on/off, status			1 bit	С	а.	W	5	$ \omega ^2$	switch	Low
₹ 319	KNX: Channel 1	Play=1/Pause=0, status			1 bit	С	-	W	-	858	start/stop	Low
₹ 322	KNX: Channel 1	Play mode, status			1 byte	С	2	W	2	43	counter pulses (0.255)	Low
		А	udio control(v	vith on/off)								

Fig.6.2.5 Audio control function communication object

Note: If "Audio control(with on/off)" is selected, default as power off when voltage recovery, and the object no need to send read request telegram. If "Audio control" is selected, the object needs to send read request telegram when voltage recovery.



N0.	Object Function	Name	Data Type	Flag	DPT
311	Power on/off	KNX: {{Channel1}}	1bit	C,T	1.001 switch
	he communication object only udio power on/off via the APP,				
	1——On				
	0—— Off		1	1	
312	Play=1/Pause=0	KNX: {{Channel1}}	1bit	C,T	1.010 start/stop
Т	he communication object is	used to play/stop	the music in	the audio	module via the APP
Teleg	rams:				
	1—— Play music				
	0——Pause playir	ng music			
313	Next track=1/Previous track=0	KNX: {{Channel1}}	1bit	C,T	1.007 step
т	⊥ The communication object is u	sed to switch the pl	aving song of	the audio	module via the APP. to
	h the previous song/the next s		- ,		
	1—— Play the nex				
	0—— Play the pre	· ·			
314	Volume+=1/Volume-=0	KNX: {{Channel1}}	1bit	С,Т	1 007 stop
314	volume+=1/volume-=0	KNX: {{Channet}}		6,1	1.007 step
315	Absolute volume	KNX: {{Channel1}}	1byte	C,T	5.001 percentage
					5.004 percentage
	he communication object is u		ne of the aud	o module	via the APP. Telegran
	is determined by different obje	ect datatype.			
1	bit object, telegrams:				
	1——Increase vol	ume			
	0——Decrease vo	lume			
1	byte object only applies to the	ne audio control fun	ction without	power on,	off. Telegram value is
accor	ding to object type: 0100 / 0	.255	1		
316	Mute	KNX: {{Channel1}}	1bit	C,T	1.003 enable
Т	he communication object onl	y applies to the aud	io control fun	ction with	out power on/off, use
to cor	ntrol mute of the audio module	e via the APP. Telegr	ams:		
	1——Mute				
	0——Cancel mute	5			



317	Play mode	KNX	<pre>(: {{Channel1}}</pre>	1by	rte	C, 1	Г	5.010 counter pulses
T	The communication object is	s used	to send contr	ol te	elegram	n of th	ne audi	o module play mode
differ	ent mode telegrams are pres	et by p	arameters.					
318	Power on/off, status	KNX	<pre>(: {{Channel1}}</pre>	1bi	t	C,\	N	1.001 switch
Т	The communication object or	nly app	lies to the audi	o cc	ontrol fu	unctio	n with	power on/off. Used to
receiv	ve the power on/off telegram	of the	audio module f	rom	the bus	5.		
						C,\	N	
319	Play=1/Pause=0, status	KNX	<pre>(: {{Channel1}}</pre>	1bi	t	C.\	V,T,U	1.010 start/stop
T	 The communication object is		a racaiva tha mu		nlov/ct			m the bus
	5							
	When the audio control func f, the object flag is C,W,T,U.	tion w	ith power on/or	1, LI	ie obje	ุ่ม แลง	J IS C,1	w; And without powe
011/01					41 .			F 004
320	Absolute volume, status		KNX: {{Channel1	}}	1byte	C,W,T,U		5.001 percentage
								5.004 percentage
V	/olume adjustment function,	1byte d	object only appli	ies t	o the au	udio co	ontrol f	unction without powe
on/of	f. Used to receive the volume	e status	s of audio contr	ol.				
Т	Telegram value is according t	o objec	ct type: 0100 /	02	55			
321	Mute, status		KNX: {{Channel1	}}	1bit	C,W,T	,U	1.003 enable
Т	The communication object or	nly app	lies to the audi	о со	ntrol fu	Inctior	n witho	ut power on/off. Use
to rec	ceive the mute status of audio	o contr	ol.					
					1byte	C,W		
322	Play mode, status		KNX: {{Channel1	}}		C,W,T		5.010 counter pulses
	The communication object is				node st	tatus d	of the a	udio module from th
bus, c	different mode telegrams are	preset	by parameters	•				
V	When the audio control func	tion w	ith power on/of	f, tł	ne obje	ct flag	g is C,\	N; And without powe
/ - 6	f, the object flag is C,W,T,U.							

Table 6.2.5 Audio control function communication object table



6.2.6. Communication Object of sensor function

Nur	nb Name	Object Function	Description	Group Address	Length	C	R	V	VT	U	Data Type	Priority
₽311	KNX: Channel 1	PM2.5 value			2 bytes	С	-	W	Т	U	pulses	Low
2 312	KNX: Channel 1	PM10 value			2 bytes	С	2	W	Т	U	pulses	Low
₽313	KNX: Channel 1	VOC value			2 bytes	С	-	W	Т	U	pulses	Low
≵ 314	KNX: Channel 1	CO2 value			2 bytes	С	21	W	Т	U	pulses	Low
2 311	KNX: Channel 1	PM2.5 value			2 bytes	С	23	W	т	U	concentration (µg/m³)	Low
₹ 312	KNX: Channel 1	PM10 value			2 bytes	С	-	W	Т	U	concentration (µg/m ³)	Low
2 313	KNX: Channel 1	VOC value			2 bytes	С	23	W	Т	U	concentration (µg/m ³)	Low
₹ 314	KNX: Channel 1	CO2 value			2 bytes	С	-	W	Т	U	parts/million (ppm)	Low
2 315	KNX: Channel 1	AQI value			2 bytes	С	-23	W	Т	U	pulses	Low
₹ 316	KNX: Channel 1	Temperature value			2 bytes	С	-	W	Т	U	temperature (°C)	Low
‡ 317	KNX: Channel 1	Humidity value			2 bytes	С	-20	W	Т	U	humidity (%)	Low
			Air quality s	sensor								
Nun	nb Name	Object Function	Description	Group Address	Length	С	R	W	/ Т	U	Data Type	Priority
₹ 314	KNX: Channel 1	CO2 value			2 bytes	C	÷	W	Т	U	pulses	Low
2 314	KNX: Channel 1	CO2 value			2 bytes	С	2	W	т	U	parts/million (ppm)	Low
₹316	KNX: Channel 1	Temperature value			2 bytes	С	a:	W	Т	U	temperature (°C)	Low
2 317	KNX: Channel 1	Humidity value			2 bytes	С	2	W	Т	U	humidity (%)	Low
			CO2 ser	sor								
Num	nb Name	Object Function	Description	Group Address	Length	С	R	W	/ T	U	Data Type	Priority
₹ 311	KNX: Channel 1	PM2.5 value			2 bytes	С	1	W	T	U	pulses	Low
₽311	KNX: Channel 1	PM2.5 value			2 bytes	C	÷.	W	Т	U	concentration (µg/m ³)	Low
₹ 316	KNX: Channel 1	Temperature value			2 bytes	С	-	W	Т	U	temperature (°C)	Low
₹ 317	KNX: Channel 1	Humidity value			2 bytes	С	÷	W	Т	U	humidity (%)	Low
-1.4.1			PM2.5 se				136		13.			
	nb Name	Object Function	Description	Group Address								Priority
₹ 313	KNX: Channel 1	VOC value			2 bytes						pulses	Low
₹ 313	KNX: Channel 1	VOC value			17						concentration (µg/m³)	Low
₹ 316	KNX: Channel 1	Temperature value			Contraction of the second second						temperature (°C)	Low
₹ 317	KNX: Channel 1	Humidity value	VOC ser	sor	2 bytes	С	÷	W	Т	U	humidity (%)	Low
Nur	mb Name	Object Function	100 Y 20 Y 10 Y	Group Address	Length	С	R	V	νт	U	Data Type	Priority
₹ 311	KNX: Channel 1	Presence detector	1.000	•	1 bit		1.1.1.1.1				occupancy	Low
7 312	KNX: Channel 1	Brightness value(lux)									lux (Lux)	Low
₹ 312	KNX: Channel 1	Brightness value(lux)									brightness (lux)	Low
- 1- 1-	to the Chorner I	Signaless (Bide(Bid)	Presences	oncor	L Dyitts			10			Ungrit icas (iday)	2011
Nun	nb Name	Object Function		Group Address	Length	C	R	W	Т	u	Data Type	Priority
₹ 311	KNX: Channel 1	Motion detector	Description	and the second second second	1.010203 500100		1				occupancy	Low
+ 12 m	NUM. CONTROL	motor detector	Motion se		1.01	-				0	occupancy	2011
Nun	nb Name	Object Function		Group Address	Length	с	R	W	/ т	U	Data Type	Priority
₹ 312	KNX: Channel 1	Brightness value(lux)	1.485554233,43445235		1 Marco - The second						lux (Lux)	Low
₹ 312	KNX: Channel 1	Brightness value(lux)									brightness (lux)	Low
			Brightness	sensor								
		Object Function		Group Address	Loueth	c	D	14	, т		Data Type	Priority
Num	nb Name											

I/O signal Fig.6.2.6 Sensor function communication object



	Object Function	Name	Data Type	Flag	DPT
					7.001 pulse
311	PM2.5 value	KNX: {{Channel1}}	2byte	C,W,T,U	9.030
					concentration(ug/m3)
Т	The communication objec	t is used to rece	ive the inpu	t of the PN	12.5 value and get the
corre	sponding value from the bu	us to be updated to	the APP displ	ay in ug/m³.	
F	Range: 0~999ug/m ³ , object	datatype is determ	ined by the pa	arameter set	ing.
					7.001 pulse
312	PM10 value	KNX: {{Channel1}}	2byte	C,W,T,U	9.030
					concentration(ug/m3)
Т	The communication object	t is used to rece	eive the inpu	it of the P	M10 value and get the
corre	esponding value from the bu	is to be updated to	the APP displ	ay in ug/m³.	
F	Range: 0~999ug/m ³ , object	datatype is determ	ined by the pa	arameter set	ing.
					7.001 pulse
313	VOC value	KNX: {{Channel1}}	2byte	C,W,T,U	9.030
					concentration(ug/m3)
Т	The communication object	ct is used to rec	eive the inp	ut of the \	/OC value and get the
	,				
	sponding value from the bu	us to be updated to	the APP displ	ay in ug/m ³ .	
corre	-	·	-		ing.
corre F	esponding value from the bu Range: 0~999ug/m ³ , object	datatype is determ	ined by the pa	arameter set	ing. 7.001 pulse
corre	sponding value from the bu	·	-		
corre F 314	esponding value from the bu Range: 0~999ug/m ³ , object	datatype is determ KNX: {{Channel1}}	ined by the pa	c,w,T,U	7.001 pulse 9.008 parts/million(ppm)
corre F 314 T	esponding value from the bu Range: 0~999ug/m ⁻³ , object C02 value	datatype is determ KNX: {{Channel1}} t is used to rec	ined by the pa 2byte eive the inp	c,w,T,U ut of the 0	7.001 pulse 9.008 parts/million(ppm)
corre F 314 T corre	esponding value from the bu Range: 0~999ug/m ³ , object C02 value The communication object	datatype is determ KNX: {{Channel1}} t is used to rec	ined by the pa 2byte eive the inp	c,w,T,U ut of the 0	7.001 pulse 9.008 parts/million(ppm)
corre F 314 T corre	esponding value from the bu Range: 0~999ug/m ⁻³ , object CO2 value The communication object esponding value from the bu	datatype is determ KNX: {{Channel1}} t is used to rec	ined by the pa 2byte eive the inp	c,w,T,U ut of the 0	7.001 pulse 9.008 parts/million(ppm)
corre 314 T corre F 316	esponding value from the bu Range: 0~999ug/m ⁻³ , object CO2 value The communication object esponding value from the bu Range: 04000ppm	datatype is determ KNX: {{Channel1}} It is used to rec us to be updated to the KNX: {{Channel1}}	ined by the pa 2byte eive the inp the APP displ 2byte	c,w,T,U ut of the (ay in ppm.	7.001 pulse 9.008 parts/million(ppm) CO2 value and get the 7.001 pulses
corre 314 T corre F 316	esponding value from the bu Range: 0~999ug/m ³ , object CO2 value The communication object esponding value from the bu Range: 04000ppm AQI value	datatype is determ KNX: {{Channel1}} et is used to rec us to be updated to the KNX: {{Channel1}} is used to receive the	ined by the pa 2byte eive the inp the APP displ 2byte ne input of the	arameter sett c,w,T,U ut of the 0 ay in ppm. c,w,T,U e AQI value a	7.001 pulse 9.008 parts/million(ppm) CO2 value and get the 7.001 pulses
corre F 314 T corre F 316 T	esponding value from the bu Range: 0~999ug/m ³ , object CO2 value The communication object Range: 04000ppm AQI value The communication object	datatype is determ KNX: {{Channel1}} et is used to rec us to be updated to the KNX: {{Channel1}} is used to receive the	ined by the pa 2byte eive the inp the APP displ 2byte ne input of the	arameter sett c,w,T,U ut of the 0 ay in ppm. c,w,T,U e AQI value a	7.001 pulse 9.008 parts/million(ppm) CO2 value and get the 7.001 pulses
corre F 314 T corre F 316 T value 317	esponding value from the built Range: 0~999ug/m ⁻³ , object CO2 value The communication object esponding value from the built Range: 04000ppm AQI value The communication object from the bus to be updated Temperaturevalue	datatype is determ KNX: {{Channel1}} ct is used to rec us to be updated to the KNX: {{Channel1}} is used to receive the d to the APP display KNX: {{Channel1}}	ined by the pa 2byte eive the inp the APP displ 2byte ne input of the r. Range: 05 2byte	c,w,T,U ut of the 0 ay in ppm. c,w,T,U e AQI value a 00 c,w,T,U	7.001 pulse 9.008 parts/million(ppm) CO2 value and get the 7.001 pulses nd get the corresponding 9.001 temperature
corre F 314 T corre F 316 T value 317	esponding value from the bu Range: 0~999ug/m ⁻³ , object CO2 value The communication object esponding value from the bu Range: 04000ppm AQI value The communication object	datatype is determ KNX: {{Channel1}} ct is used to reconstruction us to be updated to find KNX: {{Channel1}} is used to receive the to the APP display KNX: {{Channel1}} is used to receive the to the APP display KNX: {{Channel1}} is used to receive	ined by the particular 2byte eive the inp the APP disple 2byte the input of the 2byte 2byte e the input of	c,w,T,U ut of the 0 ay in ppm. c,w,T,U e AQI value a 00 c,w,T,U f the tempe	7.001 pulse 9.008 parts/million(ppm) CO2 value and get the 7.001 pulses nd get the corresponding 9.001 temperature rature value and get the



correspo 0100% 312 Bi The correspo	communication object is onding value from the hun o rightnessvalue(lux)		•		, ,
0100% 312 Bi The correspond		nidity sensor on bu	is to be	updated to	the APP display. Range:
312 Bu The correspo					
The	rightness value(lux)				
The	rightness value(lux)	KNX: {{Channel1}}	2 hude	C,W,T,U	7.013 brightness(lux)
correspo	-	KNA: {{Channel1}}	2byte	0,00,1,0	9.004 lux(lux)
	communication object is	used to receive th	input o	of the brigh	tness value and get the
Ran	onding value from the bus to	be updated to the A	APP displa	ay in lux.	
	nge: 065535lux , object data	atype is determined	by the pai	rameter setti	ng.
311 M	lotion detector	KNX: {{Channel1}}	1bit	C,W,T,U	1.018 Occupancy
The	communication object is us	sed to receive the in	put of the	1bit presend	ce signal. Telegram:
	0——No one				
	1——Some o	ne			
311 I/0	'O signal value	KNX: {{Channel1}}	1bit	C,W,T,U	1.001 switch
The	communication object is us	sed to receive the in	put of the	1bit I/O sigr	nal. Telegram:
	0——Open				
	o open				

