K-BUS KNX

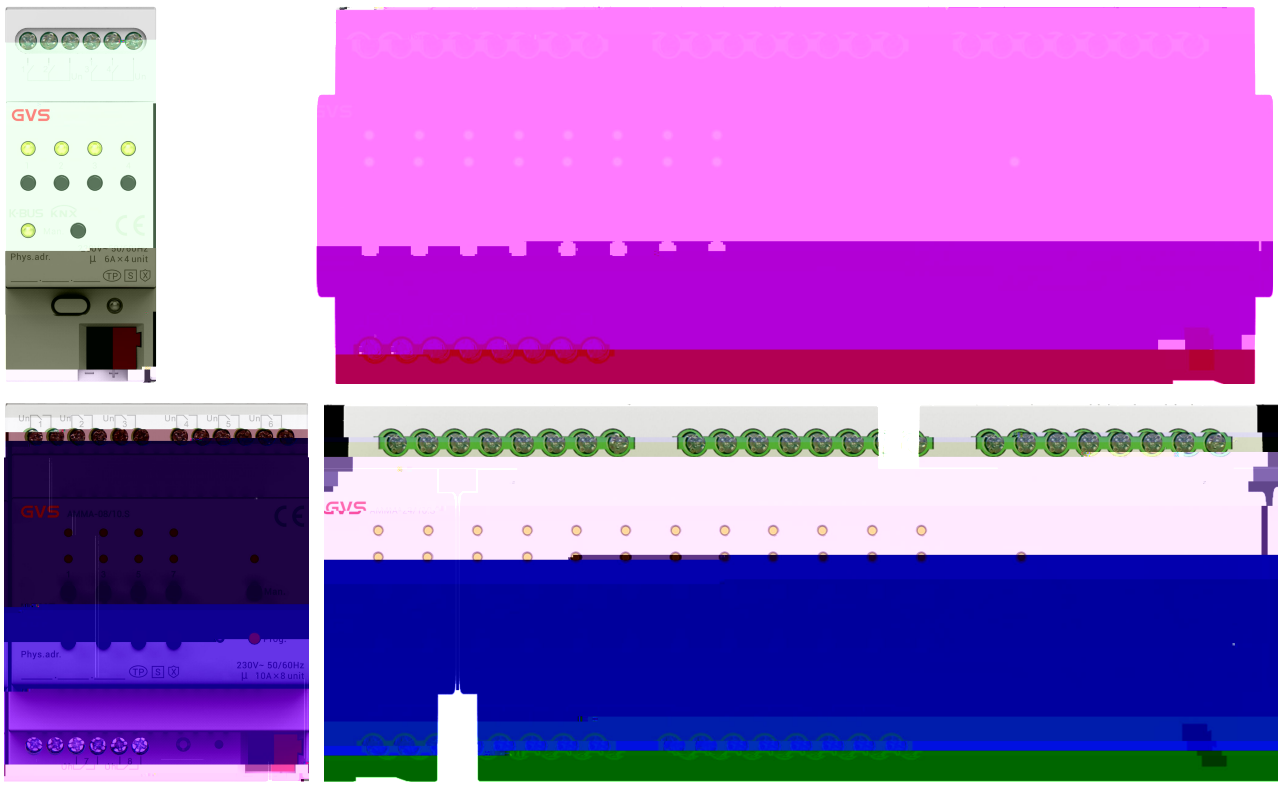
# Multifunctional Actuator with Secure, 4/8/16/24-Fold_V1.5

**AMMA-04/06.S**

**AMMA-08/10.S**

**AMMA-16/10.S**

**AMMA-24/10.S**



**KNX/EIB**

3、不要使用湿布或具挥发性的试剂擦拭设备；

4、请勿自行拆卸本设备。

---------- 1

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KNX

DC/AC k

k

4 ! 8 ! 16 24

k 1 AC

k k

k

KNX EN 60 715

35 KNX

k

KNX

k

—— k 24

/

**8** **1byte**

! ! !

**1bit/2bit**

—— **AC/DC** ! ! ! ! 12

AC 230 V AC 370W 4/8-Fold 1000W(16/24-Fold)

6 DC k

k AC DC AC DC

**/**

**/**

**0...100%**

**0...100%** **Venetian Blind**

**8** **1byte**

**Venetian Blind** **Shutter**

KNX/EIB KNX

/

knxprod ETS ( ETS5

k

! !

k

## 2.1.AMMA-04/06.S

| | |
|---|---|
| | 21~30V DC KNX |
| | <9mA/24V <8mA/30V<br><240mW<br><20mA |
| KNX | / 0.8 mm Ø |
| | 0.2-2.5mm$^2$ 0.4N-m |
| LED | |
| LED<br><br>LED<br>/ /<br>/ LED / | |
| IP 20, EN 60 529 | |
| | -5 ...+45 |
| | -25 ...+55<br>-25 ...+70 |
| | <93% |
| | |
| | 35mm DIN DIN EN 60 715<br>36 × 90 × 64mm<br>0.20kg |
| 4 /2 AC /1 DC /1 /2 ! 2<br>/1 4 | |
| $U_n$<br>$I_n$ | 230V AC 50/60Hz<br>6A<br>192A/1.2ms |
| | > 1 x 10$^6$ |
| | > 5 x 10$^4$ |

| | | |
|---|---|---|
| | | |
| | 1380W | >20000 |
| | 1380W | >5000 |
| | 1380W | >6000 |
| | 1150W | >6000 |
| | 600W | >20000 |
| LED 260A/120us | 450W | >30000 |

k

k

| | | | | |
|---|---|---|---|---|
| Multifunctional Actuator with Secure, 4-Fold/3.0 | 532 | 1000 | 1000 | 200 |

## 2.2.AMMA-08/10.S

| | |
|---|---|
| | 21~30V DC KNX |
| | <10mA/24V <9mA/30V<br><270mW<br><22mA |
| KNX | / 0.8 mm Ø |
| | 0.2-2.5mm$^2$ 0.4N-m |
| LED | |
| LED<br><br>LED<br>/ /<br>/ LED / | |
| IP 20, EN 60 529 | |
| | -5 ...+45 |
| | -25 ...+55<br>-25 ...+70 |
| | <93% |
| | |
| | 35mm DIN DIN EN 60 715<br>72 × 90 × 64mm<br>0.30kg |
| 8 /4 AC /2 DC /2 /4 ! 2<br>/2 4 | |
| $U_n$ | 230V AC 50/60Hz |
| $I_n$ | 10A<br>192A/1.2ms |
| | > 1 x $10^6$ |
| | > 5 x $10^4$ |

| | | |
|---|---|---|
| | | |
| | 2300W | >20000 |
| | 2300W | >5000 |
| | 1840W | >6000 |
| | 1150W | >6000 |
| | 600W | >20000 |
| LED 260A/120us | 450W | >30000 |

k

k

| | | | | |
|---|---|---|---|---|
| Multifunctional Actuator with Secure, 8-Fold/3.0 | 532 | 1000 | 1000 | 300 |

## 2.3.AMMA-16/10.S

| | |
|---|---|
| | 21~30V DC KNX |
| | <10mA/24V <9mA/30V<br><270mW<br><24mA |
| KNX | / 0.8 mm Ø |
| | 0.2-6.0mm$^2$ 0.8N-m |
| LED | |
| LED<br><br>LED<br>/ /<br>/ LED / | |
| IP 20, EN 60 529 | |
| | -5 ...+45 |
| | -25 ...+55<br>-25 ...+70 |
| | <93% |
| | 35mm DIN DIN EN 60 715<br>216 × 90 × 64mm<br>0.70kg |
| 16 /8 AC /4 DC /4 /8 ! 2<br>/4 4 | |
| $U_n$<br>$I_n$ | 230V AC 50/60Hz<br>10A<br>300A/2ms |
| | > 1 x 10$^6$ |
| | > 10$^5$ |

| | | |
|---|---|---|
| | 2300W | >30000 |
| | 2300W | >5000 |
| | 2300W | >5000 |
| | 2000W | >5000 |
| | 2300W | >5000 |

2yTϒj JˆWℙ%Ⅿs

ƧλʇѰ!

## 2.4.AMMA-24/10.S

| | |
|---|---|
| | 21~30V DC KNX |
| | <12mA/24V <11mA/30V<br><330mW<br><28mA |
| KNX | / 0.8 mm Ø |
| | 0.2-6.0mm$^2$ 0.8N-m |
| | LED |
| LED<br><br>LED<br>/ /<br>/ LED / | |
| IP 20, EN 60 529 | |
| | -5 ...+45 |
| | -25 ...+55<br>-25 ...+70 |
| | <93% |
| | 35mm DIN DIN EN 60 715<br>216 × 90 × 64mm<br>0.85kg |
| 24 /12 AC /6 DC /6 /12 !<br>2 /6 4 | |
| $U_n$<br>$I_n$ | 230V AC 50/60Hz<br>10A<br>300A/2ms |
| | > 1 x 10$^6$ |
| | > 10$^5$ |

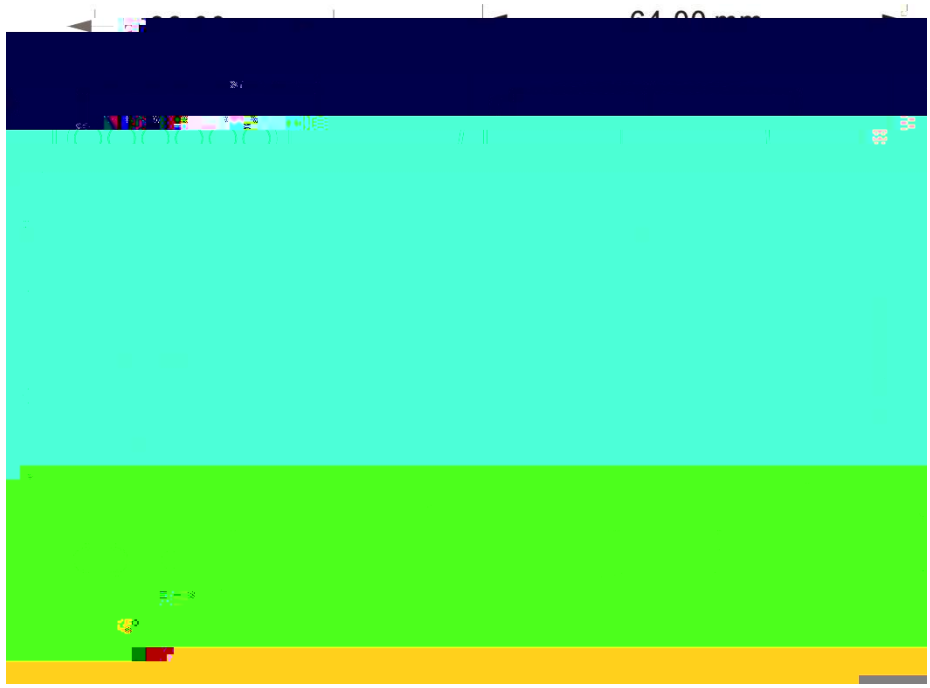
| | | |
|---|---|---|
| | | |
| | 2300W | >30000 |
| | 2300W | >5000 |
| | 2300W | >5000 |
| | 2000W | >5000 |
| | 2300W | >5000 |
| | 2000W | >5000 |
| | 1000W | >6000 |
| LED 260A/120us | 450W | >30000 |

