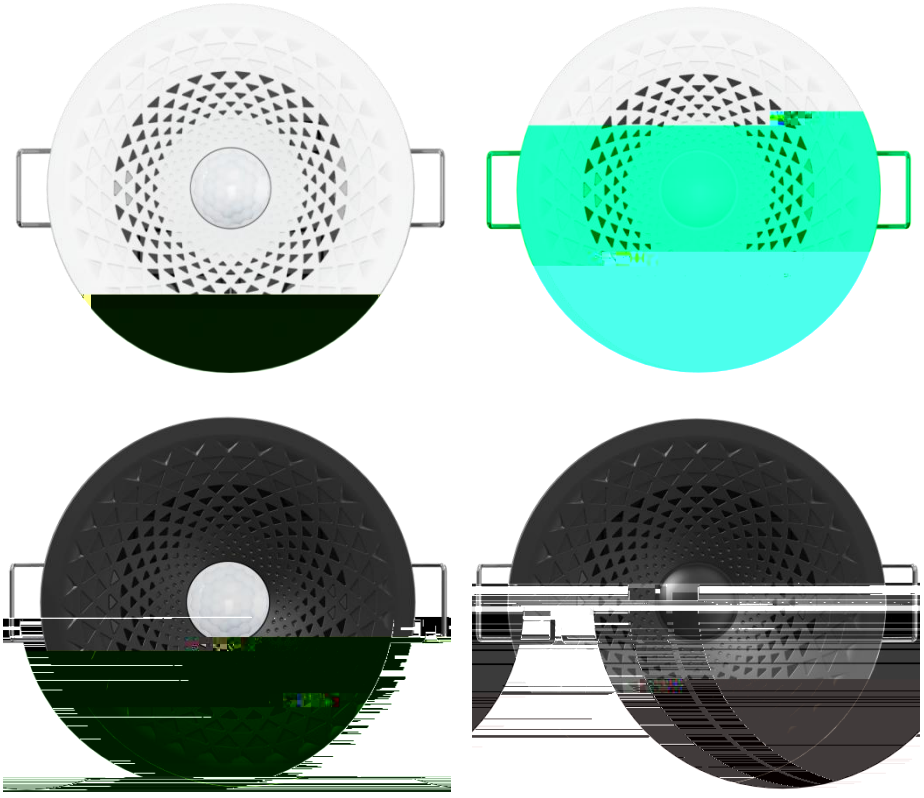
K-BUS



注意事项

布或具挥发性的试剂擦拭设备；

3、不要使用湿

拆卸本设备；

4、请勿自行

---------- 117
---------- 124

---------- 127
---------- 130

KNX KNX

k

! ! PM2.5 ! PM10 ! CO2 ! TVOC !

! k

! ! /

k

k

CO2 ! ! ! ! !

k

k

KNX 12-30V DC k

.knxprod ETS

ETS5.7 k

- ! ! PM2.5 ! PM10 ! CO2 ! TVOC ! ! !

  AQI

- !

  ! PM2.5 ! PM10 ! TVOC ! !

AQI

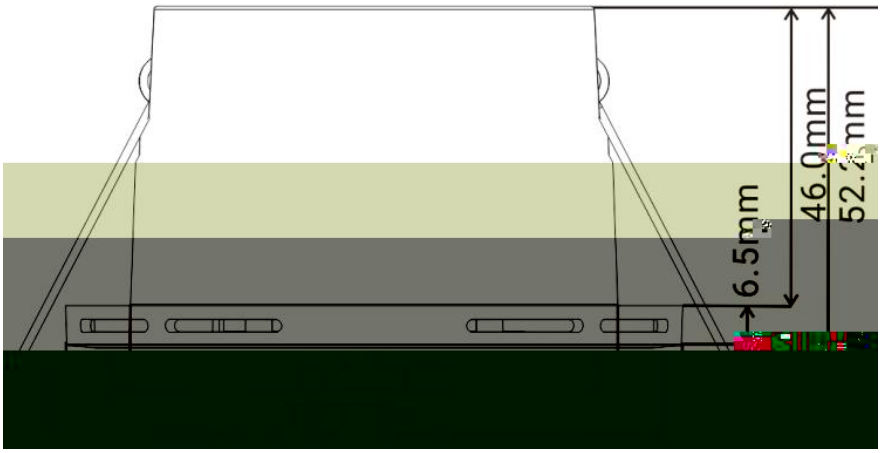
- AQI ¦ CO2 ¦ ¦ PM2.5 ¦ PM10 ¦ TVOC ¦
- k 4
- HVAC 2 PI
- 2 4
- / /CO2 3 / /CO2
- KNX

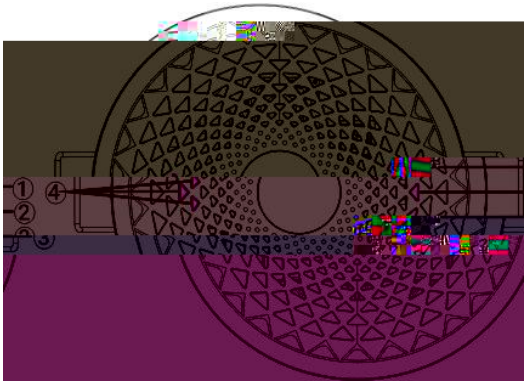
! ! ! ! ! !

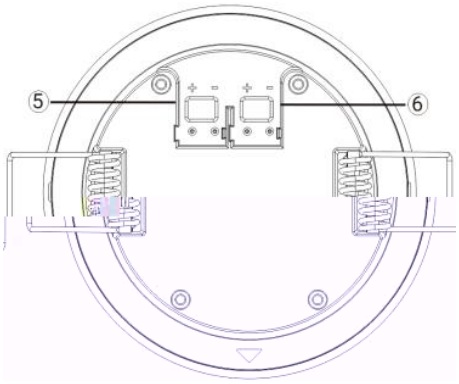
! !

CSMS-04/00.1.00	Temp./RH/PM2.5/PM10
CSMS-05/00.1.00	Temp./RH/CO2/PM2.5/PM10
CSMS-06/00.1.00	Temp./RH/CO2/PM2.5/PM10/TVOC
CSMS-09/00.1.00	Temp./RH/CO2/PM2.5/PM10/TVOC/Formaldehyde/Brightness/Motion

	21-30V DC, KNX
	<4mA/24V <4mA/30V <100mW
	12-30V DC
	<16mA/24V DC <12mA/30V DC <0.5W
KNX	/ 0.8 mm
	/
LED	
	–10°C~ + 45 °C
	0~100%
! !	0-1000μg/m³
	50%(φ=0.3um), 98%(φ≥0.5 um) ≤1s
	400~2000ppm
	0~65000ppb
	0~5 ppm
	0~10000 Lux
	– 5 °C ... 45 °C
	– 25 °C ... 55 °C – 25 °C ... 70 °C
	<93%
!	
CSMSA-00/0.1.0x	
2.5~6m	
ť 95*95*52.2mm	
0.2kg	

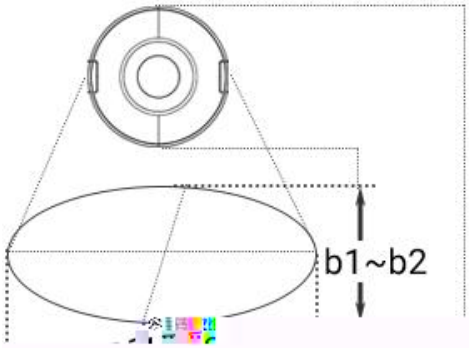


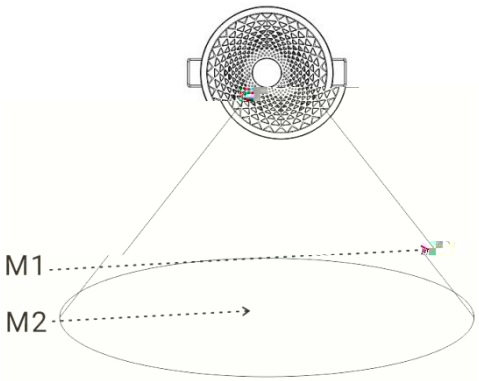




LED

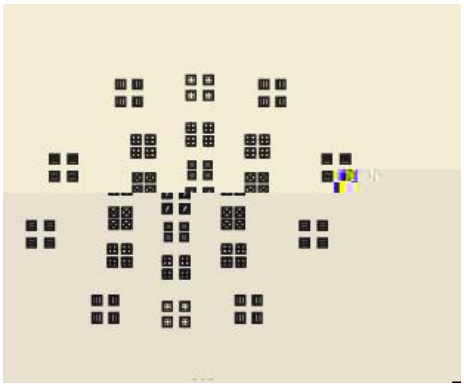
KNX ३





3.3.2(1)

1m/s (H) (



3.3.2(2)

k

k

k

! ! ! k

k

!

k

! ! PM2.5 ! PM10 ! CO2 ! TVOC ! k

k k

k

k

k

4 k

2 ! k

/ k

3 (A/B/C

D/E/F) 3 k / k

2

k

k

/ k

! +

1~3 k

/ k

k k

! +

1~3 k

/ k

3 !

! k / k

2 / / k 4 k /

/

k

= Ô

® k

® 0%

0 k - -

k

k !

k k

AQI ! CO2 ! ! PM2.5 ! PM10 ! TVOC ! k

! ! !

/ k 1~3 k

4 AQI ! PM2.5 6 k 1bit ! 1byte !

! 3byte(RGB) k

1byte

3byte(RGB) k

k

CO2 ! k CO2 PI

3 1byte k

! ! +

k

k

k CO2

k k

k

/ 4 !

! k

/ k

k PI k

PM2.5 ! CO2 ! TVOC 3 k 1bit/1byte k

8 8 1 k

! ! ! ! ! ! ! k

8 5 k 8

k

KNX/EIB

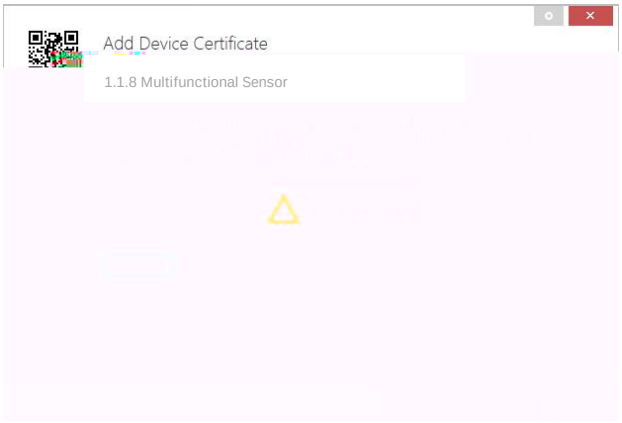
k

❖ KNX k FDSK =

ETS

✧ ETS 5.1 (2) k

QR k

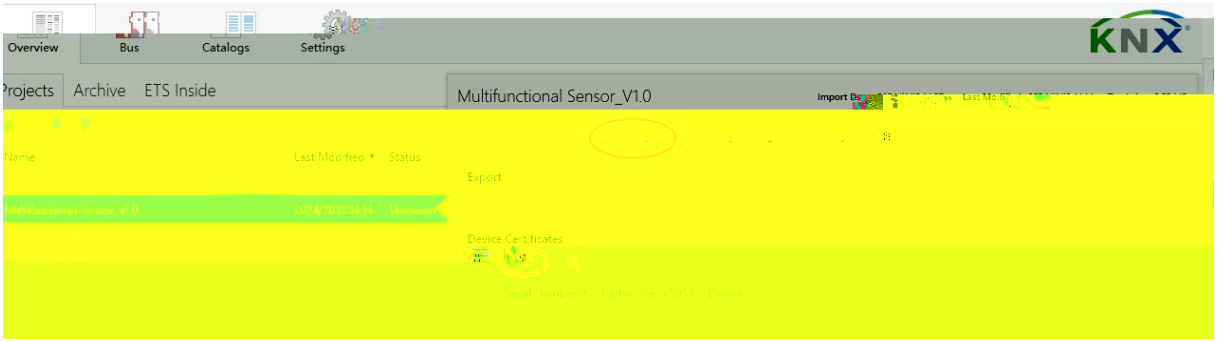


5.1(2) Add Device Certificate

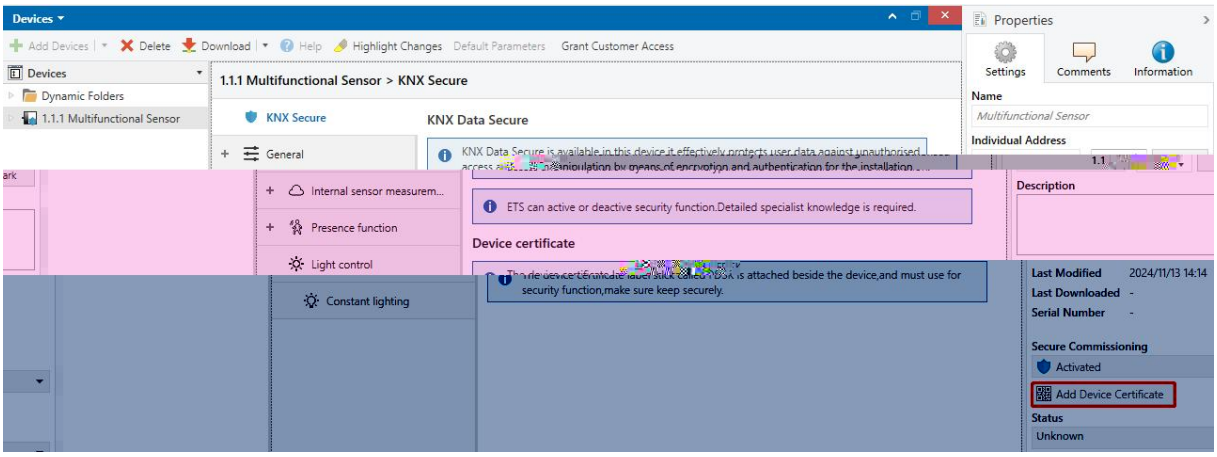
✧ ETS k

“Security” 5.1(3) k

“Add Device Certificate” 5.1(4) k



5.1(3) Add Device Certificate



5.1(4) Add Device Certificate

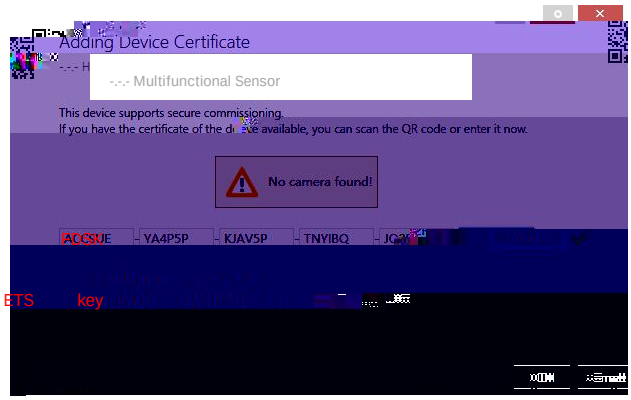
✧ FDSK k

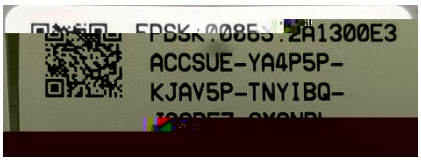
k

FDSK FDSK ETS 5.1(5) k

ETS

FDSK k



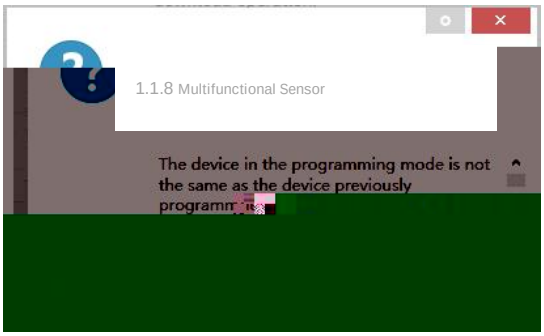


5.1(5)

k

5.1(6) “Yes” “Add Device Certificate” FDSK

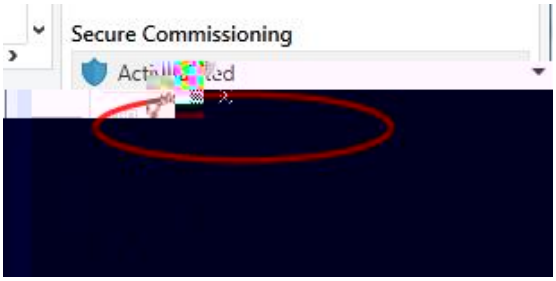
5.1(6) k



5.1(6)

k

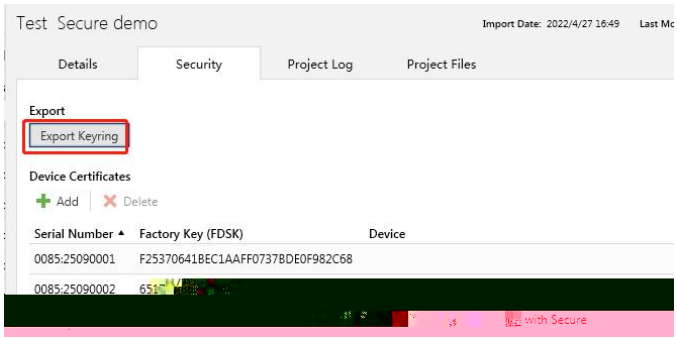
“Add Device Certificate” k



5.1(7)

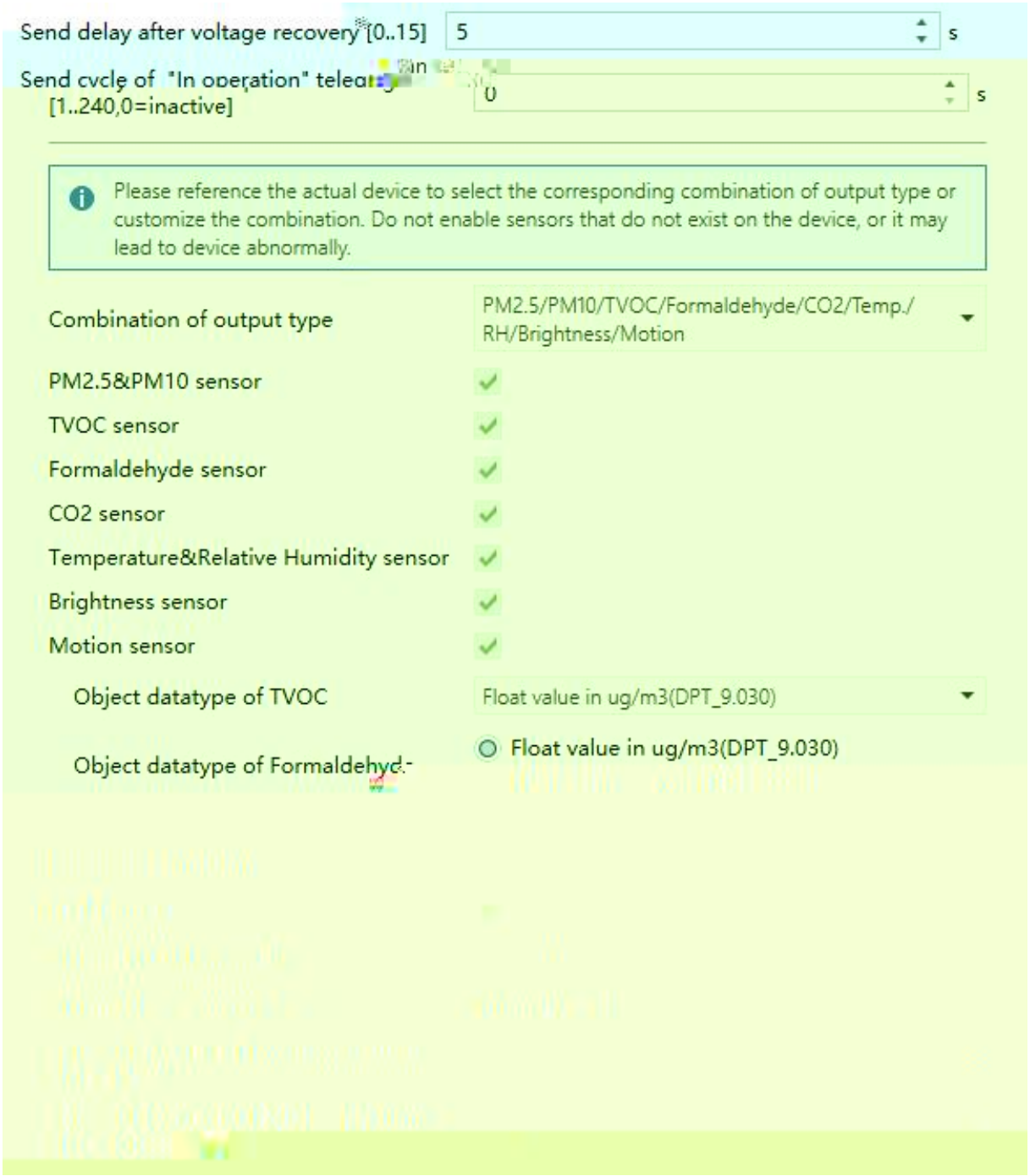
ETS

5.1(8) .knxkeys k



5.1(8)

k



5.2.1 “General setting”

k

k

k “0” “In

operation” k “0” “In operation” “1”

k

k

k

k

k

- -

- -

PM2.5&PM10 ! (TVOC) ! ! (CO2) !

& ! k 5.3.1-5.3.8.

(TVOC) k (TVOC) k

k k

k

k

k

k

k k

k k

k k

k k

k k

PM2.5 k PM10 PM10 k

PM10 k PM10 PM10 k

CO2 k CO2 CO2 k

TVOC k TVOC TVOC k

[

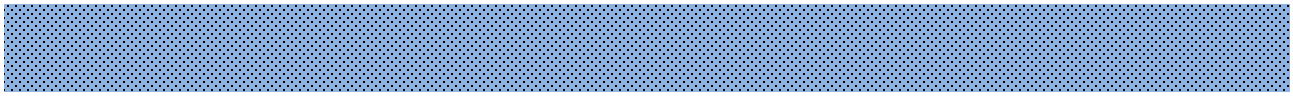
k k

[

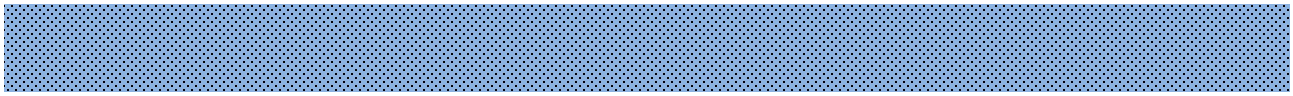
k k

Air Quality Level function	✓
Air Quality controller	✓
Room temperature controller	✓
Ventilation controller	✓
Logic function	✓
Scene group function	✓

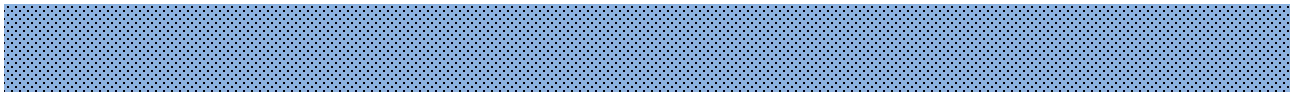
5.2.2 “Advanced function”



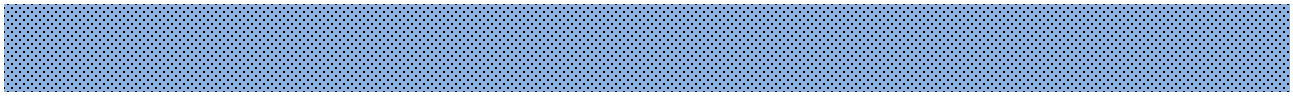
k 5.4 k



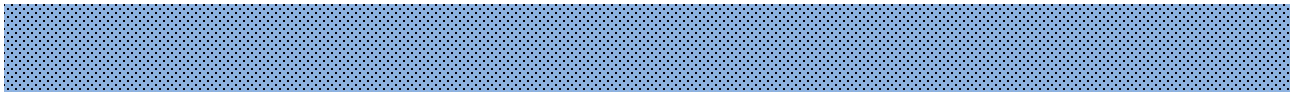
k 5.5 k



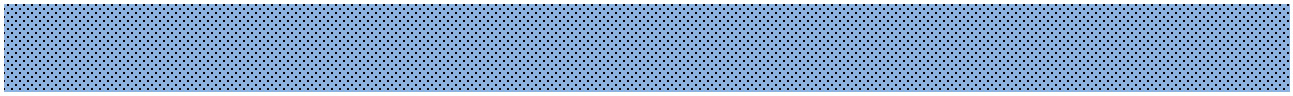
k 5.9 k



k 5.10 k



k 5.11 k

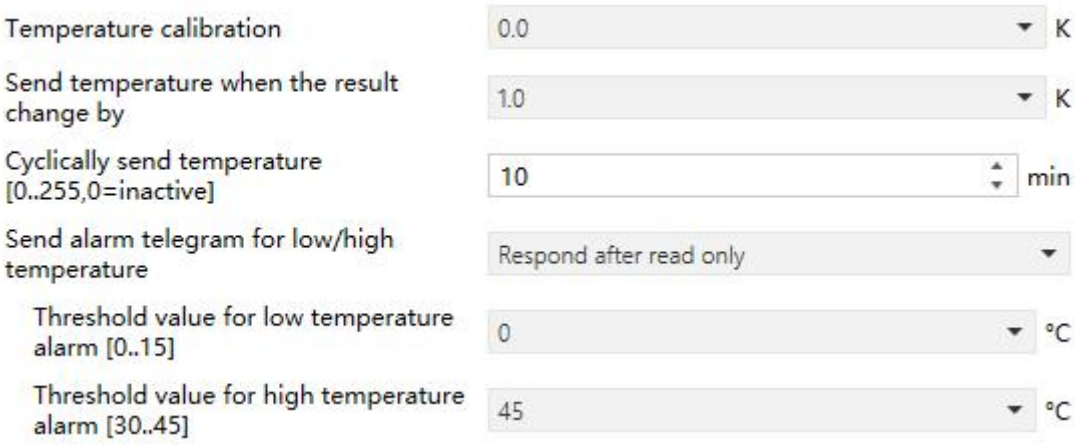


k 5.12 k

! ! ! ! ! !

k !

k



5.3.1 “Temperature sensor”

k

k

k Disable k

k 0 k

k

/ k

No respond .

Respond after read only

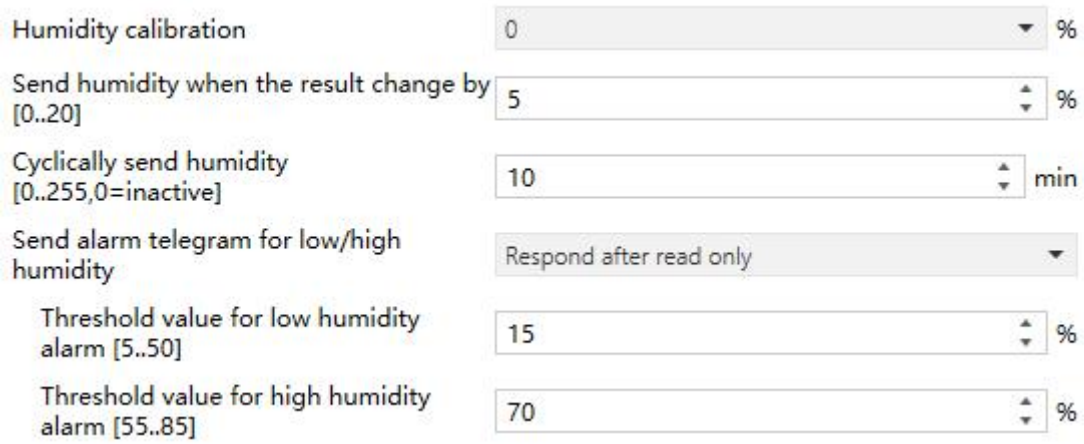
“ Low temperature alarm”/“ High temperature alarm” k

Respond after change “ Low temperature alarm”/“ High temperature alarm” k

“Respond after read only” “Respond after change” k

k k

k k



5.3.2 “Relative humidity sensor”

k

No respond k

Respond after read only

“ Low humidity alarm”/“ High humidity alarm” k

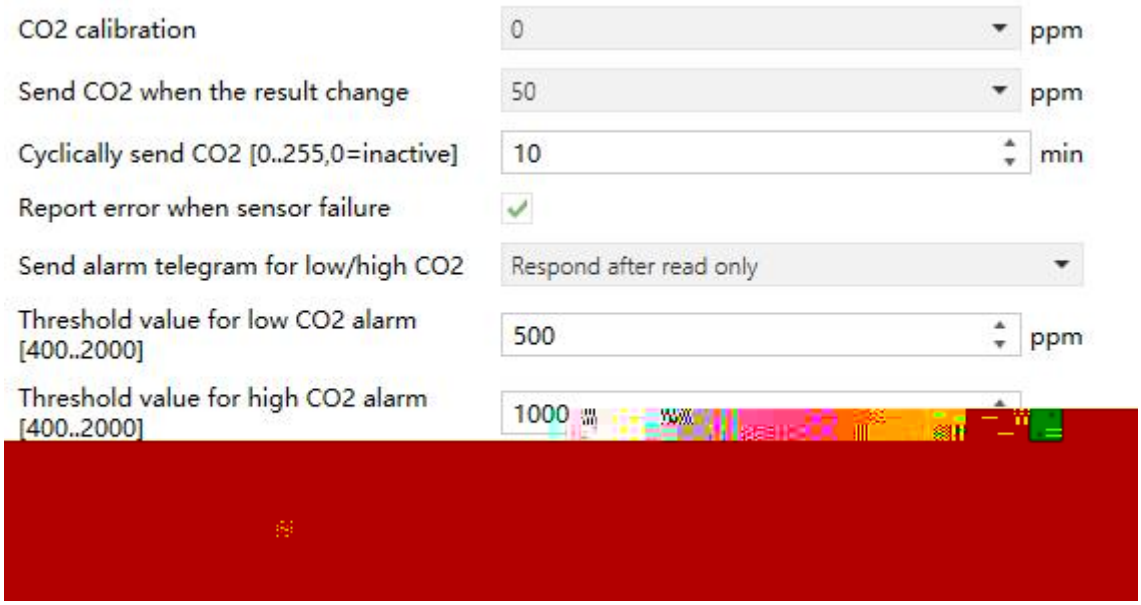
Respond after change “ Low humidity alarm”/“ High humidity alarm”

k

“Respond after read only” “Respond after change” k

k k

k k



5.3.3 “CO2 sensor”

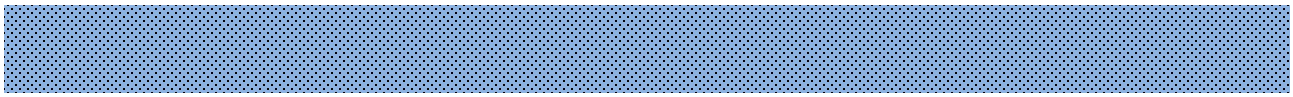
CO2 CO2

CO2 k

k

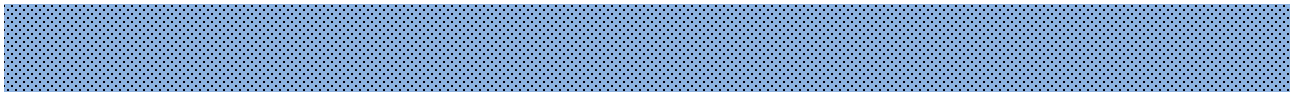
k

CO2 CO2 k Disable k

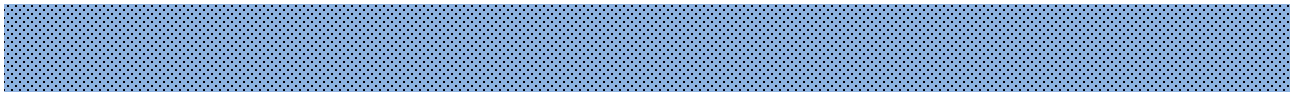


CO2 k 0 k

k



k k



/ CO2 k

No respond k

Respond after read only

“ Low CO2 alarm”/“ High CO2 alarm” k

Respond after change “ Low CO2 alarm”/“ High CO2 alarm”

k

“Respond after read only” “Respond after change” k

CO2 k k

CO2 k k

No respond k

Respond after read only

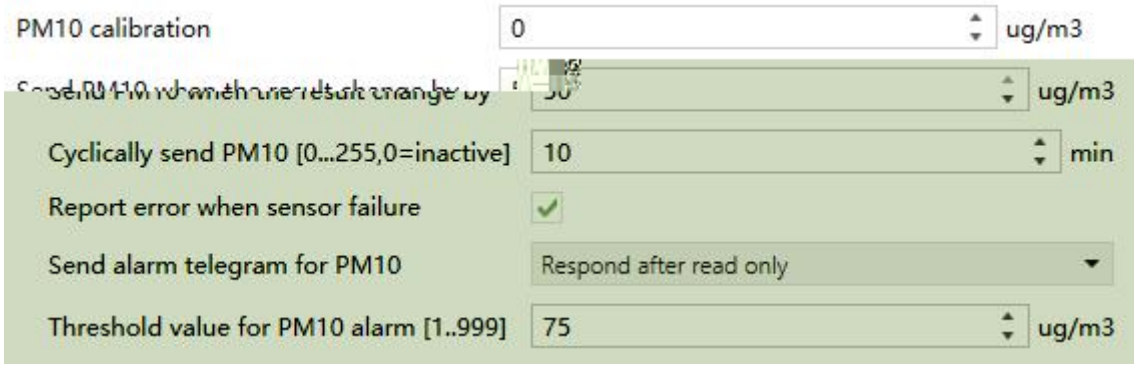
“ PM2.5 alarm” k

Respond after change “ PM2.5 alarm”

k

“Respond after read only” “Respond after change” k

PM2.5 k PM2.5 PM2.5 k



5.3.5 “PM10 sensor”

PM10 PM10

PM10 k

PM10 PM10 k 0 k

PM10 k 0 k

k

k k

PM10 k

No respond k

Respond after read only

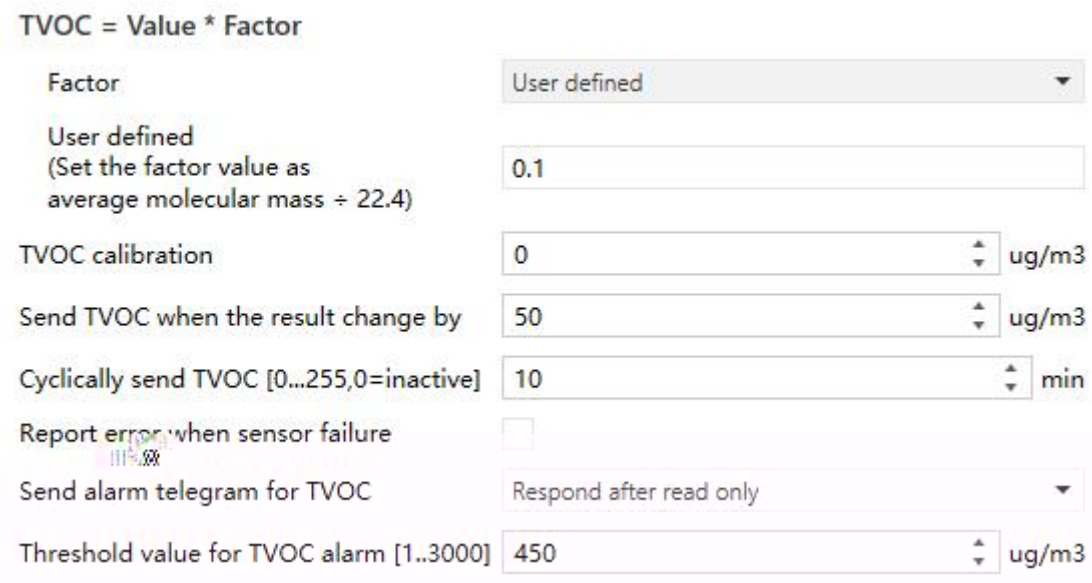
“ PM10 alarm” k

Respond after change “ PM10 alarm”

k

“Respond after read only” “Respond after change” k

PM10 k PM10 PM10 k



5.3.6 “TVOC sensor”

k

k

k

ppb TVOC µg/m°

“Object datatype of TVOC” “Float value in ug/m3(DPT_9.030)”

TVOC k

2.5(indoor) TVOC !