Table 6.2.6 Sensor function communication object table



6.2.7. Communication Object of current/energymetering

Num	b Name	Object Function	Description	Group Address	Length	С	R	W	Т	U	Data Type	Priority
■2 311	KNX: Channel 1	Current value			2 bytes	С	-	W	Т	U	current (mA)	Low
₹313	KNX: Channel 1	Power value			2 bytes	С	20	W	Т	U	power (kW)	Low
■‡ 311	KNX: Channel 1	Current value			4 bytes	С	-22	W	Т	U	electric current (A)	Low
■‡ 313	KNX: Channel 1	Power value			4 bytes	С	-	W	Т	U	power (W)	Low
			Currentm	etering								
Num	nb Name	Object Function	Description	Group Address	Length	С	R	W	Т	U	Data Type	Priority
■2 311	KNX: Channel 1	Current value			2 bytes	С	-	W	Т	U	current (mA)	Low
■2 312	KNX: Channel 1	Voltage value			2 bytes	С	2	W	Т	U	voltage (mV)	Low
■‡ 313	KNX: Channel 1	Power value			2 bytes	С	-	W	Т	U	power (kW)	Low
■2 314	KNX: Channel 1	Energy value			4 bytes	С	21	W	Т	U	active energy (Wh)	Low
2 311	KNX: Channel 1	Current value			4 bytes	С	2	W	т	U	electric current (A)	Low
₽‡ 312	KNX: Channel 1	Voltage value			4 bytes	С	<u>.</u>	W	Т	U	electric potential (V)	Low
2 313	KNX: Channel 1	Power value			4 bytes	С	÷.	W	Т	U	power (W)	Low
■2 314	KNX: Channel 1	Energy value			4 bytes	С	-	W	т	U	active energy (kWh)	Low

Energy metering

Fig.6.2.7 Current/Energy metering function communication object

N0.	Object Function	Name	Data Type	Flag	DPT
			Ohasha		7.012 current(mA)
311	Currentvalue	KNX: {{Channel1}}	2byte	C,W,T,U	9.021 current(mA)
			4byte		14.019 electric current(A)

The communication object is used to receive the current value from the bus, updated to the APP display. Object datatype is determined by the parameter setting.

When 2byte int is selected, display range: 0...65535mA, step value is 1mA.

When 2byte float is selected, display range: -670760...670760mA , step value is 0.01mA.

When 4byte is selected, display range: -99999999.9 ... 99999999.9 A, step value is 0.1 A.

312	Voltage value	KNX: {{Channel1}}	2byte	C,W,T,U	9.020 voltage(mV)				
512	Vollage Value		0,00,1,0	14.027 electric potential(V)					
The communication object is used to receive the voltage value from the bus, updated to the APP display. Object datatype is determined by the parameter setting.									
V	When 2byte is selected, display range: -670760mV670760mV , step value is 0.01mV .								
V	When 4byte is selected, dis	splay range: -9999999	9.99999999	99.9 V, step	value is 0.1V.				

24.2	Demonstructure		2byte	0 W T II	9.024 power(kW)				
313	Power value	KNX: {{Channel1}} 4byte		C,W,I,U	14.056 power(W)				
Т	The communication object is used to receive the power value from the bus, updated to the APP								
displa	ay. Object datatype is dete	rmined by the param	etersetting.						
When 2byte is selected, display range: -670760kW670760kW, step value is 0.01kW.									
W	When 4byte is selected, display range: -99999999.999999999.9 W, step value is 0.1W.								



314	Freemoulus	yvalue KNX: {{Channel1}} 4byte C,W,T,U	C W T U	13.010 active energy(Wh)				
314	Energyvalue	/alue KNX: {{Channe(1}} 4byte		0,00,1,0	13.013 active energy(kWh)			
The communication object is used to receive the energy value from the bus, updated to the APP								
displa	ay. Object datatype is dete	rmined by the param	etersetting.					
	Display range: -21474836482147483647Wh, step value is 1Wh.							
)isplay range: -2147483648	82147483647kWh , s	step value is 1	kWh.				

Table 6.2.7 Current/Energymetering function communication object table

6.3. "Zigbee Channel" Communication Object

Numb	per Name	Object Function	Description	Group Address	Length	C	R	W	/ Т	U	Data Type	Priorit
₹ 3712	Zigbee: Channel 1	VOC value		2	bytes	С	R	-	Т	8 .5 8	pulses	Low
₹3713	Zigbee: Channel 1	CO2 value		2	bytes	С	R	$ \omega $	Т	4	pulses	Low
₹ 3714	Zigbee: Channel 1	Formaldehyde value		2	bytes	С	R		т	.	pulses	Low
₹ 3712	Zigbee: Channel 1	VOC value		2	bytes	С	R	4	Т		concentration (µg/m³)	Low
₹ 3713	Zigbee: Channel 1	CO2 value		2	bytes	С	R	-	Т	-	parts/million (ppm)	Low
₹ 3714	Zigbee: Channel 1	Formaldehyde value		2	bytes	С	R	4	Т	142	concentration (µg/m ³)	Low
₹ 3715	Zigbee: Channel 1	Temperature value		2	bytes 2	С	R	-	Т		temperature (°C)	Low
■≵ 3716	Zigbee: Channel 1	Humidity value	Air quali	2 ty sensor	bytes ?	C	R	-	Ţ	(2)	humidity (%)	Low
₹ 3715	Zigbee: Channel 1	Temperature value		2	bytes	С	R	81289	T	8 <u>1</u> 49	temperature (°C)	Low
₹ 3716	Zigbee: Channel 1	Humidity value		2	bytes	С	R	1	Т	173	humidity (%)	Low
		T	emperature and	d humidity sen	isor							
2 3710	Zigbee: Channel 1	Brightness(lux) value		2	bytes	С	R	140	T	323	brightness (lux)	Low
₹ 3710	Zigbee: Channel 1	Brightness(lux) value		2	bytes	С	R	142	Т	848	lux (Lux)	Low
			Brightne	sssensor								
2 3710	Zigbee: Channel 1	Gas concentration value	5		bytes	С	R	14	T	642	pulses	Low
₹ 3710	Zigbee: Channel 1	Gas concentration value				-		_			parts/million (ppm)	Low
₹ 3710	Zigbee: Channel 1	Gas concentration value						_	-		concentration (µg/m³)	Low
			Gas s	sensor								
2 3710	Zigbee: Channel 1	Binary value		1	bit	С	R	-22	Т	2	switch	Low
\$ 3710	Zigbee: Channel 1	Binary value		1	bit	С	R	8149	T	329	boolean	Low
₹3710	Zigbee: Channel 1	Alarm detect		1	bit	С	R	14	T	(12)	alarm	Low
₹3710	Zigbee: Channel 1	Presence detect		11	bit	С	R	120	T	3 <u>1</u> 88	occupancy	Low
₹ 3710	Zigbee: Channel 1	Window/door detect		1	bit	С	R	8149	T	8149	window/door	Low
			I/O s	signal								
\$ 3710	Zigbee: Channel 1-1	Switch			1 bit	С	4	W	1	2	switch	Low
₹ 3711	Zigbee: Channel 1-2	Switch			1 bit	C	-	W	i -	1-	switch	Low
₹ 3712	Zigbee: Channel 1-3	Switch			1 bit	C	4	W	-	- 20	switch	Low
₹ 3713	Zigbee: Channel 1-1	Switch, status			1 bit	C	R	-	Т	-	switch	Low
₹ 3714	Zigbee: Channel 1-2	Switch, status			1 bit	С	R	-	т	2	switch	Low
₹ 3715	Zigbee: Channel 1-3	Switch, status			1 bit	C	R	-	Т	-	switch	Low
	And the second of the second s		Sw	itch								
₹ 3710	Zigbee: Channel 1	Switch		1	bit	C	ų.	W	e.	8 4 3	switch	Low
2 3712	Zigbee: Channel 1	Brightness value		1	byte	С	-	W	-	8 7 5	percentage (0100%)	Low
₹ 3713	Zigbee: Channel 1	Switch, status			bit					1940		Low
₹ 3715	Zigbee: Channel 1	Brightness, status										Low
101000000	2		0 1 1 1	Dina na in a	1010 1010	1.07	100		1A		1	1000

Switch/Dimming



■‡ 3710	Zigbee: Channel 1	Switch		1 bit	С	4	W	12	- 23	switch	Low
■\$ 3712	Zigbee: Channel 1	RGB dimming value		3 bytes	C		W	-	17	RGB value 3x(0255)	Low
■2 3713	Zigbee: Channel 1	Switch, status		1 bit	C	R	-	T	- 20	switch	Low
■2 3715	Zigbee: Channel 1	RGB brightness, status		3 bytes	C	R	-	Т	-	RGB value 3x(0255)	Low
			RGB dimming								
■‡ 3710	Zigbee: Channel 1	Switch		1 bit	С	2	W	14	(143)	switch	Low
■‡ 3711	Zigbee: Channel 1	Color temperature value		2 bytes	С	-	W	-		absolute colour temperature (K)	Low
2 3712	Zigbee: Channel 1	Brightness value		1 byte	С	÷	W	-	14	percentage (0100%)	Low
2 3713	Zigbee: Channel 1	Switch, status		1 bit	С	R	-	Т	-	switch	Low
■‡ 3714	Zigbee: Channel 1	Color temperature, status		2 bytes	С	R	(14)	Т	-	absolute colour temperature (K)	Low
2 3715	Zigbee: Channel 1	Brightness, status		1 byte	С	R		Т		percentage (0100%)	Low
			Color temperature								
■2 3710	Zigbee: Channel 1	Switch		1 bit	С	R	W	T	U	switch	Low
■\$ 3711	Zigbee: Channel 1	Color temperature value		2 bytes	С	0	W			absolute colour temperature (K)	Low
2 3712	Zigbee: Channel 1	RGB dimming value		3 bytes	С	2	W	12	828	RGB value 3x(0255)	Low
■2 3713	Zigbee: Channel 1	Brightness value		1 byte	С	5	W	5		percentage (0100%)	Low
2 3714	Zigbee: Channel 1	Color temperature, status		2 bytes	С	R	8148	T	323	absolute colour temperature (K)	Low
■2 3715	Zigbee: Channel 1	RGB brightness, status		3 bytes	С	R		Т		RGB value 3x(0255)	Low
2 3716	Zigbee: Channel 1	Brightness, status		1 byte	С	R	620	Т	628	percentage (0100%)	Low
			RGBCW								
■2 3710	Zigbee: Channel 1-1	Open/Close		1 bit	C	-	W	-	-	open/close	Low
2 3711	Zigbee: Channel 1-1			1 bit	С	2	W	12	- 28	step	Low
₹ 3712	Zigbee: Channel 1-1			1 byte						and a second sec	Low
₩23713	Zigbee: Channel 1-2			1 bit						A CONTRACTOR OF A CONTRACTOR A	Low
■2 3714	Zigbee: Channel 1-2	and the second second second		1 bit							Low
₹ 3715	Zigbee: Channel 1-2										Low
-+12/12	Liguee. chamiler i z	Curtain position di statas	Quarta in a saiti sa	TOYIC	2	1				percentage (010070)	2011
			Curtain position				_	_			
2 3710	Zigbee: Channel 1	Brightness(lux) value		2 bytes	С	R	-	Т	-	lux (Lux)	Low
■2 3715	Zigbee: Channel 1	Temperature value		2 bytes	С	R	-	T	-	temperature (°C)	Low
2 3716	Zigbee: Channel 1	Humidity value		2 bytes	C	R	2	Ţ	-	humidity (%)	Low

Temperature, humidity and brightness sensor

Fig.6.3 "Zigbee Channel" communication object

N0.	Object Function	Name	Data	Flag	DPT
			Туре		
					7.001 pulse
3712	VOC value	Zigbee: {{Channel1}}	2byte	C,R,T	9.030 concentration(ug/m3)

The communication object applies to air quality sensor, is used to send the VOC value in ug/m³ to the KNX bus. Range: 0...999ug/m³, object datatype is determined by the parameter setting.

3713	CO2 value Zigbee: {{Channel1}} 2byte	C,R,T	7.001 pulse		
5715			zbyte	0,11,1	9.008 parts/million(ppm)

The communication object applies to air quality sensor, is used to send the CO2 value in ppm to the KNX bus.