k

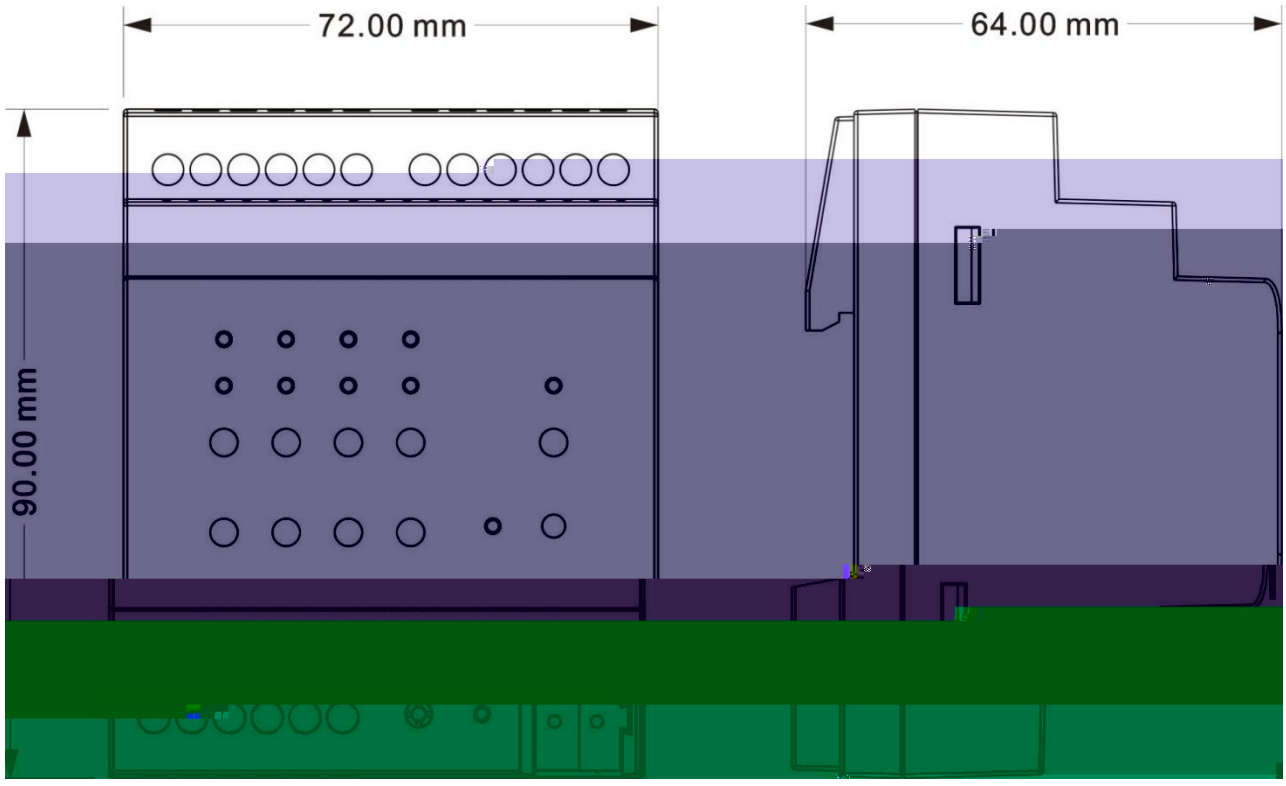
k

| | | | | |
|---|---|---|---|---|
| Multifunctional Actuator with Secure, 24-Fold/3.0 | 532 | 1000 | 1000 | 700 |

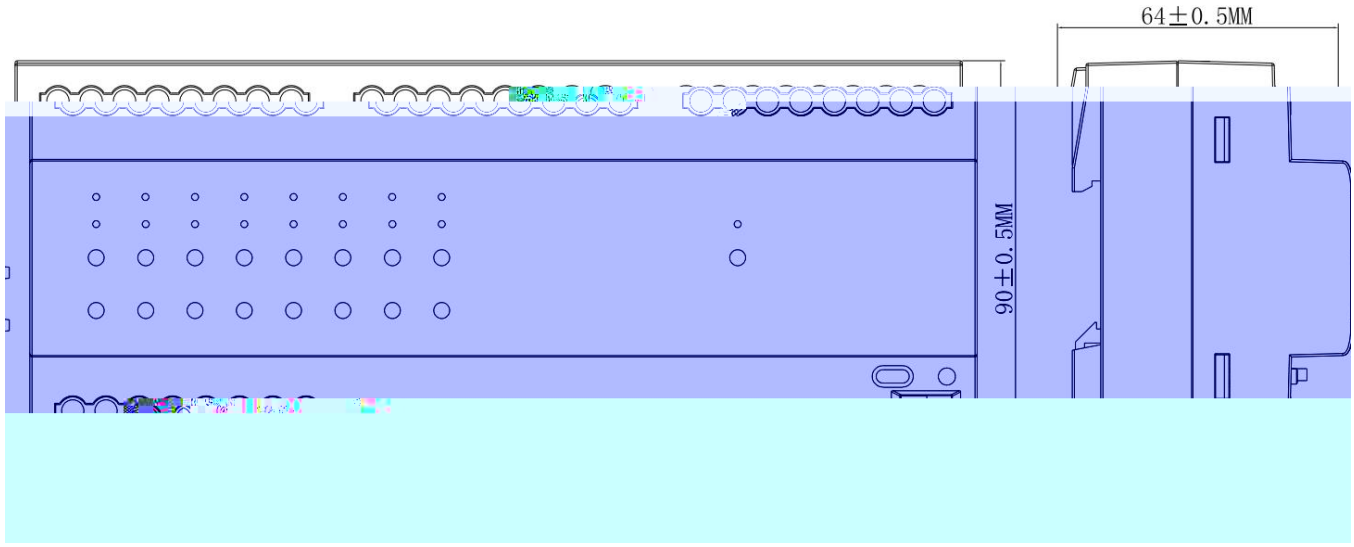
**3.1.**



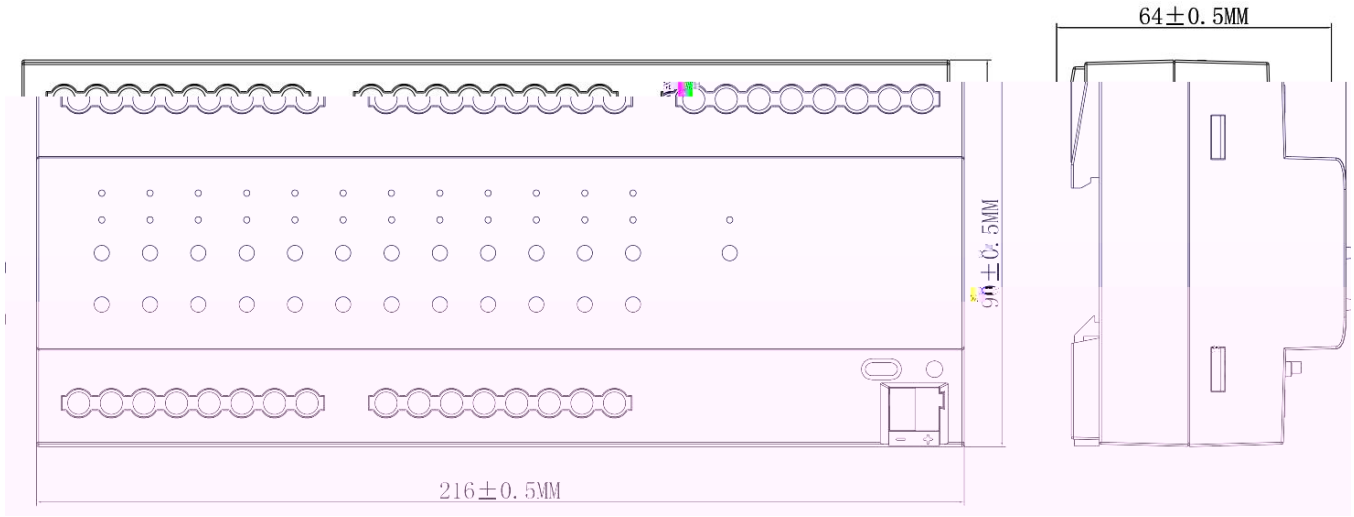
AMMA-04/06.S




AMMA-08/10.S



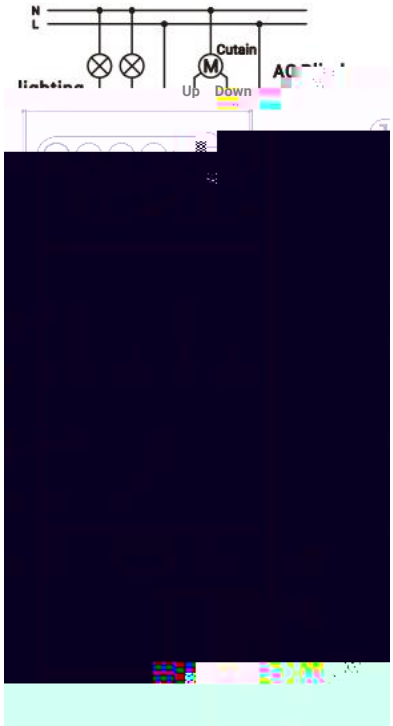

AMMA-16/10.S

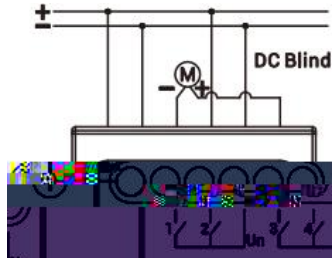


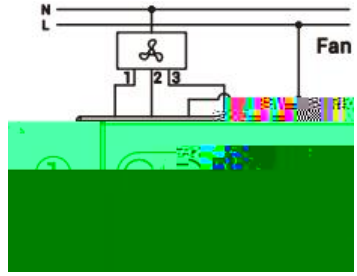

AMMA-24/10.S

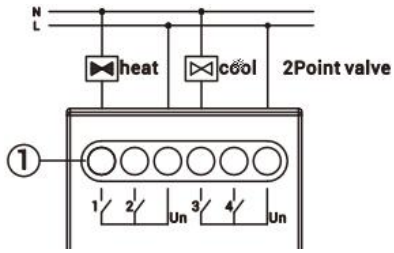
## 3.2.