56g/mol

2.9(outdoor) TVOC ! 65g/mol

4.16(industrial) TVOC

93g/mol

User defined k

“User defined” TVOC k

ô k

TVOC TVOC

TVOC k

[

TVOC TVOC k 0 k

[

TVOC k 0 k

k

k k

TVOC k

No respond k

Respond after read only

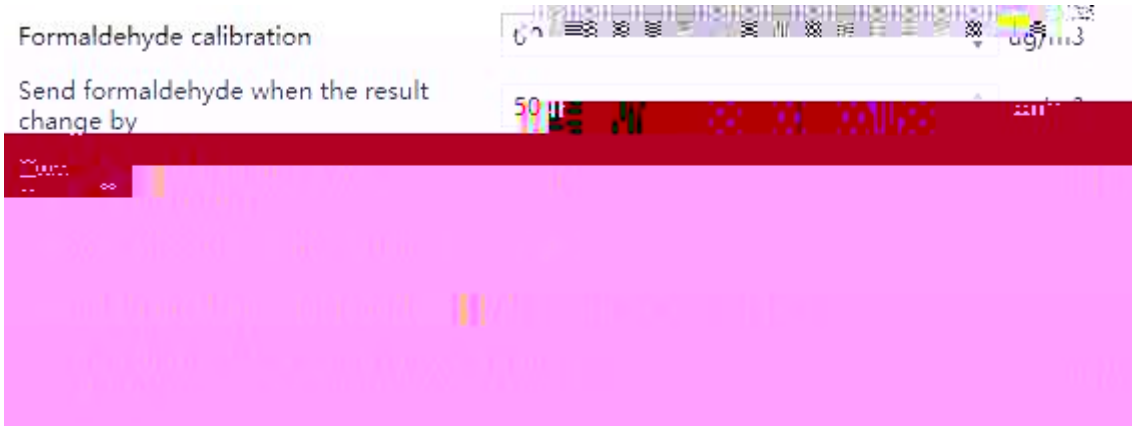
“ TVOC alarm” k

Respond after change “ TVOC alarm”

k

“Respond after read only” “Respond after change” k

TVOC k TVOC TVOC k



5.3.7 “Formaldehyde sensor”

k

k

k

k 0 k

[

k 0 k

k

k k

k

No respond k

Respond after read only

“ Formaldehyde alarm” k

Respond after change “ Formaldehyde alarm”

k

“Respond after read only” “Respond after change” k

k k

[

5.3.8 “Brightness sensor”

k

k Disable k

k 0 k

k

k

k “Brightness correction[-500...500]” k

k k -

- k

k

5.4.1 5.4.7 k

AQI AQI k Disable k

AQI 0 k

k

AQI k

No respond k

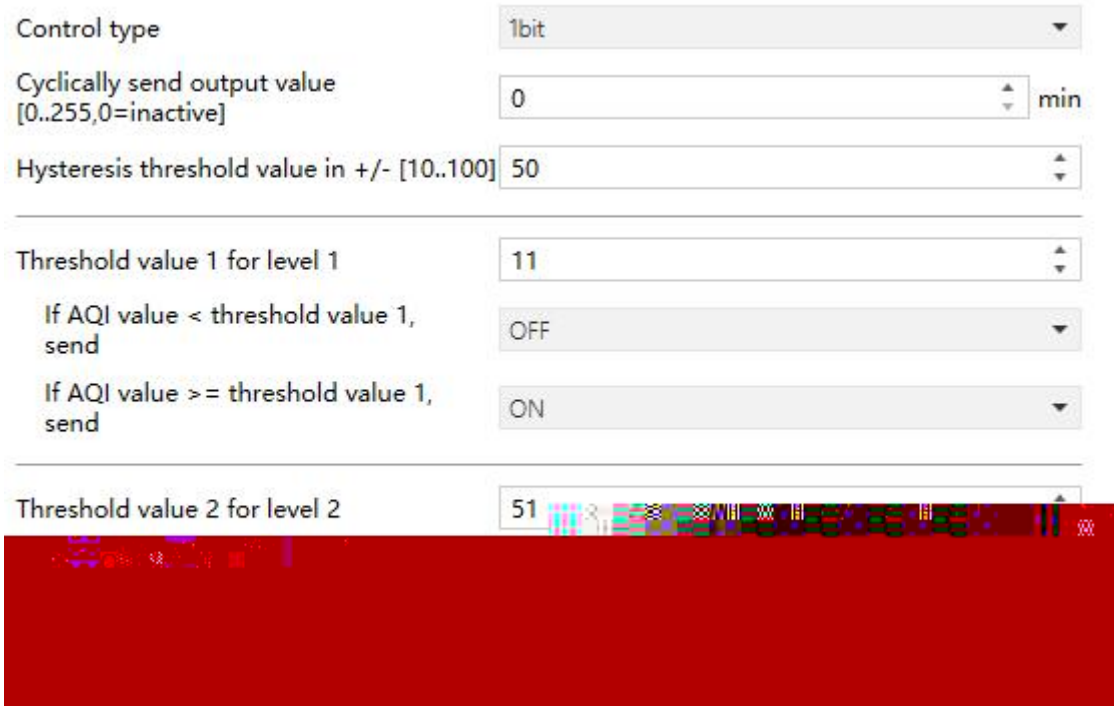
Respond after read only “AQI alarm” k

Respond after change “ AQI alarm” k

“Respond after read only” “Respond after change” k

AQI k AQI AQI k

AQI 5.4.1.1 k



5.4.1.1 “Output”

k

“1byte” k 1byte k

0 k

k

k

50 350 400 + 300

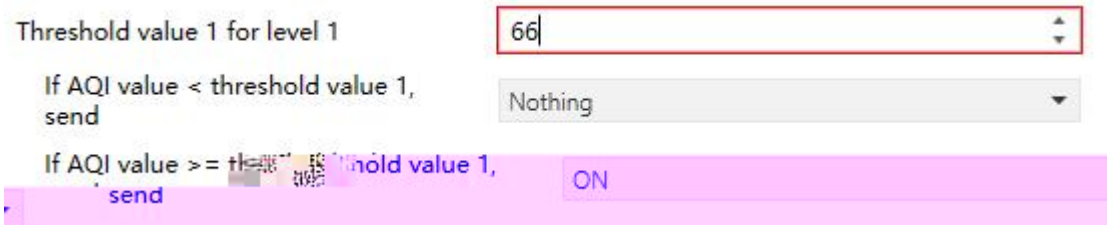
- AQI 300~400 k

300 ( )400 k

“Control type” “1byte” “3byte(RGB)” k k

k

x x AQI 6 1bit 6 k



AQI x k

AQI x k

1 AQI 1 2 1

1 k

2	AQI	2	3 k
3	AQI	3	4 k
4	AQI	4	5 k
5	AQI	5	6 k

k

Threshold value 1 (Level 1<->Level 2) 66

Threshold value 2 (Level 2<->Level 3) 51

Threshold value 3 (Level 3<->Level 4) 101

Threshold value 4 (Level 4<->Level 5) 151

Threshold value 5 (Level 5<->Level 6) 201

1~5

AQI k

- -

“Send value" k AQI k

- -

5.4.2 “CO2 Level”

CO2 5.4.2.1 k

CO2 k

CO2 ! ! !

/ k 3

k

k

2 2 k CO2 k

Average k

Weight average CO2 k

Minimum value k

Maximum value k

CO2 k

k

k k

k

2 2 k CO2 CO2

k Disable k

2 2 k CO2 k 0 k

k

5.4.2.1 “Output”

k

“Control type “1byte k 1byte k

k 0 k

k

k

50ppm 350ppm 400ppm +

300ppm - CO2 300~400ppm

k 300ppm ( )400ppm k

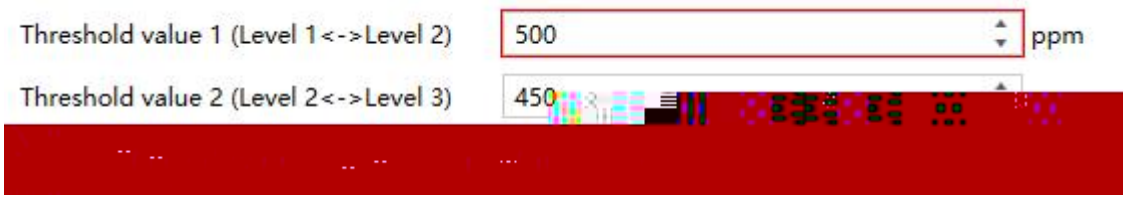
“Control type” “1byte” “3byte(RGB)” k k

k

k

x x CO2 4 1bit 4 k

k



CO2 x k

CO2 x k

k

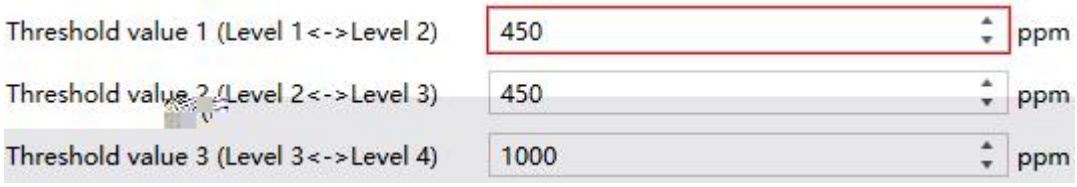
1 CO2 1 2 CO2

1 1 k

2 CO2 2 3 k

3 CO2 3 4 k

k



1~3

CO2 k

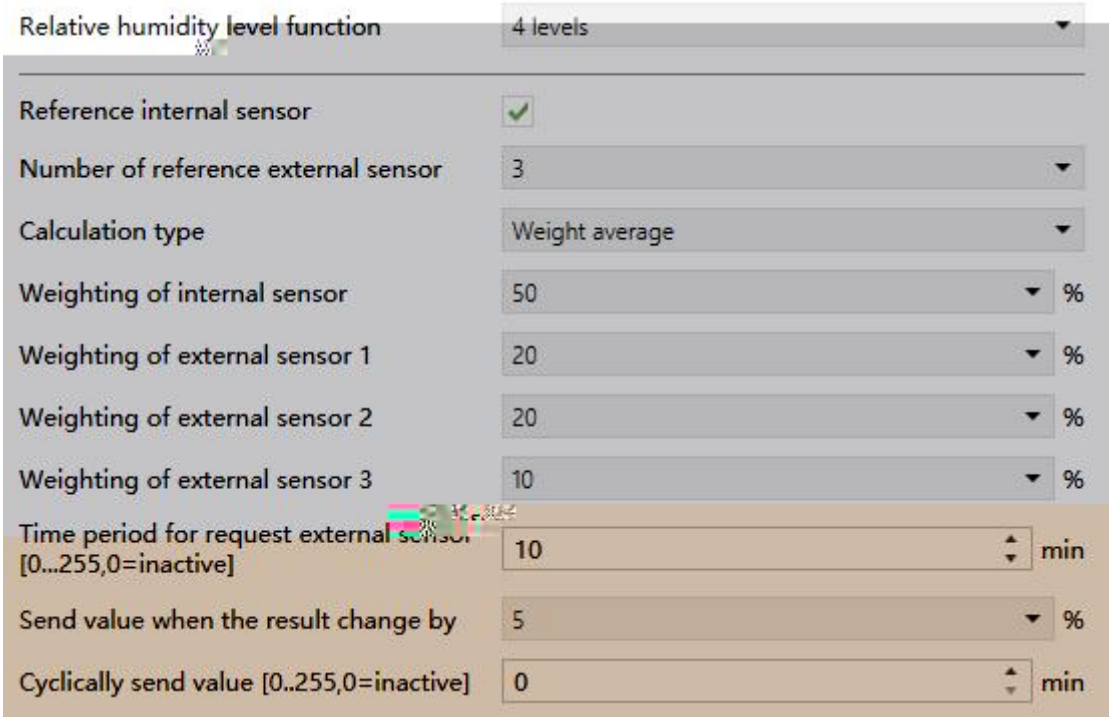
“Send value" k CO2 k

“Send additional alarm message" k CO2

14 k

k

“Send value” k k



5.4.3 “Relative humidity Level”

5.4.3.1 k

k

! ! !

/ k 3

k

k

2 2 k k

Average k

Weight average k

Minimum value k

Maximum value k

“Weight average” k k

k

k

k k

k

2 2 k

k Disable k

2 2 k k0 k

k

5.4.3.1 “Output”

k

“Control type” “1byte” k 1byte k

0 k

k

k

5% 20% 25% + 15%

- 15%~25% k

15% ( )25% k

“Control type” “1byte” “3byte(RGB)” k k

k

x x 4 1bit 4 k

k

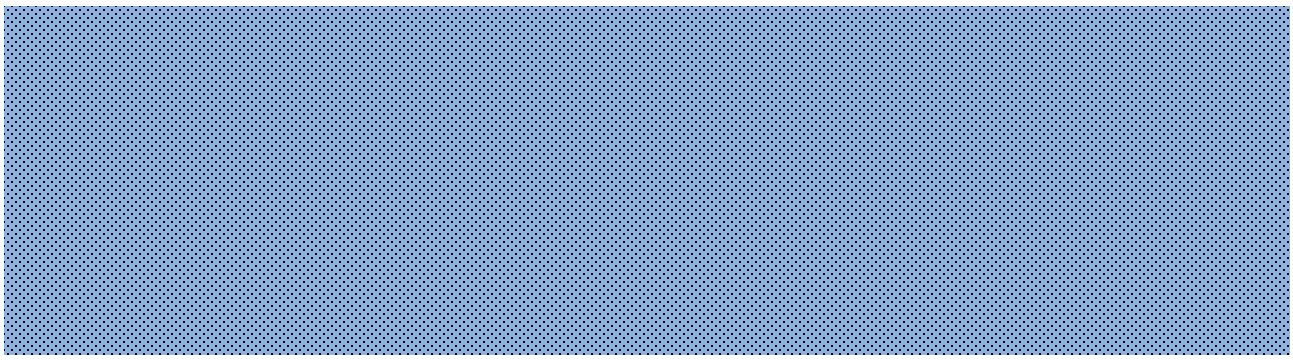
KNX/EIB

2 2 3 k

3 3 4 k

k

1~3

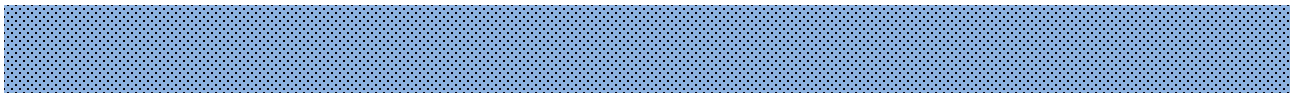


k

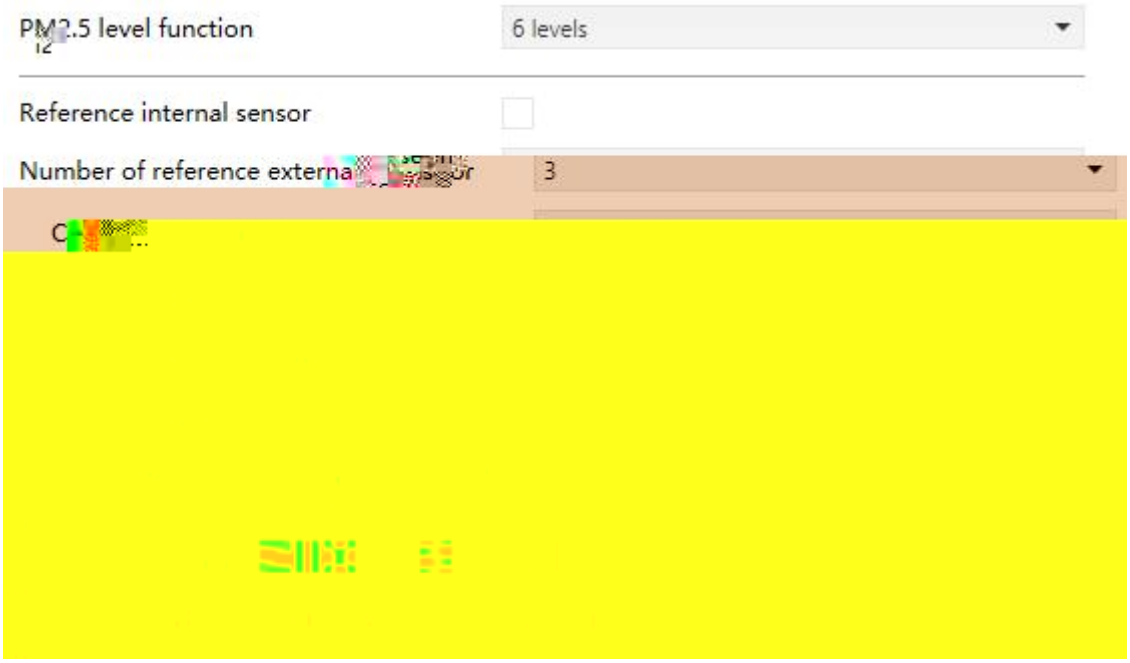
“Send value" k k

“Send additional alarm message"

14



”Send value”



5.4.4 “PM2.5 Level”

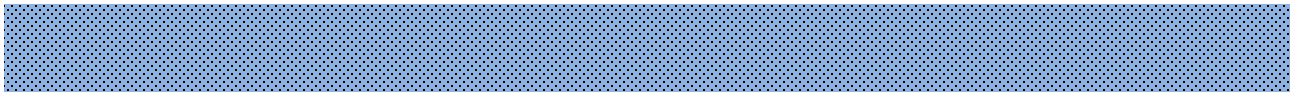
PM2.5 5.4.4.1 k

PM2.5 k

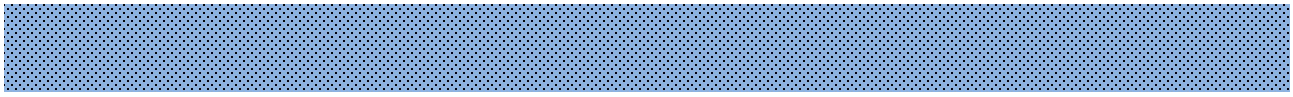
PM2.5 ! ! !

/ k

3 k



k



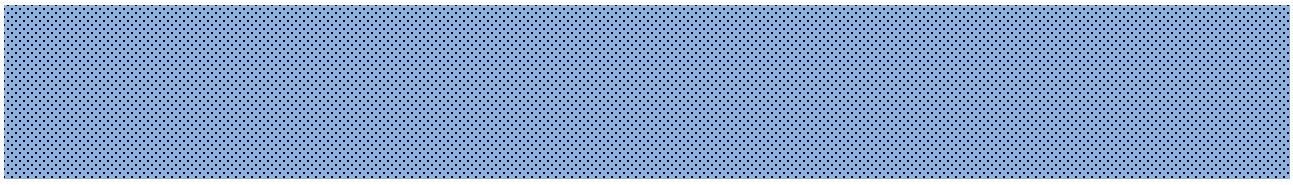
2 2 k PM2.5 k

Average k

Weight average PM2.5 k

Minimum value k

Maximum value k



”Weight average” k PM2.5

k

PM2.5 k

k

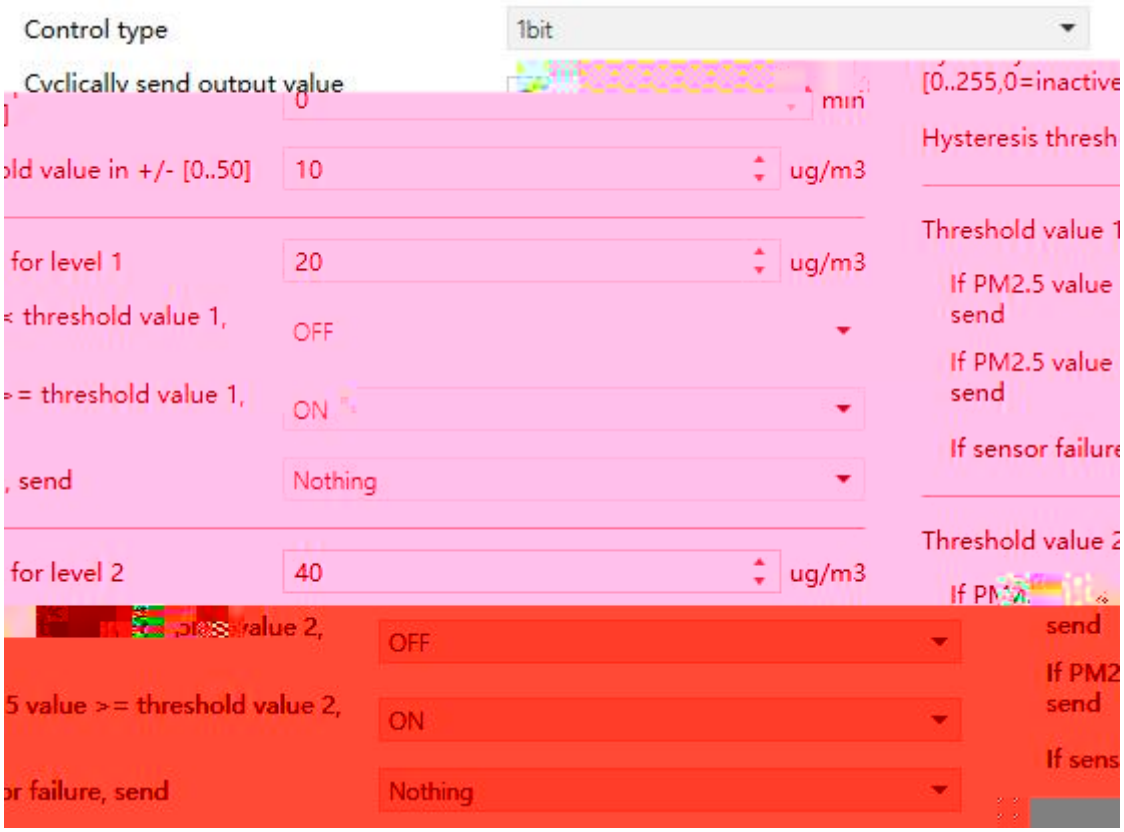
k k

k

□ □ □

□ 2 □ 2 k PM2.5 PM2.5

k Die ä / aj" □ □ □ □



5.4.4.1 “Output”

k

“1byte” k 1byte k

k 0 k

k

k

50ug/m3 350ug/m3 400ug/m3 +

300ug/m3 - PM2.5 300~400ug/m3

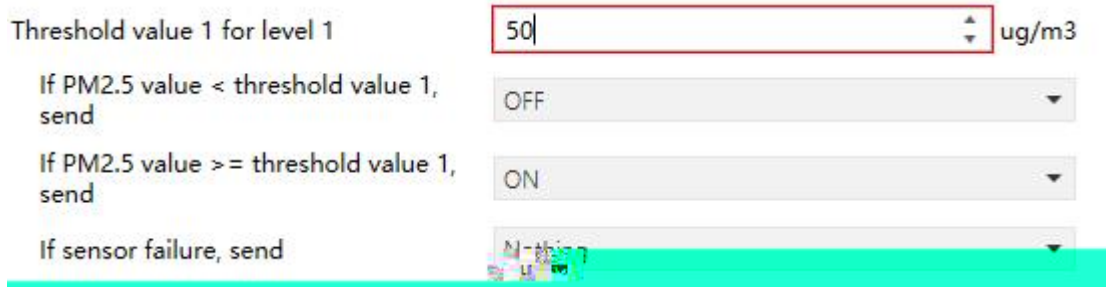
k 300ug/m3 ( )400ug/m3 k

“Control type” “1byte” “3byte(RGB)” k k

k

x x PM2.5 6 1bit 6 k

k



PM2.5 x k

PM2.5 / x k

k

1 PM2.5 1 2 PM2.5

1 1 k

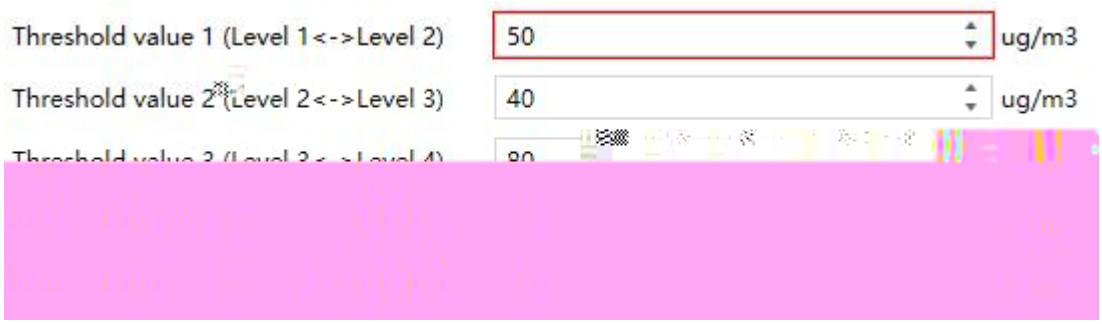
2 PM2.5 2 3 k

3 PM2.5 3 4 k

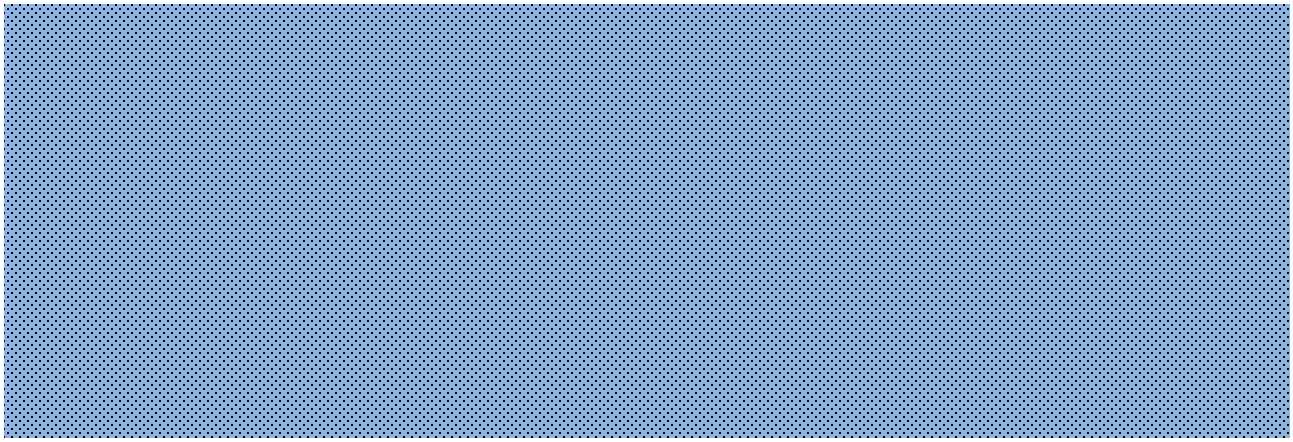
4 PM2.5 4 5 k

25 PM2.5 5 6 k

k



1~5



PM2.5 k

- -

“Send value" k PM2.5 k

- -

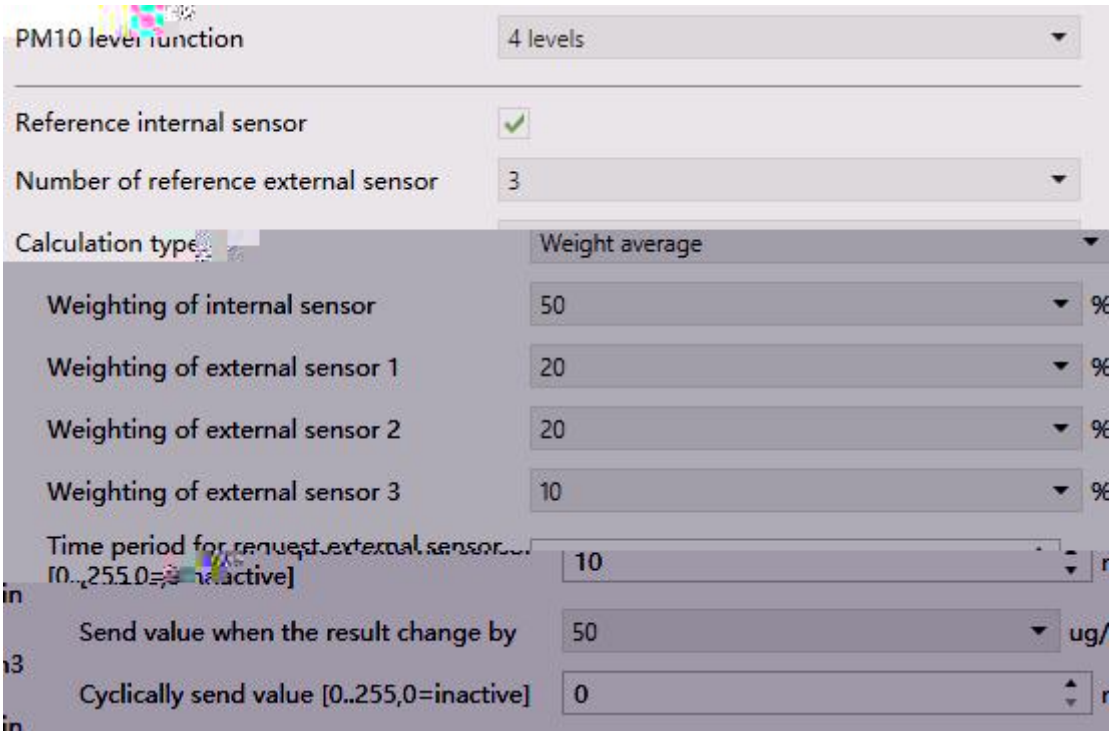
“Send additional alarm message" k PM2.5

14 k

k k

- -

“Send value" k k



5.4.5 “PM10 Level”

PM10 5.4.5.1 k

PM10 k

PM10 ! ! !