Range: 0...4000ppm

3714	Formaldehvdevalue	Zigbee: {{Channel1}}	2bvte	C,R,T	7.001 pulse
5714	i of matuenyuevatue		Zbyte	0,10,1	9.030 concentration(ug/m3)

The communication object applies to air quality sensor, is used to send the formaldehyde value in ug/m^3 to the KNX bus.Range: 0...1000 ug/m^3



3715	Temperaturevalue	Zigbee: {{Channel1}}	2byte	C,R,T	9.001 temperature
Th	ne communication object	applies to temperature	e sensor, ar	nd tempera	ature,humidity and brightness
sensor	, is used to send the temp	perature value in °C to	the KNX bu	ıs. Range:	-5099°C
3716	Humidity value	Zigbee: {{Channel1}}	2byte	C,R,T	9.007 humidity
Th	he communication object	applies to humidity s	sensor, and	d tempera	ture, humidity and brightness
sensor	r, air quality sensor, is use	d to send the humidity	value in %	to the KN	K bus. Range: 0100%
3710	Brightness(lux)value	Zigbee: {{Channel1}}	2byte	C,R,T	7.013 brightness(lux) 9.004 lux(lux)
Th	ne communication object	applies to brightness	sensor, an	d tempera	ture, humidity and brightness
sensor	, air quality sensor, is u	sed to send the brigh	tness valu	e to the K	NX bus. Range: 065535lux,
object	datatype is determined b	y the parameter setting	J.		
					7.001 pulse
3710	Gas concentration value	Zigbee: {{Channel1}}	2byte	C,R,T	9.008 parts/million(ppm)
					9.030 concentration(ug/m3)
Th	e communication object	applies to gas senso	r, air qualit	ty sensor,	gas measurement, is used to
send t	he gas concentration va	ue to the KNX bus. F	or exampl	e VOC, CO	2 or formaldehyde detection
value.					
3710	Binary value	Zigbee: {{Channel1}}	1bit	C,R,T	1.001 switch
				0,,.	1.002 boolean
3710	Alarm detect	Zigbee: {{Channel1}}	1bit	C,R,T	1.005 alarm
3710	Presence detect	Zigbee: {{Channel1}}	1bit	C,R,T	1.019. 00000000
		1			1.018 occupancy
3710	Window/door detect	Zigbee: {{Channel1}}	1bit	C,R,T	1.019 window/door
		_			
Th		applies to I/O type ser	nsor, is use	d to send	1.019 window/door
Th	de communication object datatype is determined b	applies to I/O type ser	nsor, is use g. Telegran	d to send n value:	1.019 window/door
Th	e communication object datatype is determined b 0——Ope	applies to I/O type ser y the parameter setting	nsor, is use g. Telegran bied/Close	d to send n value: window	1.019 window/door
Th Object	e communication object datatype is determined b 0——Ope	applies to I/O type ser y the parameter setting n/No alarm/Not occup	nsor, is use g. Telegran bied/Close ben window	d to send n value: window /	1.019 window/door
Th Object	e communication object datatype is determined b 0——Ope	applies to I/O type ser y the parameter setting n/No alarm/Not occup	nsor, is use g. Telegran bied/Close ben window	d to send n value: window / c,w	1.019 window/door
Th Object 3710/.	he communication object datatype is determined b 0——Ope 1——Clos	applies to I/O type ser y the parameter setting n/No alarm/Not occup se/Alarm/Occupied/Op	nsor, is use g. Telegran bied/Close ben window	d to send n value: window /	1.019 window/door the I/O signal to the KNX bus.
Th Object 3710/. ./ 3712	he communication object datatype is determined b 0——Ope 1——Clos	applies to I/O type ser y the parameter setting n/No alarm/Not occup se/Alarm/Occupied/Op	nsor, is use g. Telegran bied/Close ben window	d to send n value: window / c,w	1.019 window/door the I/O signal to the KNX bus.
Th Object 3710/. ./	he communication object datatype is determined b 0——Ope 1——Clos	applies to I/O type ser y the parameter setting n/No alarm/Not occup se/Alarm/Occupied/Op	nsor, is use g. Telegran bied/Close ben window	d to send n value: window / c,w	1.019 window/door the I/O signal to the KNX bus.



These communication objects apply to switch, dimming, RGB, color temperature and RGBCW control, are used for KNX system to control Zigbee lamps, including lamp, dimmable lamp, RGB bulb/strip, color temperature light and RGBCW bulb.

When "Switch" is selected, object name is "Zigbee: {{Channel 1}}-x", and set the number of channels for the switch by parameter, up to 3 channels, x=1/2/3.

Telegram value:

0——Turn off the light

1——Turn on the light

Obj.3710/../3712: Used for receiving On/Off telegram from KNX bus, to control the light on/off.

When "RGBCW" is selected, object flag is C,W,R,T,U;while other selections, the object flag is C,W.

Obj.3713/../3715: Used for sending On/Off status to the bus.

3712	Brightness value	Zigbee: {{Channel1}}	1byte	C,W	5.001 percentage(0100%)
3715	Brightness, status	Zigbee: {{Channel1}}	1byte	C,R,T	5.001 percentage(0100%)

These two communication objects apply to color temperature and RGBCW control, are used for KNX system to control Zigbee lamps, including RGB bulb/strip and RGBCW bulb. Telegrams: 0...100%

Obj.3712: Used for receiving the brightness value from KNX bus, to control the brightness of the lamp.

Obj.3715: Used for sending the brightness status to KNX bus.

3712	RGB dimming value	Zigbee: {{Channel1}}	3byte	C,W	232.600 RGB value 3x(0255)
3715	RGB brightness, status	Zigbee: {{Channel1}}	3byte	C,R,T	232.600 RGB value 3x(0255)

These two communication objects apply to RGB and RGBCW control, are used for KNX system to control Zigbee lamps, including RGB bulb/strip and RGBCW bulb.

Obj.3712: Used for receiving the brightness value of RGB three-colorlamp from KNX bus, to control the color of the lamp.

Obj.3715: Used for sending the brightness status of RGB three-colorlamp to the KNX bus.

3-Byte Code for RGB Dimming Object Data Type: U8 U8 U8, as follows:

3 _{MSB}	2	1 _{LSB}
R	G	В
υυυυυυυ	υυυυυυυ	υυυυυυυ

R: red dimming value; G: green dimming value; B: blue dimming value.

3711	Color temperature value	Zigbee: {{Channel1}}	2byte	C,W	7.600 absolute color
					temperature



3714	Color temperature,	Zigbee: {{Channel1}}	2byte	C,R,T	7.600 absolute color
	status				temperature

These two communication objects apply to color temperature and RGBCW control, are used for KNX system to control Zigbee lamps, including color temperature light and RGBCW bulb. Telegrams: 2000..7000 K

Obj.3711: Used for receiving the color temperature control value form the bus, to control the color temperature of the lamp.

Obj.3714: Used for sending the color temperature status to the KNX bus.

3710/	0	7:==== [[()=====[1]] +	46.4	C W/	1.000 amon (along	
3713	Open/Close	Zigbee: {{Channel1}}*	1bit	C,W	1.009 open/close	
3711/	Stor	Zinhoo ((Channald)) y	1bit	C.W/	1.007 step	
3714	Stop	Zigbee: {{Channel1}}*	IDIC	C,W		
3712/	Curtain position &	Zigbee: {{Channel1}}*	1byte	CWDT	5.001 percentage	
3715	status	Zigbee: \\Channell}}	ruyte	C,W,R,T		

These communication objects apply to curtain step/move, are used for KNX system to control Zigbee electric curtain. Set the number of channels for the curtain by parameter, up to 2 channels, x=1/2.

Obj.3710/3713: Used for receiving the telegrams from KNX bus to control curtain open/close.

Telegrams:

1——Close the curtain

0——Open the curtain

Obj.3711/3714: Used for receiving the telegrams from KNX bus to stop curtain movement.

Telegrams:

1——Stop

Obj.3712/3715: Used for receiving the telegrams from KNX bus to control curtain position, and

returnthe status to bus. Telegrams: 0..100%

Table 6.3 "Zigbee Channel" communication object table



mb Name	Object Function	Description	Group Address	Length	С	R	W	Т	U	Data Type	Priority
RTC 1	Power on/off			1 bit	С	÷	W	-	0.75	switch	Low
RTC 1	Room temperature sensor			2 bytes	С	2	W	Т	U	temperature (°C)	Low
RTC 1	Current setpoint adjustment			2 bytes	С	-	W	-		temperature (°C)	Low
RTC 1	Heating/Cooling mode			1 bit	С	2	W	2	4	cooling/heating	Low
RTC 1	Operation mode			1 byte	C	•	W	-		HVAC mode	Low
RTC 1	Comfort mode			1 bit	С	2	W	0	-	enable	Low
RTC 1	Economy mode			1 bit	С	-	W	-		enable	Low
RTC 1	Frost/Heat protection mode			1 bit	С	2	W	2	4	enable	Low
RTC 1	Standby mode			1 bit	C	-	W	-		enable	Low
RTC 1	Fan automatic operation			1 bit	С	2	W	0	-	enable	Low
RTC 1	Window contact			1 bit	С	-	W	-	U	window/door	Low
RTC 1	Presence detector			1 bit	С	2	W	2	U	occupancy	Low
RTC 1	Current temperature setpoint, status			2 bytes	C	R	1.	т	-	temperature (°C)	Low
RTC 1	Heating/Cooling mode, status			1 bit	С	R	-	Т	-	cooling/heating	Low
RTC 1	Operation mode, status			1 byte	С	R	-	т	870	HVAC mode	Low
RTC 1	Comfort mode, status			1 bit	С	R	-	Т	4	enable	Low
RTC 1	Economy mode, status			1 bit	C	R	-	Т	-	enable	Low
RTC 1	Frost/Heat protection mode, status			1 bit	С	R	-	Т	-	enable	Low
RTC 1	Standby mode, status			1 bit	С	R		т		enable	Low
RTC 1	Heating control value, status			1 bit	С	R	-	Т	-	switch	Low
RTC 1	Cooling control value, status			1 bit	C	R	-	т		switch	Low
RTC 1	Fan speed, status			1 byte	С	2	-	Т	14	percentage (0100%)	Low
	RTC 1 RTC 1	RTC 1Power on/offRTC 1Room temperature sensorRTC 1Current setpoint adjustmentRTC 1Heating/Cooling modeRTC 1Operation modeRTC 1Comfort modeRTC 1Economy modeRTC 1Frost/Heat protection modeRTC 1Standby modeRTC 1Fan automatic operationRTC 1Presence detectorRTC 1Operation mode, statusRTC 1Current temperature setpoint, statusRTC 1Operation mode, statusRTC 1Operation mode, statusRTC 1Confort mode, statusRTC 1Confort mode, statusRTC 1Economy mode, statusRTC 1Confort mode, statusRTC 1Frost/Heat protection mode, statusRTC 1Economy mode, statusRTC 1Frost/Heat protection mode, statusRTC 1Economy mode, statusRTC 1Standby mode, statusRTC 1Standby mode, statusRTC 1Heating control value, statusRTC 1Heating control value, statusRTC 1Cooling control value, status	RTC 1Power on/offRTC 1Room temperature sensorRTC 1Current setpoint adjustmentRTC 1Heating/Cooling modeRTC 1Operation modeRTC 1Comfort modeRTC 1Economy modeRTC 1Frost/Heat protection modeRTC 1Standby modeRTC 1Fan automatic 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bytesRTC 1Operation mode, status1 bitRTC 1Confort mode, status1 bitRTC 1Confort mode, status1 bitRTC 1Economy mode, status1 bitRTC 1Frost/Heat protection mode, status1 bitRTC 1Frost/Heat protection mode, status1 bitRTC 1Standby mode, status1 bitRTC 1Standby mode, status1 bitRTC 1Gooling control value, status1 bitRTC 1Gooling co	RTC 1Power on/off1 bitCRTC 1Room temperature sensor2 bytesCRTC 1Current setpoint adjustment2 bytesCRTC 1Heating/Cooling mode1 bitCRTC 1Operation mode1 byteCRTC 1Comfort mode1 bitCRTC 1Economy mode1 bitCRTC 1Frost/Heat protection mode1 bitCRTC 1Frost/Heat protection mode1 bitCRTC 1Standby mode1 bitCRTC 1Frost/Heat protection mode1 bitCRTC 1Fan automatic operation1 bitCRTC 1Window contact1 bitCRTC 1Window contact1 bitCRTC 1Current temperature setpoint, status2 bytesCRTC 1Operation mode, status1 bitCRTC 1Operation mode, status1 bitCRTC 1Comfort mode, status1 bitCRTC 1Comfort mode, status1 bitCRTC 1Economy mode, status1 bitCRTC 1Frost/Heat protection mode, status1 bitCRTC 1Frost/Heat protection mode, status1 bitCRTC 1Heating control value, status1 bitCRTC 1Heating control value, status1 bitCRTC 1Gooling control value, status1 bitCRTC 1Gooling control value, status1 bitC	RTC 1Power on/off1 bitCRTC 1Room temperature sensor2 bytesCRTC 1Current setpoint adjustment2 bytesCRTC 1Heating/Cooling mode1 bitCRTC 1Operation mode1 byteCRTC 1Comfort mode1 bitCRTC 1Comfort mode1 bitCRTC 1Economy mode1 bitCRTC 1Frost/Heat protection mode1 bitCRTC 1Standby mode1 bitCRTC 1Fan automatic operation1 bitCRTC 1Presence detector1 bitCRTC 1Operation mode, status2 bytesCRTC 1Operation mode, status1 bitCRTC 1Current temperature setpoint, status2 bytesCRTC 1Operation mode, status1 bitCRTC 1Comfort mode, status1 bitCRTC 1Frost/Heat protection mode, status1 bitCRTC 1Goo	RTC 1Power on/off1 bitC-WRTC 1Room temperature sensor2 bytesC-WRTC 1Current setpoint adjustment2 bytesC-WRTC 1Heating/Cooling mode1 bitC-WRTC 1Operation mode1 bitC-WRTC 1Comfort mode1 bitC-WRTC 1Comfort mode1 bitC-WRTC 1Economy mode1 bitC-WRTC 1Frost/Heat protection mode1 bitC-WRTC 1Standby mode1 bitC-WRTC 1Fan automatic operation1 bitC-WRTC 1Presence detector1 bitC-WRTC 1Presence detector1 bitC-WRTC 1Current temperature setpoint, status2 bytesCR-RTC 1Operation mode, status1 bitCR-RTC 1Operation mode, status1 bitCR-RTC 1Economy mode, status1 bitCR-RTC 1Forst/Heat protection mode, status1 bitC <td>RTC1Power on/off1 bitC-W-RTC1Room temperature sensor2 bytesC-WTRTC1Current setpoint adjustment2 bytesC-W-RTC1Heating/Cooling mode1 bitC-W-RTC1Operation mode1 bitC-W-RTC1Comfort mode1 bitC-W-RTC1Comfort mode1 bitC-W-RTC1Economy mode1 bitC-W-RTC1Frost/Heat protection mode1 bitC-WRTC1Standby mode1 bitC-W-RTC1Standby mode1 bitC-W-RTC1Presence detector1 bitC-W-RTC1Presence detector1 bitC-W-RTC1Current temperature setpoint, status2 bytesCR-TRTC1Comfort mode, status1 bitCR-TRTC1Comfort mode, status1 bitCR-TRTC1Economy mode, status1 bitCR-TRTC1Economy mode, status1 bitCR-TRTC1Frost/Heat protection mode, status1 bitCR-TRTC1Economy mode, status1 bit<</td> <td>RTC1Power on/off1 bitC-W-RTC1Room temperature sensor2 bytesC-WTURTC1Current setpoint adjustment2 bytesC-W-RTC1Heating/Cooling mode1 bitC-W-RTC1Operation mode1 bitC-W-RTC1Comfort mode1 bitC-W-RTC1Comfort mode1 bitC-W-RTC1Economy mode1 bitC-W-RTC1Frost/Heat protection mode1 bitC-W-RTC1Standby mode1 bitC-W-RTC1Fan automatic operation1 bitC-W-RTC1Window contact1 bitC-W-RTC1Presence detector1 bitC-W-RTC1Current temperature setpoint, status2 bytesCRRTC1Comfort mode, status1 bitCRRTC1Comfort mode, status1 bitCRRTC1Economy mode, status1 bitCRRTC1Comfort mode, status1 bitCRRTC1Forst/Heat protection mode, status1 bitCR<td>RTC1Power on/off1 bitCW-switchRTC1Room temperature sensor2 bytesC-WUtemperature (*C)RTC1Current setpoint adjustment2 bytesC-W-temperature (*C)RTC1Heating/Cooling mode1 bitC-W-cooling/heatingRTC1Operation mode1 bitC-W-enableRTC1Comfort mode1 bitC-W-enableRTC1Economy mode1 bitC-W-enableRTC1Frost/Heat protection mode1 bitC-W-enableRTC1Standby mode1 bitC-W-enableRTC1Standby mode1 bitC-W-enableRTC1Presence detector1 bitC-W-enableRTC1Querent temperature setpoint, status2 bytesCR-temperature (*C)RTC1Operation mode, status1 bitC-W-enableRTC1Current temperature setpoint, status2 bytesCR-temperature (*C)RTC1Operation mode, status1 bitCRtemperature (*C)RTC1Operation mode, status1 bitCRtemperature (*C)RTC1Operation mode, status1 bit</td></td>	RTC1Power on/off1 bitC-W-RTC1Room temperature sensor2 bytesC-WTRTC1Current setpoint adjustment2 bytesC-W-RTC1Heating/Cooling mode1 bitC-W-RTC1Operation mode1 bitC-W-RTC1Comfort mode1 bitC-W-RTC1Comfort mode1 bitC-W-RTC1Economy mode1 bitC-W-RTC1Frost/Heat protection mode1 bitC-WRTC1Standby mode1 bitC-W-RTC1Standby mode1 bitC-W-RTC1Presence detector1 bitC-W-RTC1Presence detector1 bitC-W-RTC1Current temperature setpoint, status2 bytesCR-TRTC1Comfort mode, status1 bitCR-TRTC1Comfort mode, status1 bitCR-TRTC1Economy mode, status1 bitCR-TRTC1Economy mode, status1 bitCR-TRTC1Frost/Heat protection mode, status1 bitCR-TRTC1Economy mode, status1 bit<	RTC1Power on/off1 bitC-W-RTC1Room temperature sensor2 bytesC-WTURTC1Current setpoint adjustment2 bytesC-W-RTC1Heating/Cooling mode1 bitC-W-RTC1Operation mode1 bitC-W-RTC1Comfort mode1 bitC-W-RTC1Comfort mode1 bitC-W-RTC1Economy mode1 bitC-W-RTC1Frost/Heat protection mode1 bitC-W-RTC1Standby mode1 bitC-W-RTC1Fan automatic operation1 bitC-W-RTC1Window contact1 bitC-W-RTC1Presence detector1 bitC-W-RTC1Current temperature setpoint, status2 bytesCRRTC1Comfort mode, status1 bitCRRTC1Comfort mode, status1 bitCRRTC1Economy mode, status1 bitCRRTC1Comfort mode, status1 bitCRRTC1Forst/Heat protection mode, status1 bitCR <td>RTC1Power on/off1 bitCW-switchRTC1Room temperature sensor2 bytesC-WUtemperature (*C)RTC1Current setpoint adjustment2 bytesC-W-temperature (*C)RTC1Heating/Cooling mode1 bitC-W-cooling/heatingRTC1Operation mode1 bitC-W-enableRTC1Comfort mode1 bitC-W-enableRTC1Economy mode1 bitC-W-enableRTC1Frost/Heat protection mode1 bitC-W-enableRTC1Standby mode1 bitC-W-enableRTC1Standby mode1 bitC-W-enableRTC1Presence detector1 bitC-W-enableRTC1Querent temperature setpoint, status2 bytesCR-temperature (*C)RTC1Operation mode, status1 bitC-W-enableRTC1Current temperature setpoint, status2 bytesCR-temperature (*C)RTC1Operation mode, status1 bitCRtemperature (*C)RTC1Operation mode, status1 bitCRtemperature (*C)RTC1Operation mode, status1 bit</td>	RTC1Power on/off1 bitCW-switchRTC1Room temperature sensor2 bytesC-WUtemperature (*C)RTC1Current setpoint adjustment2 bytesC-W-temperature (*C)RTC1Heating/Cooling mode1 bitC-W-cooling/heatingRTC1Operation mode1 bitC-W-enableRTC1Comfort mode1 bitC-W-enableRTC1Economy mode1 bitC-W-enableRTC1Frost/Heat protection mode1 bitC-W-enableRTC1Standby mode1 bitC-W-enableRTC1Standby mode1 bitC-W-enableRTC1Presence detector1 bitC-W-enableRTC1Querent temperature setpoint, status2 bytesCR-temperature (*C)RTC1Operation mode, status1 bitC-W-enableRTC1Current temperature setpoint, status2 bytesCR-temperature (*C)RTC1Operation mode, status1 bitCRtemperature (*C)RTC1Operation mode, status1 bitCRtemperature (*C)RTC1Operation mode, status1 bit