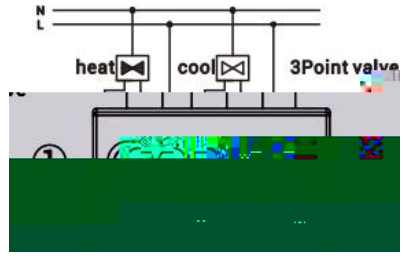
### 3.2.1.AMMA-04/06.S



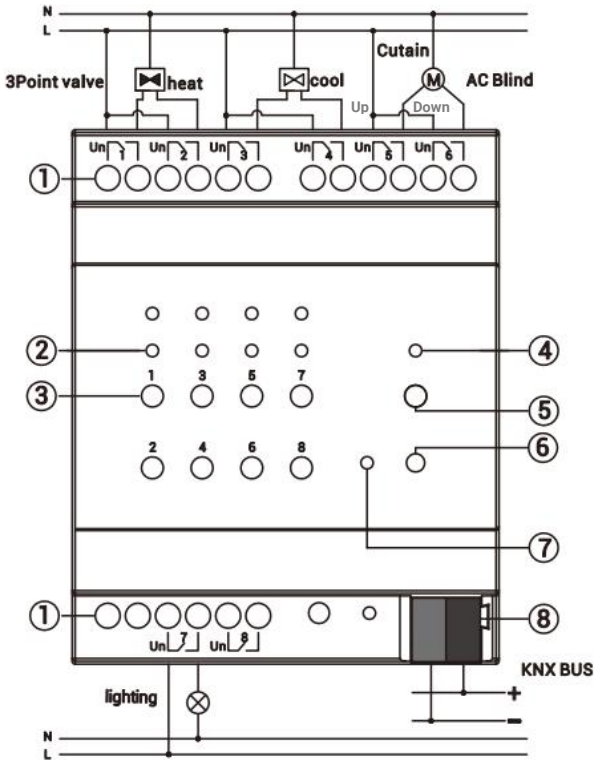



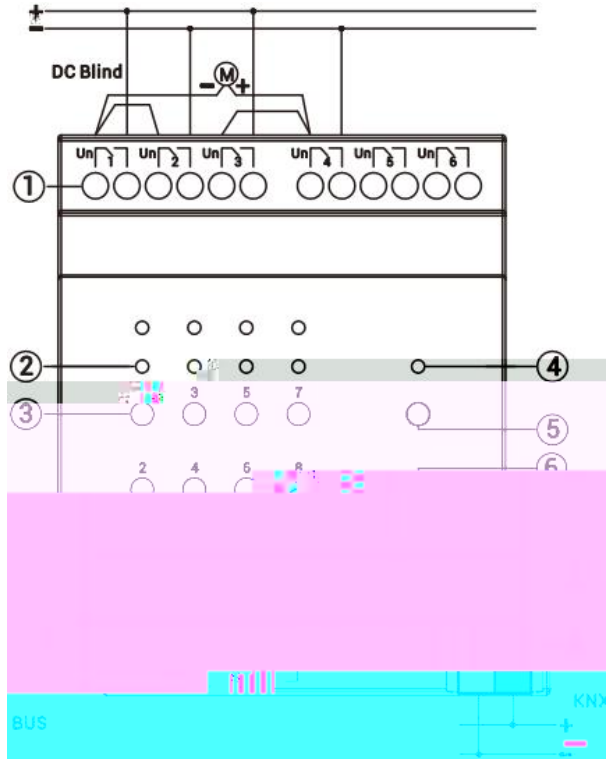



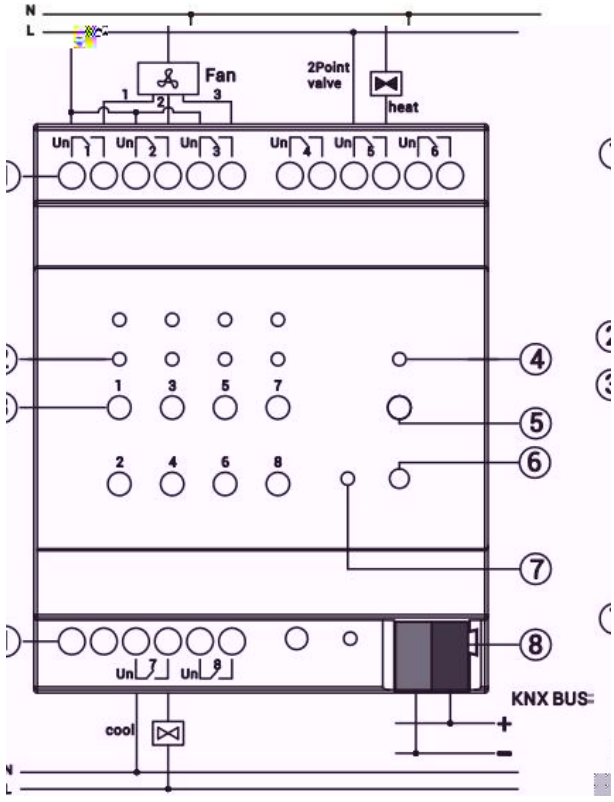



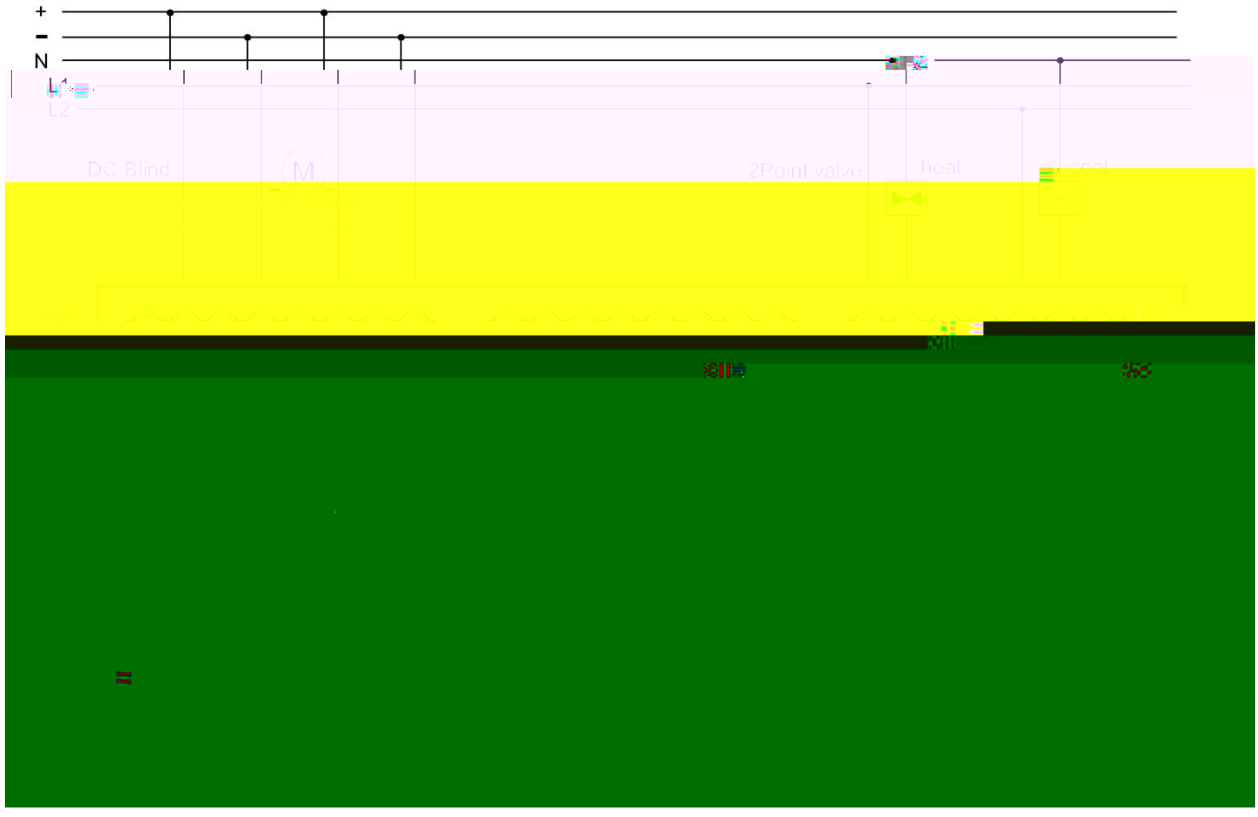
### 3.2.2.AMMA-08/10.S

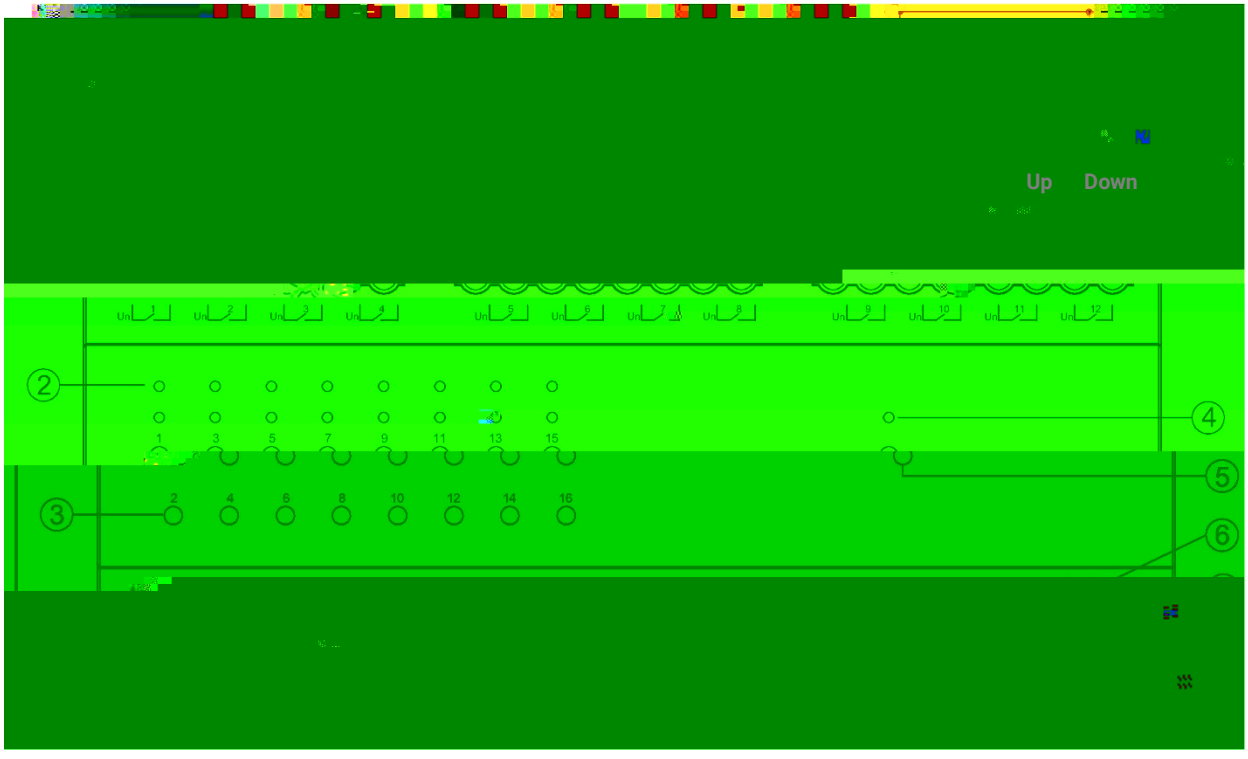


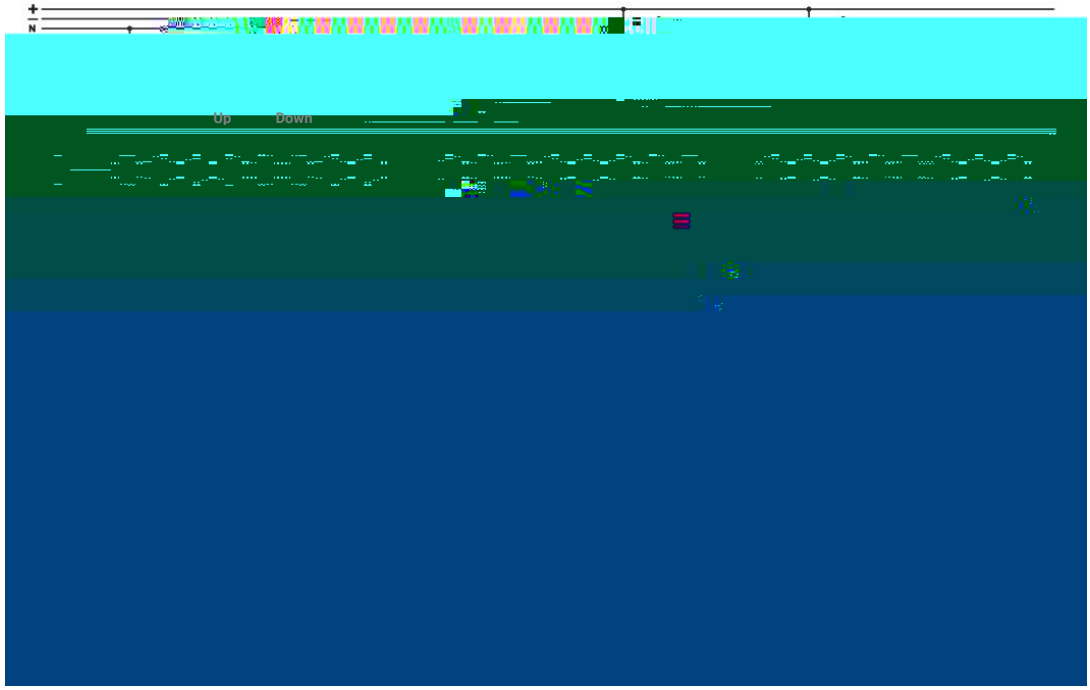



### 3.2.3.AMMA-16/10.S



### 3.2.4.AMMA-24/10.S




F : k

F ʜ

1 , k

/ AC/DC (1) (2) / /

k (DC (3) (4)

k )

(1) 1 (2) 2 (3) 3

k k

2 (1) / / (

/ ) (2) k 4 (1) (3)

(2) (4) k 3Point valve 1 3 2 4

k

ϟ ϶ / **Man.**

/ k

ϡ LED

KNX

4 4 3

1.

k

k

2. k

k

4.4.7 4.5.1 4.6.3 4.8.3

3. AC DC

| | | |
|---|---|---|
| 8 | 1/2/3/4 | 5 |
| | 5/6/7/8 | 4 k |
| 24 | 1/2/3/4 | 5/6 |
| | 5/6/7/8 | 3/4/9/10 |
| | 9/10/11/12 | 7/8/13/14 |
| | 13/14/15/16 | 11/12/17/18 |
| | 17/18/19/20 | 15/16/21/22 |
| | 21/22/23/24 | 19/20 k |