/ k

3 k

k

2 2 k PM10 k

Average k

Weight average PM10 k

Minimum value k

Maximum value k

“Weight average” k PM10 k

PM10 k

k

k k

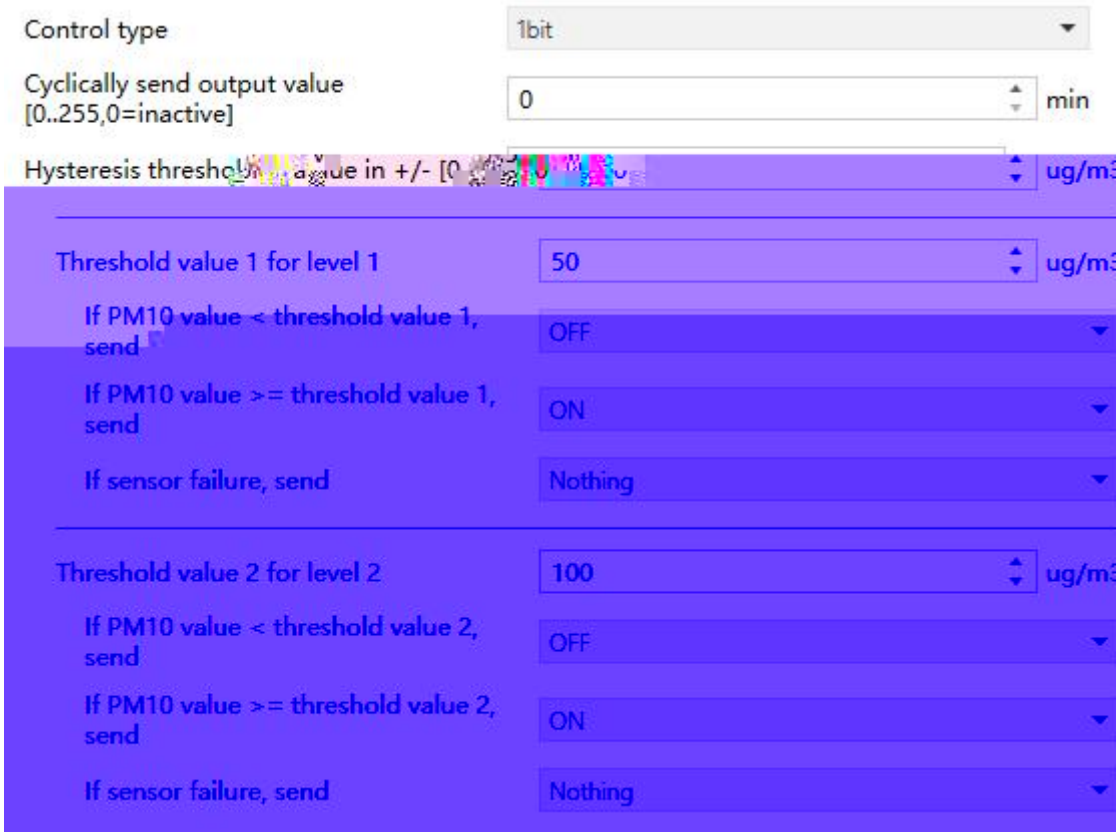
k

2 2 k PM10 PM10

k Disable k

2 2 k PM10 k 0 k

k



5.4.5.1 “Output”

k

“Control type “1byte k 1byte k

k 0 k

k

k

50ug/m3 350ug/m3 400ug/m3 +

300ug/m3 - PM10 300~400ug/m3

k 300ug/m3 ( )400ug/m3 k

“Control type” “1byte” “3byte(RGB)” k k

k

x x PM10 4 1bit 4 k

k

PM10 x k

PM10 / x k

k

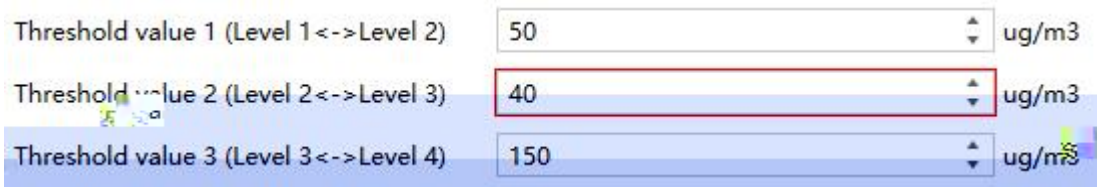
1 PM10 1 2 PM10

1 1 k

2 PM10 2 3 k

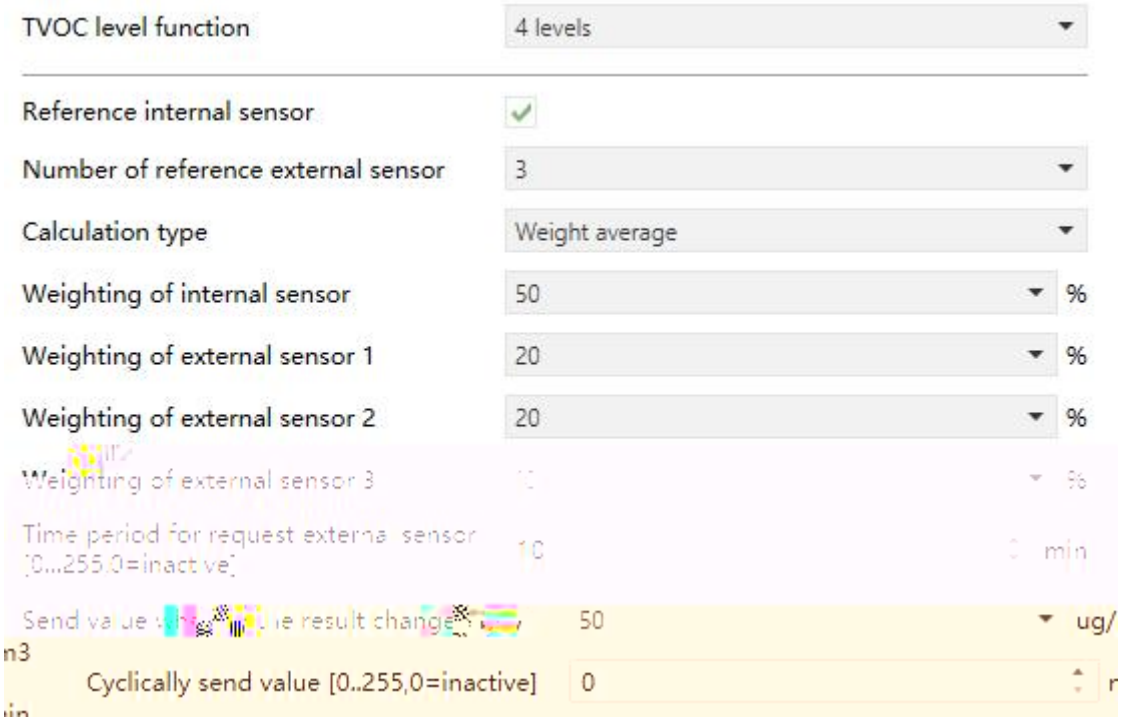
3 PM10 □ □ □ □ □ □ 3 □ □ 4 k

k



1~3

KNX/EIB



5.4.6 “TVOC Level”

TVOC 5.4.6.1 k

TVOC k

TVOC ! ! !

/ k

3 k

KNX/E

TVOC k

k

k k

k

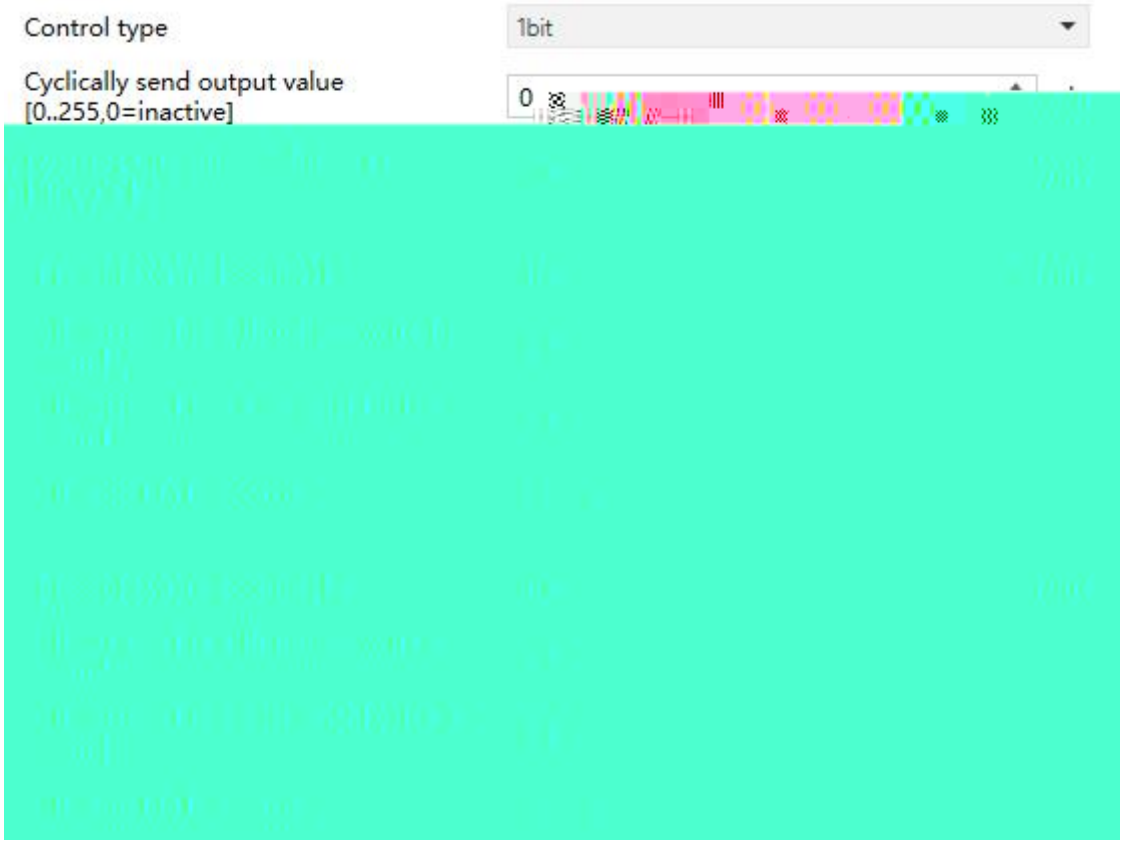
2 2 k TVOC TVOC

k Disable k

[

2 2 k TVOC k 0 k

k



5.4.6.1 “Output”

k

Control type 1byte k 1byte k

k 0 k

k

k

100ug/m3 350ug/m3 450ug/m3 +

250ug/m3 - TVOC 250~450ug/m3

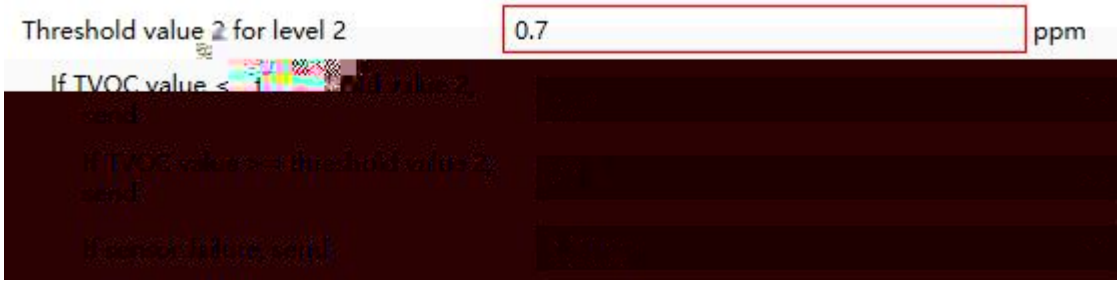
k 250ug/m3 ( )450ug/m3 k

“Control type” “1byte” “3byte(RGB)” k k

k

x x TVOC 4 1bit 4 k

k



-

TVOC x k

-

TVOC / x k

-

k

1 TVOC 1 2 TVOC

1 1 k

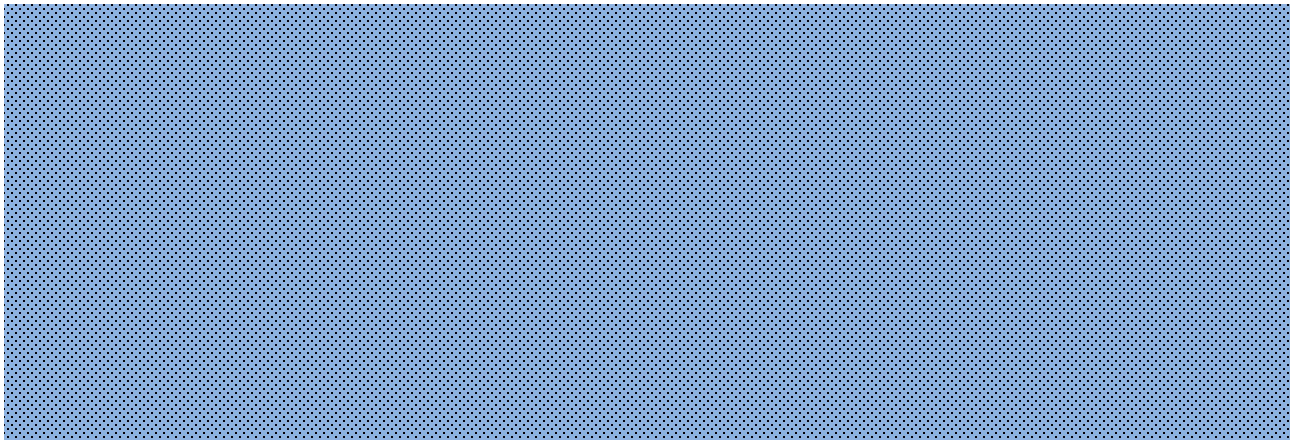
2 TVOC 2 3 k

3 TVOC 3 4 k

k

Threshold value 1 (Level 1<->Level 2)	0.5	ppm
Threshold value 2 (Level 2<->Level 3)	0.1	ppm
Threshold value 3 (Level 3<->Level 4)	0.5	ppm

1~3



TVOC k

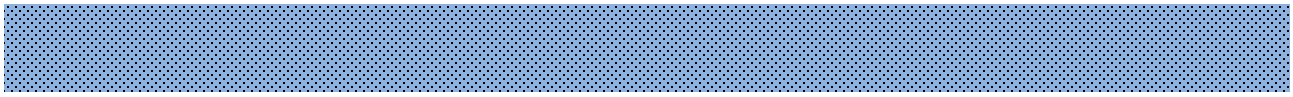
• •

“Send value" k TVOC k

• •

“Send additional alarm message" k TVOC

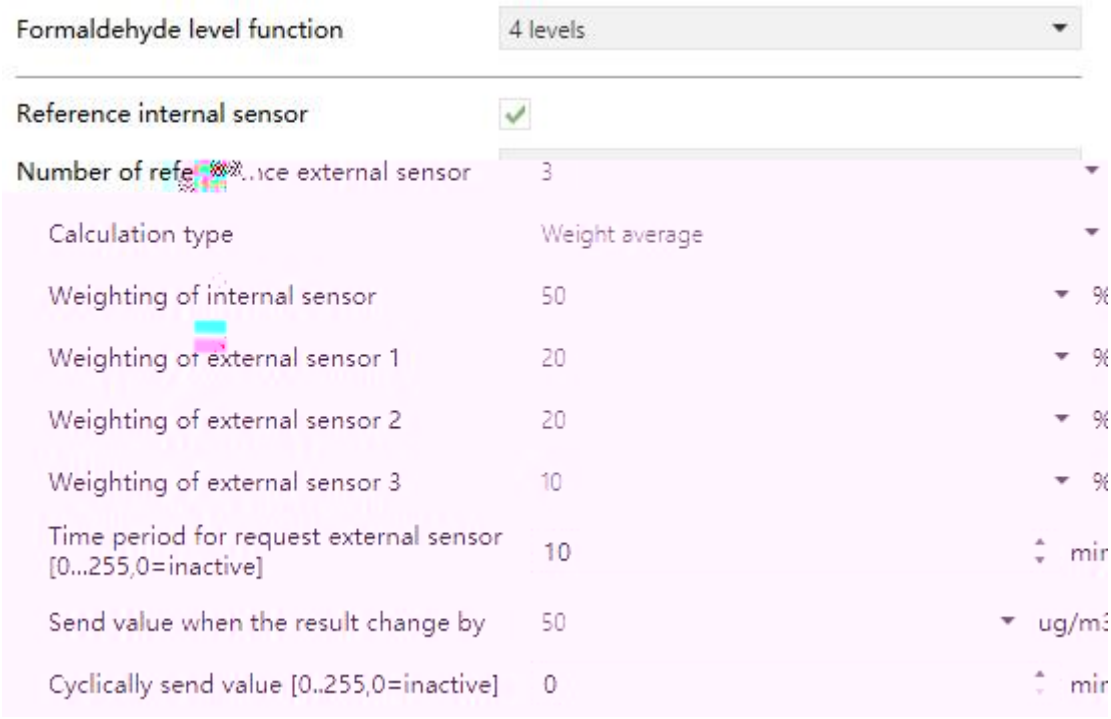
14 k



k k

• •

”Send value” k k



5.4.7 “Formaldehyde Level”

5.4.7.1 k

k

! ! !

/ k 3

k

k

2 2 k k

Average k

Weight average k

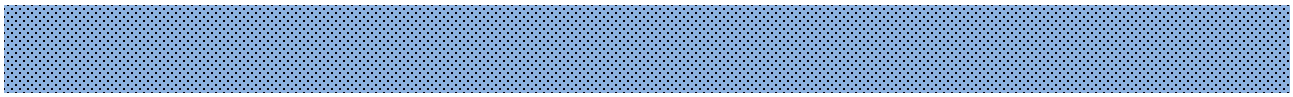
Minimum value k

Maximum value k

Weight average” k k

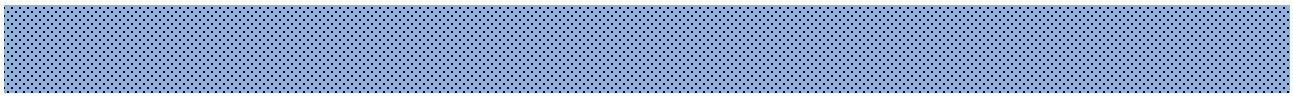
k

k



k k

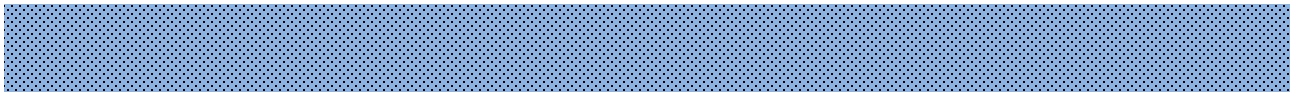
k



2 2 k

k Disable k

[



2 2 k k 0 k

k

5.4.7.1 “Output”

k

“Control type” “1byte” k 1byte k

k 0 k

k

k

[

50ug/m3 350ug/m3 400ug/m3 +

300ug/m3 - 300~400ug/m3

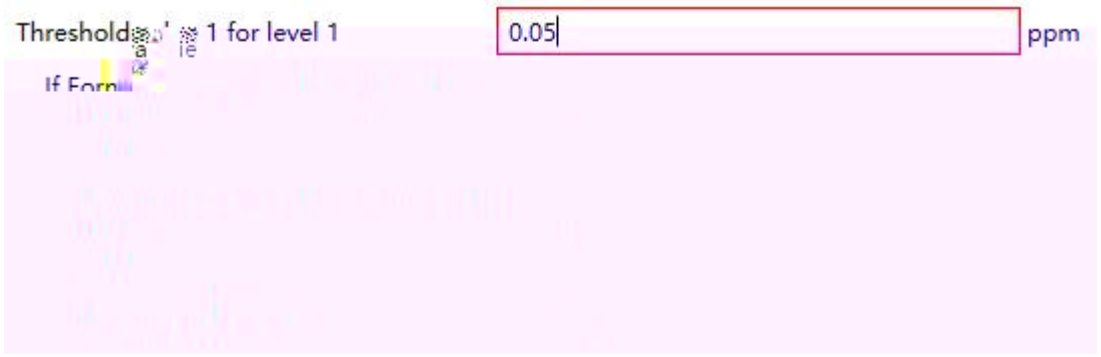
k 300ug/m3 ( )400ug/m3 k

“Control type” “1byte” “3byte(RGB)” k k

k

x x 4 1bit 4 k

k



x k

/ x k

k

1 1 2

1 1 k

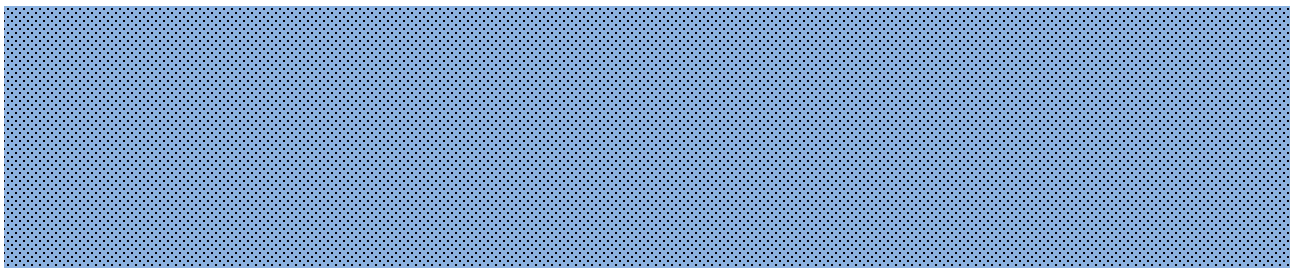
2 2 3 k

3 3 4 k

k

Threshold value 1 (Level 1<->Level 2)	0.1	ppm
Threshold value 2 (Level 2<->Level 3)	0.04	ppm
Threshold value 3 (Level 3<->Level 4)	0.1	ppm

1~3



k

“Send value" k k

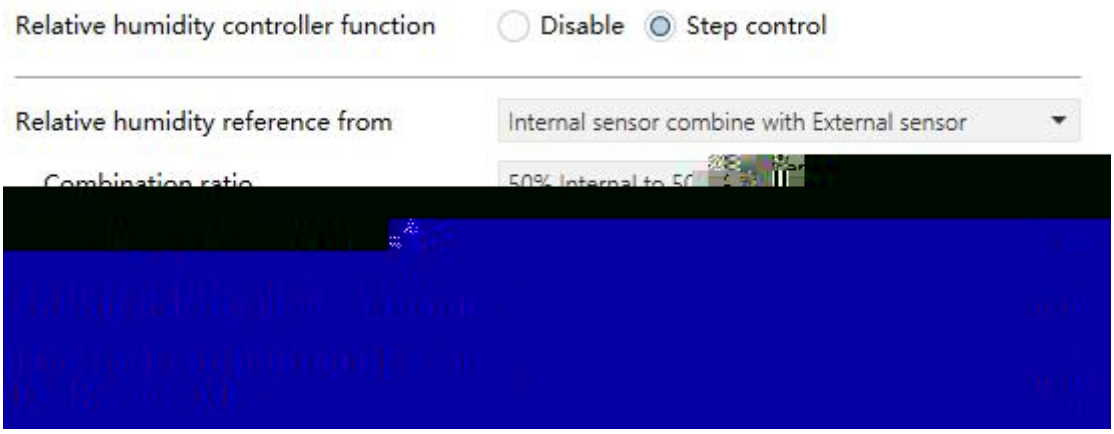
“Send additional alarm message" k

14 k

k k

”Send value” k k

CO2 k 5.5.1 5.5.2 k



5.5.1 “Relative humidity controller”

k

Disable k

Step control k

k

“Internal sensor measurement”

5.3.2 k

k k

k

“40% Internal to 60% External” 40% 60%

= ×40% + ×60%

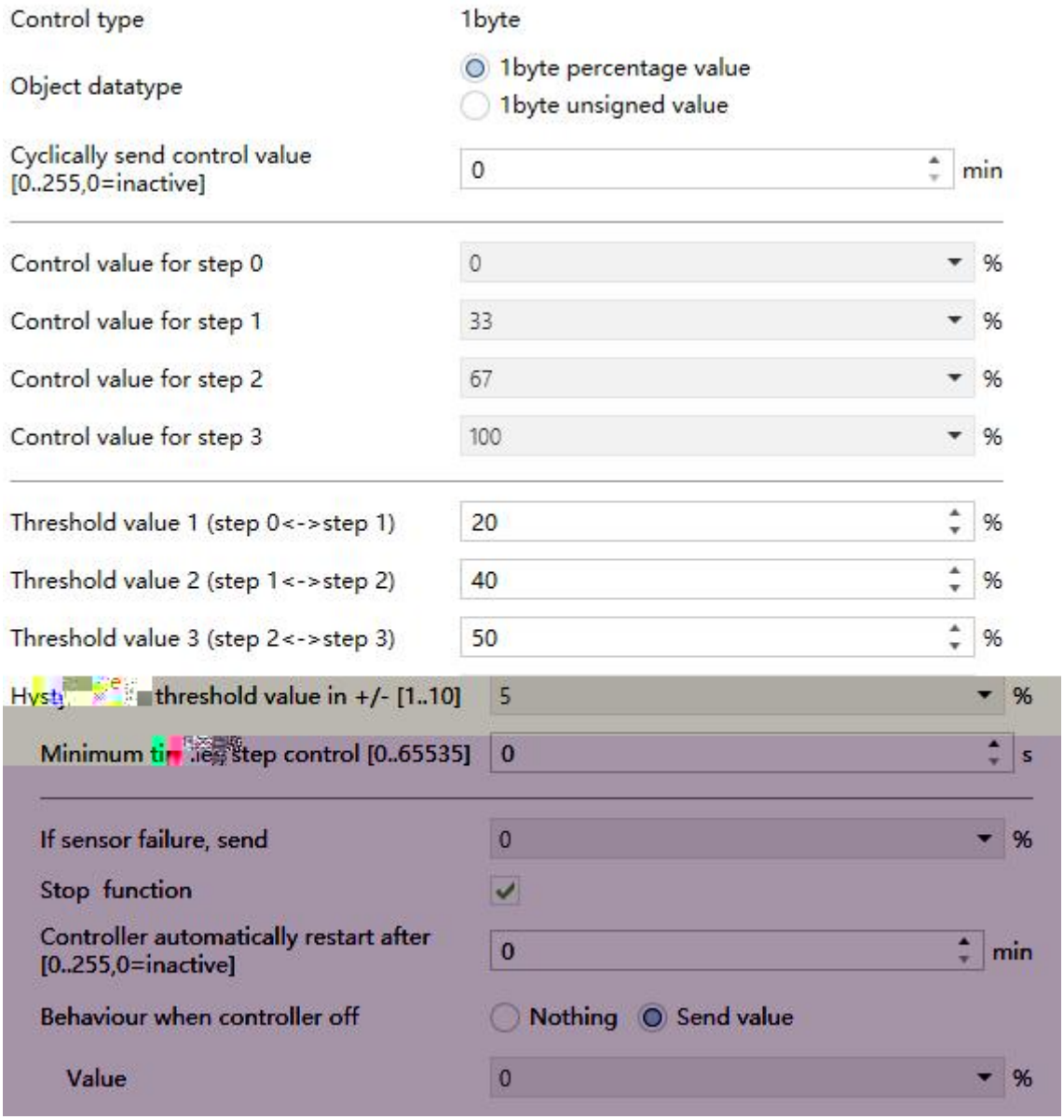
k

k

k Disable k

0 k

k



5.5.1.1 “Output”

k

1byte k

k 0 k

k

k 1byte k

1byte percentage value

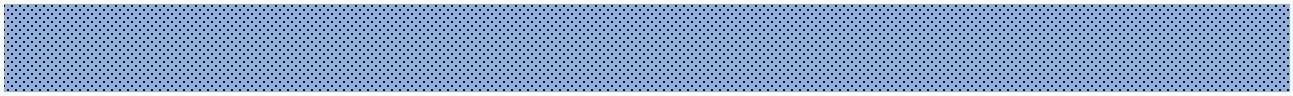
1byte unsigned value

1 1 1

1 0 k

2 2 2 k

k 0 k

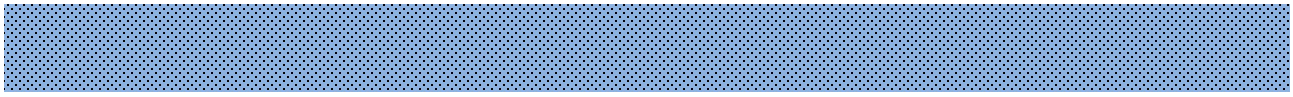


k

k 1byte k

1byte percentage value

1byte unsigned value



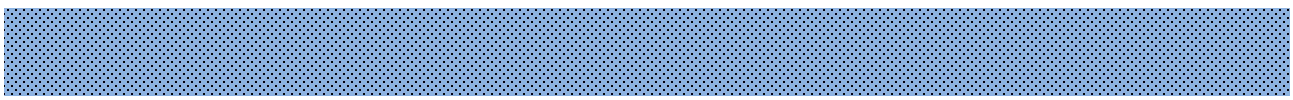
k 1byte

k

k k

k k 0

k k



off k

Nothing k

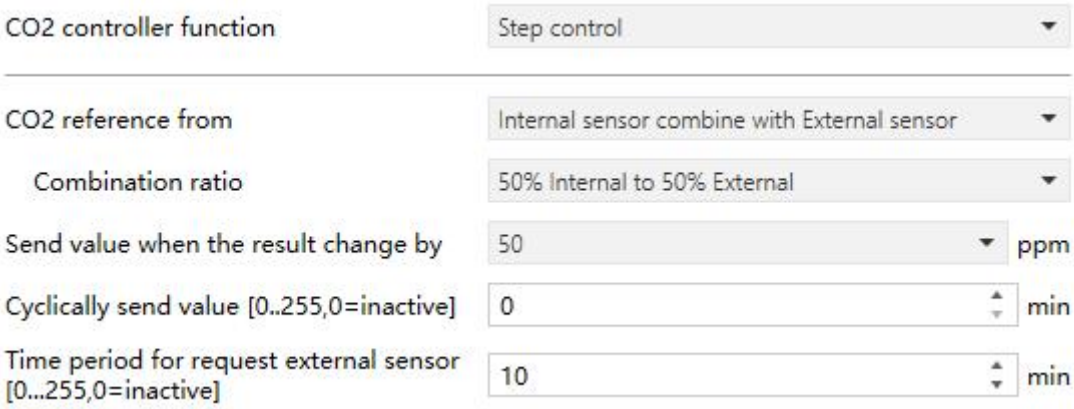
Send value k

“Send value” k k 1byte

k

“1byte percentage value”

“1byte unsigned value”



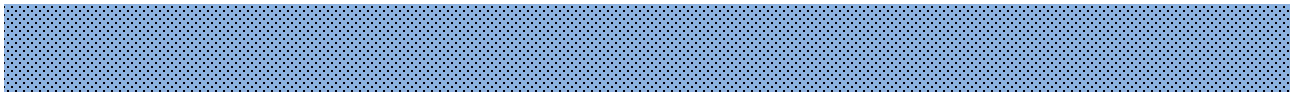
5.5.2 “CO2 controller”

CO2 k

Disable CO2 k

Step control k

PI control PI k



CO2 k

CO2 “Internal sensor measurement”