6.4. "Room temperature controller" Communication Object

Fig.6.4 "Room temperature controller" communication object

	Object Europien	Name	Data Tura	Fla r	DPT							
NO.	Object Function	Name	Data Type	Flag	DPT							
	Duran an la ff		41.11	0.111	4.004							
74	Power on/off	RTC 1	1bit	C,W	1.001 switch							
٦	The communication object is use	ed to receive	he telegram:	value of cont	rol RTC power on/off from							
the b	us. Telegrams:											
	1——On											
	0——Off											
75	Room temperaturesensor	RTC 1	2byte	C,W,T,U	9.001 temperature							
	request cyclically, and also receive feedback.											
76	Currentsetpoint adjustment	RTC 1	2byte	C,W	9.001 temperature							
	Currentsetpoint adjustment											
	The communication object is use											
7	The communication object is use											
065 77	The communication object is use	d to modify th	ne current se	tpoint value o	f temperature. Telegrams: 1.100 cooling/heating							
065 77	The communication object is use	d to modify th	ne current se	tpoint value o	f temperature. Telegrams: 1.100 cooling/heating							



78	Operation mode	RTC 1	1byte	C,W	20.102 HVAC mode
79	Comfort mode	RTC 1	1bit	C,W	1.003 enable
80	Economy mode	RTC 1	1bit	C,W	1.003 enable
81	Frost/Heat protection mode	RTC 1	1bit	C,W	1.003 enable
82	Standby mode	RTC 1	1bit	C,W	1.003 enable

These communication objects are used to control RTC operation mode via the bus.

1byte: object 78 is visible. Telegrams: 1-comfort, 2-standby, 3-economy, 4-protection, other reserved.

1bit:

Object 79—— Comfort mode

Object 80—— Economy mode

Object 81—— Protection mode

Object 82—— Standby mode

Activate corresponding mode when receive a telegram "1". When 1bit standby mode is not enable, and objects value of comfort, economy and protection are all 0, it is standby mode. When 1bit standby mode is enable, the 1bit standby object receives 1 is standby mode, and telegram "0" will be ignored.

83	Fan automatic operation	RTC 1	1bit	C,W	1.003 enable					
	The communication object is used	to activate fan	automatio	c control via t	he bus. Telegrams:					
	1——Auto									
	0——Exit auto									
84	Window contact	RTC 1	1bit	C,W,U	1.019 Window/door					
	The communication object is used	to receive the s	witch sta	tus of window	/ contact. Telegrams:					
	1—— Open window									
0——Close window										
85	Presence detector	RTC 1	1bit	C,W,U	1.018 occupancy					
	The communication object is used to receive the room occupancy status from presence detector. Telegrams: 1——Occupied 0——Not occupied									
86	Current temperature setpoint, status	RTC 1	2byte	C,R,T	9.001 temperature					
	The communication object is used to send the current setpoint temperature of RTC to the bus. Telegrams: 065535									



87	Heating/Cooling mode, status	RTC 1	1bit	C,R,T	1.100 cooling/heating

The communication object is used to feedback the telegram to the bus for switching heating and cooling function.

	9				
88	Operation mode, status	RTC 1	1byte	C,R,T	20.102 HVAC mode
89	Comfort mode, status	RTC 1 1bit C,R,T		1.003 enable	
90	Economy mode, status	RTC 1	1bit	C,R,T	1.003 enable
91	Frost/Heat protection mode, status	RTC 1	1bit	C,R,T	1.003 enable
92	Standby mode, status	RTC 1	1bit	C,R,T	1.003 enable

These communication objects are used to send RTC operation mode status to the bus.

When 1 byte: object 88 is visible, telegrams: 1-comfort, 2 -standby, 3-economy, 4-protection, other reserved.

When 1bit:

Object 89——Comfort mode

Object 90——Economy mode

Object 91——Protection mode

Object 92——Standby mode

When a mode is activated, the corresponding object only sends telegram "1". When 1 bit standby object is not enable, activate standby mode when comfort, economy, protection objects send telegram 0 together. When 1 bit standby object is enable, activate standby mode only when standby object send 1.

Note: no requirement o send mode status to the bus when switchover via bus. The same is fan speed and other operation.

93	Heating control value, status	RTC 1	1bit	CBT	1.001 switch
73	Heating control value, status	RICI	1byte	C,R,T	5.001 percentage
0/	Cooling control value, status	DTO 4	1bit	CDT	1.001 switch
94		RTC 1	1byte	C,R,T	5.001 percentage

These communication objects are used to send control status of heating or cooling function to the bus. Object datatype is according to parameter setting.

5.100 fan stage	94	Fan speed, status	RTC 1	1bvte	C,T	5.001 percentage
	/4	ran speeu, status	RICI	Tbyte		5.100 fan stage

The communication object is used to send the status of fan speed to the bus. The corresponding telegram value of each fan speed is defined by the parameter.

Table 6.4 "Room temperature controller" communication object table



6.5. "Ventilation controller" Communication Object

Num	ib Name	Object Function	Description	Group Address	Length	C	R	W	/ Т	U	Data Type	Priority
294	Ventilation controller	Fan automatic operation			1 bit	С	÷	W	-		enable	Low
295	Ventilation controller	PM 2.5 value			2 bytes	С	2	W	Т	U	pulses	Low
■296	Ventilation controller	Fan speed, status			1 byte	C	Ξ	-	T	-	percentage (0100%)	Low
297	Ventilation controller	Fan speed low, status			1 bit	С		-	Т		switch	Low
298	Ventilation controller	Fan speed medium, status			1 bit	С	-	-	Т		switch	Low
299	Ventilation controller	Fan speed high, status			1 bit	C			Т		switch	Low

Fig.6.5 "Ventilation controller" communication object

N0.	Object Function	Name	Data Type	Flag	DPT
294	Fan automatic operation	Ventilation controller	1bit	C,W	1.003 enable

The communication object is used to activate fan automatic control via the bus. Telegrams:

1——Auto

0——Exit auto

	PM 2.5 value				7.001 pulse
295	VOC value	Ventilation controller	2byte	C,W,T,U	9.030 concentration(ug/m3)
	CO2 value				9.008 parts/million(ppm)

The communication object is used to receive the input value of PM2.5/VOC/CO2, and get the corresponding value from the bus and update it to the display, the corresponding object datatype is defined by the parameter. Unit is ug/m³ or ppm. Range: 0~999ug/m³ or 0...4000ppm

For example, Control value of automatic operation is PM2.5, that is, under the automation, the ventilation system can adjust the fan speed automatically according to PM2.5 concentration.

296	Fan anod status	Ventilation controller	1 hv/to	C,T	5.001 percentage
270	Fan speed, status	Ventilation controller	troller 1byte		5.100 fan stage
297	Fan speed low, status	Ventilation controller	1bit	C,T	1.001 switch
298	Fan speed medium,	Ventilation controller	1bit	ст	1.001 switch
270	status	ventilation controller	IDIC	C,T	1.001 SWICH
299	Fan speed high, status	Ventilation controller	1bit	C,T	1.001 switch

These communication objects are used to send control telegrams of the fan speed to the bus.

1byte: the corresponding telegram value of each fan speed is defined by the parameter. Object 296 sends the corresponding telegram value of the fan speed to the bus.

1bit:

Object 297——Low fan speed

Object 298——Medium fan speed

Object 299——High fan speed

The corresponding object sends telegram "1" to the bus, and sends telegram "0" is turn off fan speed.

Table 6.5 "Ventilation controller" communication object table



6.6. "Logic" Communication Object

6.6.1. "AND/OR/XOR" Communication Object

Numb Name		Object Function	Description	Group Address	Length	С	R	W	Т	U	Data Type	Priority
∎‡ 2	1st Logic	Input a			1 bit	С	-	W	T	U	boolean	Low
■2 3	1st Logic	Input b			1 bit	С	2	W	T	U	boolean	Low
∎‡ 4	1st Logic	Input c			1 bit	С	-	W	Т	U	boolean	Low
■2 5	1st Logic	Input d			1 bit	С	2	W	Т	U	boolean	Low
■26	1st Logic	Input e			1 bit	С	-	W	T	U	boolean	Low
₽₽7	1st Logic	Input f			1 bit	С	2	W	T	U	boolean	Low
∎‡ 8	1st Logic	Input g			1 bit	С	-	W	Т	U	boolean	Low
∎‡ 9	1st Logic	Input h			1 bit	С	2	W	Т	U	boolean	Low
■2 10	1st Logic	Logic result			1 bit	C		-	Т	-	boolean	Low

Fig.6.6.1 "AND/OR/XOR " Communication Object

N0.	Object Function	Name	Data Type	Flag	DPT						
2/	Input x	1st //8th Logic	1bit	C,W,T,U	1.002 boolean						
The communication object is used to receive the value of logical input Input x.											
10	10 Logic result 1st //8th Logic 1bit C,T 1.002 boolean										
Tł	ne communication object is	used to send the re	esults of logic	al operation	۱.						

Table 6.6.1 "AND/OR/XOR " communication object table



6.6.2. "Gate forwarding" Communication Object

Numb Name		Object Function	Description	Group Address	Length	C	R	W	Т	U	Data Type	Priority
■‡ 2	1st Logic	Gate value select			1 byte	С	-	W	-	8.78	scene number	Low
∎‡ 3	1st Logic	Input A			1 bit	С	2	W	Ξ.	4	switch	Low
■2 4	1st Logic	Input B			1 bit	С	-	W	-	878	switch	Low
₽‡ 5	1st Logic	Input C			1 bit	С	2	W	Ξ.	4	switch	Low
■2 6	1st Logic	Input D			1 bit	С	-	W	-		switch	Low
■₽ 7	1st Logic	Output A			1 bit	С	2	4	T	-	switch	Low
∎‡ 8	1st Logic	Output B			1 bit	С	-	878	Т		switch	Low
∎‡ 9	1st Logic	Output C			1 bit	С	2	43	Т	-	switch	Low
■2 10	1st Logic	Output D			1 bit	C	-	878	Т		switch	Low

Fig.6.6.2 "Gate forwarding" Communication Object

N0.	Object Function	Name	Data Type	Flag	DPT	
2	Gate value select	1st //8th Logic	1byte	C,W	17.001 scene number	
TI	he communication obje	ct is used to select th	e scene of logi	cal gate fo	prwarding.	
			46.4		1.001 switch	
3//6	Input x		1bit	C 14	3.007 dimming control	
		1st //8th Logic	4bit	C,W	5.010 counter	
			1byte		pulses (0255)	
TI	he communication obje	ct is used to receive t	he value of the	logic gate	e input Input x.	
			46:4		1.001 switch	
7//1	Output v	1 ct / / (9th L	1bit aic 4bit	СТ	3.007 dimming control	
0	Output x	1st //8th Lo	-	C,T	5.010 counter	
			1byte		pulses (0255)	

value is the same as the input value, but one input can be forwarded into one or more outputs, set by parameters.