4. 8 ! 16 24 4 k

k

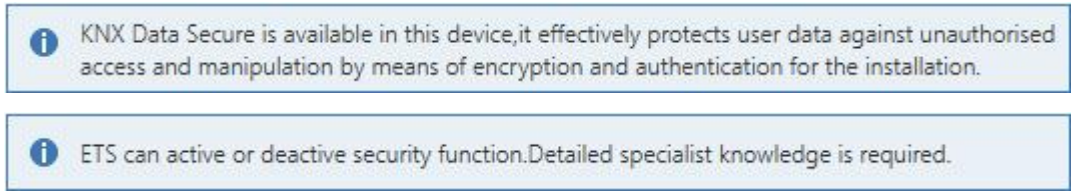
# ETS

## 4.1.KNX

KNX KNX KNX k k

4.1 (1) “KNX Secure”

KNX KNX ETS 4.1(1)







KNX k ETS

k k

FDSK k

ETS

KNX k

**KNX**

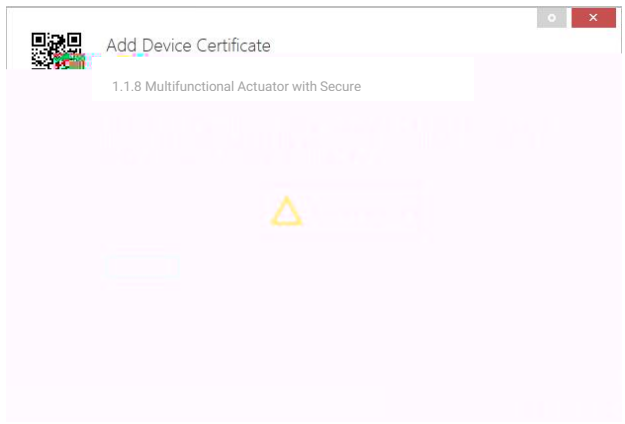
k

KNX k FDSK =

ETS

ETS 4.1 (2) k

QR k

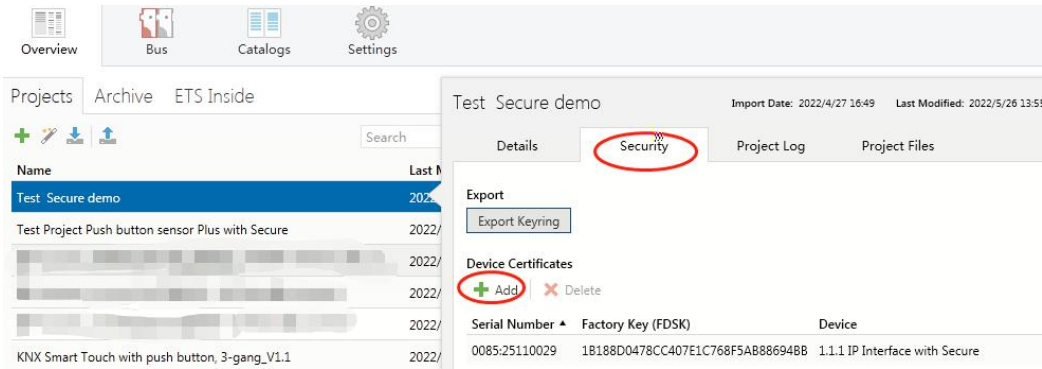



4.1(2) Add Device Certificate

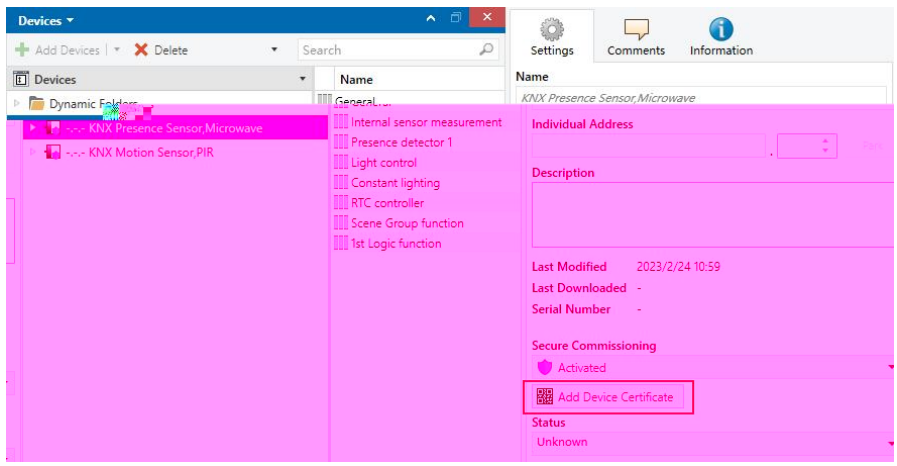
ETS k

“Security” 4.1(3) k

“Add Device Certificate” 4.1(4) k




4.1(3) Add Device Certificate




4.1(4) Add Device Certificate

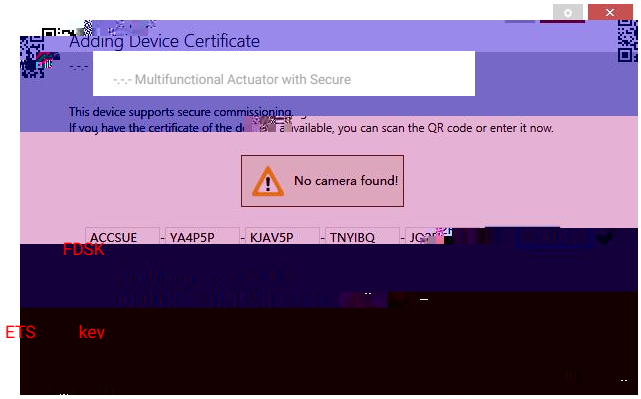
FDSK k

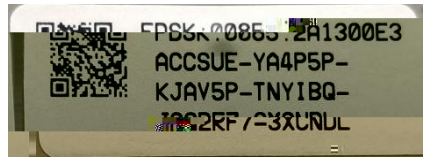
**FDSK** **KNX** k

FDSK FDSK ETS 4.1(5) k

ETS

FDSK k



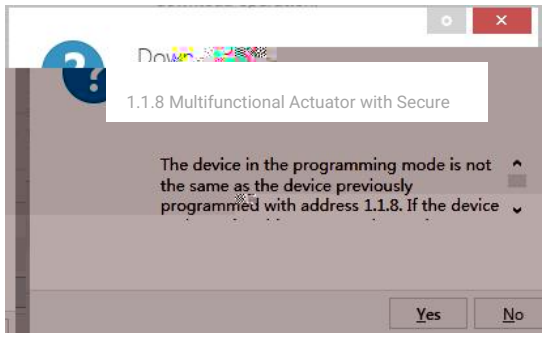



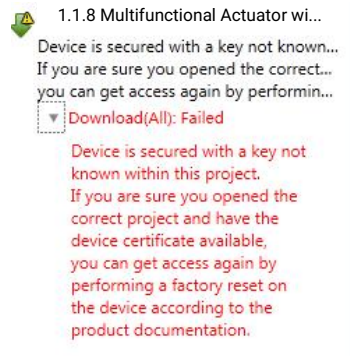

4.1(5)

k

4.1(6) “Yes” “Add Device Certificate” FDSK

4.1(6) k

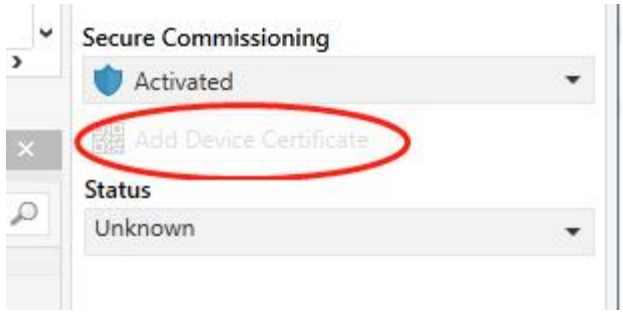



4.1(6)