5.3.3 k

k CO2 k

CO2 k

“40% Internal to 60% External” 40% 60%

CO2 = CO2×40% + CO2×60%

CO2 k

CO2 k

CO2 CO2 k Disable k

CO2 0 k

k

CO2 PI k

5.5.2.1(1) “Output”-Step control

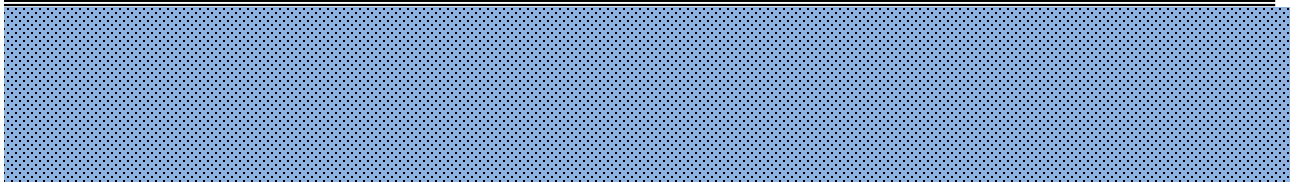
5.5.2.1(2) “Output”-PI control

k

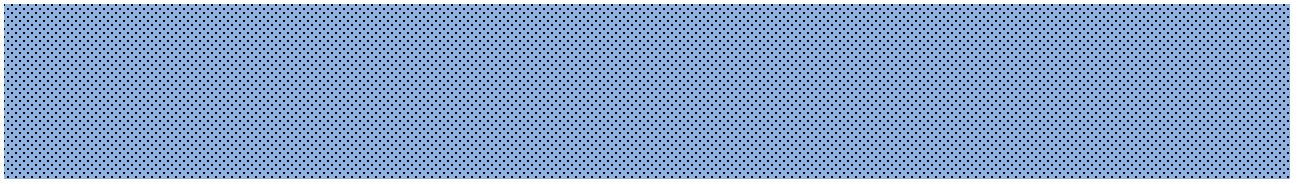
1byte k

k 0 k

k



PI PI k

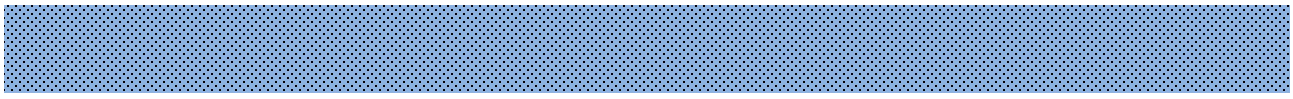


/ k 1byte k

1byte percentage value

1byte unsigned value

k



k 1byte

1byte percentage value

0%=0%, otherwise=Minimum value 0% 0 k

To be the minimum value 0% k

To be 0% 0 k

k 1byte k

1byte percentage value

1byte unsigned value

k 1byte

k

k 0

k k

off k

Nothing k

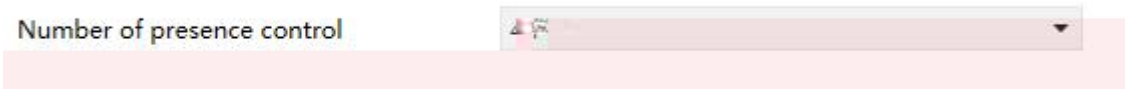
Send value k

“Send value” k k 1byte

k

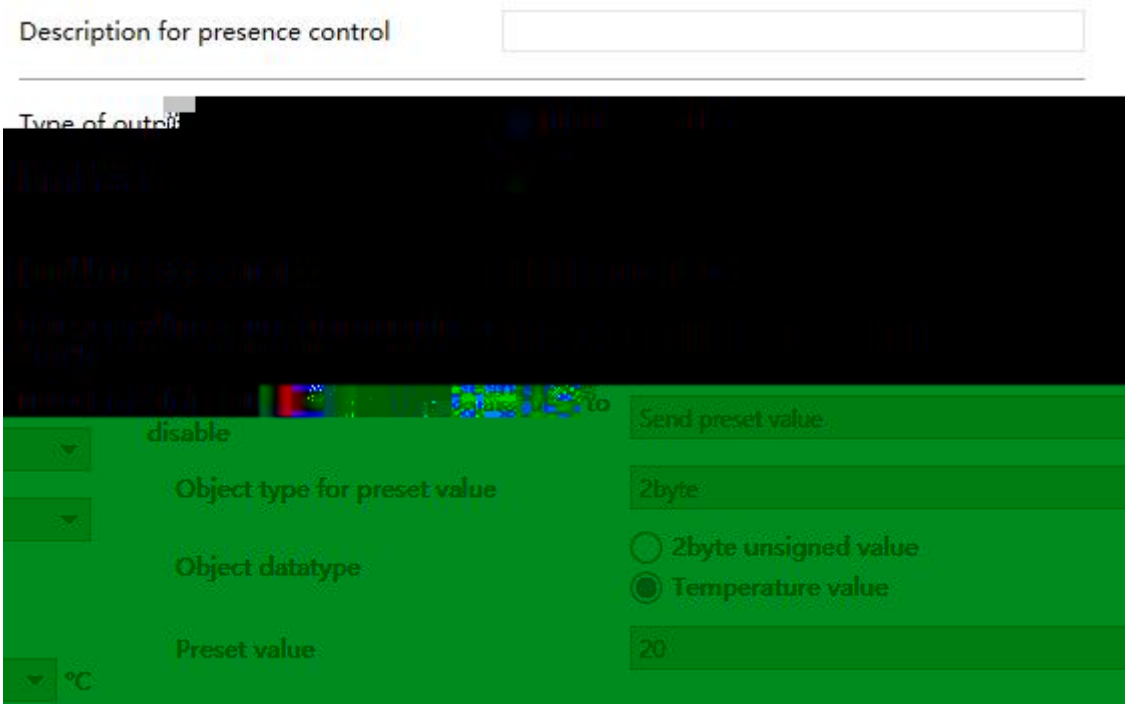
“1byte percentage value”

“1byte unsigned value”



5.4 “Presence function”

4 None k



5.6.1 “Presence control x”

30 k

KNX/EIB

A-B-C D-E-F

k

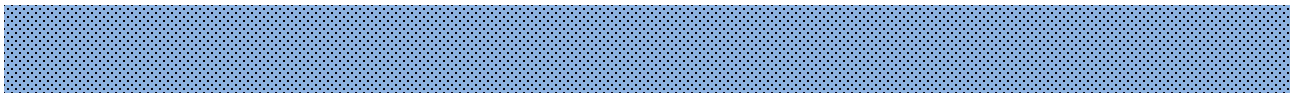
Send the value for presence begin (A-B-C) k

A-B-C k

Send the value for presence end (D-E-F) k

D-E-F k

! ! ! ! ! k



k

No telegram k

Send end value after expiration of the follow-up time k

D-E-F k D-E-F

Send the value for presence begin (A-B-C) k A-B-C k

C k

Send the value for presence end (D-E-F) k D-E-F k

F k

Send preset value k

! ! ! ! ! k

k

1byte 2byte k

“1byte”

“2byte”

k

“1bit”

“1byte” “1byte unsigned value”

“1byte” “1byte percentage value”

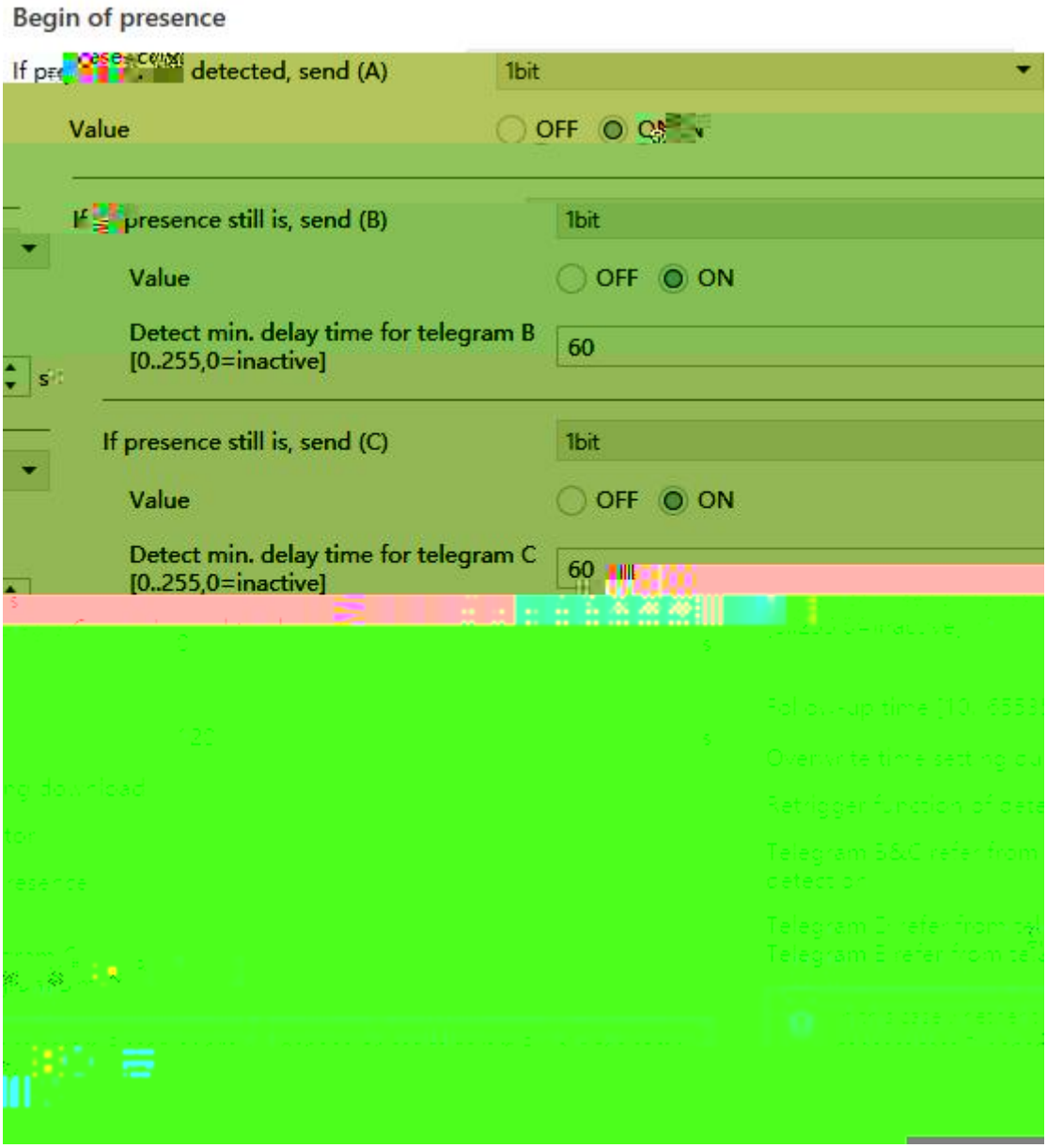
“1byte” “Scene number”

“1byte” “HVAC mode”

“2byte” “2byte unsigned value”

“2byte” “Temperature value”

k


Begin of presence
If pr detected, send (A)
1bit
Value
OFF
ON
If presence still is, send (B)
1bit
Value
OFF
ON
Detect min. delay time for telegram B
[0..255,0=inactive]
60
If presence still is, send (C)
1bit
Value
OFF
ON
Detect min. delay time for telegram C
[0..255,0=inactive]
60

- -

“1byte” “2byte” k

“1byte”

“2byte”

- -

- -

- -

k k

/ 1bit / k

- -

B k B k

0 B k

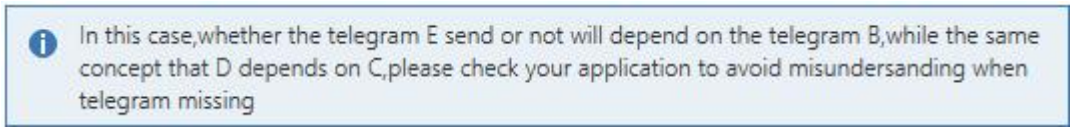
A

B k

k B E C D k

CB DE

DE



3 D / E / F k

D E F k D / E / F

D E / F k

D No telegram k

1byte 2byte k

1byte

2byte

k k

/ 1bit / k

E k E k

F k F k

k

D E F F F k

F E E D k

OFF k

k

1

k k k

2 k

k

k

k OFF

ON k k

5.6.1.1 (2) “Output” -Slave

k

k

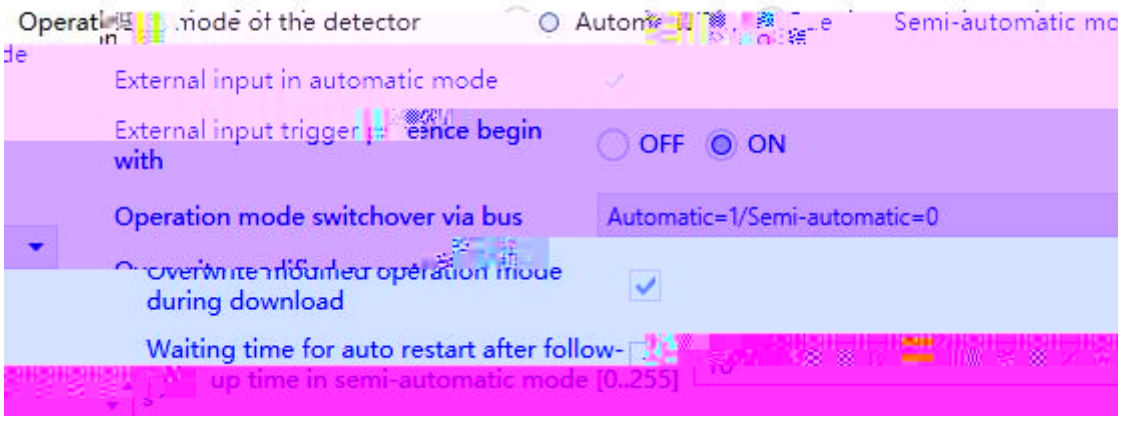
ON OFF k

OFF k

k OFF

ON k

k



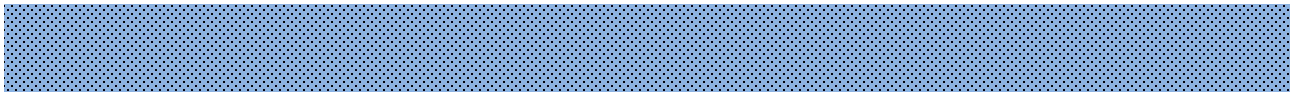
5.6.1.2 “Operation mode”

k

Automatic mode k

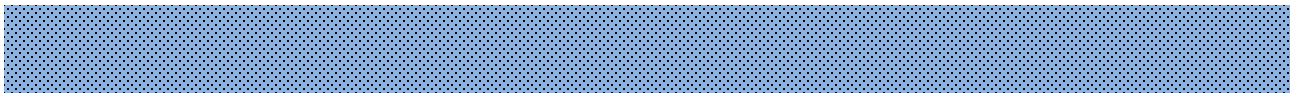
Semi-automatic mode k

k

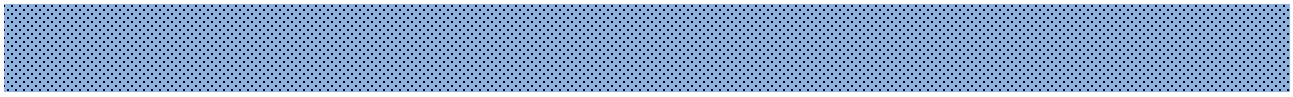


k

k

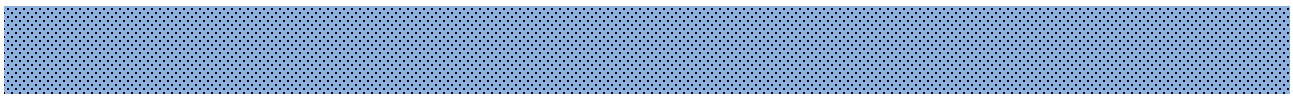


k k



k - -

k

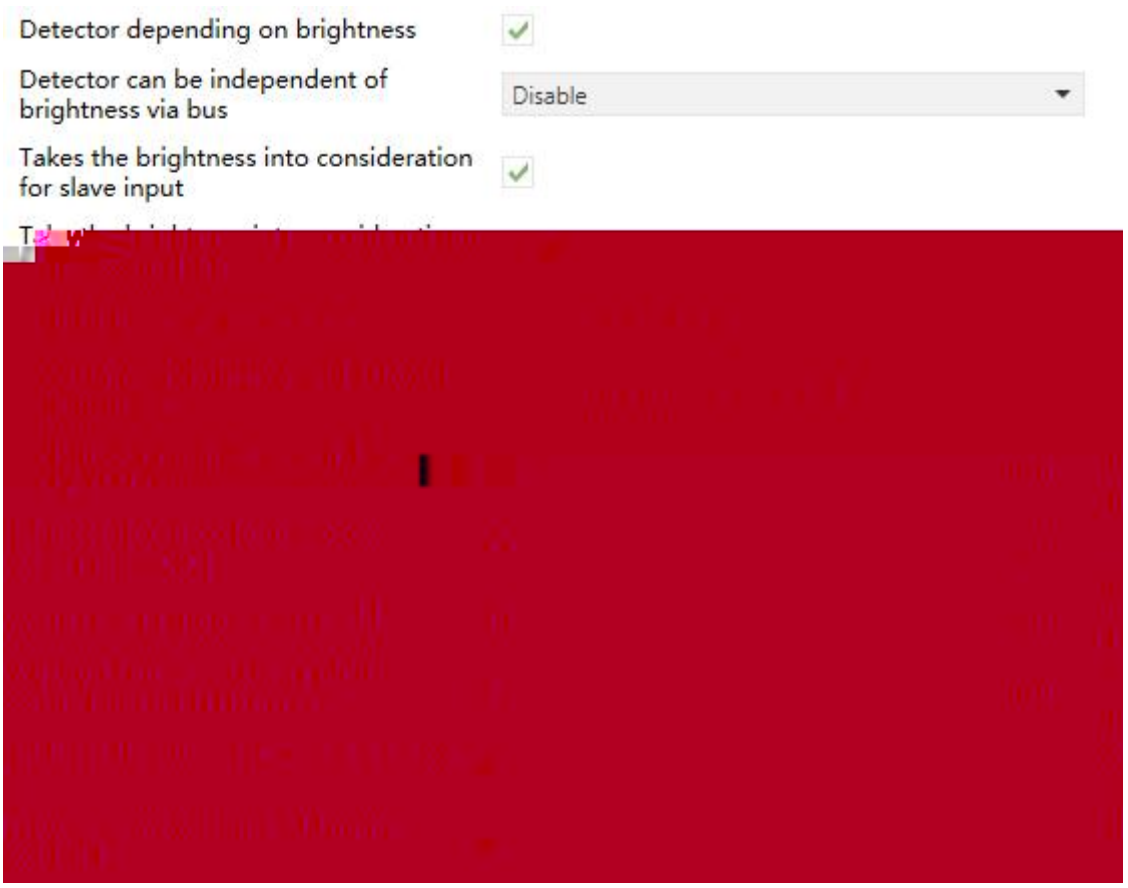


k

k

k

k



5.6.1.3(1) “Brightness”-Master

k k

k

Disable k

Depending=1/Independent=0

0 1 k

Depending=0/Independent=1 k

“Input slave” k k

ON k

k

k

k

k

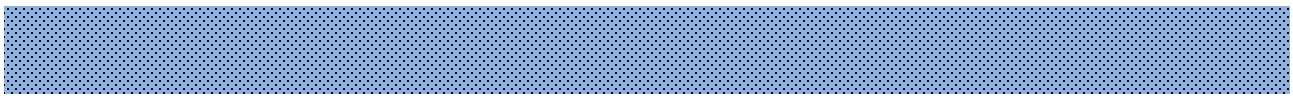
k

k

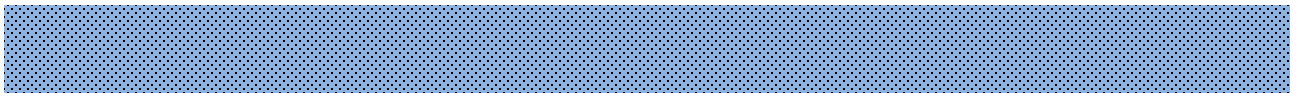
k

k k

k

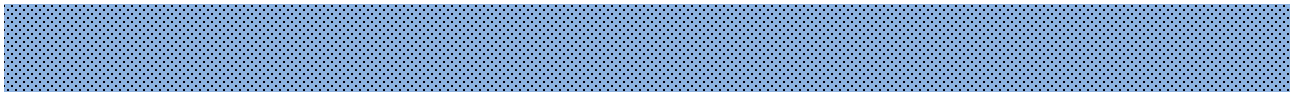


k k



k

k

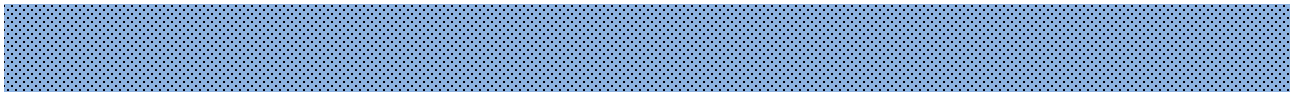


k

+

k

k



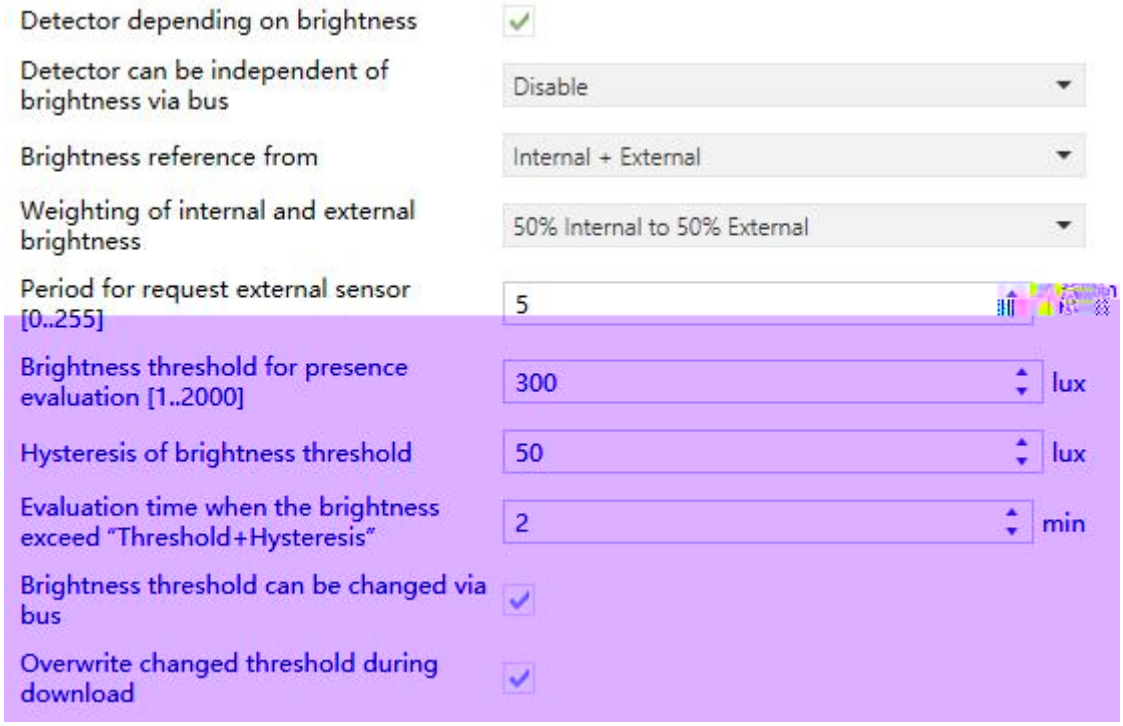
+

k

k

k k -

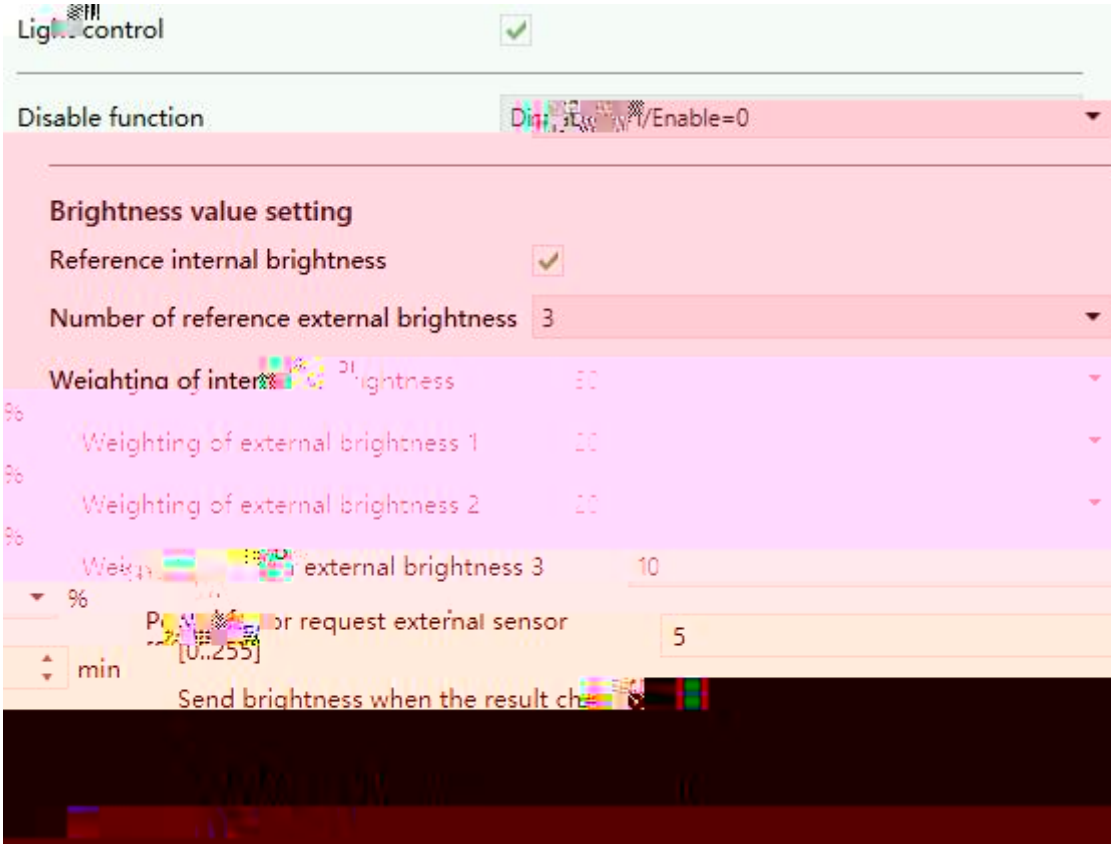
- k



5.6.1.3(2) "Brightness"-Slave

/ k

k



5.7 “Light control”

k

k

k

/ k

k

KNX/EIB

k k

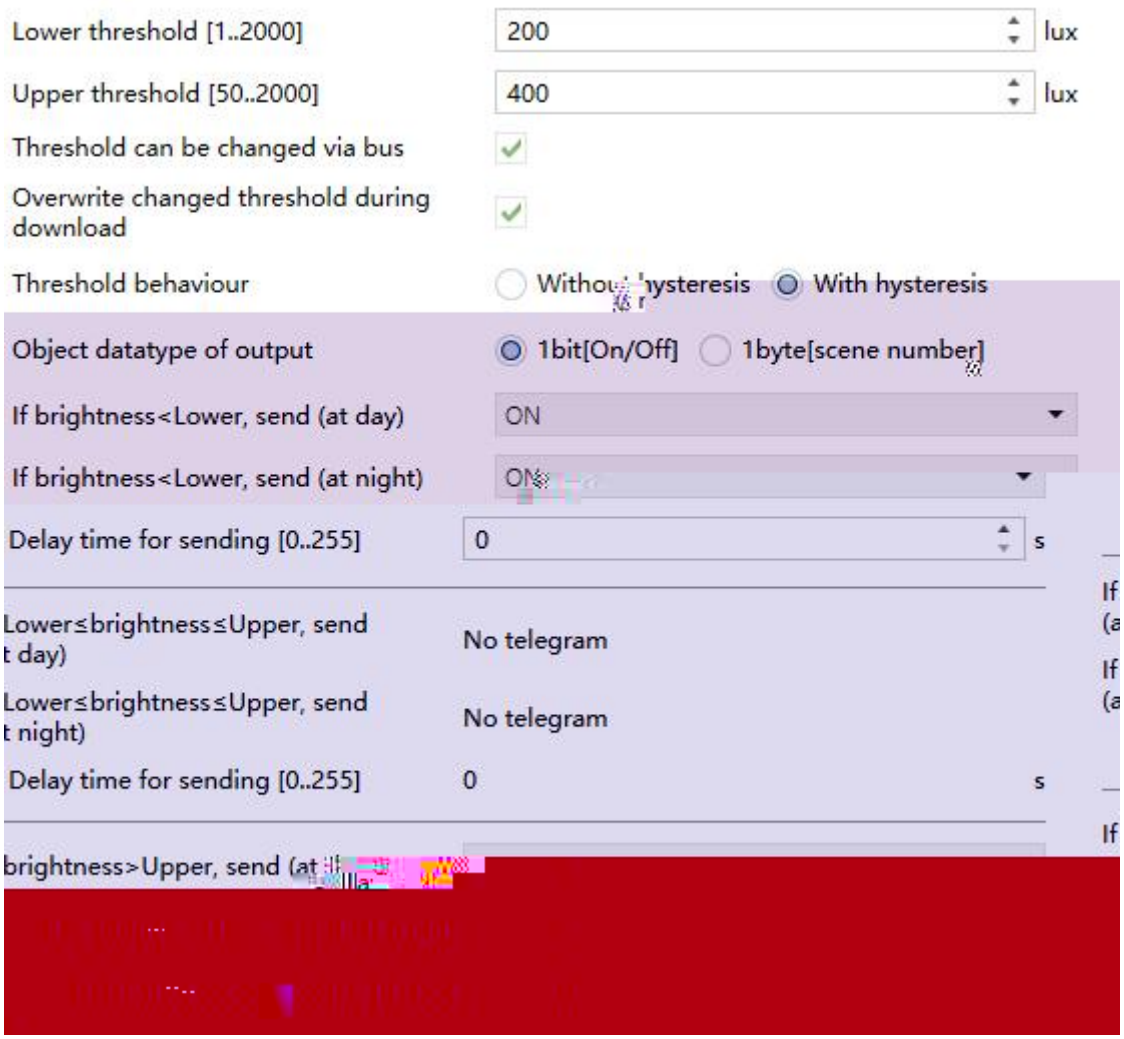
k

k

k Disable k

k k 0 k

k



5.7.1 “Output”

k

k

Lower threshold [1..2000]
200
lux
Upper threshold [5..2000]
100
lux

k

k k -

- k

k

k

/ k

k

k / /

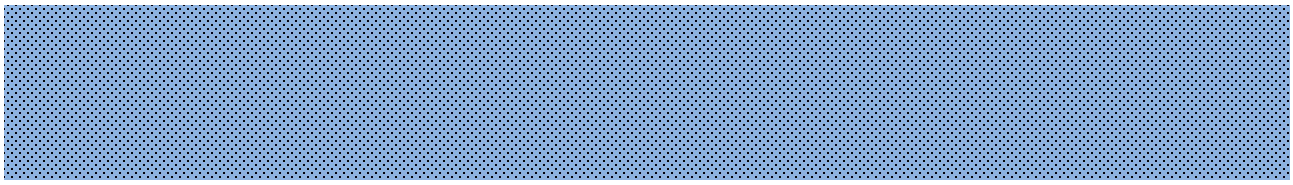
k

1bit

1byte

k

k



k / /

k

1bit

1byte

k

k

k

k / /

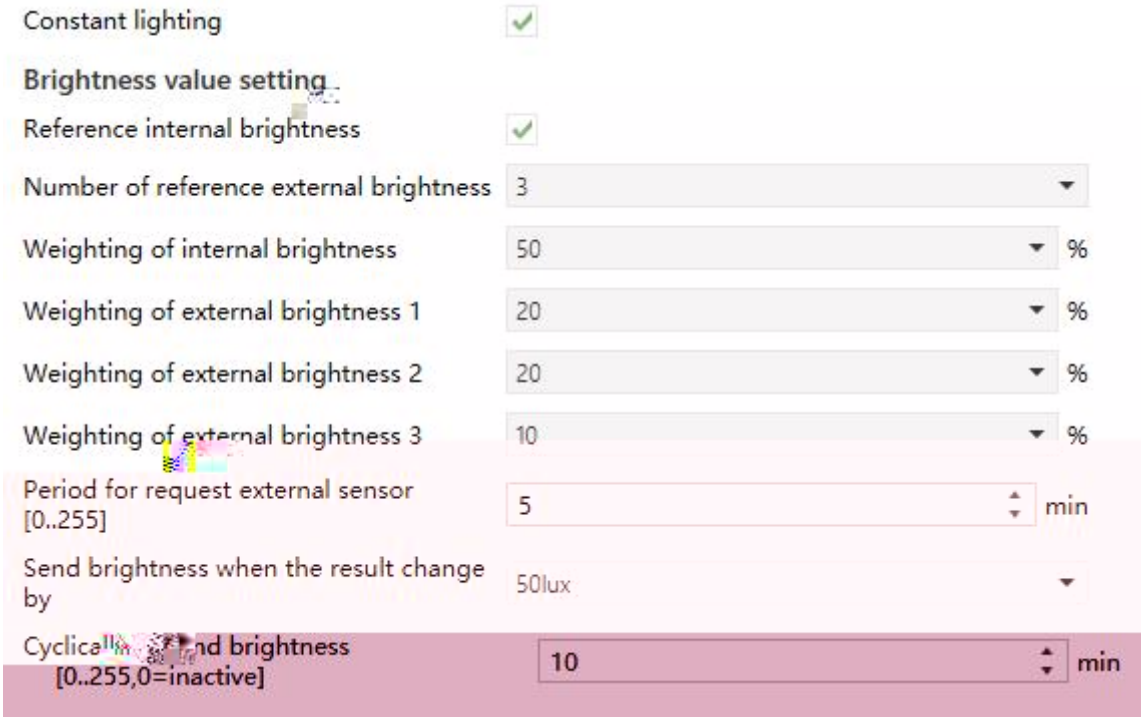
k

1bit

1byte

k

k



5.8 “Constant lighting”