Table 6.6.2 "Gate forwarding" communication object table


6.6.3. "Threshold comparator" Communication Object

Nu	mb Name	Object Function	Description	Group Address	Length	C	R	W	Т	U	Data Type	Priority
∎‡ 2	1st Logic	Threshold value input			4 bit	С	-	W	÷	U	dimming control	Low
■2 2	1st Logic	Threshold value input			1 byte	С	23	W	12	U	counter pulses (0255)	Low
∎2 2	1st Logic	Threshold value input			2 bytes	C	-	W	÷	U	pulses	Low
₽2	1st Logic	Threshold value input			4 bytes	С		W	-	U	counter pulses (unsigned	d) Low
■2 10	1st Logic	Logic result			1 bit	С	-	-	Т	-	boolean	Low

Fig.6.6.3	"Threshold	comparator"	Communication	Obiect

N0.	Object Function	Name	Data	Flag	DPT
			Туре		
2	Threshold value input	1st //8th Logic	4bit	C,W, U	3.007 dimming control
			1byte		5.010 counter
			2byte		pulses(0255)
			4byte		7.001 pulses
					12.001 counter pulses
T	he communication object is use	d to input thresho	ld value.	·	
10	Logic result	1st //8th Logic	1bit	C,T	1.002 boolean
Т	he communication object is use	d to send the res	ults of logica	l operatio	on. That is, the value that
shoul	d be sent after the object input th	hreshold is compa	red with the	setting th	reshold value.

Table 6.6.3 "Threshold comparator" communication object table

6.6.4. "Format convert" Communication Object

Nu	mb Name	Object Function	Description	Group Address	Length	С	R	V	VT	U	Data Type	Priority
∎‡ 2	1st Logic	Input 1bit-bit0			1 bit	С	•	W	÷	U	boolean	Low
∎‡ 3	1st Logic	Input 1bit-bit1			1 bit	С	9	W	10	U	boolean	Low
■2 10	1st Logic	Output 2bit			2 bit	C	÷		Т	879	switch control	Low

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

Output 2bit=2

Nun	mb Name	Object Function	Description	Group Address	Length	С	R	W	T	U	Data Type	Priority
∎‡ 2	1st Logic	Input 1bit-bit0			1 bit	С	-	W	-	U	boolean	Low
∎‡ 3	1st Logic	Input 1bit-bit1			1 bit	С	2	W	-	U	boolean	Low
■24	1st Logic	Input 1bit-bit2			1 bit	С	÷	W	÷	U	boolean	Low
∎‡ 5	1st Logic	Input 1bit-bit3			1 bit	С	2	W	-	U	boolean	Low
■2 6	1st Logic	Input 1bit-bit4			1 bit	С	-	W	÷	U	boolean	Low
■2 7	1st Logic	Input 1bit-bit5			1 bit	С	2	W	-	U	boolean	Low
∎‡ 8	1st Logic	Input 1bit-bit6			1 bit	С	-	W	÷	U	boolean	Low
∎‡ 9	1st Logic	Input 1bit-bit7			1 bit	С	2	W	-	U	boolean	Low
■2 10	1st Logic	Output 1byte			1 byte	C	-		Т	-	counter pulses (0.255)	Low

"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



Nu	umb Name	Object Function	Description	Group Address	Length	С	R	W	т	U	Data Type	Priority
∎‡ 2	1st Logic	Input 1byte			1 byte	С	2	W	æ	U	counter pulses (0255)	Low
■2 10	1st Logic	Output 2byte			2 bytes	С	e :	2	Т	2	pulses	Low

"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.

Nur	mb Name	Object Function	Description	Group Address	Length	С	R	W	т	U	Data Type	Priority
∎‡ 2	1st Logic	Input 1byte-low			1 byte	С	-	W	-	U	counter pulses (0255)	Low
■2 3	1st Logic	Input 1byte-high			1 byte	С	2	W	2	U	counter pulses (0255)	Low
■2 10	1st Logic	Output 2byte			2 bytes	C	з	-	T		pulses	Low

"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)

Nu	imb Name	Object Function	Description Group A	ddress	Length	с	R	W	Т	U	Data Type	Priority
∎‡ 2	1st Logic	Input 2byte-low		3	2 bytes	С	-	W	-	U	pulses	Low
■23	1st Logic	Input 2byte-high		2	2 bytes	С	2 1	W	2	U	pulses	Low
■2 10	1st Logic	Output 4byte			4 bytes	С	83	•	Т	-	counter pulses (unsigned) Low

"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)

Nur	mb Name	Object Function	Description	Group Address	Length	С	R	W	T	U	Data Type	Priority
∎‡ 2	1st Logic	Input 1byte			1 byte	С	-	W	-	U	counter pulses (0255)	Low
∎‡ 3	1st Logic	Output 1bit-bit0			1 bit	С	2	20	Т	120	boolean	Low
∎‡ 4	1st Logic	Output 1bit-bit1			1 bit	С	8	.	Т	-	boolean	Low
₽\$ 5	1st Logic	Output 1bit-bit2			1 bit	С	-	2	Т	2	boolean	Low
∎‡ 6	1st Logic	Output 1bit-bit3			1 bit	С	-	-	Т		boolean	Low
₹7	1st Logic	Output 1bit-bit4			1 bit	С	-	2	Т	2	boolean	Low
∎‡ 8	1st Logic	Output 1bit-bit5			1 bit	С	8	.	Т	-	boolean	Low
₽\$	1st Logic	Output 1bit-bit6			1 bit	С	-	20	Т	20	boolean	Low
■2 10	1st Logic	Output 1bit-bit7			1 bit	C		-	Т	-	boolean	Low

"1x1byte -->8x1bit" function: converts one 1byte values to eight 1but value, such as Input 1byte=200 --> Output bit0=0, bit1=0, bit2=0, bit3=1, bit4=0, bit5=0, bit6=1, bit7=1

Nu	mb Name	Object Function	Description Group Address	Length	C	R	V	VT	U	Data Type	Priority
∎‡ 2	1st Logic	Input 2byte		2 bytes	С	-	W	-	U	pulses	Low
∎‡ 9	1st Logic	Output 1byte-low		1 byte	С	2	-	Т	-	counter pulses (0255)	Low
■2 10	1st Logic	Output 1byte-high		1 byte	C	7	-	Т	्नः	counter pulses (0255)	Low

"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)

Nu	mb Name	Object Function	Description	Group Address	Length	С	R	W	Т	U	Data Type	Priority
∎‡ 2	1st Logic	Input 4byte			4 bytes	С	8	W	2	U	counter pulses (unsigned)	Low
‡ 9	1st Logic	Output 2byte-low			2 bytes	С		-	Т		pulses	Low
∎‡ 10	1st Logic	Output 2byte-high			2 bytes	С	8	4	Т	4	pulses	Low

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



Nu	mb Name	Object Function	Description	Group Address	Length	C	R	V	v т	U	Data Type	Priority
∎‡ 2	1st Logic	Input 3byte			3 bytes	С	-	W	-	U	RGB value 3x(0255)	Low
∎28	1st Logic	Output 1byte-low			1 byte	С	2	120	Т	123	counter pulses (0.255)	Low
∎‡ 9	1st Logic	Output 1byte-middle			1 byte	С	÷	-	т		counter pulses (0255)	Low
■2 10	1st Logic	Output 1byte-high			1 byte	С	2		Т	12	counter pulses (0255)	Low

"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)

Nu	mb Name	Object Function	Description	Group Address	Length	С	R	W	и т	U	Data Type	Priority
∎‡ 2	1st Logic	Input 1byte-low			1 byte	С	-	W	-	U	counter pulses (0255)	Low
■23	1st Logic	Input 1byte-middle			1 byte	С	2	W	2	U	counter pulses (0255)	Low
∎₹4	1st Logic	Input 1byte-high			1 byte	С	-	W	-	U	counter pulses (0255)	Low
₽2 10	1st Logic	Output 3byte			3 bytes	С	2	- C	Т	-	RGB value 3x(0255)	Low

"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

N0.	Object Function	Name	Data	Flag	DPT			
			Туре					
			1bit		1.001 switch			
			1byte		5.010 counter pulses(0255)			
2	Input	1st //8th Logic	2byte	C,W,U	7.001 pulses			
			3byte		232.600 RGB value 3x(0255)			
			4byte		12.001 counter pulses			
The communication object is used to input a value that needs to be converted.								
			1bit		1.001 switch			
			2bit		2.001 switch control			
40	October		1byte	0.7	5.010 counter pulses(0255)			
10	Output	1st //8th Logic	2byte	C,T	7.001 pulses			
			3byte		232.600 RGB value 3x(0255)			
			4byte		12.001 counter pulses			
The communication object is used to output the converted value.								

Fig.6.6.4 "Format convert" Communication Object

Table 6.6.4 "Format convert" communication object table



6.6.5. "Gate function" Communication Object

					2byte							9.001 temperati	
2	Input		1st //8th Logi	c	1bit 1byte		c	C, W	/			5.001 percentag 5.010 counter p	
												1.001 switch	
N0.	Object Fur	nction	Name		Data 1	уре	F	la	g			DPT	
		Fig.6.6	5.5 "Gate function"			Object	t						
2 10	1st Logic	Output	Input/Output -2	butal	45525]	2 bytes	C	2	878	T	878	pulses	Low
∎‡ 3	1st Logic	Gate input				1 bit						boolean	Low
2	1st Logic	Input										pulses	Low
Nur	mb Name	Object Function	Descri	ption	Group Address	Length	C	R	V	νт	· L	J Data Type	Priorit
			Input/Output	-2byte	[Float]								
∎‡ 10	1st Logic	Output				2 bytes	С	÷	-	Т		temperature (°C)	Low
∎‡ 3	1st Logic	Gate input				1 bit	С	2	W	-	823	boolean	Low
∎‡ 2	1st Logic	Input	1 CARGONICA			2 bytes	С	-	W	-	-	temperature (°C)	Low
Nur	mb Name	Object Function	Input/Output - Descri		[0255] Group Address	Length	С	R	W	Т	U	Data Type	Priority
10	1st Logic	Output			0 0551	1 byte	C	2	878	T	878	counter pulses (0255)	Low
■ ‡ 3	1st Logic	Gate input				1 bit	С	С.	W	2	143	boolean	Low
∎₽2	1st Logic	Input				1 byte	С	-	W	-	878	counter pulses (0255)	Low
Nur	nb Name	Object Function	- Input/Output Descri		Group Address	Length	C	R	W	Т	U	Data Type	Priority
■2 10	1st Logic	Output		11 . F	1000/1	1 byte	C	9 <u>.</u>	-	Т	-	percentage (0100%)	Low
∎‡ 3	1st Logic	Gate input				1 bit						boolean	Low
∎‡ 2	1st Logic	Input				1 byte	С	×.	W	×.	-	percentage (0100%)	Low
Nu	mb Name	Object Function	Descri	ption (Group Address	Length	С	R	W	/ Т	U	Data Type	Priority
114	5	3	Input/Output	-1bit[(Dn/Off]								
■↓10	1st Logic	Output				1 bit	102					switch	Low
∎ ‡ 2 ∎ ‡ 3	1st Logic	Input Gate input				1 bit		-			120		Low
-	1st Logic	10.00				1 bit	-		140			switch	1

					7.001 pulses		
Т	The communication object is used to input a value that needs to gate filter.						
3	Gate input	1st //8th Logic	1bit	C,W	1.002 boolean		
Т	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.

					1.001 switch		
			bit		5.001 percentage		
10	Output	1st //8th Logic	1byte	C,T	5.010 counter pulses		
			2byte		9.001 temperature		
					7.001 pulses		
Tł	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".

Table 6.6.5 "Gate function" communication object table



6.6.6. "Delay function" Communication Object

Numb Name	Object Function	Description Group Addre	ess Length C R W T U Data Type Pr	riority
■ <mark>↓</mark> 2 1st Logic	Input		1 bit C - W switch Lov	w
■ <mark>2</mark> 10 1st Logic	Output		1 bit C T - switch Lov	w
		Input/Output - 1bit[On/Off]		
Numb Name	Object Function	Description Group Addre	ess Length C R W T U Data Type Pr	riority
2 1st Logic	Input		1 byte C - W percentage (0100%) Lo	w
■ <mark>≓</mark> 10 1st Logic	Output		1 byte C T - percentage (0100%) Lo	w
	I	nput/Output -1byte[0100%]		
Numb Name	Object Function	Description Group Addre	ess Length C R W T U Data Type Pr	riority
■≵2 1st Logic	Input		1 byte C - W counter pulses (0255) Lov	N
■≵ 10 1st Logic	Output		1 byte C T - counter pulses (0.255) Lov	N
		Input/Output -1byte[0255]		
Numb Name	Object Function	Description Group Addre	ess Length C R W T U Data Type Pr	riority
2 1st Logic	Input		2 bytes C - W temperature (°C) Los	w
■Ż 10 1st Logic	Output		2 bytes C T - temperature (°C) Los	w
		Input/Output -2byte[Float]		
Numb Name	Object Function	Description Group Addre	ess Length C R W T U Data Type Pr	riority
■ <mark>#</mark> 2 1st Logic	Input		2 bytes C - W pulses Low	w
t 10 1st Logic	Output		2 bytes C T - pulses Lov	w
	1	anut/Outnut 2huta[0 /EE2E]		

Input/Output - 2byte[0..65535] Fig.6.6.6 "Delay function" Communication Object

N0.	Object Function	Name	Data Type	Flag	DPT			
					1.001 switch			
			1bit		5.001 percentage			
2	Input	1st //8th Logic	1byte	C,W	5.010 counter pulses			
			2byte		9.001 temperature			
					7.001 pulses			
Th	The communication object is used to input a value that needs to delay.							
					1.001 switch			
			1bit		5.001 percentage			
10	Output	1st //8th Logic	1byte	С,Т	5.010 counter pulses			
			2byte		9.001 temperature			
					7.001 pulses			
Th	The communication object is used to output that needs to delay converted value, delay time is							

Table 6.6.6 "Delay function" communication object table

defined by the parameter.