**FDSK** k

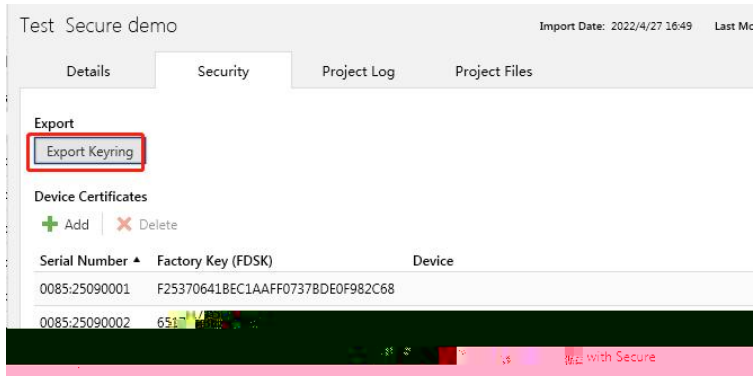
“Add Device Certificate” k




4.1(7)

ETS

4.1(8) .knxkeys k



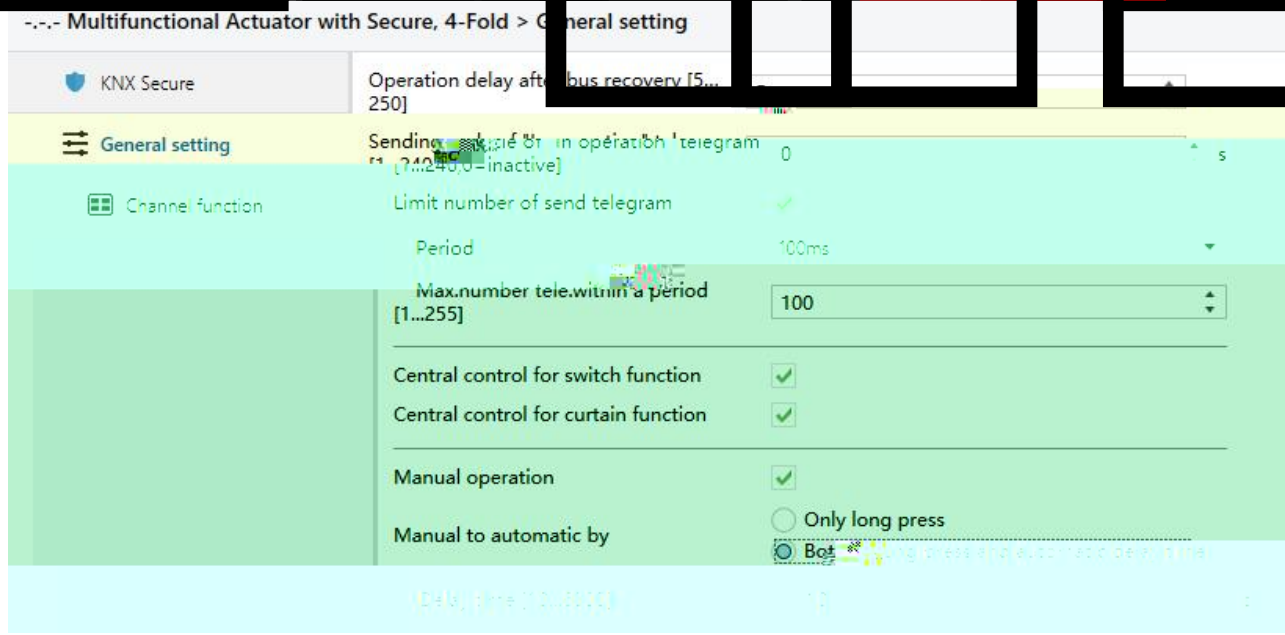

4.1(8)

**KNX USB , ETS**

**k**

## 4.2. “ al”

“General 4.1 k




4.2 General

**Operation delaysafter bus wSovery [5 250]**

k

**0…240 s 0=**

k

k

## Limit number of send telegram

k

**Period**

k

**100ms**

**500ms**

**...**

**10min**

k

k

40

k

**Max.number tele. within a period [1...255]**

k **1…255**

k

## Central control for switch function

k

Central control for all of switch

k

## Central control for curtain function

k

Central control for Up/Down Central control for Slat/Stop

! k

## Manual operation

k

k

**Manual to automatic by**

k

**Only long press**

**Both long press and automatic delay time**

Only long press / k

Both long press and automatic delay time /

k k

**Delay time [10...6000]**

k **10..6000 s**

## 4.3. “Channel function”

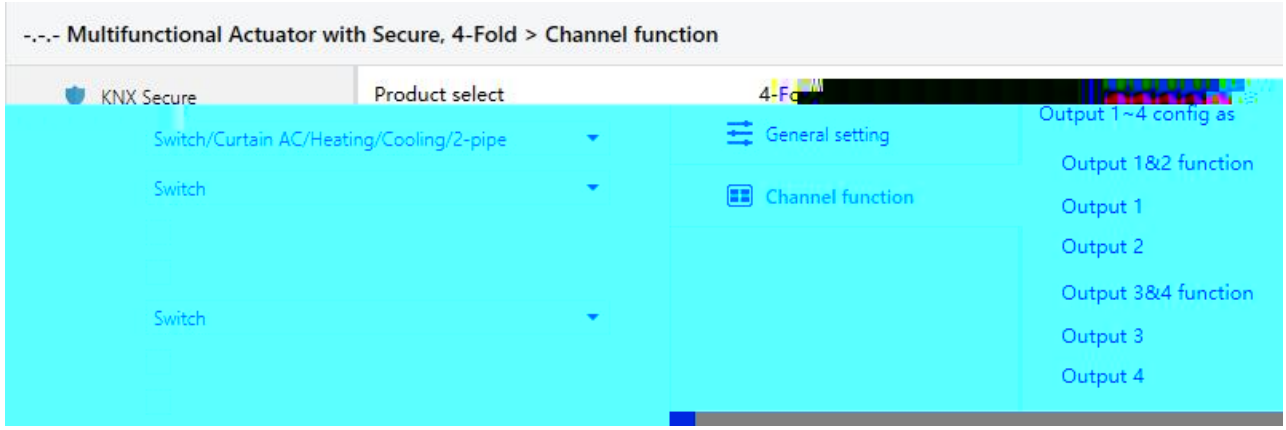
Channel function 4.3 k

4 8 16 24

4 k

k

k




4.3 Channel function

**Product select**

**4-Fold**

**8-Fold**

**16-Fold**

**24-Fold**

**Output x~y 1~4/5~8/9~12/13~16/17~20/21~24 config as**

k

**Disable**

**Switch/Curtain AC/Heating/Cooling/2-pipe / / /2**

**Curtain DC**

**Fan control**

**Valve control 4-pipe 4**

1~4 k

| Output 1~4 | Switch/Curtain AC/Heating/Cooling/2-pipe | | | Curtain DC | Fan control | Valve control 4-pipes |
|---|---|---|---|---|---|---|
| | Switch | Curtain AC | Heating/Cooling/ 2-pipe | | | |
| Output 1 | Output 1 | Curtain 1 | Valve 1 Output 1&2, if 3point, open and close | Curtain DC 1 | Fan 1: fan speed 1 | Valve 1: Heat Output 1&2, if 3point, open and close |
| Output 2 | Output 2 | | | | Fan 1: fan speed 2 | |
| Output 3 | Output 3 | urtain 2 | Valve 2 Output 3&4, if 3point, open and close | | Fan 1: fan speed 3 | Valve 1: Cool Output 3&4, if 3point, open and close |
| Outpu | Ou 4 | | | | | |

H □ □

1 3 Output 2 Output 4 2 4 Un k

- **Fan 1 output is fixed for** **1level:1; 2level:1&2; 3level:1&2&3**

1 Output 1

2 Output 1 Output 2

3 Output 1, Output 2 Output 3 k

- **If Fan 1 set to 1 or 2 level, output 3&4 as switch output**

**1 2 3 4** k

4

- **Heat output for 4-pipe valve 1 is Output 1** **Output 1&2, if 3 point, open and close**

1 Output 1

Output 1 Un k

Output 1 Output 2

Output 1 Output 2 Un k

- **Cool output for 4-pipe valve 1 is Output 3** **Output 3&4, if 3 point, open and close**

1 Output 3

Output 3 Un k

Output 3 Output 4

Output 3 Output 4 Un k

- **Valve 1 output is fixed for Output 1** **Output 1&2, if 3 point, open and close**

HVAC

k

Output 1 Output 1

Un k

Output 1 Output 2 Output 1 Output 2 Un k

## 4.4. --Switch actuator

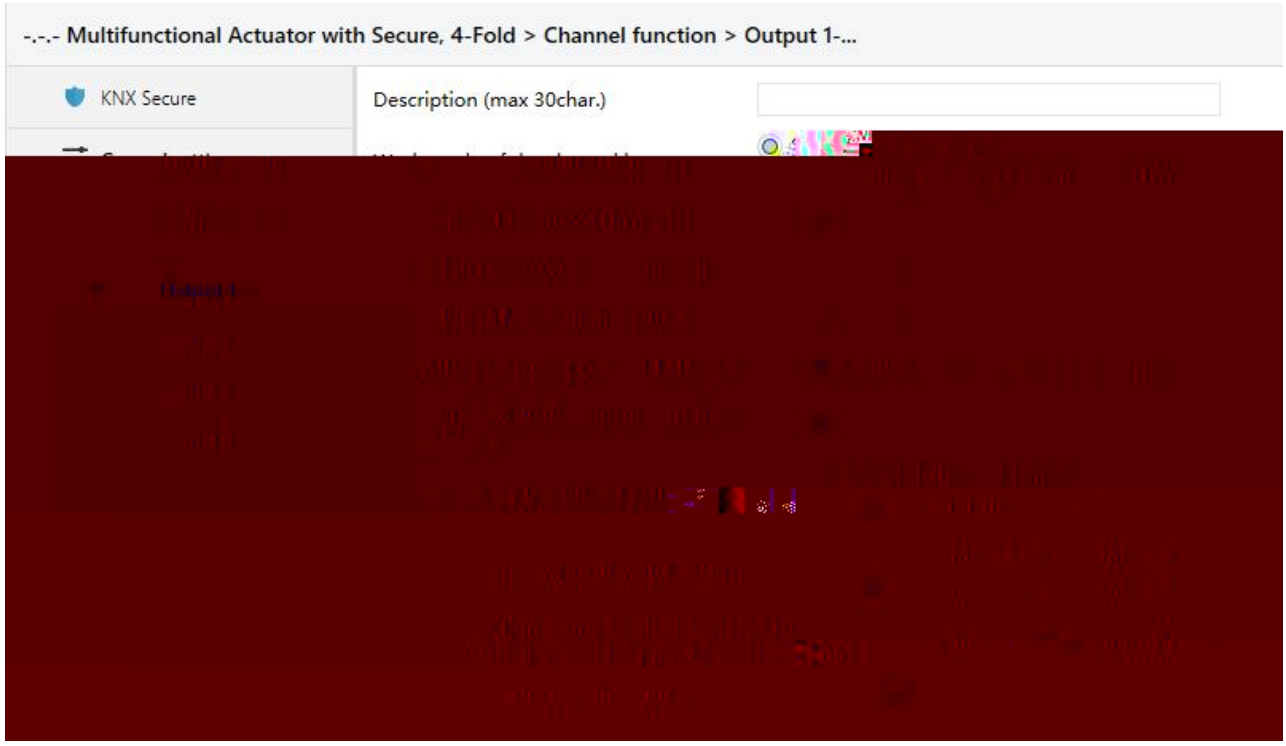
24

k

### 4.4.1. “Switch actuator: Output X”

“Switch actuator: Output X” 4.4.1 k

k




4.4.1(1) Output X: Switch actuator

KNX/EIB KNX

30 k

k □ □

**If bus failure, output status is**

k

**Unchange**

**Contact open**

**Contact close**

“Unchange”