,

k

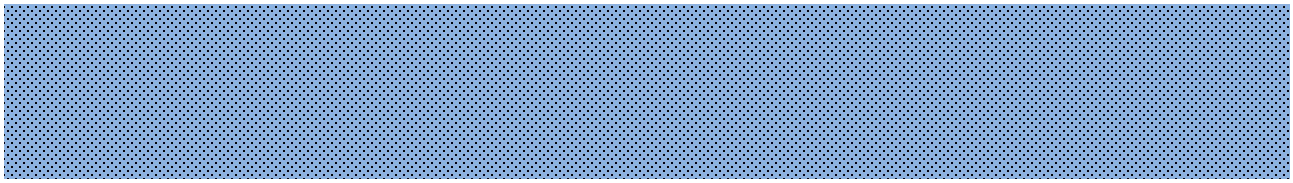
k

k

! ! +

3 k

k

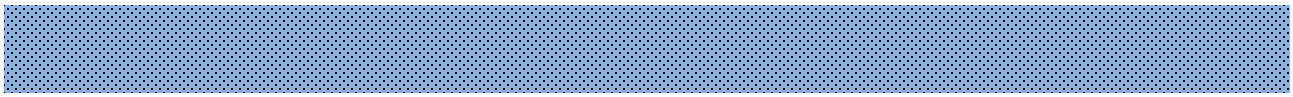


k

k

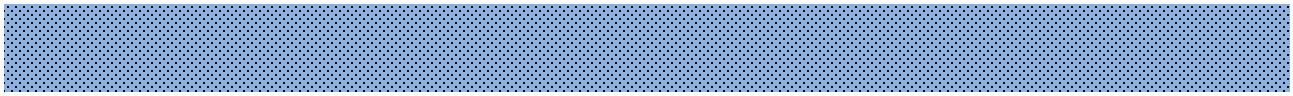
k

k



k k

k

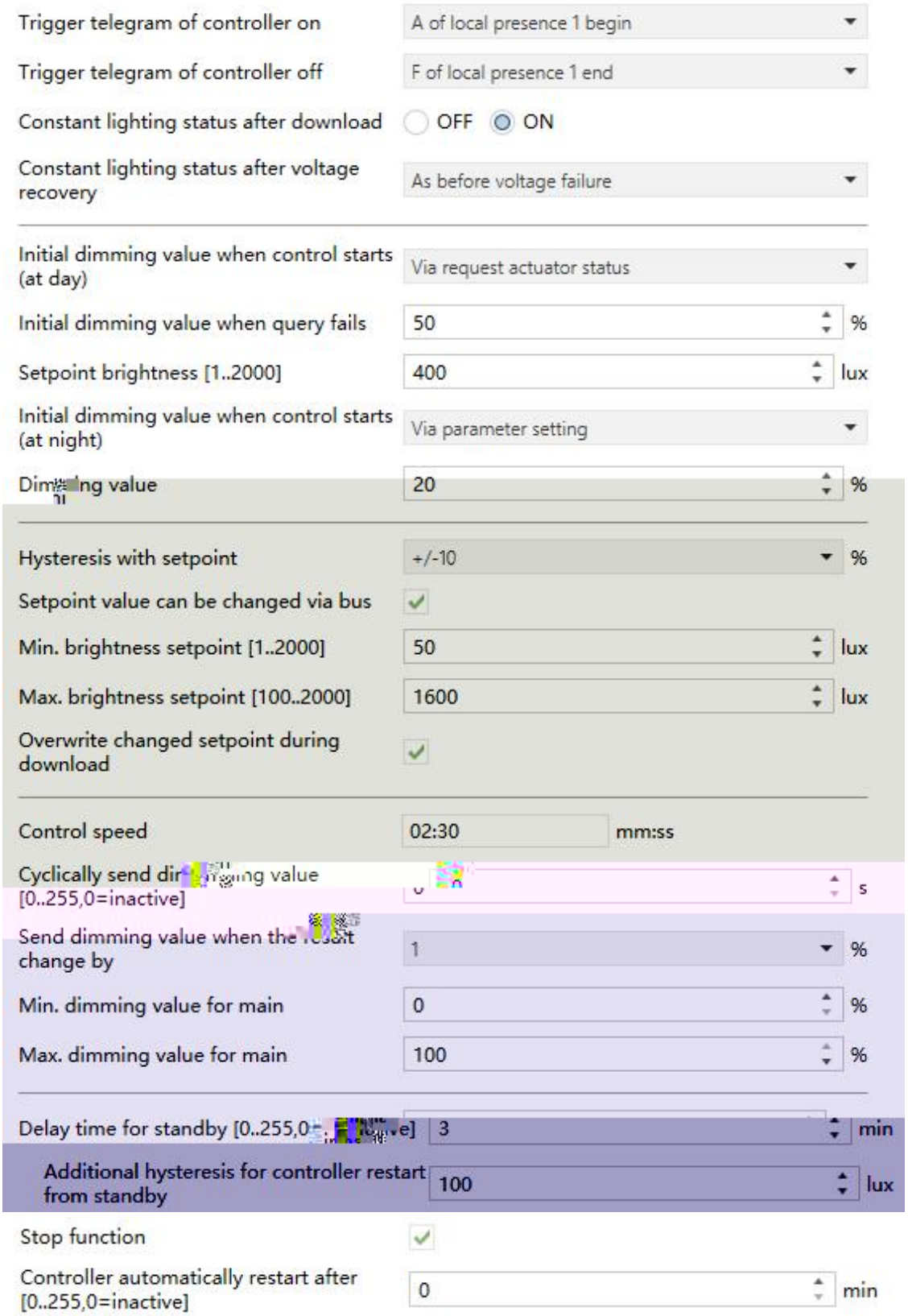


k

k Disable k

k k 0 k

k

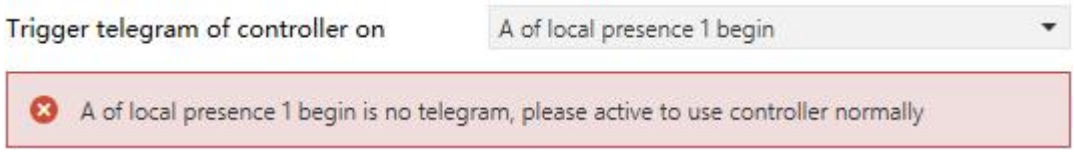

Trigger telegram of controller on
A of local presence 1 begin
Trigger telegram of controller off
F of local presence 1 end
Constant lighting status after download
OFF
ON
Constant lighting status after voltage recovery
As before voltage failure
Initial dimming value when control starts (at day)
Via request actuator status
Initial dimming value when query fails
50
%
Setpoint brightness [1..2000]
400
lux
Initial dimming value when control starts (at night)
Via parameter setting
20
%
Hysteresis with setpoint
+/-10
%
Setpoint value can be changed via bus
Min. brightness setpoint [1..2000]
50
lux
Max. brightness setpoint [100..2000]
1600
lux
Overwrite changed setpoint during download
Control speed
02:30
mm:ss
s
Send dimming value when the
change by
1
%
Min. dimming value for main
0
%
Max. dimming value for main
100
%
min
Additional hysteresis for controller restart from standby
100
lux
Stop function
Controller automatically restart after [0..255,0=inactive]
0
min

5.8.1 “Output”

k

None

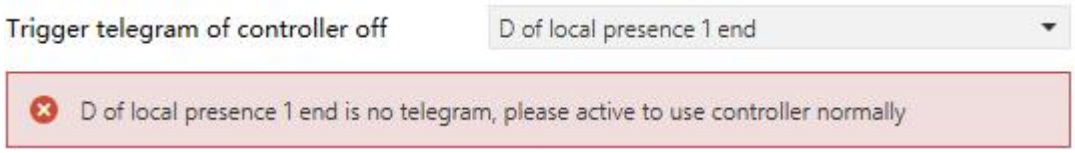
k



k

None

k


Trigger telegram of controller off
D of local presence 1 end
D of local presence 1 end is no telegram, please active to use controller normally

k

k

k

/

k

k

- -

“Via parameter setting” k k

- -

“Via query actuator status” k 0 k

- -

k

/ k k

k

- -

Via parameter setting k k

- -

Via query actuator status k 0 k

- -

Via calculate start value k k

k

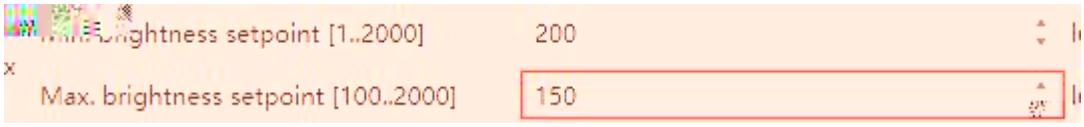
Ô

+ +

- - k

k

k


ightness setpoint [1..2000]
200
Max. brightness setpoint [100..2000]
150

k - -

k

k 200 1

0.5% k

k 0 k

k

k

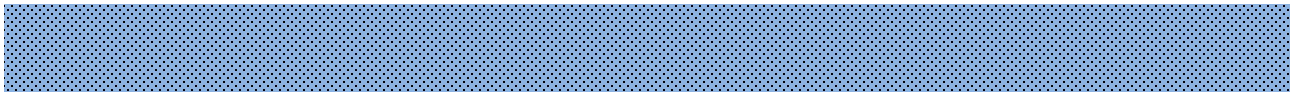
/ k

k

+

0% k 0 k

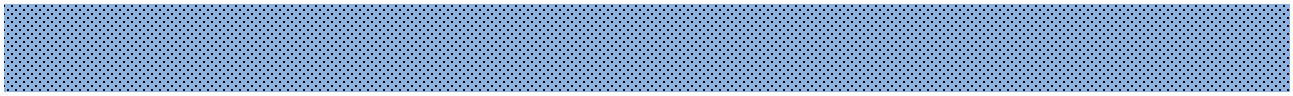
k



0 k k

“ - - ” k

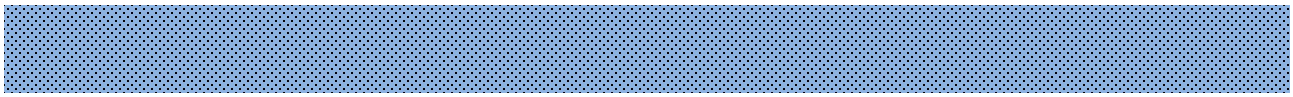
k



k 1bit/4bit/1byte

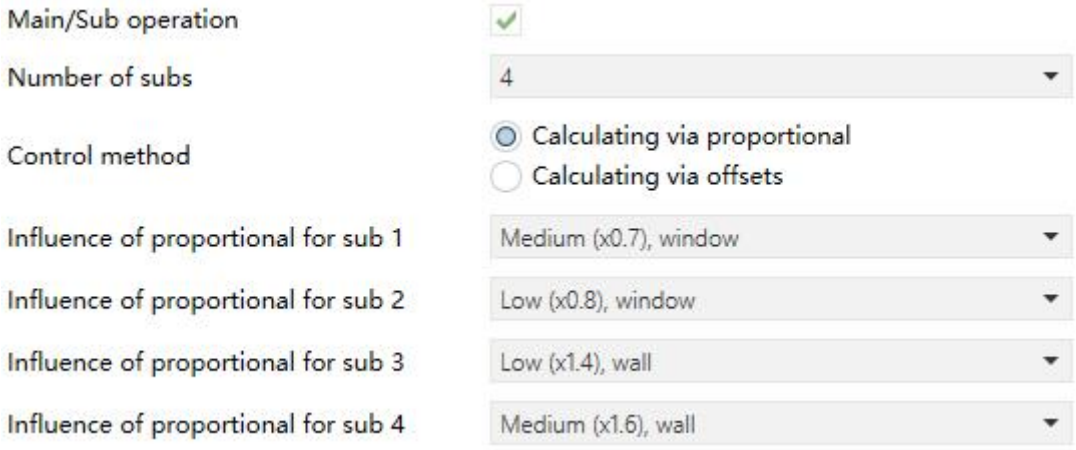
k

k

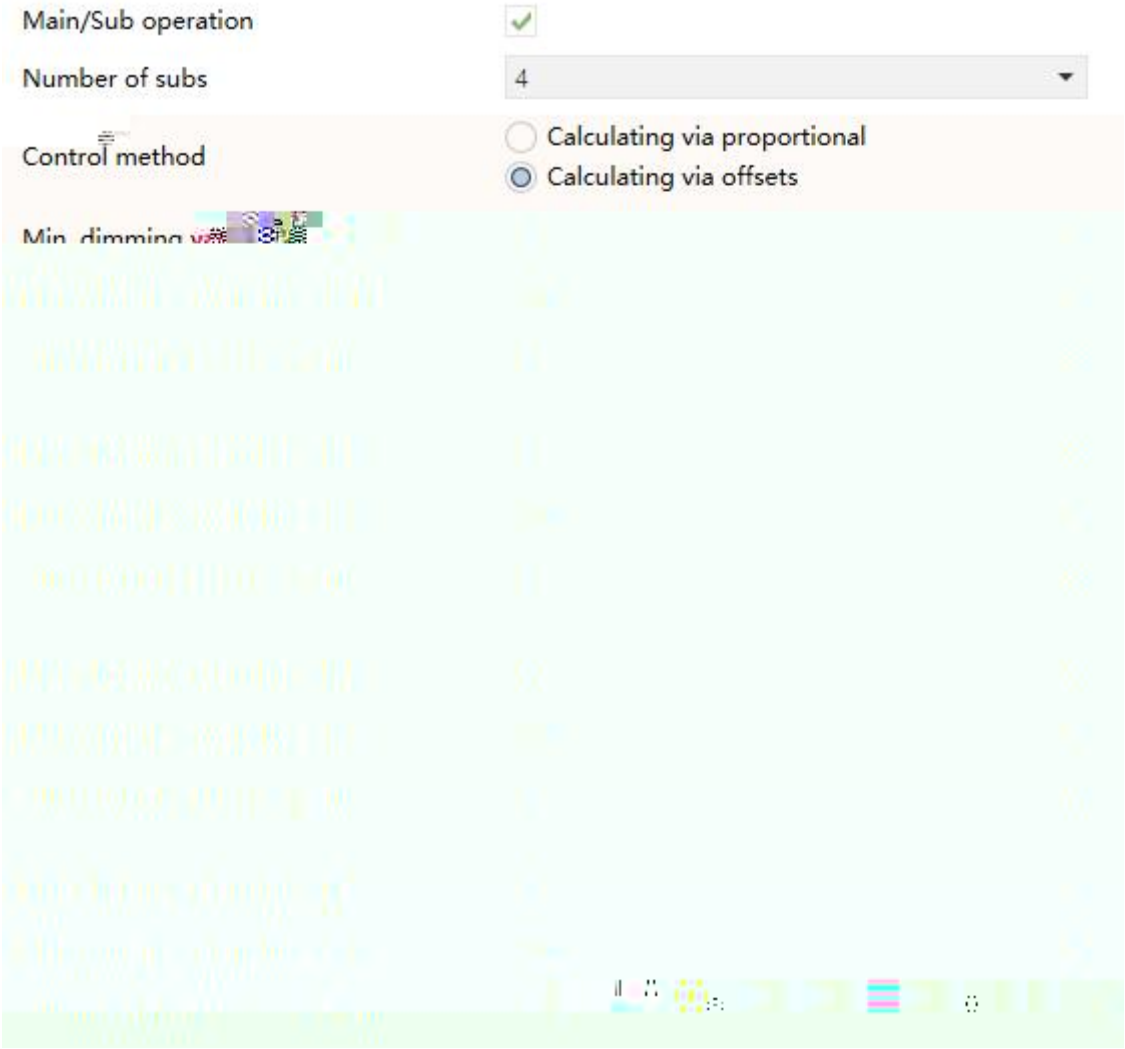


k k 0

k k



5.8.2(1) “Main-Sub operation”



5.8.2(2) “Main-Sub operation”

/ k

4 k

k

x

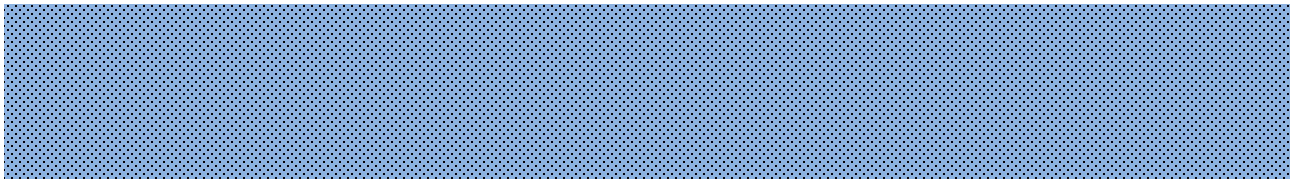
k

No change (x1) k

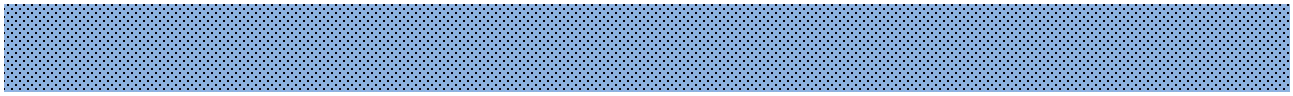
Very high (x0.5), window Very high (x2.0), wall

k

k

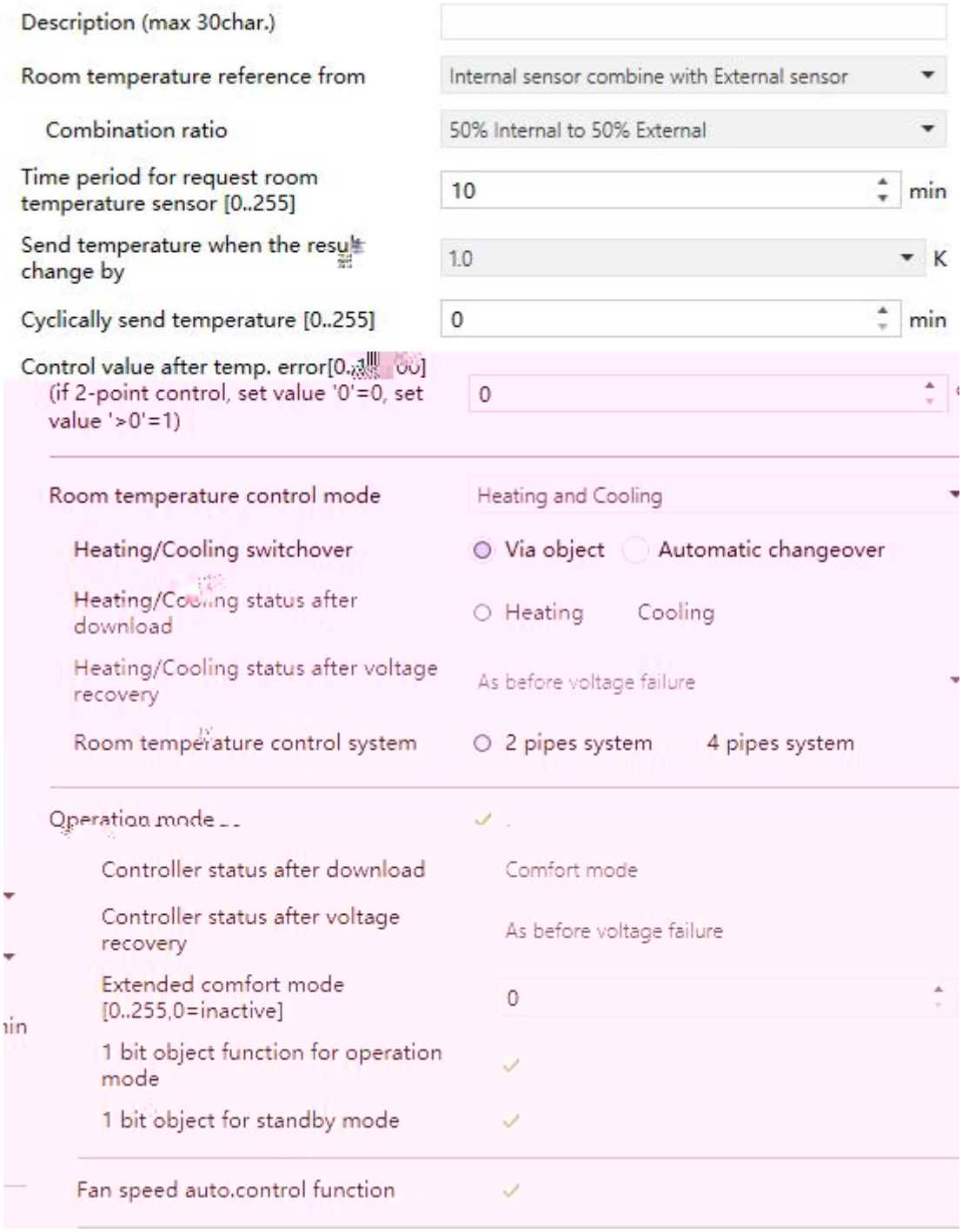


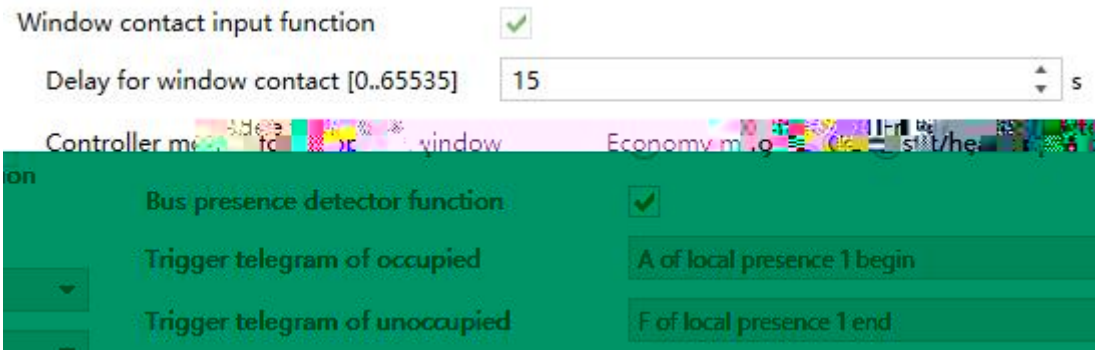
x / k



x k

5.9“Room temperature controller”





5.9 “RTC x-...”

3 k

k

k

“Internal sensor measurement” 5.3 k

k k

k

“40% Internal to 60% External” 40% 60%

= ×40% + ×60%

k

k

k Disable k

0 k

k

k

0 0 0

1 k

k

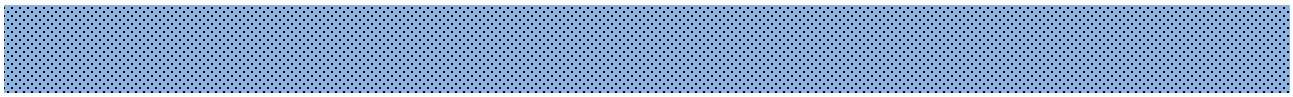
/ k

RTC / k

2 pipes system k

4 pipes system

k



RTC k

! ! 4 1bit 1byte

k

k

RTC k

RTC k

k >0 1bit “Extended comfort mode”

k

1 1

k k

/ k

1bit k 1

! 0 k

k 1bit k

k

k

-

-

-

k

k

k

k k

k

k

open

k ! /

k k

k k

/

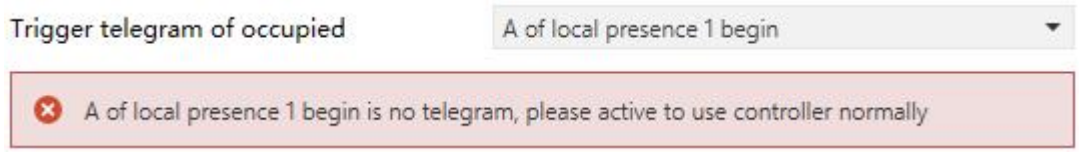
k

k

k

None

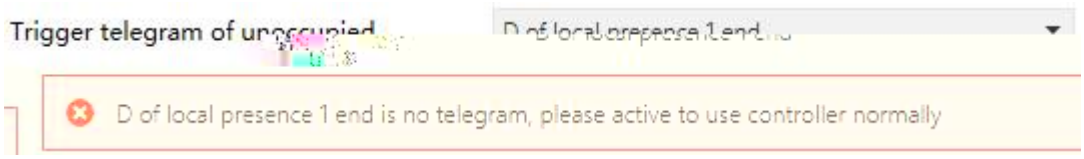
k



k

None

k



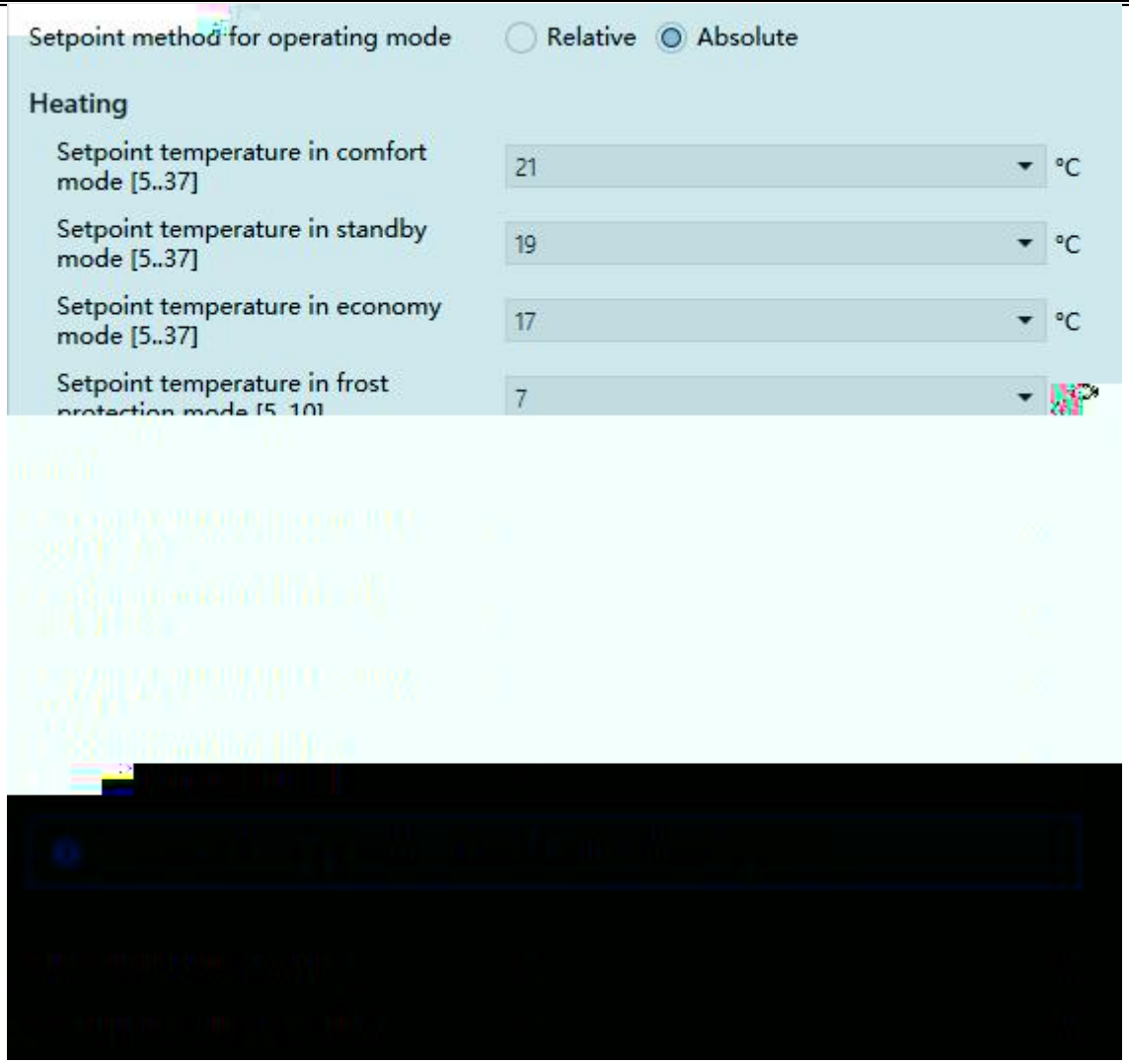
k k

k

“Setpoint” k

k

Setpoint method for operating mode
Relative
Absolute
Base setpoint temperature
20
°C
Additional setpoint offset for setpoint adjustment
Disable
Enable
[5..37]
32
°C



5.9.1 “Setpoint”

k

k

Relative k

Absolute k

k

k

-

-

-

k

k

“Base setpoint adjustment” k

k !

k

1bit

k

1bit “Setpoint offset” / 2byte “Float offset value” k 1bit “Setpoint offset reset”

2byte“Float offset value” k k

k

/ 1- 0- k

k

k

k

k

k

k

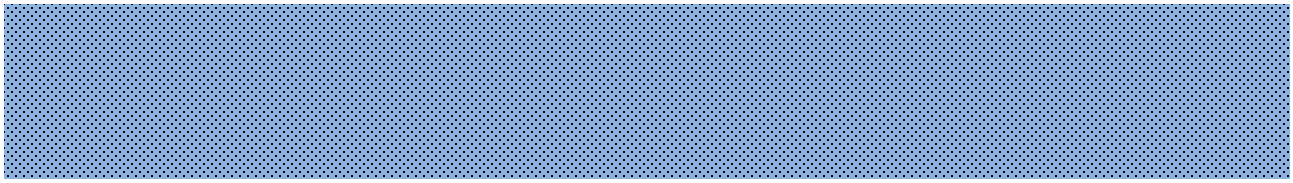
k

“Heating and Cooling” “Automatic changeover” k

k

+

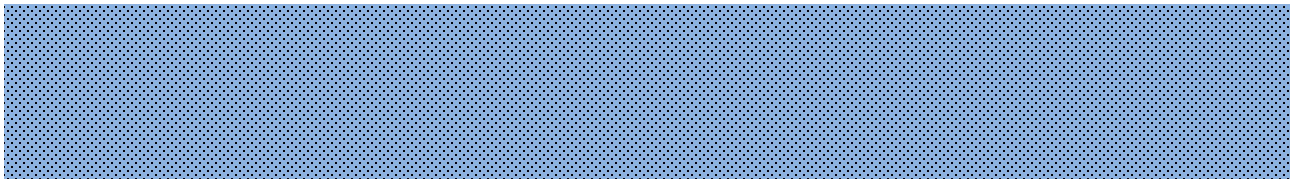
- k



k

Heating

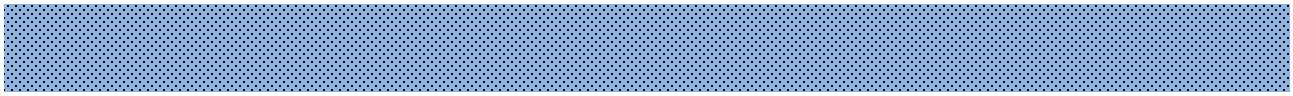
Cooling k



k

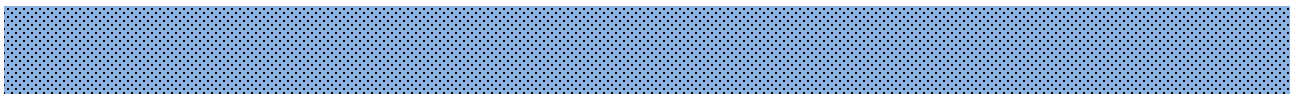
Heating

Cooling k



k

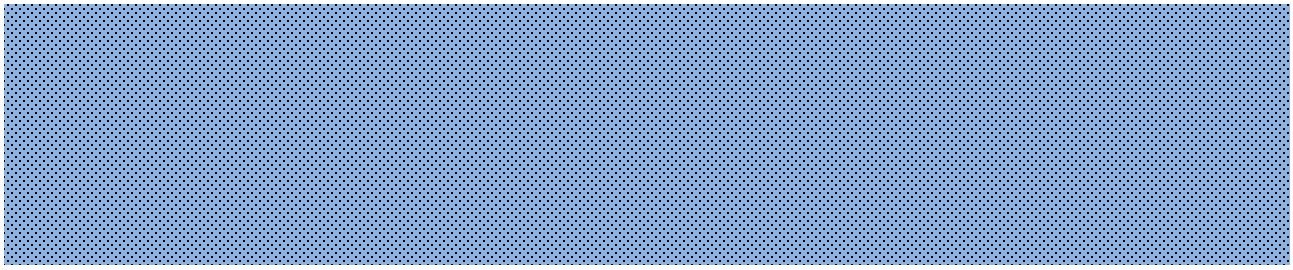
k



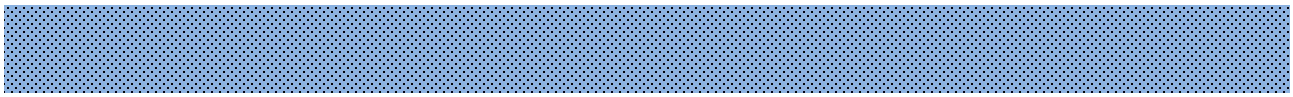
k

k

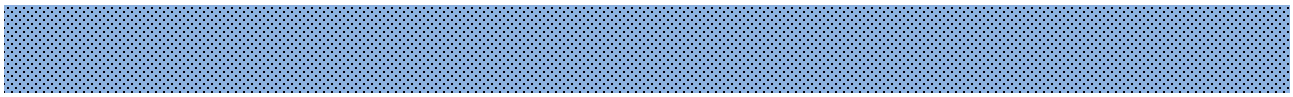
k



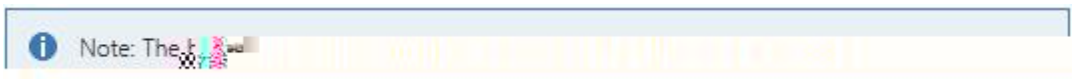
! k



k



k



k

k

1.