6.6.7. "Staircase lighting" Communication Object

Nu	umb Name	Object Function	Description	Group Address	Length	С	R	W	/ т	U	Data Type	Priority
∎‡2	1st Logic	Trigger value			1 bit	С	-	W	-	-	trigger	Low
■2 3	1st Logic	Light-on duration time			2 bytes	С	-	W	1		time (s)	Low
■2 10	1st Logic	Output			1 bit	C	-		т	-	switch	Low
■2 10	1st Logic	Output			1 byte	С	3	2	т	120	counter pulses (0255)	Low

Fig.6.6.7 "Staircase lighting" Communication Object

N0.	Object Function	Name	Data Type	Flag	DPT				
2	Trigger value	1st //8th Logic	1bit	C,W	1.017 trigger				
TI	The communication object is used to receive the value to trigger staircase lighting.								
3	Light-on duration time	1st //8th Logic	2byte	C,W	7.005 time(s)				
TI	The communication object is used to modify the staircase light-on duration time, the modified								
range	is referenced from the range of	defined by the parame	eter,take the li	mit value i	f exceeded.				
10	Quitmut	1 ct / /Oth Logic	1bit	C,T	1.001 switch				
10	Output	1st //8th Logic	1byte	0,1	5.010 counter pulses				
The communication object is used to output value 1 when trigger, and send value 2 after duration									
time.	time. Telegram value is determined by the parameter setting datatype.								

Table 6.6.7 "Staircase lighting" communication object table



Chapter 7. UI Description for Tuya Smart APP

This chapter detail UI use for Tuya Smart APP in functional blocks. Please make sure the database is downloaded to KNX Gateway for Tuya ZigBee before operating APP. Once the database is downloaded, you can add gateways and other devices on the APP.

7.1. Add device

Click icon on the mobile phone desk to start up Tuya Smart APP, register or login the account. Click the icon in the upper right corner of homepage to add device after login successfully. Take KNX Gateway for Tuya ZigBee as an example to explain the operation of adding a device.

Other devices are added in similar ways to the gateway, and no longer repeat in this chapter.

1. Select corresponding device type, KNX Gateway for Tuya ZigBee selects the Gateway in

Gateway Control. You can select to add it manually(Step 2~5), or select to click icon (to auto scan, please ensure that the device has entered paring mode, click blue word in the follow picture to go to the details of "Auto Scan". If failed to auto add device, you can select to Try again or Add Manually.





Note: Please ensure to turn on Bluetooth, Wi-Fi and Location services, otherwise the APP cannot search the device, and display the following prompt:



2. Click device icon, you can see the device connection steps. If the device is not reset, please perform net pairing as prompted. If it has been reset, ignore step 3. Please note the LED indication status on the gateway.

3. Reset device. Long press ZigBee connect button on the gateway for 5s, to remove the gateway from the cloud, triggered to flash after manually operating the connect button, and flashing 5 times to enter the waiting connection status. LED indication effect of gateway as follow:

LAN LED—Green LED:

——Always on after gateway network is connected OK, flashing when there is a data communication.

Connect status LED—Green LED:

--Off when gateway is connected to cloud;

---Always on when connection is waiting to connect;

---Always flashing when Tuya authorization code is abnormal(Unprogram).



4. Make sure the device reset is successful, and your phone and the gateway are under the same network. Then make sure the device LED is indicated correctly. The gateway confirms that the two green lights(Connect status LED and LAN LED) are always on, then click Next to enter the status for connecting device.

5. Add device. When scan the "KNXGateway", click the icon 🕤 to complete the addition.



Note: For Android systems, if the gateway fails to connect several times, it need to clear cache. Click icon (2) in the upper right corner of [Me] interface to enter the settings page, select [Clear Cache].



У Все устройства	+	∷ ⊚
KNX-ZigBee Gateway		Нажмите здесь и напи >
- 🔆 Arlight 4CH WiFi	٢	Сторонние голосовые сервисы Уandex
КСВ+ССТ Не в сети		Управление домом >
WG-Z1 Не в сети		 Е Центр сообщений > Справочный центр >
	¥	
С Сценарий	О Профиль	Сам Сценарий Грофиль

6. After completing the above steps, display setting page of the device, and displays a list of the added subdevices. Click "Add subdevice" to search device for addition.

+	+	< Поиск устройства	Х Добавить устройство
		Добавлено устройств: 10	Успешно добавлено устройств: 10
KNX-ZigBee Gateway	Ensure device is in pairing mode (LED is blinking)	Switch 5 Switch 6 Ebergy netering	Energy metering Успешно добавлено
Online devices: 0 Added devices	If the LED is not blinking, please reset the device, here are some common ways to reset: А Датчик Устройство включено,	Switch Switch 3	Switch Успешно добавлено
	 Алган Сирина выличени, удерживайте кнопку в техничени 5-7 с Розетка Устройство включено, удерживайте кнопку в течнин 5-7 с Источник света Включите устройство, 3 раза подряд выключи Моте device reset methods > 	Switch 7 Switch 4	Switch 2 Успешно добавлено
You haven't create any device yet. Tap'Add' to start.			Switch 3 Успешно добавлено
Add subdevice	LED already blink Add subdevice	ЗАВЕРШЕНО	Сwitch 4 Завершено

As below, the interactive use of KNX channel devices will be described in detail.



7.2. Device information

Click the icon 🗹 to check the Gateway information, which is shown in the figure below. The last bit is hidden from the IP address.

+ <u> </u>	<	К Информация об устройстве
	KNX-ZigBee Gateway	Виртуальный ID:bf5c5fe0016d78fc5 Копировать
KNX-ZigBee Gateway	Информация об устройстве	IP адрес:192.168.2.* Просмотр
	Оффлайн-уведомление для устройства	Часовой пояс:Europe/Moscow
Online devices: 10	Оффлайн-уведомление	Канал :25
	Другое	
Added devices	Общий доступ к устройствам >	
Switch 8 ····	Создать группу	
Switch 7 ····	FAQ и обратная связь	
Switch 2 ····	Добавить на главный экран >	
Switch	Проверка сети Проверить сейчас >	
Switch	Обновление устройства Нет доступных обно >	
Energy metering ····	Замените поврежденный шлюз	
Switch 5	Удалить устройство	
+ Add subdevice		

If you want to use IP address, when IP assignment is set as **Fixed mode**, IP address is assigned from the parameters on ETS; while IP assignment is **DHCP mode**, at first, you should enter the background of the router which is connected to the gateway, then you can see IP address of the gateway. (The ways to enter the router background are different, detail please refer to the router manual.)





7.3. Switch interface



①Return to the previous interface.

(2) Device name, shown it above the interface. Click icon \checkmark to go to figure 7.2(2), you can view, change device settings, and remove devices.

Device basic settings as shown in figure 7.2 (2), including Device Information, Tap-to-Run and Automation, Other settings, and Remove Device. Set the Tap-to-Run and Automation via KNX scene switch, details in chapter 7.7.

 $Click \oplus to go to figure 7.2(3)$, you can edit current device name, icon and location.

③Switch button, gray indicates status off, bright color indicates status on. Used for switching of switch status.



7.4. Switch/Dimming interface



Fig.7.4(1) Switch/Dimming interface

 $\textcircled{1}\label{eq:relation}$ Return to the previous interface.

⁽²⁾Device name, shown it above the interface. Click icon \checkmark , you can view, change device settings, and remove devices.

③B: brightness adjustment. Adjust brightness by sliding this slider, range: 0..100%

(4)LED switch button, gray indicates status off, bright color indicates status on. Used for switching of

switch status. When brightness value is not 0, touch this button to close brightness, and value is 0.



7.5. RGB Dimming interface



Fig.7.5(1) RGB dimming interface interface

 $\textcircled{\sc l} Return to the previous interface.$

O Device name, shown it above the interface. Click icon \checkmark , you can view, change device settings, and remove devices.

There are 3 control types of RGB dimming function: RGB, RGBW, Color Temperature. Among them, RGB is suitable for adjusting RGB lamp; RGBW is suitable for controlling RGBW strip; Color Temperature is suitable for color temperature control. Shown as figure7.5(1)(2)(3).

③RGB value adjustment. Adjust brightness by sliding R/G/B slider, range: 0..255

④RGBW value adjustment. Adjust brightness by sliding R/G/B/W slider, range: 0..255

⑤B: brightness adjustment. Adjust brightness by sliding this slider, range: 0..100%

CW: color temperature adjustment. Adjust color temperature by sliding this slider, range: 2000..7000K

⁽⁶⁾LED switch button, gray indicates status off, bright color indicates status on. When current value is not 0, touch this button to close R/G/B/W or B/CW, and value is 0.



7.6. Curtain control interface



Fig.7.6(4)Roller blind position

Fig.7.6(5)Venetian blind position and slat

①Return to the previous interface.

②Device name, shown it above the interface. Click icon \checkmark , you can view, change device settings, and remove devices.

③Curtain step/move:

1)Touch icon \bigcirc , open curtain. Device sends out a telegram with the object(Open/Close) value of 0; 2)Touch icon II, stop curtain. Device sends out a telegram with the object(Stop) value of 1; 3) Touch icon \times , close curtain. Device sends out a telegram with the object (Open/Close) value of

1;



④Rollerblind step/move:

1)Touch icon ^, move up blind. Device sends out a telegram with the object(Up/Down) value of 0; 2)Touch icon II, stop blind. Device sends out a telegram with the object(Stop) value of 1;

3)Touch icon \checkmark , move down blind. Device sends out a telegram with the object(Up/Down) value of 1;

 $\textcircled{5} \textcircled{6} Curtain \ position:$

1)By sliding the slider (5) to adjust the position of curtain;

1)By sliding the slider (7) to adjust the position of blind;

910Venetian blind position and slat:

1)By sliding the slider⁽⁹⁾ to adjust the position and louver angle of venetian blind;



7.7. Value sender interface



Fig.7.7. Value sender

1 Return to the previous interface.

@Device name, shown it above the interface. Click icon \checkmark , you can view, change device settings, and remove devices.

③Touch icon, send telegram to KNX bus. Only used to trigger calling command on the APP, with only button operation.

There are 8 value types sent: 1bit[On/Off], 2bit[0..3], 1byte[0..255], 1byte[0..100%], 1byte[scene control], 2byte[-671 088.64..670 760.96], 2byte[0..65535].



7.8. KNX Scene switch interface



Fig.7.8(1) Scene switch interface

1 Return to the previous interface.

ODevice name, shown it above the interface. Click icon \checkmark , you can view, change device settings, and remove devices.

③Long press to enter the scene setting, receive KNX scene calling command, or short press on the APP to perform action set in scene setting, link the KNX device functions to the ZigBee on the APP. Configure specific associated devices and trigger responses for scene on the APP before operation.

Add scene setting:	—1	Дополнительные на Завершено 5 Стиль 6	Отмена Создать сценарий	
Локальные мпновенные сценарии Выполните следующие фйствия](3)](4)	Показать на домашней странице	Если 8 Коснитесь для запуска	
Добавить задачу		Выполнил Локальные мг	Тогда	Ð
Дополнительные настройки >		9-	Добавить задачу Добавить задачу Ф Управление одним устройством	>
			Выберите «Умные сценарии» Отправить уведомление	>
Сохранить	-2		 Оправито уведовление Отложить действие 	>

Fig.7.8(2) Scene switch setting

Fig.7.8(3) Create Smart

Fig.7.8(4) Add task

 $\textcircled{15}\ensuremath{\mathsf{Return}}\xspace$ to the previous interface.

②Click to save the setting and return to the previous interface after scene switch setting.



③Click to modify scene icon.

④Click to go to the interface Create Smart, shown as figure 7.7(3).

⁽⁶⁾Click to save the setting and return to the previous interface after creating smart.

⑦Click plus icon to create "Tap-To-Run" task, the window ⑨ is pop up below, you can select required setting, including: all devices, smart scenes, notification and the action delay. Task is shown in figure 7.7(3) after creating successfully.

[®]Set the task name, display style, and whether to show on home page.

Manage scene setting:



Fig.7.8(5) Smart interface

Fig.7.8(6) Manage interface

Fig.7.8(7) Edit interface

①Click three-pointicon, display drop-down window, you can select 【Manage】 or 【Logs】, shown as figure 7.8(5). Click 【Manage】 to go to manage interface, shown as figure 7.8(6). Long press icon④ to slide, to adjust the order of scene tasks; click icon⑤ to delete the scene task.

②Click three-pointicon, go to the scene edit interface, shown as 7.8(7), operation in the interface: add task, change the task name and display style, whether to show on home page, and delete the scene. Click on the rest of the control to perform the scene immediately.

Operate the edit interface also can be via the single device, such as figure 7.2 (2) device basic setting, to click Tap-to-Runand Automation.

③Click to save and returnto previous interface after task management.

⁽⁶⁾Click to cancel edit, and returnto previous interface.

⑦Click to save and return to previous interface after editing.



7.9. Air condition interface



Fig.7.9(1) Air condition interface Fig.7.9(2) Air condition (with swing) interface ①Return to the previous interface.

2Device name, shown it above the interface. Click icon \checkmark , you can view, change device settings, and remove devices.

③Ring slider is used to adjust the setpoint temperature, the performed adjustment step is 1°. When temperature unit is set to degrees Celsius (°), adjustment range of setpoint temperature is default as 16 ~ 32°; Current temperature display according the parameter configuration, you can configure to show detected temperature of internal senor or external sensor.

Click this icon to switch Air condition control mode, update the mode status via the object: Heat $\overset{\circ}{\bigtriangledown}$,

Cool[₩], Dehumidification Θ , Fan 𝔅, Auto 𝔅.

⑤Click this icon to switch fan speed, the current fan speed is cyclically switched in this order--Low speed...AUTO...Low speed: Low speed ^않, Medium speed ^않, High speed ^않, Auto ^않.

Click this icon switch swing control: swing, stop E.

⑦Air condition switch button, gray indicates status off, bright color indicates status on. When power off, except for the status of power on/off, the other icon status can not be updated via the bus or manually controlled. Click this icon, device sends a telegram of value 1/0 (On/Off) via the object Power on/off.







3

Fig.7.10 (3) RTC (with operation mode&fan)

 $\textcircled{1}\label{eq:relation}$ Return to the previous interface.

⁽²⁾Device name, shown it above the interface. Click icon \checkmark , you can view, change device settings, and remove devices.

⁽³⁾Ring slider is used to adjust the setpoint temperature, the performed adjustment step is 1°. When temperature unit is set to degrees Celsius (°), adjustment range of setpoint temperature is default as $5 \sim 40^{\circ}$; Current temperature display according the parameter configuration, you can configure to



show detected temperature of internal senor or external sensor.

 $({\mathbb Click this icon to switch control mode, update the mode status via the object: Heating <math>\dot{\mathbb Q}$,

cooling. 🗱 .

You can switch the mode via touch or telegram when the database sets the RTC control mode to "Heating and Cooling".