“**Contact open**”

“**Contact close**” k

**After downloading, output status is**

k

**Contact open**

**As bus recovery**

“**Contact open**” k

“As bus recovery” “If bus recovery, contact is”

k

**Object Value of switch after bus recovery**

“Input 0” “Switch”

“0” “1” k

**0**

**1**

0 k

**Set the reply mode of switch status**

k

**Respond after read only**

**Respond after change**

“Respond after read only”

“Switch status”

“Respond after change” “Switch status”

k

**Object value of switch status :**

“Switch status” k

**0=contact close; 1=contact open**

**1=contact close; 0=contact open**

“0=contact close ; 1=contact open” “Switch status” “0”

“1”

“1=contact close; 0=contact open” k

**Switch status**

**k**

**Output status for the telegram "1"(telegram "0" is opposite of selection)**

“Switch” k “Input 0” “Switch” “Input 0”

k

**Contact open**

**Contact close**

**“Contact open”** 1 0

**“Contact close”** 1 0

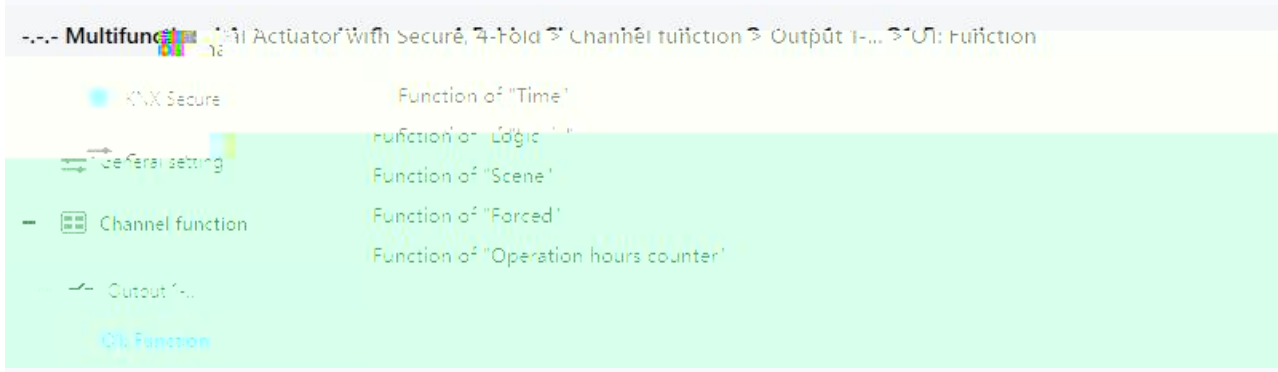
k

**Input 0** **Switch** **Input 0** **k**

**Extension function**

“Ox: Function”

4.4.1(2) k




4.4.1(2) Ox Function

### 4.4.2. “Ox: Time”

4.4.1(2)“Ox: Function” “Function of “time”” 4.4.2.1

“Enable time function”

k

**Type of time function**

k

**Delay**

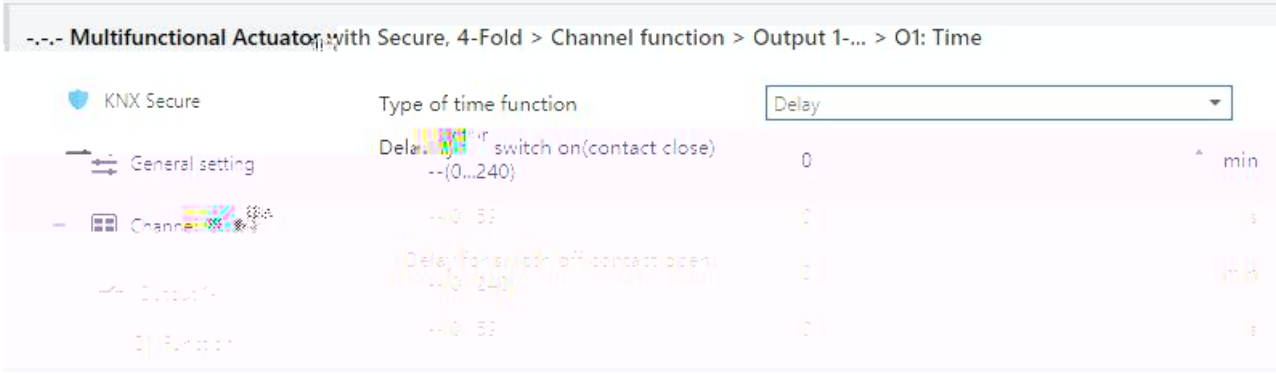
**Flashing**

**Staircase**

#### 4.4.2.1. “Delay”

“Delay” 4.4.2.1 k “Delay function”

k




4.4.2.1 Ox:Time-Delay

**Delay for switch on(contact close): (0...240)/ (0...59)**

k

**0...240 min**

**0...59 s**

k

**Delay for switch off(contact open): (0...240) / (0...59)**

k

**0...240 min**

**0...59 s**

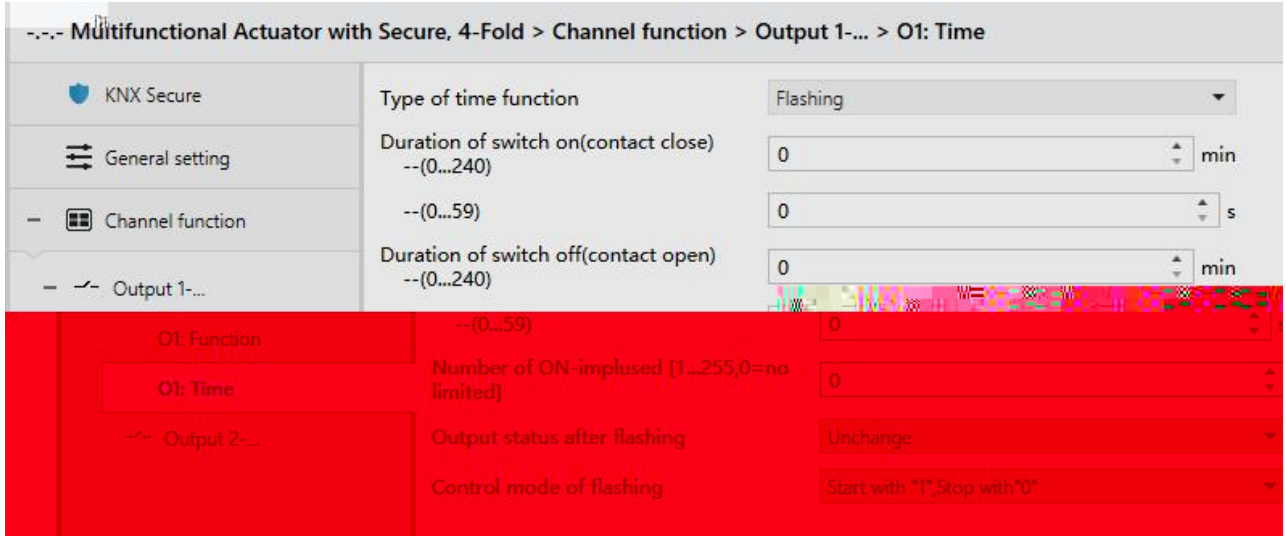
k

k

#### 4.4.2.2. "Flashing "

"Type of time function" "Flashing" 4.4.2.2

k k




4.4.2.2 Ox:Time-Flashing

Flashing "Flashing function" "Delay for switch on" "Delay for switch off" k "Flashing function"

k

**Duration of switch on(contact close): (0...240) , (0...59)**

k

**0...240 min**

**0...59 s**

### Duration of switch off(contact open): (0...240) , (0...59)

k

**0...240 min**

**0...59 s**

k

k k

### Number of ON-impulsed [1...255 0=no limited]

1...255 0 k / k

**0...255**

### Output status after flashing

k

**Unchange**

**Open**

**Close**

### Control mode of flashing

k

**Start with "1", Stop with "0"**

**Start with "0", Stop with "1"**

**Start with "0/1", can not be stop**

"Start with '1' Stop with '0'" "1" "0"

k

"Start with '0' Stop with '1'" "0" "1"

k

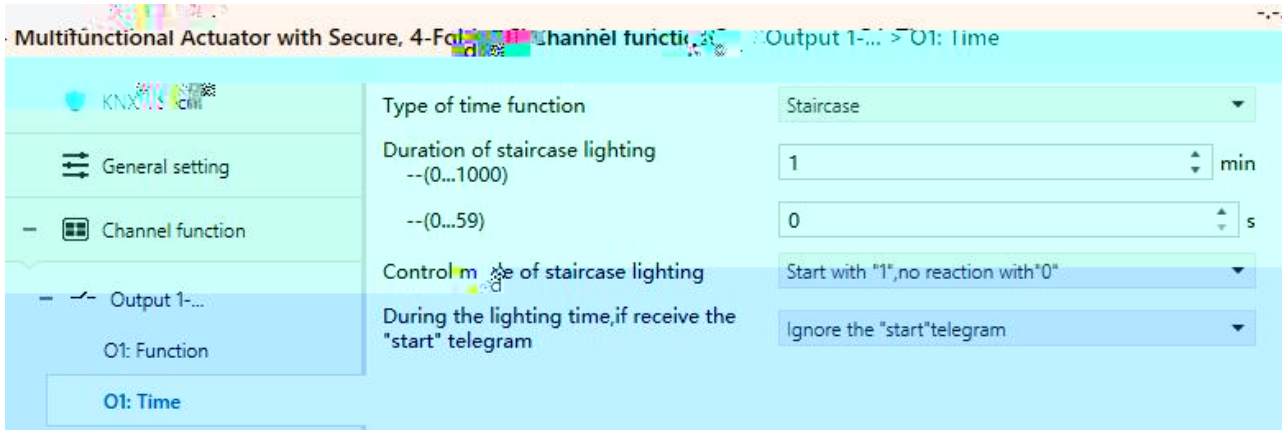
"Start with '0/1' can not be stop" "0" "1" k