k

2. k

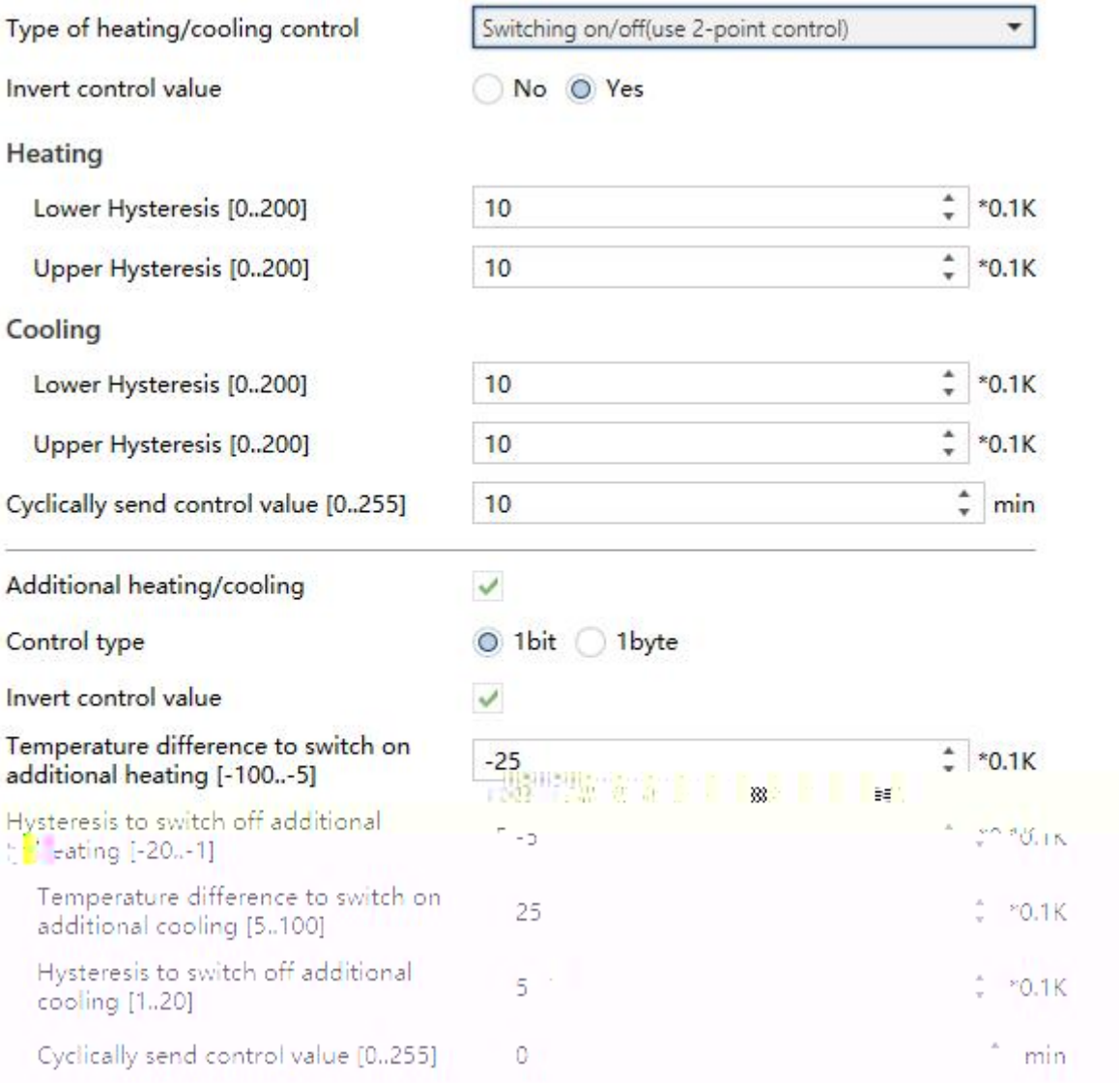
k

3.

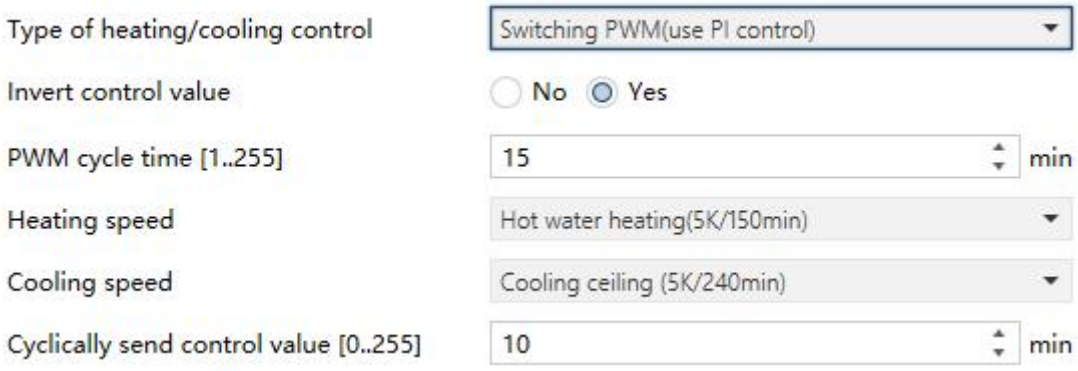
k

k

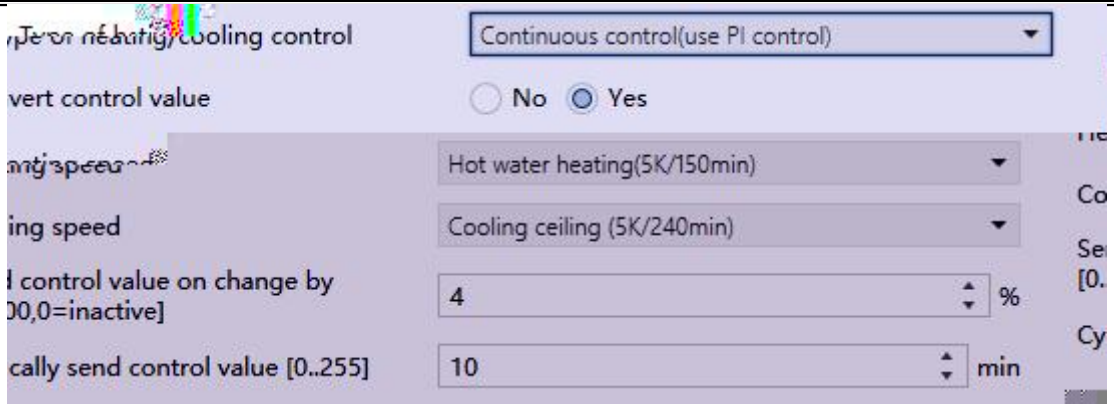
k



"Switching on/off(use 2-point control)"



"Switching PWM(use PI control)"



“Continuous control(use PI control)”

5.9.2(1) “Heating/Cooling control”

2 4 k

/ k

k

Yes k

RTC k

k

1K 2K 22 T 24

T 21 T 21~24 k

k

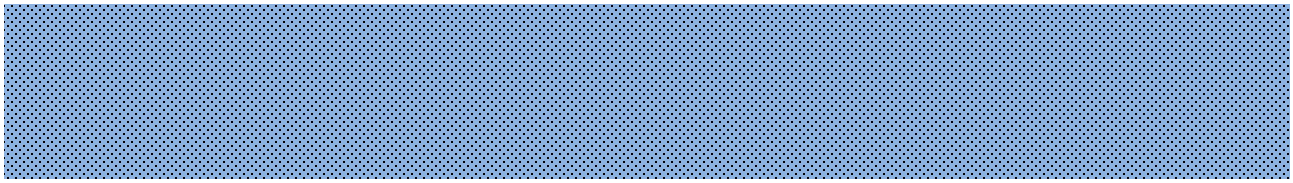
1K 2K 26 T 25

T 28 T 28~25 k

1.

2. k

5.5.2(2) ( )

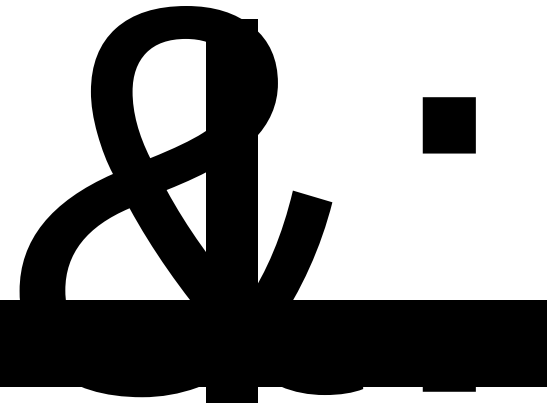


PI k k

- -
- -

“User defined” k PI PI k

“Switching



	4K	90min	PWM	10-15min
	4K	90min	Continuous	--

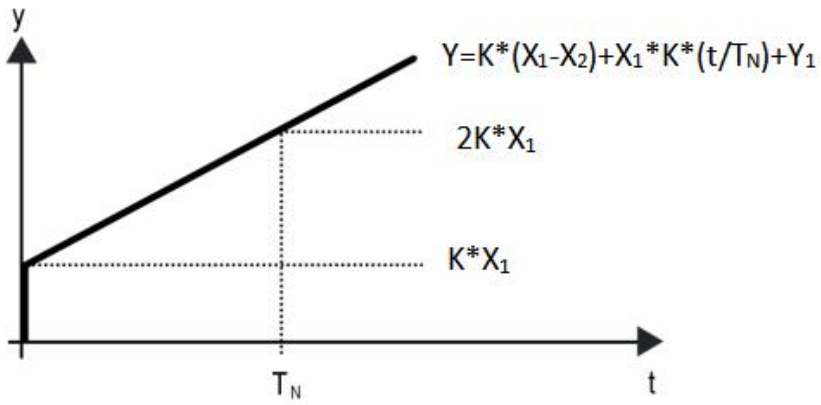
	5K	240min	PWM	15-20mIn
	4K	90min	PWM	10-15min
	4K	90min	Continuous	--

“Heating/Cooling speed” “User defined” P

I k PI

k

k 0 k

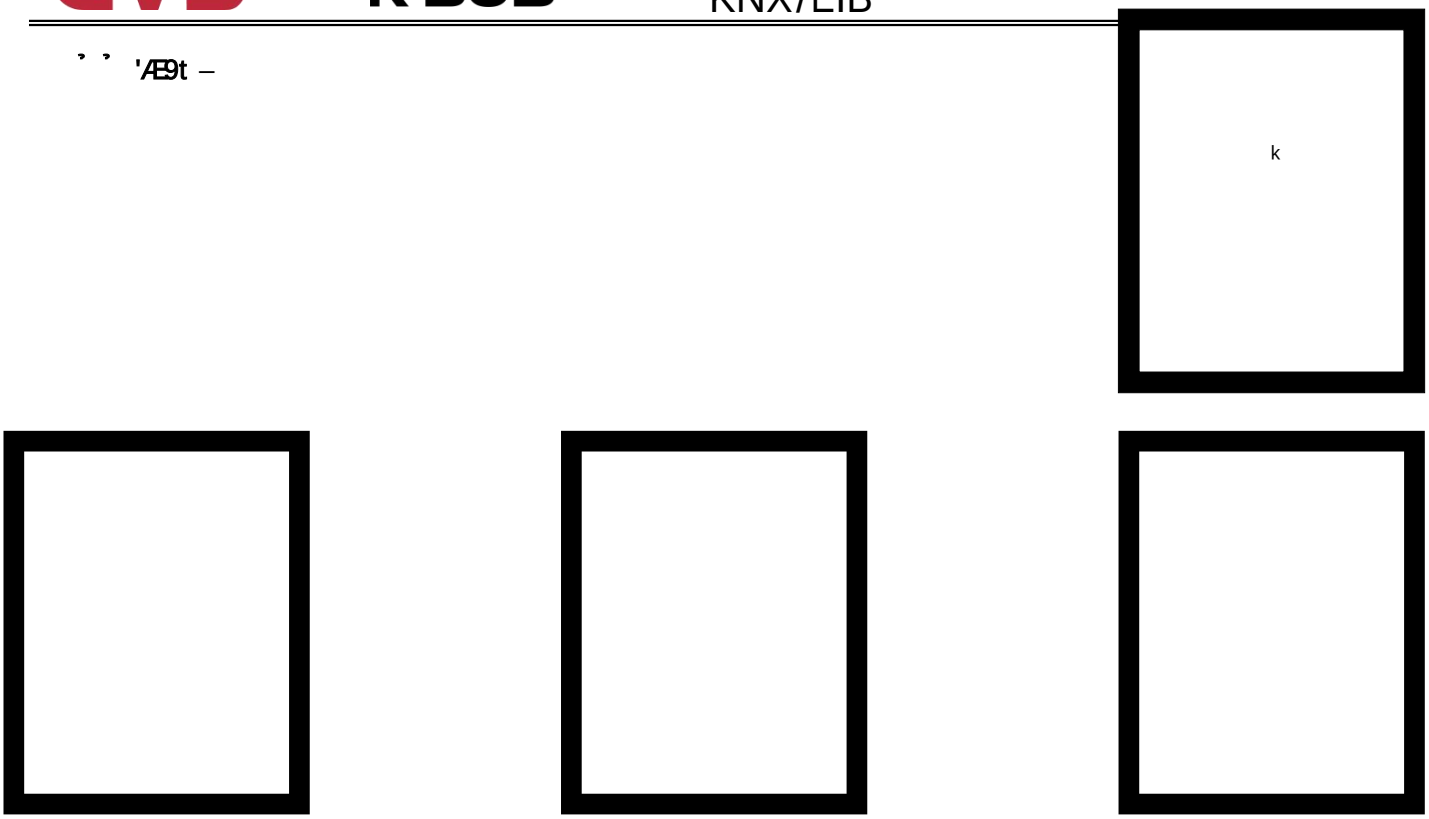


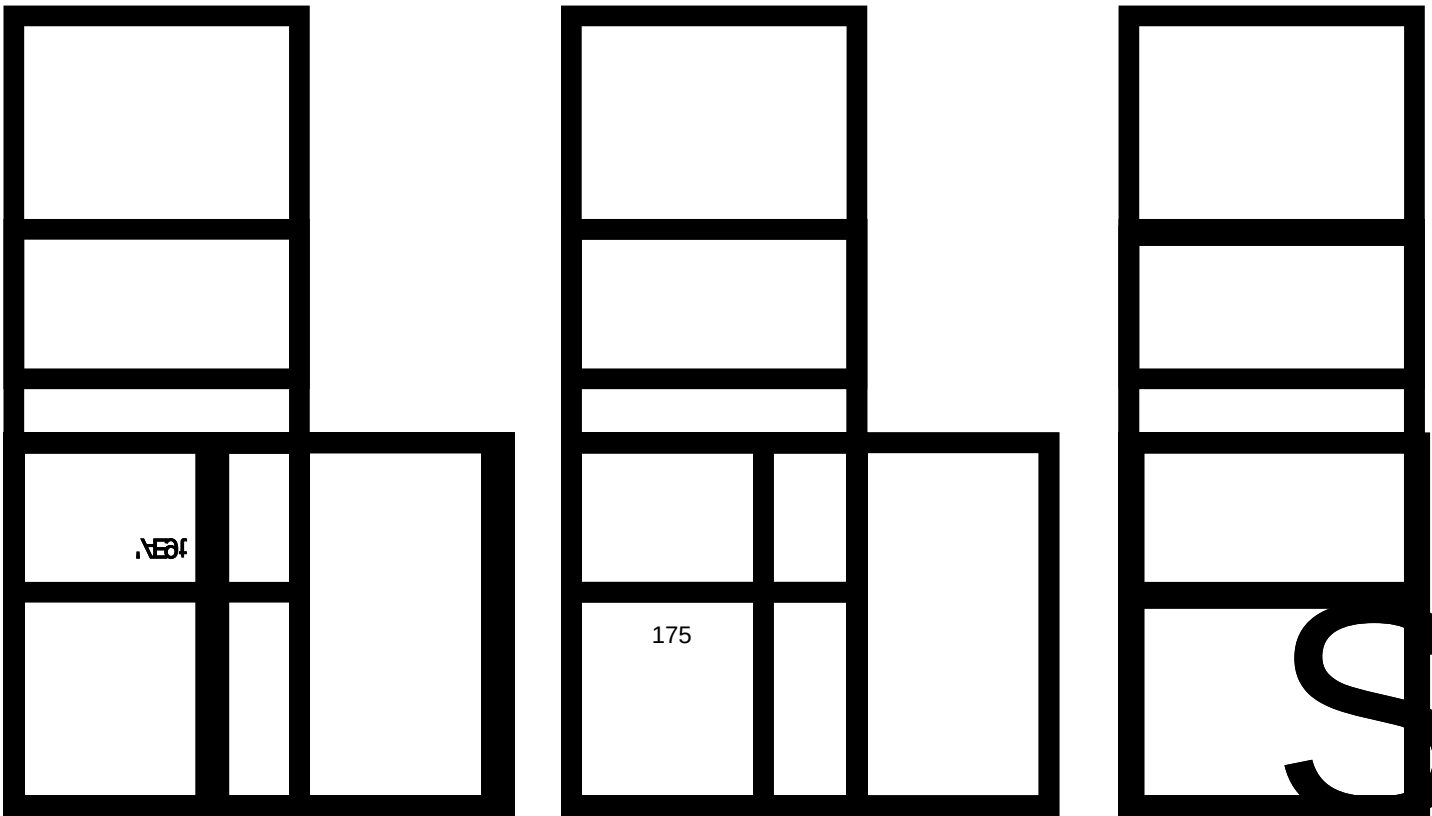
5.5.2(3) PI

Y

Y1

KNX/EIB

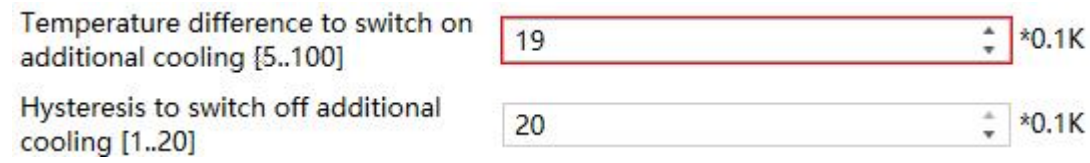




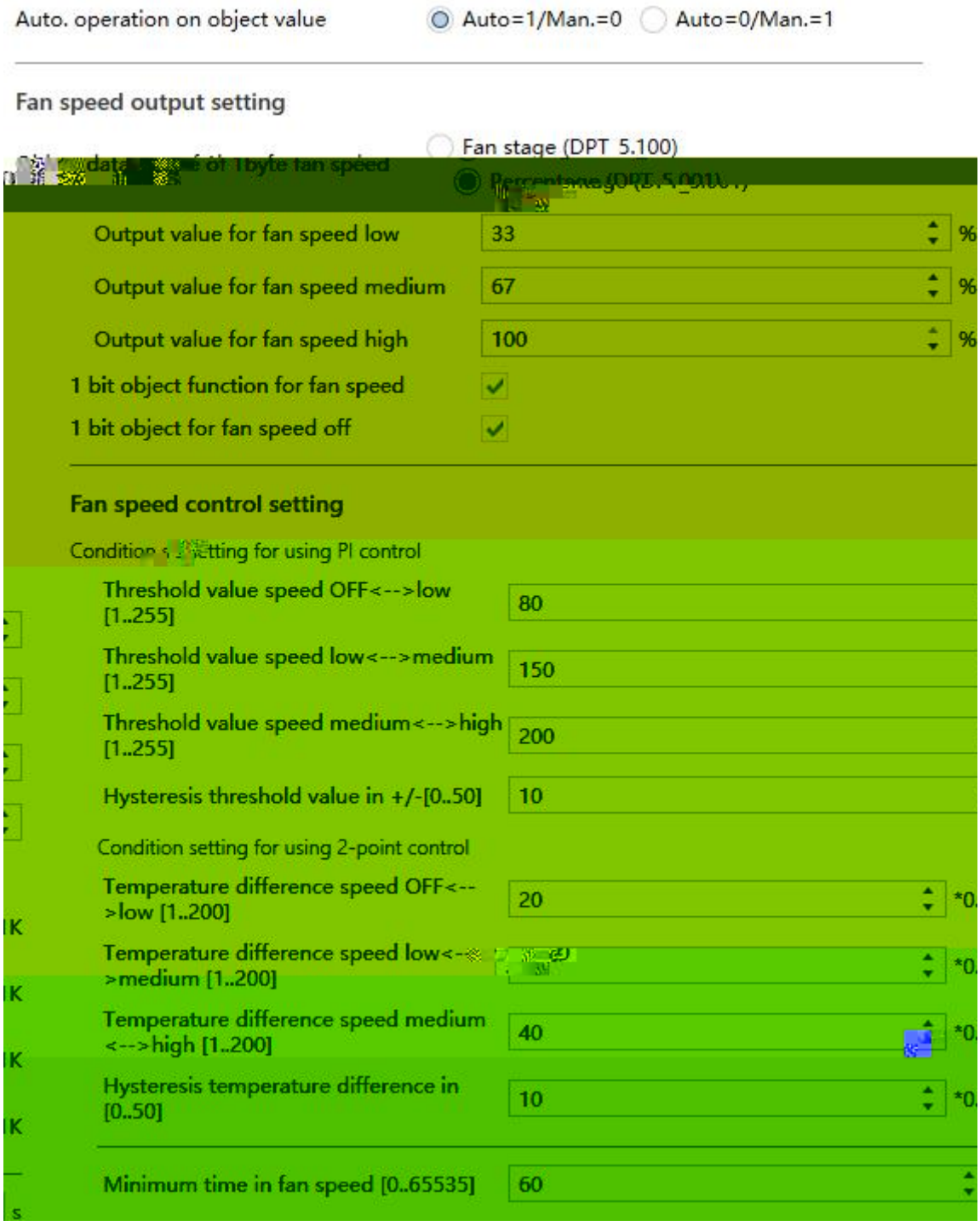
k

10K 5K 20, T 30,

T 25, T 25~30, k



k


Auto. operation on object value
Auto=1/Man.=0
Auto=0/Man.=1
Fan speed output setting
Fan stage (DPT 5.100)
Output value for fan speed low
33
%
Output value for fan speed medium
67
%
Output value for fan speed high
100
%
1 bit object function for fan speed
1 bit object for fan speed off
Fan speed control setting
Threshold value speed OFF<-->low [1..255]
80
Threshold value speed low<-->medium [1..255]
150
Threshold value speed medium<-->high [1..255]
200
Hysteresis threshold value in +/-[0..50]
10
Condition setting for using 2-point control
Temperature difference speed OFF<-->low [1..200]
20
Temperature difference speed medium<-->high [1..200]
40
Hysteresis temperature difference in [0..50]
10
Minimum time in fan speed [0..65535]
60

5.9.3 “Fan”

k

k

Auto=1/Man.=0	“Fan automatic operation”	“0”	“1”
Auto=0/Man.=1	“Fan automatic operation”	“1”	“0”

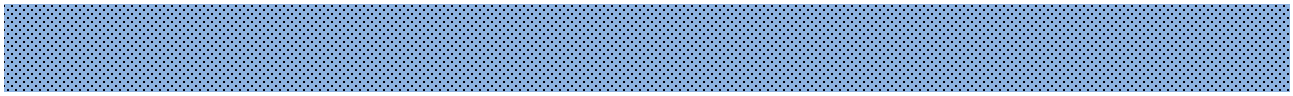
k

k

1byte k

k 0 k

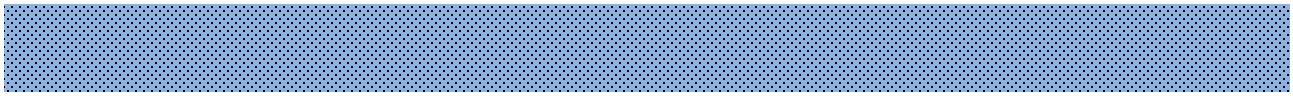
1bit k 1bit k



k 1bit k

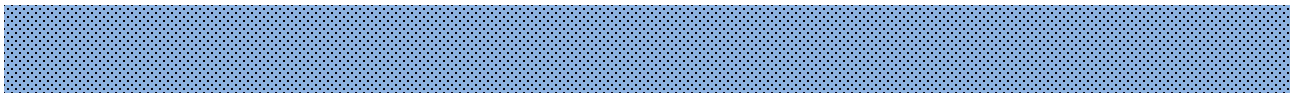
PI PI

k



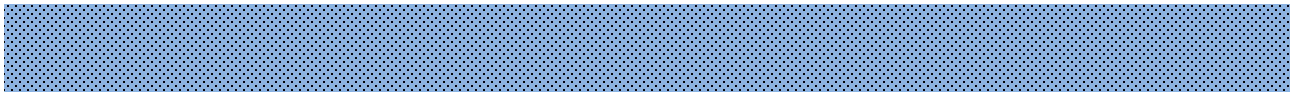
k

k



k

k



k

k

k

Threshold value speed OFF<->low [1..255]	150
Threshold value speed low<->medium [1..255]	150
Threshold value speed medium<->high [1..255]	200

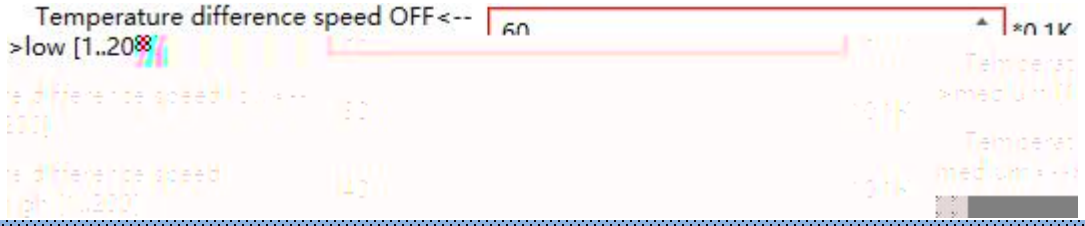
k

k

k

k

k



k

0

0.5 1 1.5 +

0.5 - 0.5 ~1.5

k 0.5 ( )1.5 k

k

k

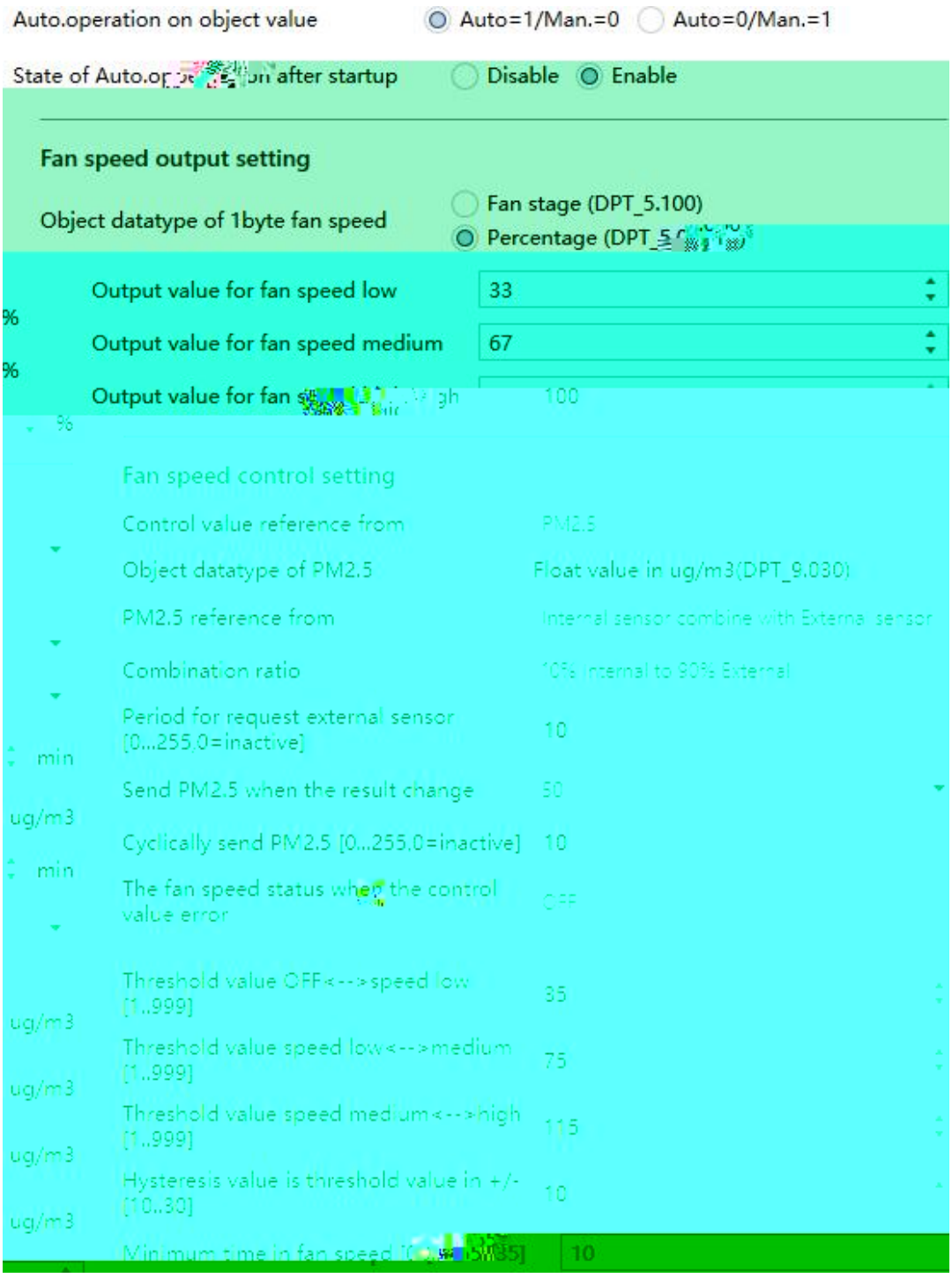
k

0 k

k

, PM2.5 CO2 TVOC ,

5.10 k



5.10 “Ventilation controller”

k

Auto=1/Man.=0	“Fan automatic operation”	“1”	“0”
Auto=0/Man.=1	“Fan automatic operation”	“0”	“1”

k

k

k

1byte k

-

k 0 k

k

PM2.5/CO2/TVOC k

PM2.5/CO2/TVOC k

PM2.5/CO2/TVOC “Internal sensor measurement”

5.3 k

k PM2.5/CO2/TVOC

k

PM2.5/CO2/TVOC k

“40% Internal to 60% External” 40% 60%

PM2.5/CO2/TVOC = PM2.5/CO2/TVOC Ô40% +

PM2.5/CO2/TVOC Ô60% PM2.5/CO2/TVOC PM2.5/CO2/TVOC

k

PM2.5/CO2/TVOC

k

PM2.5/CO2/TVOC PM2.5/CO2/TVOC

k

[Disable]/[10...50ug/m3]/[10...500ppm]/[10...500ug/m3]/[0.01...0.5ppm] Control

value reference from "Object datatype of TVOC"