⑤Click this icon to switch operation mode: comfort 🏠 , standby 🏠 , economy D , protection

6 Click this icon to switch fan speed, the current fan speed is cyclically switched in this order--Low

speed...AUTO...Low speed: Low speed ô우, Medium speed ô우, High speed ô우, Auto ô유 .

⑦RTC switch button, gray indicates status off, bright color indicates status on. When power off, except for the status of power on/off, the other icon status can not be updated via the bus or manually controlled. Click this icon, device sends a telegram of value 1/0 (On/Off) via the object Power on/off.

7.11. Ventilation system interface



Fig. 7.11. Ventilation system control interface



①Return to the previous interface.

⁽²⁾Device name, shown it above the interface. Click icon \checkmark , you can view, change device settings, and remove devices.

③It is used to display the switch status of filter.

(4) Click this icon to switch fan speed, the current fan speed is cyclically switched in this order--Low

speed...AUTO...Low speed: Low speed 🔄, Medium speed 🗞, High speed 🛞, Auto 🕸 .

(5) Click the icon $\widehat{\mathbf{C}}$ to turn on or off heat recovery function.

[®]Ventilation switch button, gray indicates status off, bright color indicates status on. When power off, except for the status of power on/off, the other icon status can not be updated via the bus or manually controlled. Click this icon, device sends a telegram of value 1/0 (On/Off) via the object Power on/off.

7.12. Audio control interface



Fig.7.12 (1) Audio control interface ①Return to the previous interface. Fig.7.12 (2) Audio control (with on/off) interface

2Device name, shown it above the interface. Click icon \checkmark , you can view, change device settings, and remove devices.

③Click the icon to adjust the volume in increasing or decreasing increments.

④Slide the slider to adjust the volume decrease/increase.



(5) Click the icon to mute/exit mute: mute 4^{\times} , exit mute 4° .

6Click the button to switch the audio play mode. Update the status via the object: single loop 1 , list

 $play = , random play \approx$.

⑦Click the icon to select previous song or next song.

[®]Click the icon to play or stop music. And update the status via the object.

⁽⁹⁾Audio control switch button, gray indicates status off, bright color indicates status on. When power off, except for the status of power on/off, the other icon status can not be updated via the bus or manually controlled. Click this icon, device sends a telegram of value 1/0 (On/Off) via the object Power on/off.



7.13. Sensor interface

Air quality sensor displays 7 reference values, independently is: CO2, PM2.5, PM10, VOC, Temperature, Humidity, AQI. What displays can be configured through the database. The CO2, PM2.5 and VOC have separate detectors, and all can show the internal temperature and humidity on the interface.

The ring on the interface and the reference values of corresponding devices. The update of the display value can be achieved by rewriting the object via the bus.

Detection range of AQI: 0..500



Detection range of CO2: 0..4000ppm Detection range of PM2.5: 0..999ug/m³ Detection range of VOC: 0..999ug/m³ Detection range of temperature:-50...90° Detection range of humidity: 0..100%

13:56	總 🖸 훇 해 해 🗔 61	13:56 💥 🖸 🤶 📶 📶 💷 61	13:56 월 🖸 숙 채 채 🗇 60	13:56 삶 ⓒ 奈 訓 御 (366)
<	Presence sensor 🗾 💆	K Motion sensor 🗾	K Brightness sensor	< I/O signal 💆
	(1%	(1%	-Ò	
	PIR state No one	PIR state No one	Current Luminance Olux	
	Illuminance Value OLux			
Pres	ence sensor interface	Motion sensor interface	Brightness sensor interface	I/O signal interface

Presence sensor can detect PIR state, and illuminance, detection range: 0....65535lux

Motion sensor can detect PIR state.

Brightness sensor can detect the illuminance, detection range: 0...65535lux

I/O signal can detect the device switch status.





7.14. Current/Energy metering interface

Currentmetering

Energy metering

Current metering detects the current and power, and display the changing status in real-time, the values unit and resolution can be rewrite via the object on the bus.

Energy metering detects the current, power, voltage and energy, and display the changing status in real-time, the values unit and resolution can be rewrite via the object on the bus.



7.15. Voice control command

This chapter mainly list the voice control commands for Tuya Smart APP. You can find the command of ETS function to voice control. **Note: Currently, only the devices listed below are supported.**

ETS functions	•	etermined by the name edited on the			
	APP. Only support English. The same	as below.			
		APP. Only support English. The same as below.			
	Amazon Alexa	Google Assistant			
Switch	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>			
Switch	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>			
	Switch:	Switch:			
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>			
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>			
	Dimming:	Dimming:			
Switch (Dimming	Alexa, set the bedroom light to fifty percent	OK Google, what is the brightness level of			
Switch/Dimming	Alexa, brighten <device name=""></device>	<device name="">?</device>			
	Alexa, dim <device name=""></device>	OK Google, adjust <device name=""> to 65%</device>			
		brightness			
		OK Google, brighten the <device name=""></device>			
		OK Google, dim the <device name=""></device>			
	Switch:	Switch:			
RGB Dimming	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>			
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>			
	Switch:	Switch:			
RGBW Dimming	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>			
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>			
	Switch:	Switch:			
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>			
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>			
Color	Dimming:				
Temperature	Alexa, set the bedroom light to fifty percent				
	Alexa, brighten <device name=""></device>				
	Alexa, dim <device name=""></device>				



	Voice control command			
ETS functions	Amazon Alexa	Google Assistant		
	Color temperature:	Dimming:		
	Alexa, make the living room lights warmer	OK Google, what is the brightness level		
	Alexa, set the dining room lights cooler	of <device name="">?</device>		
	Alexa, set the dining room softer	OK Google, adjust <device name=""> to</device>		
	Alexa, make the living room light whiter	65% brightness		
Color	Alexa, make the living room light warm	OK Google, brighten the <device name=""></device>		
Temperature	white	OK Google, dim the <device name=""></device>		
	Alexa, set the kitchen to daylight	Color temperature:		
		OK Google, set the <device name=""> to</device>		
		cool white		
	Curtain switch:	Curtain switch:		
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>		
Curtain	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>		
step/move		Work status:		
		OK Google, pause <device name=""></device>		
		OK Google, resume <device name=""></device>		
	Curtain switch:	Curtain switch:		
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>		
Rollerblind	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>		
step/move		Work status:		
		OK Google, pause <device name=""></device>		
		OK Google, resume <device name=""></device>		
	Curtain switch:	Curtain switch:		
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>		
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>		
	Percentage position:	Work status:		
Curtain position	Alexa, set the <device name=""> to thirty</device>	OK Google, pause <device name=""></device>		
	percent	OK Google, resume <device name=""></device>		
	Alexa, increase <device name=""> by ten</device>	Percentage position:		
	percent	OK Google, open <device name=""></device>		
	Alexa, decrease <device name=""> by twenty</device>	OK Google, close <device name=""></device>		
	percent			



	Voice control command			
ETS functions	Amazon Alexa	Google Assistant		
	Curtain switch:	Curtain switch:		
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>		
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>		
	Percentage position:	Work status:		
Rollerblind	Alexa, set the <device name=""> to thirty</device>	OK Google, pause <device name=""></device>		
position	percent	OK Google, resume <device name=""></device>		
	Alexa, increase <device name=""> by ten</device>	Percentage position:		
	percent	OK Google, open <device name=""></device>		
	Alexa, decrease <device name=""> by twenty</device>	OK Google, close <device name=""></device>		
	percent			
	Curtain switch:	Curtain switch:		
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>		
Venetian blind	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>		
	Work status:	Work status:		
position and slat	Alexa, pause device	OK Google, start the washing machine		
	Alexa, resume device	OK Google, stop <device name=""></device>		
Value sender	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>		
/Scene switch	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>		
	Power:	Power:		
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>		
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>		
	Control mode:	Control mode:		
	Alexa, set the <mode name=""> on the <device< td=""><td>OK Google, set <device name=""> to <mode< td=""></mode<></device></td></device<></mode>	OK Google, set <device name=""> to <mode< td=""></mode<></device>		
	name> to <mode value=""></mode>	value>		
	Temperature:	Temperature:		
	Alexa, make it warmer in here	OK Google, set the <device name=""> to</device>		
	Alexa, make it cooler in here	350 degrees		
Air conditioner	Alexa, what is the target temperature of the	Check actual temperature:		
	<device name="">?</device>	OK Google, what is the current device		
	Alexa, set <device name=""> to twenty</device>	temperature?		
	Alexa, set <device name=""> to N</device>	Fan speed level:		
	Check actual temperature:	OK Google, set the <device name=""> to</device>		
	Alexa, what is the temperature of <device< td=""><td>low</td></device<>	low		
	name>	OK Google, set the <device name=""> to</device>		
	Fan speed level:	high		
	Alexa, set the fan speed on the <device< td=""><td></td></device<>			
	name> to <mode value=""></mode>			



ETS	Voice control command	
functions	Amazon Alexa	Google Assistant
	Power:	Power:
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>
	Control mode:	Control mode:
	Alexa, set the <mode name=""> on the <device< td=""><td>OK Google, set <device name=""> to <mode< td=""></mode<></device></td></device<></mode>	OK Google, set <device name=""> to <mode< td=""></mode<></device>
	name> to <mode value=""></mode>	value>
	Temperature:	Temperature:
	Alexa, make it warmer in here	OK Google, set the <device name=""> to 350</device>
	Alexa, make it cooler in here	degrees
	Alexa, what is the target temperature of the	Check actual temperature:
	<device name="">?</device>	OK Google, what is the current device
Air condition	Alexa, set <device name=""> to twenty</device>	temperature?
(with swing)	Alexa, set <device name=""> to N</device>	Fan speed level:
	Check actual temperature:	OK Google, set the <device name=""> to low</device>
	Alexa, what is the temperature of <device< td=""><td>OK Google, set the <device name=""> to</device></td></device<>	OK Google, set the <device name=""> to</device>
	name>	high
	Fan speed level:	Swing:
	Alexa, set the fan speed on the <device< td=""><td>Turn on/off <device name=""></device></td></device<>	Turn on/off <device name=""></device>
	name> to <mode value=""></mode>	
	Swing:	
	Alexa, turn on horizontal swing on <device< td=""><td></td></device<>	
	name>	
	Alexa, turn off horizontal swing on <device< td=""><td></td></device<>	
	name>	



ETS	Voice control command		
functions	Amazon Alexa	Google Assistant	
	Power:	Power:	
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>	
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>	
	Control mode:	Control mode:	
	Alexa, set the <mode name=""> on the <device< td=""><td>OK Google, set <device name=""> to <mode< td=""></mode<></device></td></device<></mode>	OK Google, set <device name=""> to <mode< td=""></mode<></device>	
	name> to <mode name=""></mode>	value>	
Room	Temperature:	Temperature:	
	Alexa, make it warmer in here	OK Google, set the <device name=""> to 350</device>	
temperature	Alexa, make it cooler in here	degrees	
unit	Alexa, what is the target temperature of the	Check actual temperature:	
	<device name="">?</device>	OK Google, what is the current device	
	Alexa, set <device name=""> to twenty</device>	temperature?	
	Alexa, set <device name=""> to N</device>		
	Check actual temperature:		
	Alexa, what is the temperature of <device< td=""><td></td></device<>		
	name>		
	Power:	Power:	
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>	
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>	
	Operation/Controlmode:	Operation/Controlmode:	
	Alexa, set the <mode name=""> on the <device< td=""><td>OK Google, set <device name=""> to <mode< td=""></mode<></device></td></device<></mode>	OK Google, set <device name=""> to <mode< td=""></mode<></device>	
Room	name> to <mode name=""></mode>	value>	
temperature	Temperature:	Temperature:	
unit	Alexa, make it warmer in here	OK Google, set the <device name=""> to 350</device>	
(with operation	Alexa, make it cooler in here	degrees	
mode)	Alexa, what is the target temperature of the	Check actual temperature:	
	<device name="">?</device>	OK Google, what is the current device	
	Alexa, set <device name=""> to twenty</device>	temperature?	
	Alexa, set <device name=""> to N</device>		
	Check actual temperature:		
	Alexa, what is the temperature of <device< td=""><td></td></device<>		
	name>		



ETS	Voice control command		
functions	Amazon Alexa	Google Assistant	
	Power:	Power:	
	Alexa, turn on <device name=""></device>	OK Google, turn on <device name=""></device>	
	Alexa, turn off <device name=""></device>	OK Google, turn off <device name=""></device>	
	Operation/Controlmode:	Operation/Controlmode:	
	Alexa, set the <mode name=""> on the <device< td=""><td>OK Google, set <device name=""> to <mode< td=""></mode<></device></td></device<></mode>	OK Google, set <device name=""> to <mode< td=""></mode<></device>	
	name> to <mode name=""></mode>	value>	
	Temperature:	Temperature:	
Room	Alexa, make it warmer in here	OK Google, set the <device name=""> to 350</device>	
temperature	Alexa, make it cooler in here	degrees	
unit	Alexa, what is the target temperature of the	Check actual temperature:	
(with	<device name="">?</device>	OK Google, what is the current device	
operation	Alexa, set <device name=""> to twenty</device>	temperature?	
mode & fan	Alexa, set <device name=""> to N</device>	Fan speed level:	
speed)	Check actual temperature:	OK Google, set the <device name=""> to low</device>	
	Alexa, what is the temperature of <device< td=""><td>OK Google, set the <device name=""> to high</device></td></device<>	OK Google, set the <device name=""> to high</device>	
	name>		
	Fan speed level:		
	Alexa, set the fan speed on the <device< td=""><td></td></device<>		
	name> to <mode value=""></mode>		
	Power:		
	Alexa, turn on <device name=""></device>		
	Alexa, turn off <device name=""></device>		
Ventilation	Fan speed level:		
system	Alexa, set the fan speed on the <device< td=""><td></td></device<>		
	name> to <mode value=""></mode>		



ETS	Voice control command	
functions	Amazon Alexa	Google Assistant
	Volume:	Volume:
	Alexa, set the volume of the speakers to	OK Google, make the <device name=""> a</device>
	fifty	little quieter
	Alexa, turn the volume down on the stereo	OK Google, mute <device name=""></device>
	by twenty	Mute mode:
Audio control	Alexa, turn the volume down on Living	Turn on <device name=""></device>
	Room TV	Turn off <device name=""></device>
	Alexa, mute speakers	
	Alexa, unmute speakers	
	Track change:	
	Alexa, previous on device	
	Alexa, next song/video/photo on device	
	Power:	Power:
	Alexa, open <device name=""></device>	OK Google, turn on <device name=""></device>
	Alexa, close <device name=""></device>	OK Google, turn off <device name=""></device>
Audio	Play/pause:	
control(with	Alexa, pause device	
on/off)	Alexa, resume device	
	Track change:	
	Alexa, previous on device	
	Alexa, next song/video/photo on device	
	Temperaturecheck:	Temperaturecheck:
	Alexa, what is the temperature of <device< td=""><td>OK Google, what is the current device</td></device<>	OK Google, what is the current device
	name>	temperature?
	Humidity check:	Humidity check:
	Alexa, what is the bedroom humidity?	OK Google, what humidity does my
Air quality	C02 check:	humidifier show?
sensor	Alexa, what's the <device name=""> <range< td=""><td>CO2 check:</td></range<></device>	CO2 check:
	name>?	OK Google, is the <sensor name=""></sensor>
		detecting carbon dioxide
		OK Google, Is carbon dioxide detected
		OK Google, do you detect carbon
		dioxide in the room



ETS	Voice control command		
functions	Amazon Alexa	Google Assistant	
	Alexa, what's the <device name=""> <range< td=""><td>OK Google, is the <sensor name=""></sensor></td></range<></device>	OK Google, is the <sensor name=""></sensor>	
	name>?	detecting carbon dioxide	
CO2 sensor		OK Google, Is carbon dioxide detected	
		OK Google, do you detect carbon	
		dioxide in the room	
Presence	Alexa, what's the <device name=""> <range< td=""><td></td></range<></device>		
sensor	name>?		
Brightness	Alexa, what's the <device name=""> <range< td=""><td></td></range<></device>		
sensor	name>?		