k

#### 4.4.2.3. “Staircase”

“Type of time function” “Staircase” 4.4.2.3

k




4.4.2.3 Ox:Time-Staircase

“Staircase function”

k

**Duration of staircase lighting--(0...1000) --(0...59)**

k

**0...1000 min**

**0...59 s**

**Control mode of staircase lighting**

, k

**Start with "1", Stop with "0"**

**Start with "1**

**Restart duration of staircase lighting**

**Extend duration time**

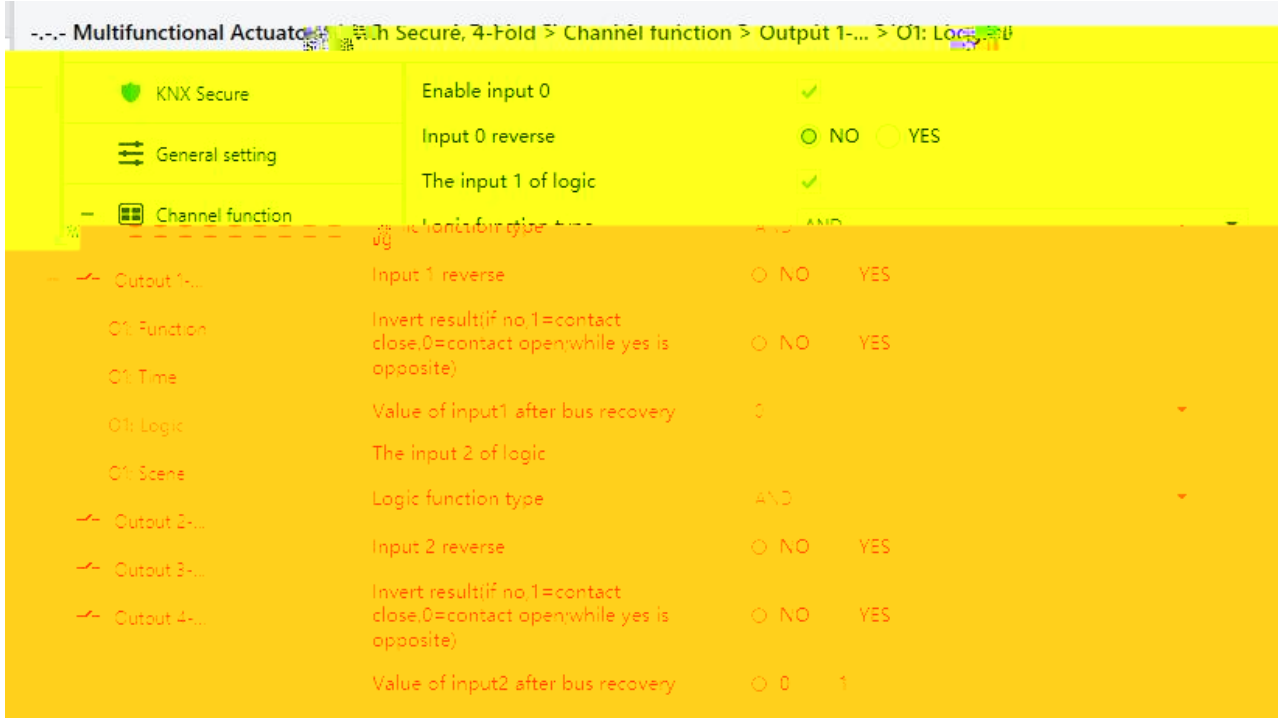
**Ignore the "start" telegram**

“Restart duration of staircase lighting” “Staircase function

### 4.4.3. “Ox: Logic”

4.4.1(2) “Ox: Function” “Function of “logic” ”

4.4.3 k




4.4.3 Ox Logic

2

“Switch” k

“1” “0” k

“Logic 1” “Switch” “Logic 2”

k

k

**Enable input 0**

“Input 0” k “Input 0” “Switch” k

“Input 0”

k

**Input 0/1/2 reverse**

Input 0/1/2 “YES”

“NO” k

**NO**

**YES**

**The input x of Logic (x=1, 2)**

1 2 “Logic 1” “Logic 2” k

**Logic function type**

k (AND, OR, XOR) “GATE” k

“GATE”

“1” k Input 1 1 Input 0 Input

2 1 Input 1 Input0/Input1 k

**AND**

**OR**

**XOR**

**GATE**

| | | | | | | |
|---|---|---|---|---|---|---|
| | Input0(Switch) | Input1 | Result of Input 0/1 | Input2 | Output | |
| AND | 0<br>0<br>1<br>1 | 0<br>1<br>0<br>1 | 0<br>0<br>0<br>1 | 0<br>1<br>0<br>1 | 0<br>0<br>0<br>1 | 1 1 k |
| OR | 0<br>0<br>1<br>1 | 0<br>1<br>0<br>1 | 0<br>1<br>1<br>1 | 0<br>1<br>0<br>1 | 0<br>1<br>1<br>1 | 1<br>1 k |
| XOR | 0<br>0<br>1<br>1 | 0<br>1<br>0<br>1 | 0<br>1<br>1<br>0 | 0<br>1<br>0<br>1 | 0<br>0<br>1<br>1 | 1. |
| GATE | 0<br>0<br>1<br>1 | Closed<br>Open<br>Closed<br>Open | 0<br>1 | Closed<br>Open<br>Closed<br>Open | 0<br>1 | open 1<br>k |

1 ! “Input 1” “Switch” “Input 2”
k

2 ! k

3 ! k

4 ! (GATE) k Input1 Input0
Input2 k

**Invert result(if no,1=contact close,0=contact open,while yes is opposite)**

“YES” “NO” k

**NO**

**YES**

**Value of input1 after bus recovery**

“Logic 1” “1” ! “0” k

**0**

**1**

**Value before power off**

“Value before power off” k

0 k

**Value of input2 after bus recovery**

“Logic 2” “1” “0” k

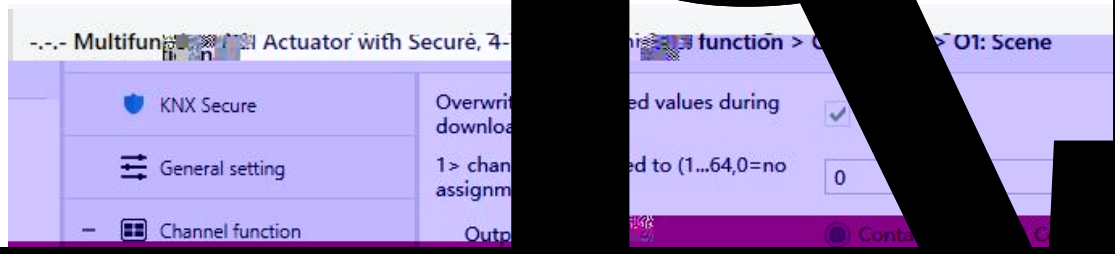
**0**

**1**

4.4.4. “O eneOv p

4.4.1( tion”

4.4.4 8



x> channel is assigned to (1...64 ,0= no assignment) (x=1~8)

64 k 8 k

**1...64 0=no assignment**

**1~64 0~63** k

k

**“Output status”**

k

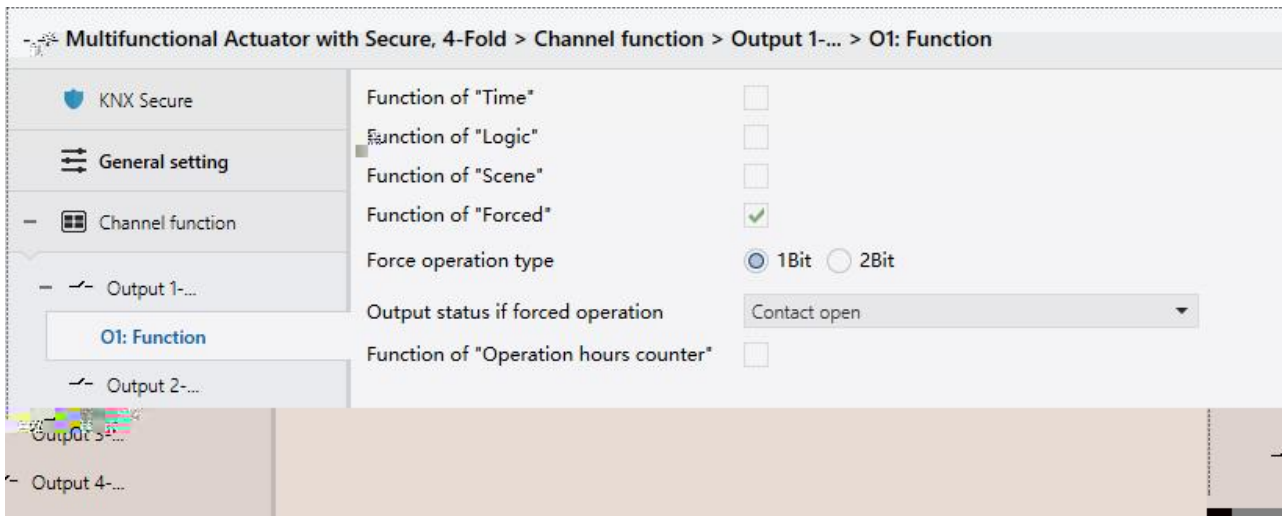
**Contact open**

**Contact close**

### 4.4.5. **“Ox: Forced”**

4.4.1(2) “Ox: Function” “Function of “Forced” ”