PM2.5/CO2/TVOC 0 k

k

k

k

k

k

k

k

k

k

k

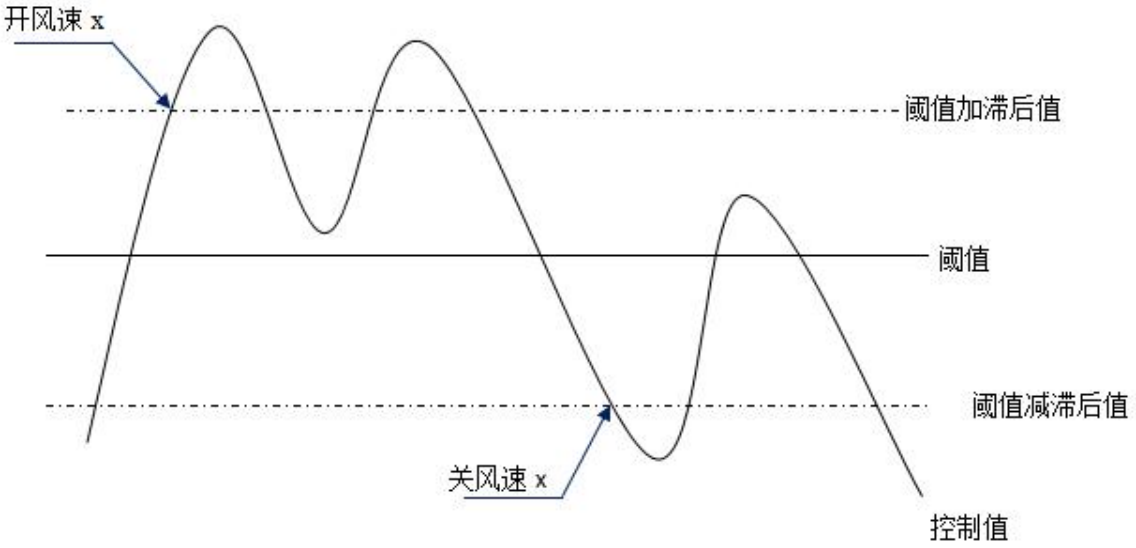
k

k

CO2 100 450 550 + 350

- 350~550 k 350

550 k



k

≥

k

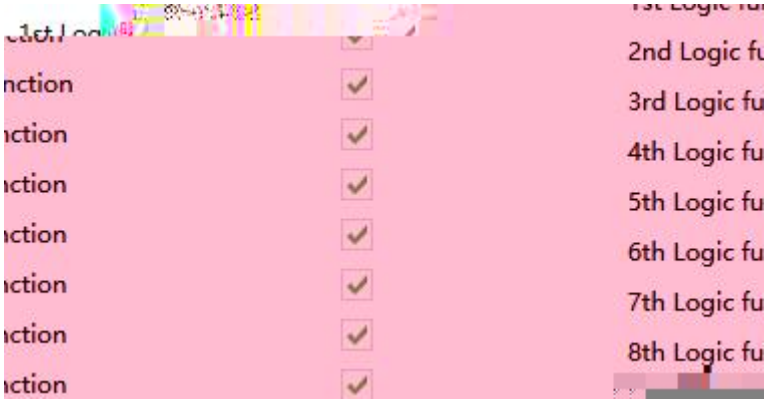
k

k

0 k

k

“Logic function” 5.11 8 k



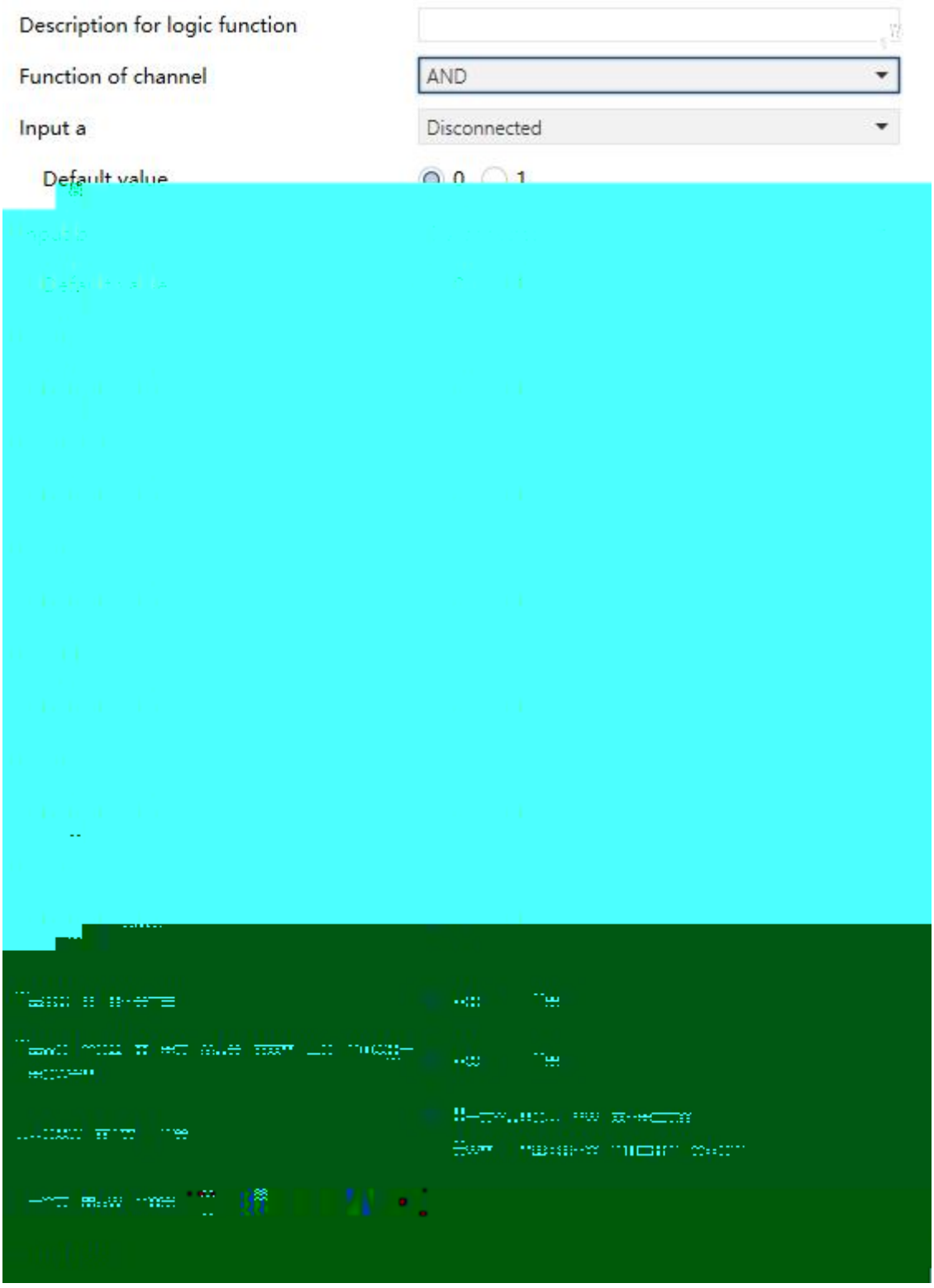
5.11 “Logic function”

k 8 k

k 30 k

k

AND/OR/XOR k



5.11.1 “Logic function_AND/OR/XOR”

input [redacted]

Disconnected ;-

Normal

vÚ^ "
vvortedvÚÆ"

k

k

, ,

input x [redacted]

[redacted]

'ÆÈçè" _ÆSs:3 $?c› %ivÛ

k

Receiving a new telegram k

Every change of output object k

k

k Base × Factor Base “None”

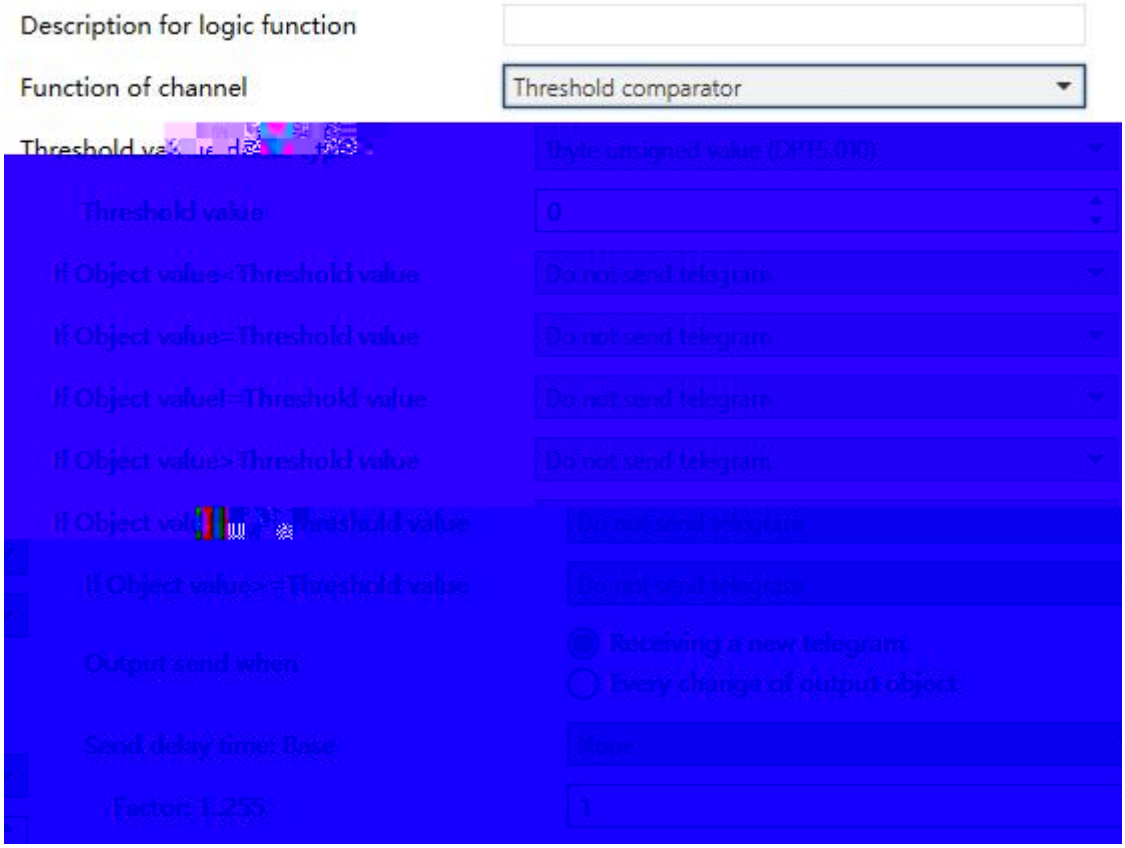
k

k 8 k

k

X (X=A/B/C/D) k

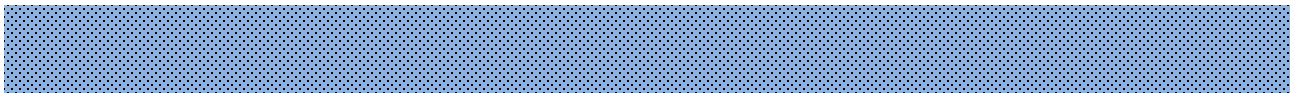
k k



5.11.3 “Logic function_Threshold comparator”

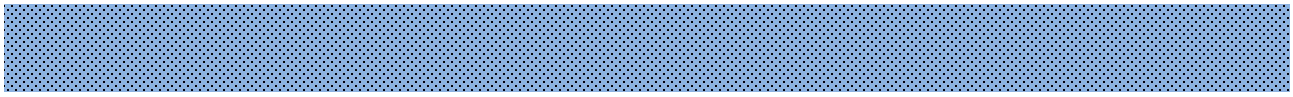
k

k



“2byte float value (DPT9.x)” ! “Illuminance value (DPT 9.004)” k

k



! ! ! !

k “2byte float value (DPT9.x)” ! “Illuminance value (DPT 9.004)”

k

Do not send telegram

Send value “0”/“1” 0 1 k

k

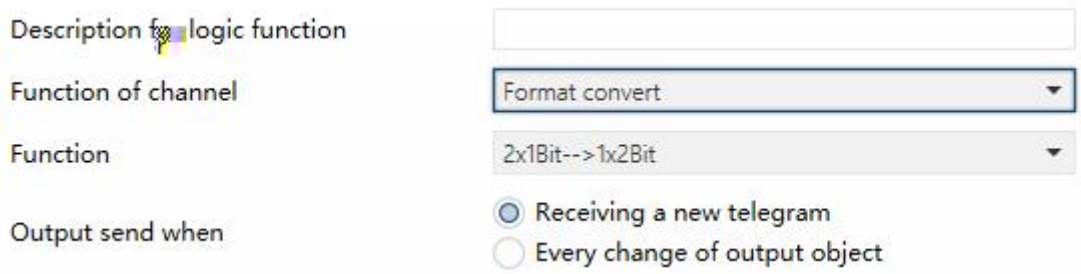
k

□ □ □ □ k

Receiving a new telegram k

Every change of output object k

k



5.11.4 “Logic function _Format convert”

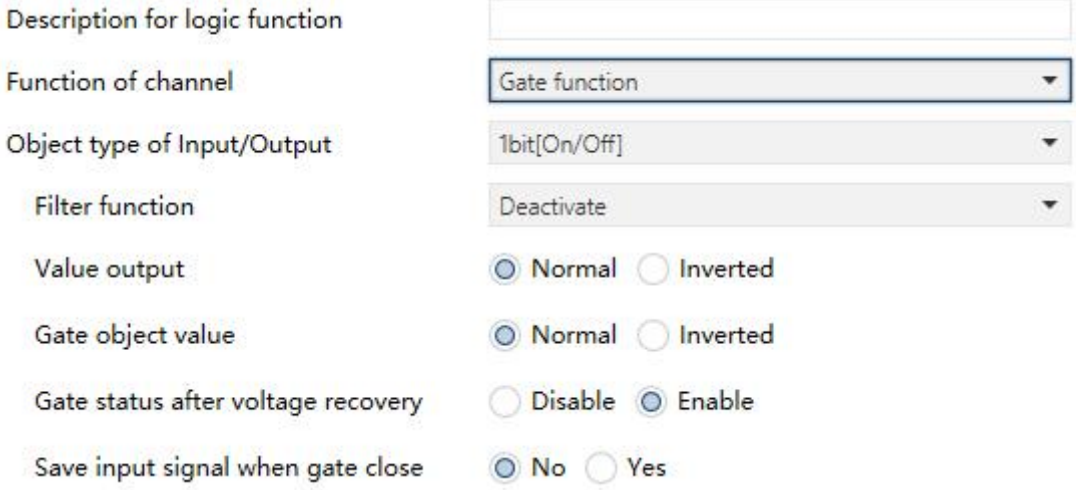
k

k

Receiving a new telegram k

Every change of output object k

k



5.11.5 “Gate function”

/ k

`

“1bit[On/Off]” k On Off

k

Deactivate On Off

On filter out Oi [t v N

Off filter out On Off k

“1bit[On/Off]” k k

k

k

k

No

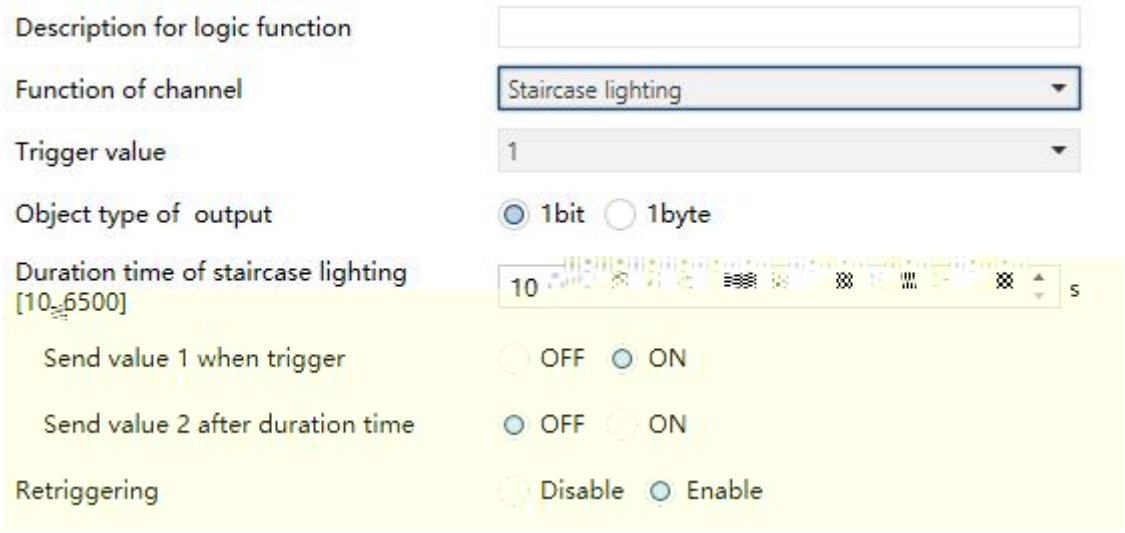
Yes k

5.11.6 “Delay function”

/ k

k

k



5.11.7 “Staircase lighting”

“Trigger value” k

k

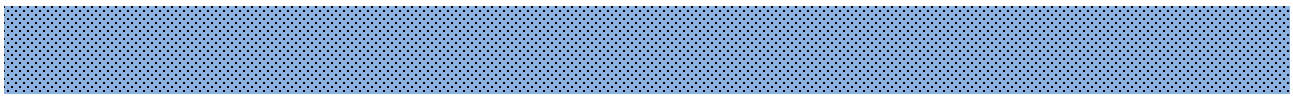
k

k 1 2 k

k

1bit

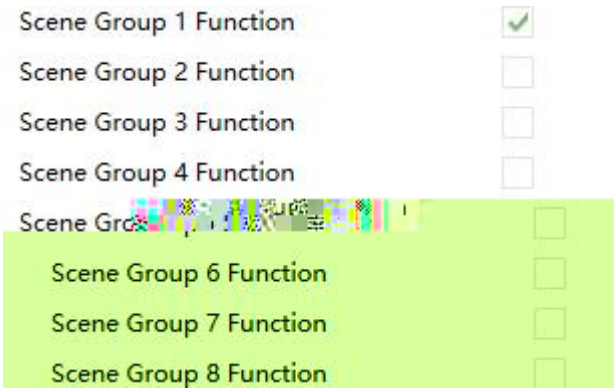
1byte



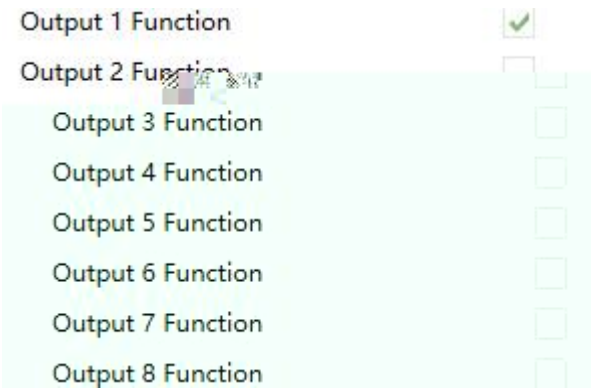
k

“Scene Group function” 8

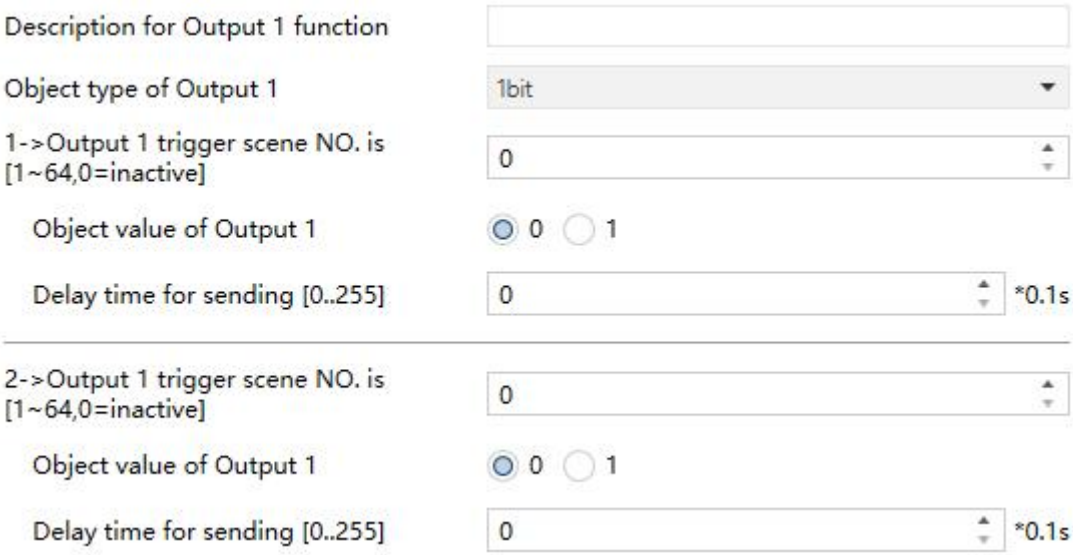
8 k k



5.12(1) “Scene Group function”



5.12(2) “Group X”



5.12(3) “Output Y function”

x 8 k

x y 8 k

8 8

x y k 30 k

x y k

1byte 2byte k

1byte

2byte

x y k 8 k

k

y k

1bit

1byte-1byte unsigned value

1byte-HVAC mode

2byte-2byte unsigned value

2byte-Temperature value

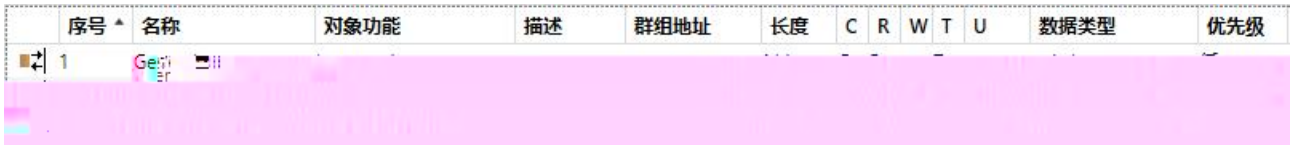
RGB RGB k

RGBW k

k :

k

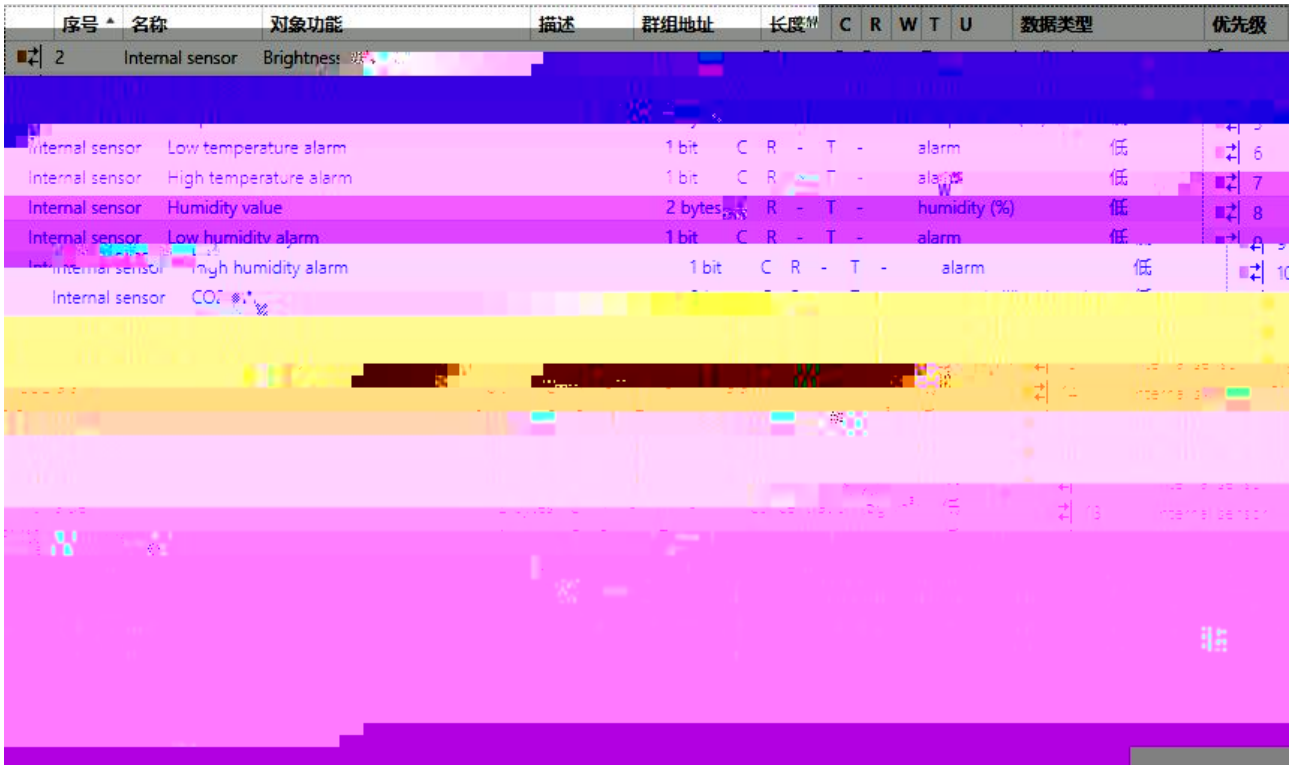
k



6.1 “General”

1 k					
/ k 0 ˚ ˚ 1 ˚ ˚					
1bit LED k 0 ˚ ˚ 1 ˚ ˚					

6.1 “General”



6.2 “Internal sensor measurement”

k					
k					
k					
k					
k					
k					

k					
k					
k					
CO2	CO2	k			
CO2 k 1 ˚ 0 ˚					
CO2	CO2	k			
CO2	CO2	k			
PM2.5	PM2.5	k			
PM2.5 k 1 ˚ 0 ˚					
PM2.5	PM2.5	k			
PM10	PM10	k			
PM10 k					

1 ˚					
0 ˚					
PM10		PM10			k
TVOC		TVOC	k		k
TVOC	k				
1 ˚					
0 ˚					
TVOC		TVOC			k
			k		k
k					
1 ˚					
0 ˚					
k					

6.2 “Internal sensor measurement”

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
166	AQI Level	Output value of level 1			1 bit	C	R	-	T	-	switch	低
167	AQI Level	Output value of level 2			1 bit	C	R	-	T	-	switch	低
168	AQI Level	Output value of level 3			1 bit	C	R	-	T	-	switch	低
169	AQI Level	Output value of level 4			1 bit	C	R	-	T	-	switch	低
170	AQI Level	Output value of level 5			1 bit	C	R	-	T	-	switch	低
171	AQI Level	Output value of level 6			1 bit	C	R	-	T	-	switch	低

6.3.1 “AQI Level”

1~6 k

1bit

166 ˚ 1

167 ˚ 2

168 ˚ 3

169 ˚ 4

170 ˚ 5

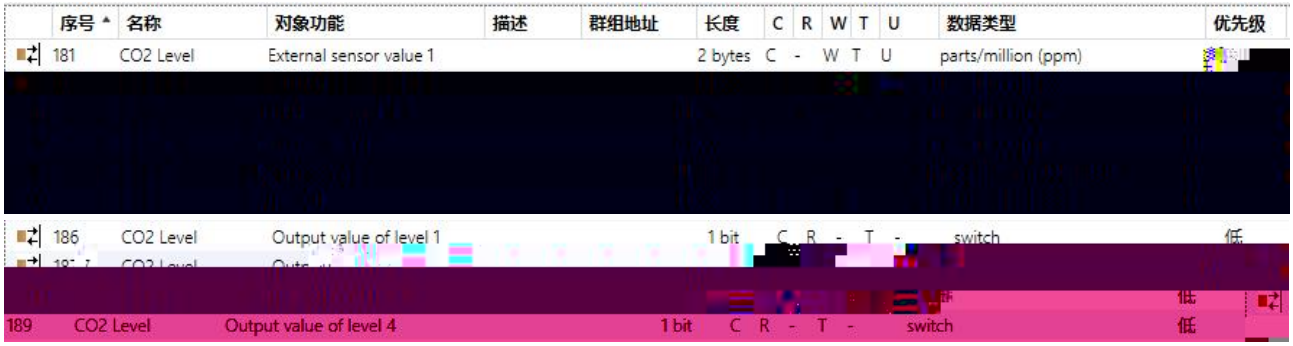
171 ˚ 6

k

1byte k 166

k

6.3.1 “AQI Level”



序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
181	CO2 Level	External sensor value 1			2 bytes	C	-	W	T	U	parts/million (ppm)	
186	CO2 Level	Output value of level 1			1 bit	C	R	-	T	-	switch	低
189	CO2 Level	Output value of level 4			1 bit	C	R	-	T	-	switch	低

6.3.2 “CO2 Level”

CO2 k 0 k					
CO2 k					
1byte 3byte k k					
1~4 k					

1bit

186 ˚ 1

187 ˚ 2

188 ˚ 3

189 ˚ 4

k

1byte k 186

k

6.3.2 “CO2 Level”

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
172	Relative humidity Level	External sensor value 1			2 bytes	C	-	W	T	U	humidity (%)	低
173	Relative humidity Level	External sensor value 2			2 bytes	C	-	W	T	U	humidity (%)	低
174	Relative humidity Level	External sensor value 3			2 bytes	C	-	W	T	U	humidity (%)	低
175	Relative humidity Level	Actual sensor value			2 bytes	C	R	-	T	-	humidity (%)	低
176	Relative humidity Level	Alarm message			14 bytes	C	-	-	T	-	Character String (ISO 8859-1)	低
177	Relative humidity Level	Output value			1 byte	C	R	-	T	-	percentage (0..100%)	低

6.3.3 “Relative humidity Level”

					k 0 k
					k
					1byte 3byte k k

1~4 k

1bit

177 ˚ 1

178 ˚ 2

179 ˚ 3

180 ˚ 4

k

1byte k 180

k

6.3.3 “Relative humidity Level”

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
190	PM2.5 Level	External sensor value 1			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
191	PM2.5 Level	External sensor value 2			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
192	PM2.5 Level	External sensor value 3			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
193	PM2.5 Level	Actual sensor value			2 bytes	C	R	-	T	-	concentration (µg/m³)	低
194	PM2.5 Level	Alarm message			14 bytes	C	-	-	T	-	Character String (ISO 8859-1)	低
195	PM2.5 Level	Output value			1 byte	C	R	-	T	-	percentage (0..100%)	低
195	PM2.5 Level	Output value of level 1			1 bit	C	R	-	T	-	switch	低
196	PM2.5 Level	Output value of level 2			1 bit	C	R	-	T	-	switch	低
197	PM2.5 Level	Outputl			bit	C	R	-	T	-	switch	低
198	PM2.5 Level	Output value of level 4			1 bit	C	R	-	T	-	switch	低
199	PM2.5 Level	Output value of level 5			1 bit	C	R	-	T	-	switch	低

6.3.4 “PM2.5 Level”

PM2.5 k 0 k					
PM2.5 k					
1byte 3byte k					k

1~6 k

1bit

195 ˚ 1

196 ˚ 2

197 ˚ 3

198 ˚ 4

199 ˚ 5

200 ˚ 6

k

1byte k 195

k

6.3.4 “PM2.5 Level”

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
201	PM10 Level	External sensor value 1			2 bytes	C	-	W	T	U	concentration (μg/m³)	低
202	PM10 Level	External sensor value 2			2 bytes	C	-	W	T	U	concentration (μg/m³)	低
203	PM10 Level	External sensor value 3			2 bytes	C	-	W	T	U	concentration (μg/m³)	低
204	PM10 Level	Actual sensor value			2 bytes	C	R	-	T	-	concentration (μg/m³)	低
205	PM10 Level	Alarm message			4 bytes	C	-	-	T	-	Character string (ISO 8859-1)	低
206	PM10 Level	Output value			1 byte	C	R	-	T	-	percentage (0..100%)	低
206	PM10 Level	Output value of level 1			1 bit	C	R	-	T	-	switch	低
207	PM10 Level	Output value of level 2			1 bit	C	R	-	T	-	switch	低
208	PM10 Level	Output value of level 3			1 bit	C	R	-	T	-	switch	低
209	PM10 Level	Output value of level 4			1 bit	C	R	-	T	-	switch	低

6.3.5 “PM10 Level”

PM10 k 0 k					
PM10 k					
1byte 3byte k k					

1~4 k

1bit

206 ˚ 1

207 ˚ 2

208 ˚ 3

209 ˚ 4

k

1byte k 206

k

6.3.5 “PM10 Level”

	序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
	210	TVOC Level	External sensor value 1			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
	211	TVOC Level	External sensor value 2			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
	212	TVOC Level	External sensor value 3			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
	213	TVOC Level	Actual sensor value			2 bytes	C	R	-	T	-	concentration (µg/m³)	低
	214	TVOC Level	Alarm message			14 bytes	C	-	-	T	-	Character String (ISO 8859-1)	低
	215	TVOC Level	Output value			1 byte	C	R	-	T	-	percentage (0..100%)	低
	215	TVOC Level	Output value of level 1			1 bit	C	R	-	T	-	switch	低
	216	TVOC Level	Output value of level 2			1 bit	C	R	-	T	-	switch	低
	217	TVOC Level	Output value of level 3			1 bit	C	R	-	T	-	switch	低
	218	TVOC Level	Output value of level 4			1 bit	C	R	-	T	-	switch	低

6.3.6 “TVOC Level”