Chapter 8. Tuya Zigbee Gateway Management System

Tuya Zigbee Gateway Management System only apply to **KNX Gateway for Tuya ZigBee,Premium**, use web to configure and manage the links between ZigBee devices and KNX system. Before enter to the system, please ensure that the gateway is connected to LAN correctly, then configure IP address and Zigbee channel via ETS. This management system only makes secondary configuration for the devices.

Ensure the computer and mobile phone is in the same LAN, then enter IP address of the gateway in the browser to enter Management System. The system operation and ZigBee device linking will be explained in the following chapters.



8.1. Gateway information

Tuya Zigbee Gateway Management System

Gateway information	Overview					
ZigBee device list	IP	MAC	Default GW.	License account	License password	FW.version
ZigBee function list	192.168.2.77	1c:87:76:91:3c:56	192.168.2.1	sskjc100dba3a7154011	yKoQOO0dEyT80AXEYJVgApni4hYtuoNs	02.02.09

In the system, you can see the based information of the gateway, including the IP address, MAC address, default gateway address, Tuya license account and password, and firmware version.

Note: if description of ZigBee channel is set as Chinese character, please set the codepage of project to UTF-8 at first, or that will display abnormally on the Management System after download the ETS. The setting of codepage as shown as following:

Name	Project Password
Диагностический стенд	Set Password
Project Type	BCU Key
Office Building	Set BCU Key
Project Number	Codepage
	Unicode (UTF-8)
Contract Number	Group Address Style
	Two Level
Description	Three Level
	Compatibility
	Hide extended group address range for plug-ins
	Use low bus communication rate
a a a	



8.2. ZigBee device list

Tuya Zigbee Gateway Management System

Gateway information	Overview						
ZigBee device list	Virtual ID	Name	MAC	Status	KNX Name	ZigBee Channel	Operation setting
ZigBee function list	1	Test dimmer	a4c138bcb6d35329	offline	dimmer	1	DVC FUN EDIT DEL
	2	RGBCW device	a4c13800daa4ca19	online	rgbw	2	DVC FUN EDIT DEL
	3		943469fffedbd518	offline			DVC FUN EDIT DEL
	Showing 1 to 3	of 3 entries					First Previous 1 Next L

Click "ZigBee device list", you can view the information of ZigBee devices that are linked/to be linked. As follow:

Virtual ID	Assigned automatically by the system.
Name	Display ZigBee device name. User can customize the name, if it is not
	defined, it will be empty.
MAC	MAC address of the device.
Status	Online/Offline
KNX Name	The name configured in ETS.
ZigBee Channel	Display the bound ZigBee channel number, corresponding to the ETS
	setting, number is 1~32.
Operation	DVC: use to link the ZigBee device to corresponding ZigBee channel.
setting	FUN: use to link the ZigBee device to corresponding ZigBee function.
	EDIT: use to change ZigBee device name.
	DEL: use to delete the linking information of ZigBee device.
	Note: If the device is already linked, the DVC button is not operable. If
	the device is not linked, FUN/DEL buttons are not operable.



8.3.ZigBee function list

īuya Zig	bee Ga	iteway N	/lana	ageme	nt Sys	tem	
Gateway information	Overview						
ZigBee device list	Device	MAC	Fun.ID	Data mode	Status value	Device type	Linking
ZigBee function list	Test dimmer	a4c138bcb6d35329	1	Status/Control	0	Switch/Dimming	Switch
	Test dimmer	a4c138bcb6d35329	3	Status/Control	0	Switch/Dimming	Brightness
	RGBCW device	a4c13800daa4ca19	1	Status/Control	1		Switch
	RGBCW device	a4c13800daa4ca19	3	Status/Control	728		Brightness
	RGBCW device	a4c13800daa4ca19	4	Status/Control	31		Color Temp.
	RGBCW device	a4c13800daa4ca19	5	Status/Control	009103e802d8		RGB color
		943469fffedbd518	1	Status	0	Switch3	Switch3
		943469fffedbd518	24	Status/Control	0	Switch3	Switch1
		943469fffedbd518	25	Status/Control	0	Switch3	Switch2
	Showing 1 to 9 of 9	entries				First Previous	1 Next Last

Click "ZigBee function list", you can view the information of ZigBee functions that are already linked. The detail operation you can refer to chapter 8.4.

Device	Display device name, you can change it in "Operation setting" of "ZigBee
	device list".
MAC	Display MAC address of the device.
Fun.ID	Display the function ID number that is linked.
Data mode	Display the data transmission mode of the device. There are 3 modes:
	Status: ZigBee device only uploads the current status value to the
	management system or KNX;
	Control: ZigBee device only receives the control command from other
	terminals (such as APP and KNX).
	Status/Control: ZigBee device not only can upload the current status
	value, but also can receive the control command.
Status value	Display the status value fed back from ZigBee device to KNX bus.
	Note: data with decimal point is displayed as an integer, for example, the
	value is 26.7, and the system displays 267; The value is 77%, and the
	system displays 766.
Device type	Display the ZigBee device type, according to the linked channel and
	function.
Linking	Display the linked ZigBee function, you can change it in "Operation
	setting" of "ZigBee device list".



8.4. Linking the ZigBee device

Operation of linking the ZigBee device is as follow:

(1)Firstly, configure ZigBee channel in ETS, including name, MAC address, device type and etc.. Then download to the gateway, add the gateway and sub devices to Tuya Smart APP according to chapter 7.1. Enter the gateway IP address in the browser into Tuya Zigbee Gateway Management System, it displays ZigBee devices that are linked/to be linked, as shown as follow:

/irtual ID	Name	MAC	Status	KNX Name	ZigBee Channel	Operation setting
1	Test dimmer	a4c138bcb6d35329	offline	dimmer	1	DVC FUN EDIT DEL
2	RGBCW device	a4c13800daa4ca19	online	rgbw	2	DVC FUN EDIT DEL
3		943469fffedbd518	offline	ZigBee4	4	DVC FUN EDIT DEL

(2)Link KNX function. View the MAC address on the APP firstly, each ZigBee device has corresponding unique MAC address. Click the DVC button in "ZigBee device list" page, pop-up the setting page, then click on the "Function selection" drop-down box, select the corresponding function to link, and then display the KNX name, which is configured in ETS and can not change. "ZigBee Device Name" is customized by the user. Click "Submit" after completion.

Please select KNX function	×	Please select KNX function	×
MAC:		MAC:	
943469fffedbd518		943469fffedbd518	
KNX Name:		KNX Name:	
Function selection	~	ZigBee6	~
Function selection	_	ZigBee Device Name:	
dimmer		Some Name	
rgbw			
ZigBee3			
ZigBee4			Cuberth
ZigBee5			Submit

(3)After completing the last step, auto return to "ZigBee device list" page, when the column of the "ZigBee Channel" has number displayed, the device is linked to the ZigBee channel. At this time, the DVC button can no longer be operated.

3 943469fffedbd518	offline	DVC	FUN	EDIT	DEL	
--------------------	---------	-----	-----	------	-----	--



Note:

The same ZigBee channel can not be linked to multiple ZigBee devices, or it will pop-up the prompt to change channel.

If preset MAC address in ETS, as shown as follow, the gateway will assign the channel linking automatically to the ZigBee device with this MAC address. There is no need to do steps (2) and (3) on the system and DVC button is not operable at this time, it only need to operate step (4) to link the ZigBee function.

1.2.31 KNX Gateway Tuya-ZigBee > Zigbee Channel > Channel 6							
+	General	Description (max 24char.)	Some Device				
+	KNX Channel	Preset Mac address of zigbee device	943469fffedbd518				
-	Zigbee Channel	8 hexadecimal data format, which can get from the property of ZigBee device on App					
	Zigbee Channel setting	Device type	Switch				
	dimmer	Number of output	2				
	rgbw						
	Channel 3						
	Channel 4						
	Channel 5						
	Some Device						

MAC address can be obtained from Device information in Tuya Smart APP. View the device MAC

2:16 PM	\$ A \$ 30)	2:17 PM	非回気団 nformation
SwitchDimming	\mathbf{Z} >	Virtual ID:6c677b817f84	Id1f32efoze Copy
Device Information	>	Mac:bc:33:ac:ff:fe:45:2	6:84
Tap-to-Run and Automation	×	Time Zone:Asia/Shangh	nai
Third-party Control			
<u>⊡</u> & ∅			
XIAODU Tencent DingDong Xiaowei			
Device Offline Notification Offline Notification			
Others			
Multi-Control Association	×		
Share Device	>		
Create Group	>		
FAQ & Feedback	>		
Add to Home Screen	>		
Device Update No update:	s available >		
Remove Device			

If not preset MAC address, system displays the ZigBee devices scanned by the gateway , follow the steps to link the ZigBee channel and function.

(4)Link the ZigBee function. When the device is linked the ZigBee channel, click the FUN button in the "ZigBee device list" page, pop-up the setting page, setting as follow:

address as follow:



ZigBee function list

Fun.ID	Туре	Data mode	Status value	Linking	Operation setting
1	enum	Status	0		Function selection 🗸
2	enum	Status	0		Function selection \checkmark
17	bool	Status/Control	0		Function selection 🗸
18	enum	Status/Control	0		Function selection 🗸
19	enum	Status/Control	0		Function selection 🗸
24	bool	Status/Control	0		Function selection \checkmark
25	bool	Status/Control	0		Function selection \checkmark
30	value	Status/Control	0		Function selection \checkmark
31	value	Status/Control	0		Function selection 🗸
37	enum	Status/Control	0		Function selection 🗸

Fun.ID Display the ZigBee function number.

Type Display the function type (bool, value, enumeration, character and etc.). Display Data mode the data mode of the function , there are 3 modes: Status; Control; Status/ Control.

Status value Display status value of the conrresponding function.

Note: data with decimal point is displayed as an integer, for example, the value is 77%, and the system displays 766.

Linking Display the linked ZigBee function.

Operation Setting Operate ZigBee device function on the APP, if the status value in the setting page changes and is similar to the status information on the APP (If there are no changes, please refresh the system), then click on the "Function selection" drop-down box, select the corresponding function to link.

> e.g: The dimming device with the MAC address bc33acfffe452684 is linked to the ZigBee channel on the system, then operate the device on the APP, Function ID1=1 and ID2=766 is corresponding to dimmer ON and brightness value 77% on the APP, as shown as above figure. Click the "Function selection" drop-down box according to the status value and select the corresponding function to link.

ZigBee function linking for other devices can be analogized.

(5)After completing the function linking, display the configured ZigBee device on the "ZigBee function list" page.



Device	MAC	Fun.ID	Data mode	Status value	Device type	Linking
lest dimmer	a4c138bcb6d35329	1	Status/Control	0	Switch/Dimming	Switch
Test dimmer	a4c138bcb6d35329	3	Status/Control	0	Switch/Dimming	Brightness
RGBCW device	a4c13800daa4ca19	1	Status/Control	1		Switch
RGBCW device	a4c13800daa4ca19	3	Status/Control	724		Brightness
RGBCW device	a4c13800daa4ca19	4	Status/Control	31		Color Temp.
RGBCW device	a4c13800daa4ca19	5	Status/Control	009103e802d4		RGB color

(6)After completing the above steps, you can control ZigBee devices via KNX or Tuya Smart APP, and also can upload the current status of the ZigBee device to the cloud or KNX.

(7)Edit the device name. Click EDIT button on the "ZigBee device list" page, pop-up the setting page, enter the custom name in "Device Name" input box, click "OK", then the device name can be replaced.

Name setting	,
	×
MAC:	
a4c138bcb6d35329	
Device Name:	
Test dimmer	
	ОК

(8)Remove the device linking. Click DEL button on the "ZigBee device list" page, pop-up the page to select whether to delete, click "OK", then clean the linking information of the ZigBee device. As shown as follow.



Note: After deletion, the item will be automatically arranged at the last of the list, and the FUN / DEL button are inoperable at this time.



Chapter 9. OTA for KNX Gateway for Tuya ZigBee

KNX Gateway for Tuya ZigBee upgrades new firmware remotely (OTA) via Tuya Smart APP.

Operation as follow:

(1)Enter the gateway home page, if there is a new device firmware released, the page will pop up the update reminder. If the new firmware is released but you do not receive the update, please contact Arlight technical support.



(2)Click "Update Now" to enter the Device Update page, which notes the Main Module New Version and the update content. Then click "Update", pup up the update reminder, please ensure that the power supply for gateway is normal during updating, and it will be unavailable during the update, then click "Start update".





User can set the gateway to update automatically. But some key device features still need to be confirmed to update.

(4) After entering the update status, the page is shown in the figure below, please do not do anything at this time. Wait about 1 minute, the APP prompt update success.

14:21	🧱 🖸 😤 🏭 📶 🗩 72
<	Device Update
Updati	ng to:V01.00.19
	se keep the power of the device connected
	he upgrade process.
	device will not be used during the upgrade , please be patient.
Updatin	g
-	
Main M	odule New Version:
Optimiz	e upgrade process
Autom	atic Updates
	9
	ice will be automatically updated. But some key
device f	eatures still need to be confirmed to update.

(5) Check the device update. Click the icon in the gateway home page to enter management page, click "Device Update", if upgraded, it will show "No updates available" and Main Module version; if there is a new update, you can follow these steps above to update.



14:22	ᇔ ତ 후 訓 制 🗩 72	14:22 삶 전 속 채 채 (폐 72 < Device Update
KNXGateway	\underline{Z}	
Device Information	>	
Device Review	>	No updates available
Device Offline Notification		Main Module: V01.00.19 ZigBee Module: V1.0.9
Offline Notification		
Others		
Share Device	>	Automatic Updates
Create Group	>	The device will be automatically updated. But some key device features still need to be confirmed to update.
FAQ & Feedback	>	
Add to home screen	>	
Check Device Network	Check Now >	
Device Update	No updates available >	
Replace a damaged gatewa	y >	