TVOC k 0 k k					
TVOC k k					
1byte 3byte k k					

1~4 k

1bit

215 ˚ 1

216 ˚ 2

217 ˚ 3

218 ˚ 4

k

1byte k 215

k

6.3.6 “TVOC Level”

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
219	Formaldehyde Level	External sensor value 1			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
220	Formaldehyde Level	External sensor value 2			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
221	Formaldehyde Level	External sensor value 3			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
222	Formaldehyde Level	Actual sensor value			2 bytes	C	R	-	T	-	concentration (µg/m³)	低
223	Formaldehyde Level	Alarm message			14 bytes	C	-	-	T	-	Character String (ISO 8859-1)	低
224	Formaldehyde Level	Output value			1 byte	C	R	-	T	-	percent	
224	[illegible] Level	Output value of level 1			1 bit	C	R	-	T	-	switch	低
225	Formaldehyde Level	Output value of level 2			1 bit	C	R	-	T	-	switch	低
226	Formaldehyde Level	Output value of level 3			1 bit	C	R	-	T	-	switch	低
227	Formaldehyde Level	Output value of level 4			1 bit	C	R	-	T	-	switch	低

6.3.7 “Formaldehyde Level”

k 0 k k					
k k					
1byte 3byte k k					

1~4 k

1bit

224 ˚ 1

225 ˚ 2

226 ˚ 3

227 ˚ 4

k

1byte k 224

k

6.3.7 “Formaldehyde Level”

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
228	Relative humidity controller	Controller on/off			1 bit	C	-	W	-	-	switch	低
230	Relative humidity controller	External sensor value			2 bytes	C	-	W	T	U	humidity (%)	低
231	Relative humidity controller	Controller status			1 bit	C	R	-	T	-	switch	低

6.4.1 “Relative humidity controller”

k 1—— 0——					
k 0 k					
k 1—— 0——					
k					
k					

k OFF

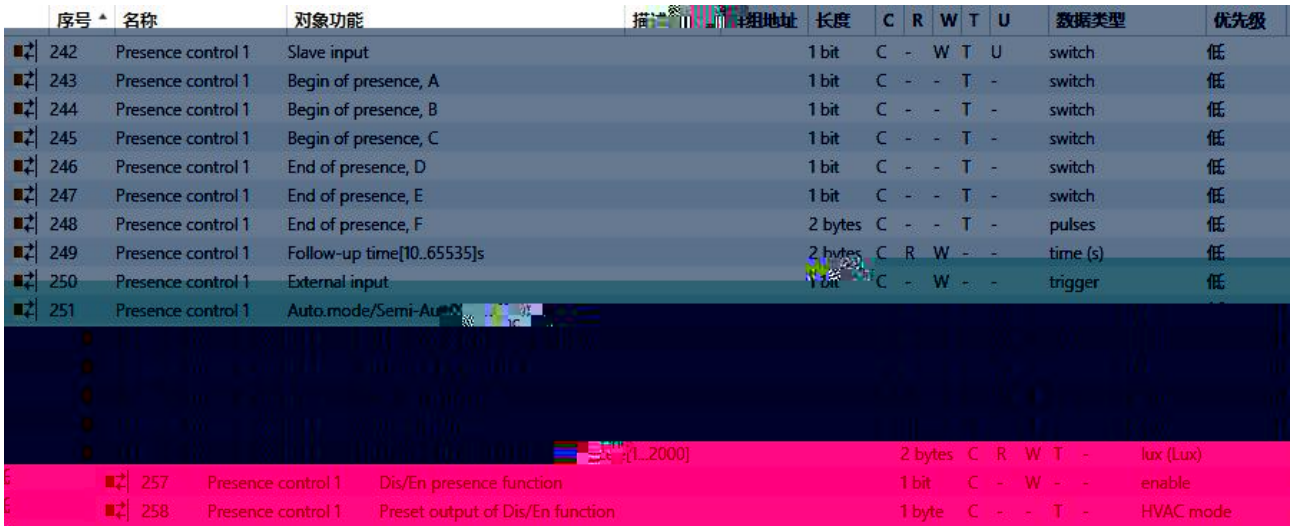
k

6.4.1 “Relative humidity controller”

KNX

		k			OFF
	k				

6.4.2 “CO2 controller”



序号	名称	对象功能	描	组地址	长度	C	R	W	T	U	数据类型	优先级
242	Presence control 1	Slave input			1 bit	C	-	W	T	U	switch	低
243	Presence control 1	Begin of presence, A			1 bit	C	-	-	T	-	switch	低
244	Presence control 1	Begin of presence, B			1 bit	C	-	-	T	-	switch	低
245	Presence control 1	Begin of presence, C			1 bit	C	-	-	T	-	switch	低
246	Presence control 1	End of presence, D			1 bit	C	-	-	T	-	switch	低
247	Presence control 1	End of presence, E			1 bit	C	-	-	T	-	switch	低
248	Presence control 1	End of presence, F			2 bytes	C	-	-	T	-	pulses	低
249	Presence control 1	Follow-up time[10..65535]s			2 bytes	C	R	W	-	-	time (s)	低
250	Presence control 1	External input			1 bit	C	-	W	-	-	trigger	低
251	Presence control 1	Auto.mode/Semi-Au										
					[1...2000]	2 bytes	C	R	W	T	-	lux (Lux)
257	Presence control 1	Dis/En presence function			1 bit	C	-	W	-	-	enable	
258	Presence control 1	Preset output of Dis/En function			1 byte	C	-	-	T	-	HVAC mode	

Presence function-Master

序号	名称	对象功能	描	组地址	长度	C	R	W	T	U	数据类型	优先级
243	Presence control 1	Slave output			1 bit	C	R	-	T	-	switch	低
252	Presence control 1	End presence (only off telegram)			1 bit	C	-	W	-	-	switch	低
253	Presence control 1	Brightness independent			1 bit	C	-	W	-	-	enable	低
254	Presence control 1	External brightness			2 bytes	C	-	W	T	U	lux (Lux)	低
255	Presence control 1	Actual brightness			2 bytes	C	R	-	T	-	lux (Lux)	低
256	Presence control 1	Brightness threshold for presence[1...2000]			2 bytes	C	R	W	T	-	lux (Lux)	低
257	Presence control 1	Dis/En presence function			1 bit	C	-	W	-	-	enable	低

Presence function-Slave

6.5 “Presence function”

k

□ □□□□

k No telegram k k					
k No telegram k k					
k k k					
k k k					
k k					

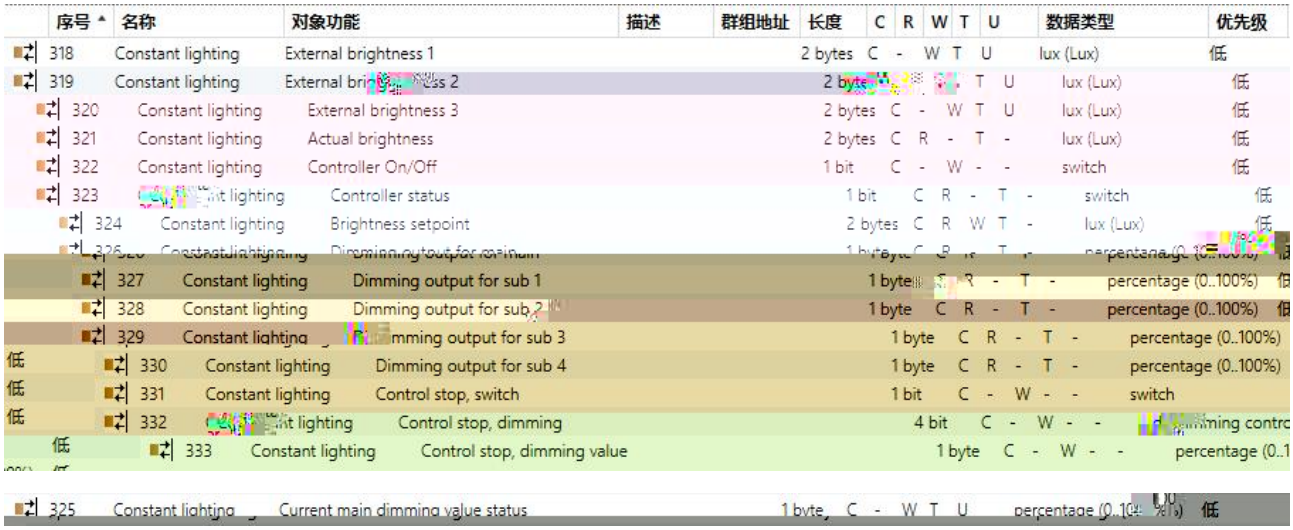
! k C,W,U C,W k OFF k ON k					
! k k					
! k k					
! k k					
! k k k					
! k k					
k k k					

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
310	Light control	External brightness 1			2 bytes	C	-	W	T	U	lux (Lux)	低
311	Light control	External brightness 2			2 bytes	C	-	W	T	U	lux (Lux)	低
312	Light control	External brightness 3			2 bytes	C	-	W	T	U	lux (Lux)	低
313	Light control	Actual brightness			2 bytes	C	R	-	T	-	lux (Lux)	低
314	Light control	Light control			1 bit	C	-	-	T	-	switch	低
315	Light control	Lower brightness threshold[1..2000]			2 bytes	C	R	W	-	-	lux (Lux)	低
316	Light control	Upper brightness threshold[50..2000]			2 bytes	C	R	W	-	-	lux (Lux)	低
317	Light control	Dis./En. function			1 bit	C	-	W	-	-	enable	低

6.6 “Light control”

3 0 k k					
2 k k					
k k					
k k k					
k k k					
k					

6.6 “Light control”



序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
318	Constant lighting	External brightness 1			2 bytes	C	-	W	T	U	lux (Lux)	低
319	Constant lighting	External brightness 2			2 bytes	C	-	W	T	U	lux (Lux)	低
320	Constant lighting	External brightness 3			2 bytes	C	-	W	T	U	lux (Lux)	低
321	Constant lighting	Actual brightness			2 bytes	C	R	-	T	-	lux (Lux)	低
322	Constant lighting	Controller On/Off			1 bit	C	-	W	-	-	switch	低
323	Constant lighting	Controller status			1 bit	C	R	-	T	-	switch	低
324	Constant lighting	Brightness setpoint			2 bytes	C	R	W	T	-	lux (Lux)	低
326	Constant lighting	Dimming output for main			1 byte	C	R	-	T	-	percentage (0..100%)	低
327	Constant lighting	Dimming output for sub 1			1 byte	C	R	-	T	-	percentage (0..100%)	低
328	Constant lighting	Dimming output for sub 2			1 byte	C	R	-	T	-	percentage (0..100%)	低
329	Constant lighting	Dimming output for sub 3			1 byte	C	R	-	T	-	percentage (0..100%)	低
330	Constant lighting	Dimming output for sub 4			1 byte	C	R	-	T	-	percentage (0..100%)	低
331	Constant lighting	Control stop, switch			1 bit	C	-	W	-	-	switch	低
332	Constant lighting	Control stop, dimming			4 bit	C	-	W	-	-	dimming contro	低
333	Constant lighting	Control stop, dimming value			1 byte	C	-	W	-	-	percentage (0..1	低
325	Constant lighting	Current main dimming value status			1 byte	C	-	W	T	U	percentage (0..100%)	低

6.7 “Constant lighting”

		3	0	k	
	k				
	2	k			k
		k	/	k	
		0	,	0	
	k	1	k		
		k			
		0 ˚ ˚			
		1 ˚ ˚			

k

k

k

k					
k					
4 k					
k					
k OFF					
k					

6.7 “Constant lighting”

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
334	RTC 1 - ...	Power on/off			1 bit	C	R	W	-	-	switch	低
335	RTC 1 - ...	External temperature sensor			2 bytes	C	-	W	T	U	temperature (°C)	低
336	RTC 1 - ...	Current setpoint adjustment			2 bytes	C	-	W	-	-	temperature (°C)	低
340	RTC 1 - ...	Heating/Cooling mode			1 bit	C	-	W	-	-	cooling/heating	低
341	RTC 1 - ...	Operation mode			1 byte	C	-	W	-	-	HVAC mode	低
342	RTC 1 - ...	Comfort mode			1 bit	C	-	W	-	-	enable	低
343	RTC 1 - ...	Economy mode			1 bit	C	-	W	-	-	enable	低
344	RTC 1 - ...	Frost/Heat protection mode			1 bit	C	-	W	-	-	enable	低
345	RTC 1 - ...	Standby mode			1 bit	C	-	W	-	-	enable	低
346	RTC 1 - ...	Extended comfort mode			1 bit	C	-	W	-	-	acknowledge	低
347	RTC 1 - ...	Fan automatic ope			1 bit	C	-	W	-	-	enable	低
348	RTC 1 - ...	Window contact			1 bit	C	-	W	T	U	window/door	低
349	RTC 1 - ...	External presence detector			1 bit	C				U	occupancy	低
350	RTC 1 - ...	Actual temperature, status			2 bytes	C	R	-	T	-	temperature (°C)	低
	RTC 1 - ...	Current temperature setpoint, status			2 bytes	C	R	-	T	-	temperature (°C)	低
354	RTC 1 - ...	Heating/Cooling mode, status			1 bit	C	R	-	T	-	cooling/heating	低
355	RTC 1 - ...	Operation mode, status			1 byte	C	R	-	T	-	HVAC mode	低
356	RTC 1 - ...	Comfort mode, status			1 bit	C	R	-	T	-	enable	低
357	RTC 1 - ...	Economy mode, status			1 bit	C	R	-	T	-	enable	低
358	RTC 1 - ...	Frost/Heat protection mode, status			1 bit	C	R	-	T	-	enable	低
359	RTC 1 - ...	Standby mode, status			1 bit	C	R	-	T	-	enable	低
360	RTC 1 - ...	Heating control value			1 bit	C	R	-	T	-	switch	低
361	RTC 1 - ...	Cooling control value			1 bit	C	R	-	T	-	switch	低
362	RTC 1 - ...	Fan speed			1 byte	C	-	-	T	-	percentage (0..100%)	低
363	RTC 1 - ...	Fan speed low			1 bit	C	-	-	T	-	switch	低
364	RTC 1 - ...	Fan speed medium			1 bit	C	-	-	T	-	switch	低
365	RTC 1 - ...	Fan speed high			1 bit	C			T	-	switch	低
366	RTC 1 - ...	Fan speed [illegible]			1 bit	C	-	-	T	-	switch	低
367	RTC 1 - ...	Additional heating control			1 bit	C	R	-	T	-	switch	低
368	RTC 1 - ...	Additional cooling control			1 bit	C	R	-	T	-	switch	低

Absolute

337	RTC 1 - ...	Setpoint offset			1 bit	C	-	W	-	-	step	低
338	RTC 1 - ...	Float offset value			2 bytes	C	-	W	-	-	temperature difference (K)	低
339	RTC 1 - ...	Setpoint offset reset			1 bit	C	-	W	-	-	reset	低
351	RTC 1 - ...	Base temperature setpoint, status			2 bytes	C	R	-	T	-	temperature (°C)	低
352	RTC 1 - ...	Setpoint offset status			2 bytes	C	R	-	T	-	temperature difference (K)	低

Relative

6.8 “RTC function”

k 1—— 0——					
k					

“Current setpoint adjustment” k

k

“Base setpoint adjustment”

k k

k k

1 ˚

0 ˚

k 2byte k

k 1 k

k

1 ˚

0 ˚

k

1byte 341 1- 2- 3- 4- k

1bit

342 ˚

343 ˚

344 ˚

345 ˚

“1” k 1bit ! 0 k

1bit “1” 0 k

k

1 ˚

0 ˚

1 1

k k

/ k

k

1 ˚

0 ˚

k

1 ˚

0 ˚

k k

1 ˚

0 ˚

k k

k k

= 150 +

k k

k

k

k

1byte 355 1- 2- 3- 4- k

1bit

356 ˚

357 ˚

358 ˚

359 ˚

“1” k 1bit !

0 k 1bit 1 k

k k					
k					

1bit

363 ˚

364 ˚

365 ˚

366 ˚

“1” k 1bit-off “0”

GVS

1bit-off “1” k

1byte k 362

k

k k					

1bit	1	0
1byte	100%	0% k

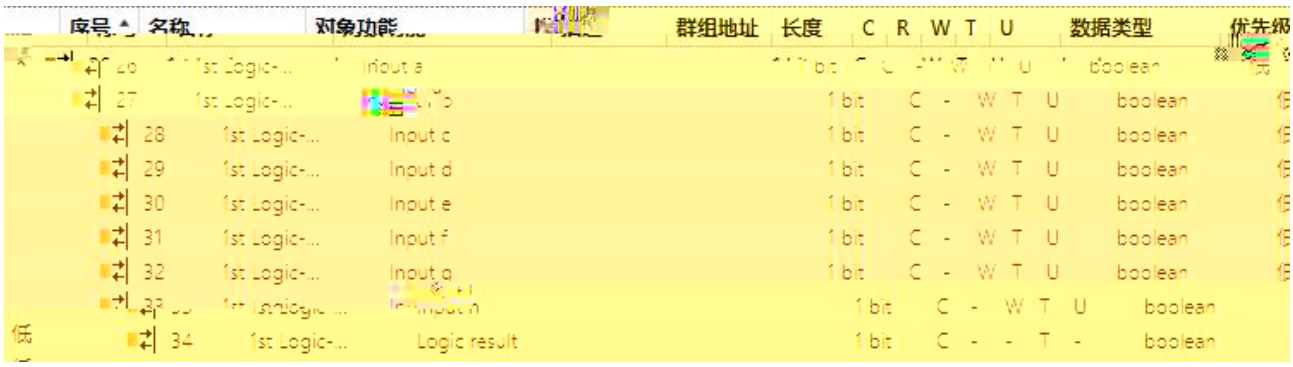
6.8 “RTC function”

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
439	Ventilation controller	Fan automatic operation			1 bit	C	R	W	-	-	enable	低
440	Ventilation controller	External PM 2.5 value			2 bytes	C	-	W	T	U	concentration (µg/m³)	低
441	Ventilation controller	Fan speed			1 byte	C	-	-	T	-	percentage (0..100%)	低

6.9 “Ventilation controller”

k					
1 ˚					
0 ˚					
k PM2.5/VOC/CO2					
k ug/m3 ppm k 0~999ug/m3 0~4000ppm					
PM2.5 PM2.5 k					
1byte k k					
k PM2.5/TVOC/CO2 k					

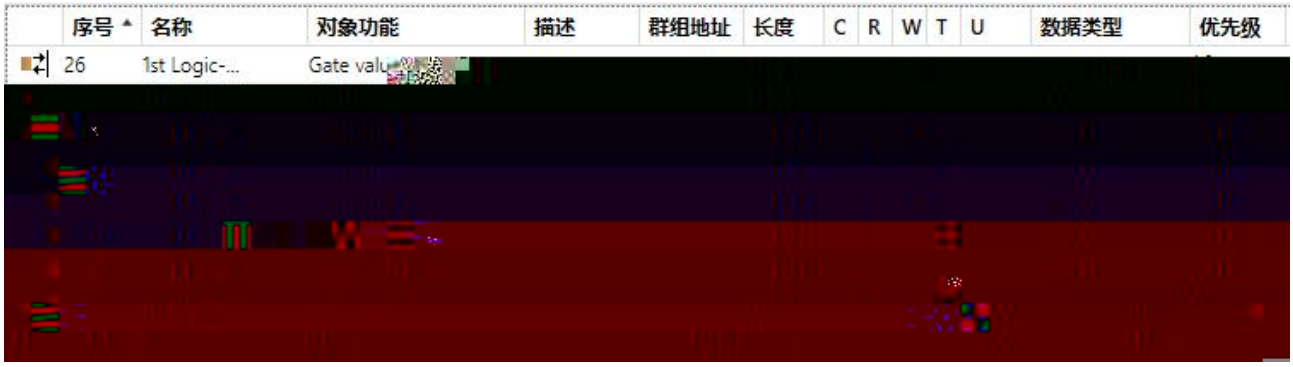
6.9“Ventilation controller”



6.10.1 “AND/OR/XOR”

Input x k “Description for logic function” “1st Logic” k k					
k					

6.10.1 “AND/OR/XOR”



6.10.2 “Gate forwarding”

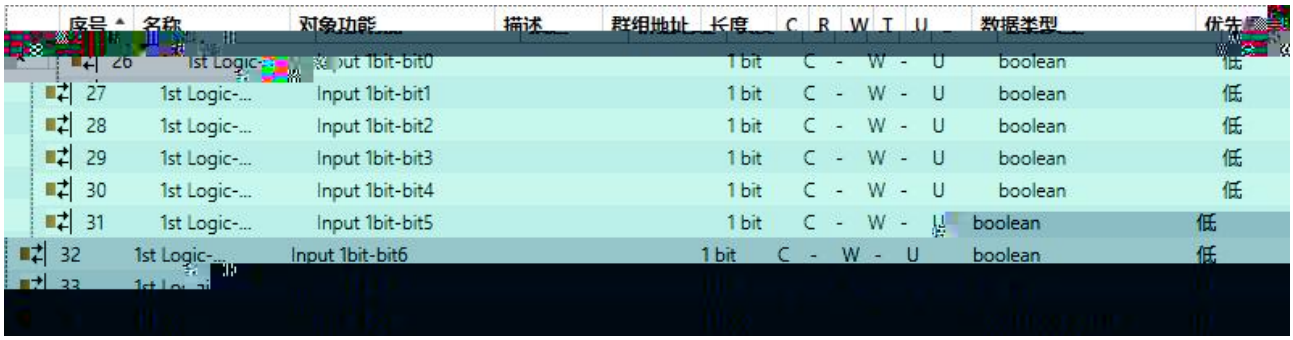
k					
Input x k					
k k					

6.10.2 “Gate forwarding”

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
26	1st Logic-...	Threshold value input			4 bit	C	-	W	-	U	dimming control	低
26	1st Logic-...	Threshold value input			1 byte	C	-	W	-	U	counter pulses (...	低
26	1st Logic-...	Threshold value input			2 bytes	C	-	W	-	U	pulses	低
26	1st Logic-...	Threshold value input			2 bytes	C	-	W	-	U	2-byte signed value	低
26	1st Logic-...	Threshold value input			4 bytes	C	-	W	-	U	counter pulses (unsigned)	低
26	1st Logic-...	Threshold value input			2 bytes	C	-	W	-	U	temperature (°C)	低
26	1st Logic-...	Threshold value input			2 bytes	C	-	W	-	U	lux (Lux)	低
34	1st Logic-...	Logic result			1 bit	C	-	-	T	-	boolean	低

6.10.3 “Threshold comparator”

“2x1bit --> 1x2bit” 2 1bit 2bit Input bit1=1, bit0=0--> Output 2bit=2



“8x1bit --> 1x1byte” : 8 1bit 1byte Input bit2=1, bit1=1, bit0=1, 0--> Output 1byte=7

“1x1byte --> 1x2byte” 1byte 2byte Input 1byte=125--> Output 2byte=125,

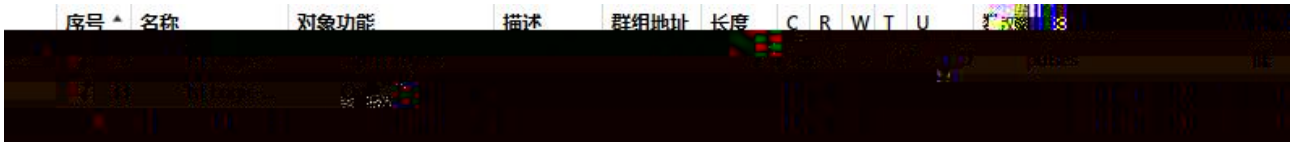
序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
26	1st Logic-...	Input 1byte-low			1 byte	C	-	W	-	U	counter pulses (0..255)	低
27	1st Logic-...	Input 1byte-high			1 byte	C	-	W	-	U	counter pulses (0..255)	低
34	1st Logic-...	Output 2byte			2 bytes	C	-	-	T	-	pulses	低

“2x1byte --> 1x2byte” 2 1byte 2byte Input 1byte-low = 255 ($FF), Input 1byte-high = 100 ($64) --> Output 2byte = 25855 ($64 FF)

“2x2byte --> 1x4byte” 2 2byte 4byte Input 2byte-low = 65530 ($FF FA), Input 2byte-high = 32768 ($80 00)--> Output 2byte = 2147549178 ($80 00 FF FA)

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
26	1st Logic-...	Input 1byte			1 byte	C	-	W	-	U	counter pulses (0..255)	低

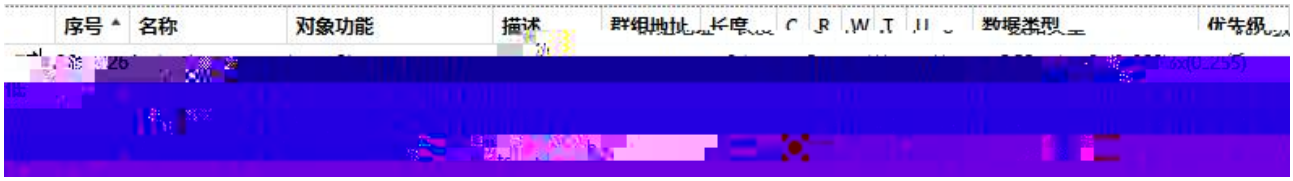
“1x1byte --> 8x1bit” 1 1byte 8 1bit Input 1byte=200 --> Output bit0=0, bit1=0, bit2=0, bit3=1, bit4=0, bit5=0, bit6=1, bit7=1



“1x2byte --> 2x1byte” 1 2byte 2 1byte Input 2byte = 55500 ($D8 CC) --> Output 1byte-low = 204 ($CC), Output 1byte-high =216 ($D8)

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
26	1st Logic-...	Input 4byte			4 bytes	C	-	W	-	U	counter pulses (unsigned)	低
33	1st Logic-...	Output 2byte-low			2 bytes	C	-	-	T	-	pulses	低
34	1st Logic-...	Output 2byte-high			2 bytes	C	-	-	T	-	pulses	低

“1x4byte --> 2x2byte” 1 4byte 2 2byte Input 4byte = 78009500 ($04 A6 54 9C) --> Output 2byte-low = 21660 ($54 9C), Output 2byte-high =1190 ($04 A6)



“1x3byte --> 3x1byte” 1 3byte 3 1byte Input 3byte = $78 64 C8--> Output 1byte-low = 200 ($C8) , Output 1byte-middle = 100 ($64) , Output 1byte-high =120 ($78)

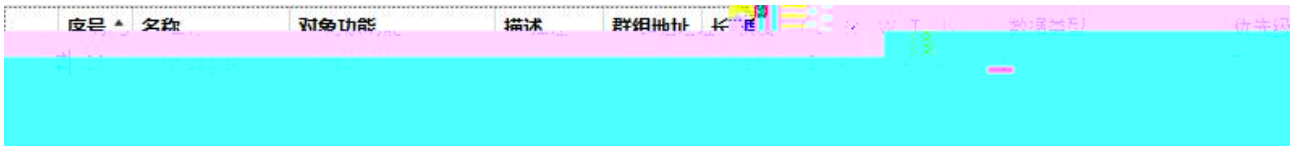
序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
26	1st Logic-...	Input 1byte-low			1 byte	C	-	W	-	U	counter pulses (0..255)	低
27	1st Logic-...	Input 1byte-middle			1 byte	C	-	W	-	U	counter pulses (0..255)	低
28	1st Logic-...	Input 1byte-high			1 byte	C	-	W	-	U	counter pulses (0..255)	低
34	1st Logic-...	Output 3byte			3 bytes	C	-	-	T	-	RGB value 3x(0..255)	低

“3x1byte --> 1x3byte” 3 1byte 1 3byte Input 1byte-low = 150 ($96), Input 1byte-middle = 100 ($64), Input 1byte-high = 50 ($32)--> Output 3byte = $32 64 96

6.7.4 “Format convert”

k					
k					

6.10.4 “Format convert”



Input/Output - 1bit[On/Off]

Input/Output - 1byte[0..100%]

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
26	1st Logic-...	Input			1 byte	C	-	W	-	-	counter pulses (0..255)	低
27	1st Logic-...	Gate input				C	-	W	-	-	boolean	低
34	1st Logic-...	Output				C	-	-	T	-	counter pulses (0..255)	低

Input/Output - 1byte[0..255]

Input/Output - 2byte[Float]

序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
26	1st Logic-...	Input			2 bytes	C	-	W	-	-	pulses	低
27	1st Logic-...	Gate input			1 bit	C	-	W	-	-	boolean	低
34	1st Logic-...	Output			2 bytes	C	-	-	T	-	pulses	低

Input/Output - 2byte[0..65535]

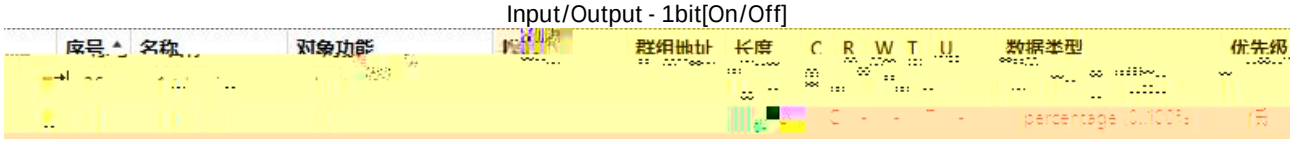
6.10.5 “Gate function”

k					
k k					

k				“Gate input”	k

6.10.5 “Gate function”

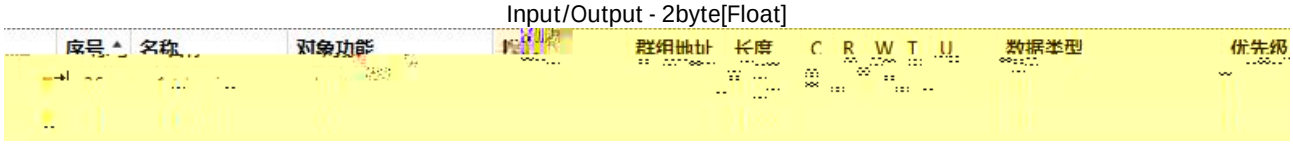
Input/Output - 1bit[On/Off]



Input/Output - 1byte[0..100%]

Input/Output - 1byte[0..255]

Input/Output - 2byte[Float]



Input/Output - 2byte[0..65535]

6.10.6 “Delay function”

□ □

k					

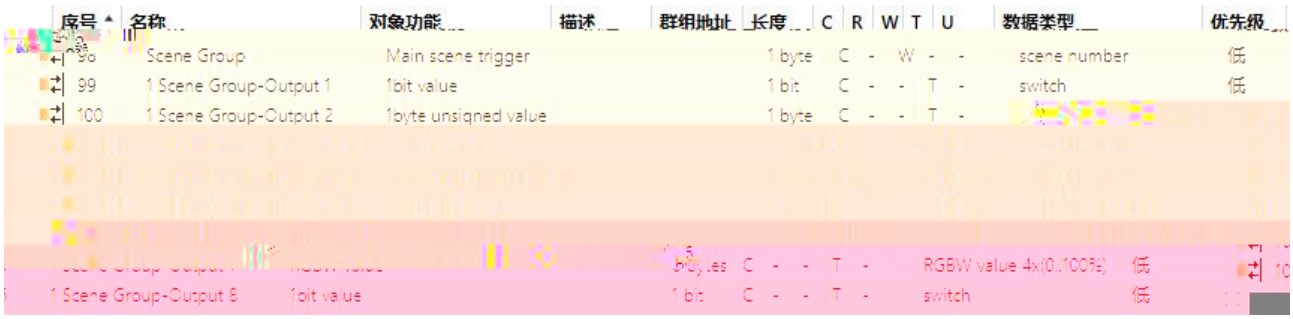
6.10.6 “Delay function”

编号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
26	1st Logic-...	Trigger value			1 bit	C	-	W	-	-	trigger	低
27	1st Logic-...	Light-on duration time			2 bytes	C	-	W	-	-	time (s)	低
34	1st Logic-...	Output			1 bit	C	-	-	T	-	switch	低
34	1st Logic-...	Output			1 byte	C	-	-	T	-	counter pulses (0..255)	低

6.7.7 “Staircase lighting”

k					
k					
1	2 k			k	

6.10.7 “Staircase lighting”



序号	名称	对象功能	描述	群组地址	长度	C	R	W	T	U	数据类型	优先级
98	Scene Group	Main scene trigger			1 byte	C	-	W	-	-	scene number	低
99	1 Scene Group-Output 1	1bit value			1 bit	C	-	-	T	-	switch	低
100	1 Scene Group-Output 2	1byte unsigned value			1 byte	C	-	-	T	-		
					6 bytes	C	-	-	T	-	RGBW value 4x(0..100%)	低
	1 Scene Group-Output 8	1bit value			1 bit	C	-	-	T	-	switch	低

6.11 “Scene Group”

					k 0..63
					k k 8 8 k “Description for Output x function” “1st Scene Group-Output x” k

6.11 “Scene Group”