4.4.5 k




4.4.5 Ox Forced

“Forced output” k

k

**Force operation type**

k

**1bit**

**2bit**

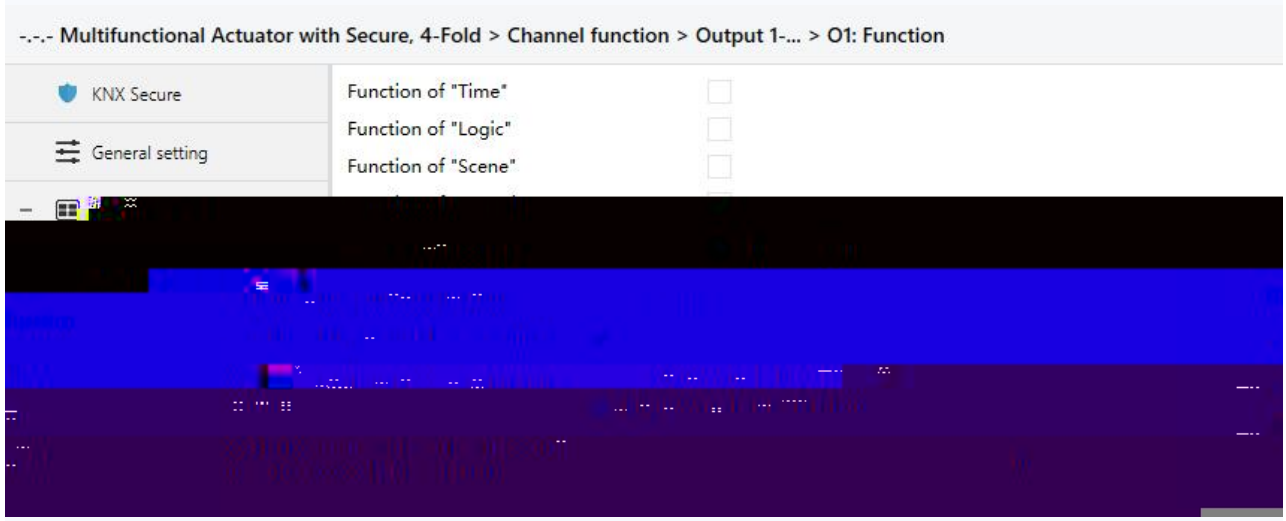
“1bit”, “Forced output” “1” “0” k

“2bit”, “Forced output”

**“Forc**&4

### 4.4.6. “Ox: Operation hours counter”

4.4.1(2) “Ox: Function” “Function of “Operation hours counter” ” 4.4.6 k k




4.4.6 Ox Operation hours counter

**“Object datatype of “ Operation hours counter”**

k

**2 byte Value in h(DPT 7.007)**

**4 byte Value in s(DPT 13.100)**

2 byte Value in h (DPT 7.007) 2 byte 4 byte Value in s (DPT 13.100)

4 byte k

**Cyclically send counter value in [0..100] (0=not send, only for reading)**

k **0...100 h**

0 1...100 1 100 k

Object of switch and operation hours counter 2byte

4byte s k

**4.4.7.**

**(Switch actuator)**

**1** ! **force operation**

**2** !

**3** ! k

## 4.5. --Heating actuator(without controller)

Work mode of the channel is Heating actuator (without controller)

4.5(1) ! 4.5(2) k

k

k

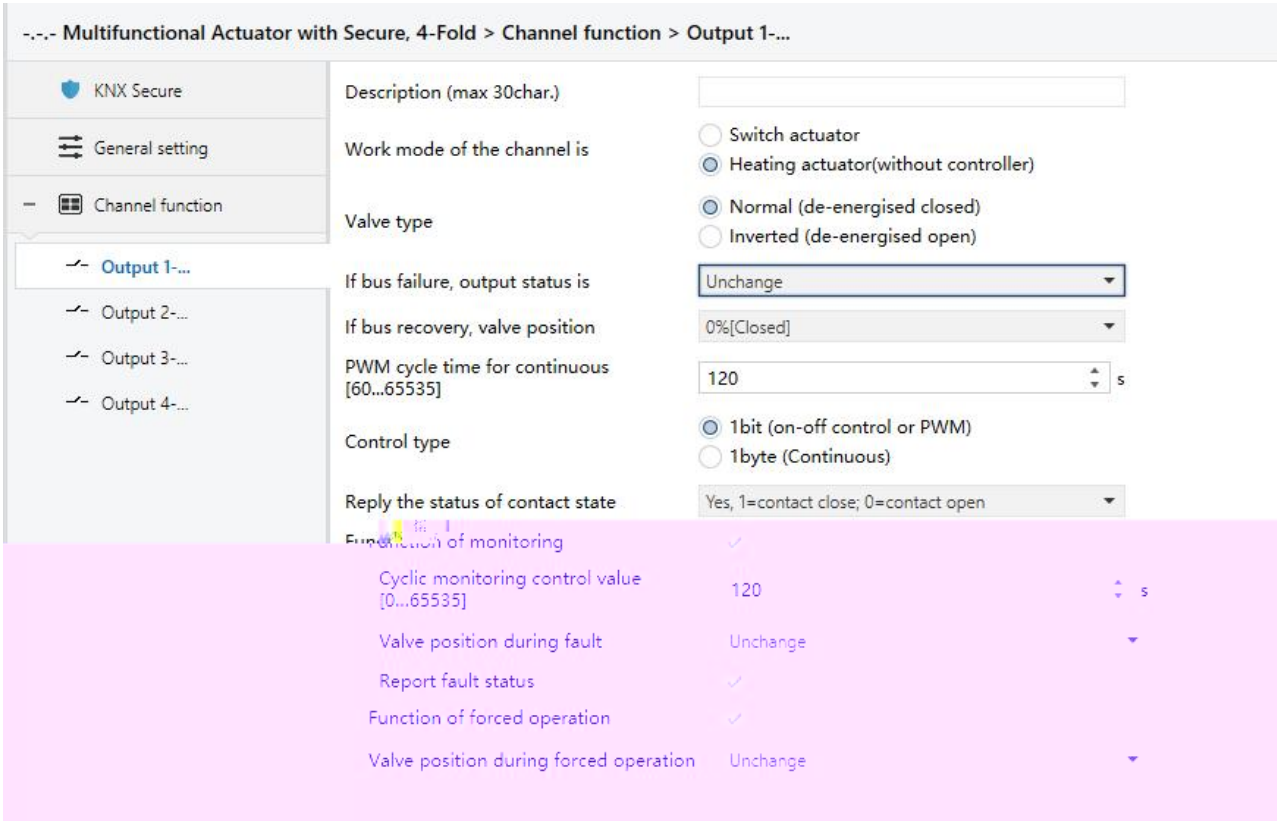
ˆ 1bit 1byte k 1bit

On-off control value 1byte Control value (Continuous)

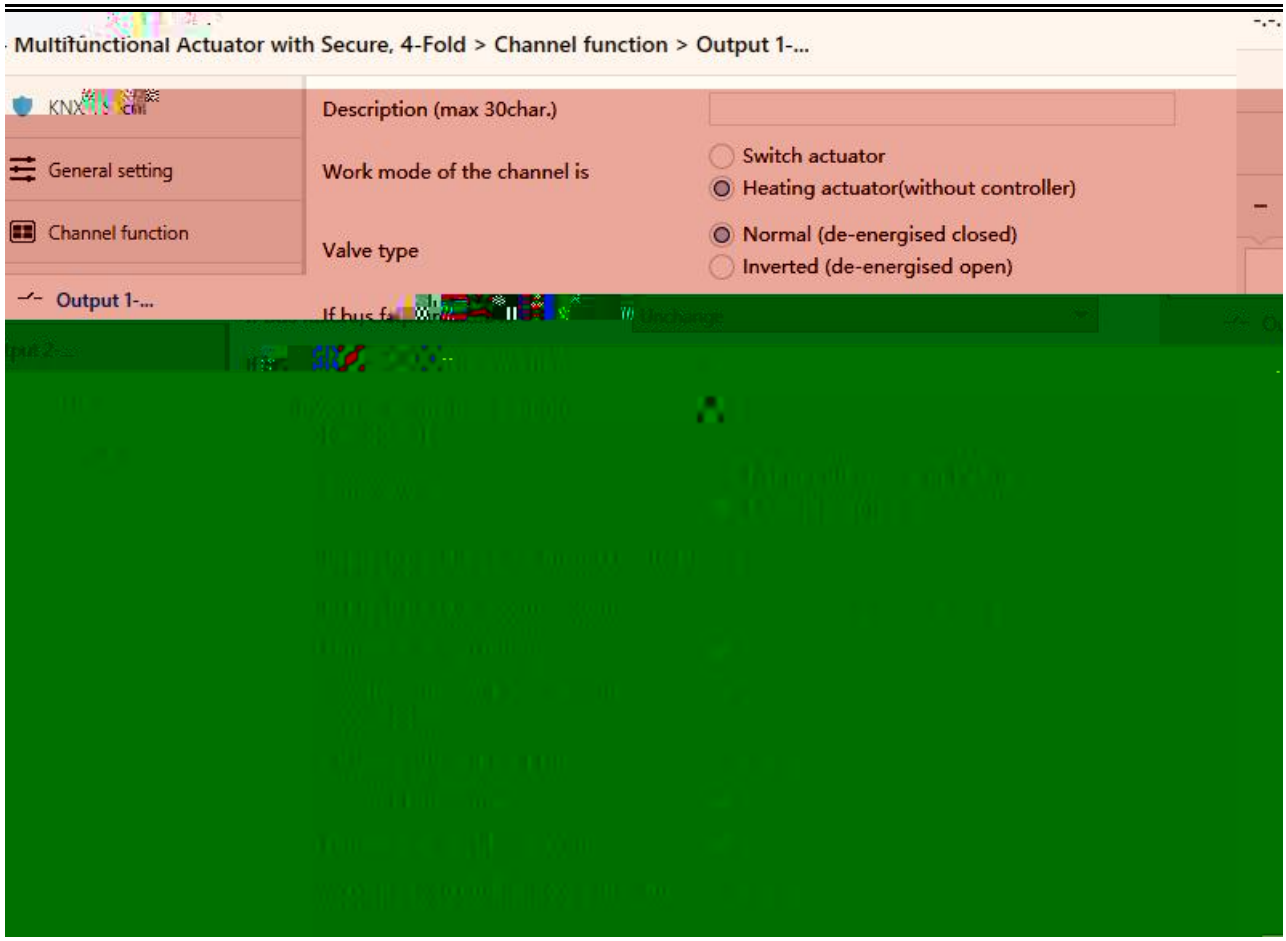
k

0%[Closed] 100%[Open] k 0~100%

x% k




4.5(1) Output X: Heating actuator(without controller)_1bit on-off control or PWM


Multifunctional Actuator with Secure, 4-Fold > Channel function > Output 1-...
KNX
General setting
Channel function
Output 1-...
Description (max 30char.)
Work mode of the channel is
Switch actuator
Heating actuator(without controller)
Valve type
Normal (de-energised closed)
Inverted (de-energised open)

4.5(2) Output X:

**If bus failure,output status is**

k

**Unchange**

**Contact open**

**Contact close**

“Unchange”

**“Contact open”**

**“Contact close”** k

k

**If bus recovery, valve position**

k

**0%[Closed]**

**10%[26]**

**20%[51]**

**...**

**90%[230]**

**100%[Open]**

20% PWM 100s 1 40s 20s 80s k

**PWM cycle time for continuous [60..65535]**

(PWM) k **60..65535 s**

k

**1bit** **(PWM)** !

k

KNX/EIB KNX

“1”

“1=contact close; 0=contact open” k

**Status of contact**

k

## Function of Monitoring

k

Function of Monitoring k

-- **Cyclic monitoring control value[0、 65535]**

k

k

k

k k

**0..65535 s**

k

k

-- **Valve position during fault**

PWM k

**0%[Closed]**

**10%[26]**

**...**

**100%[Open]**

**Unchange**

20% PWM 100s 1 40s 20s, 80s

Unchange k

-- **Report fault status**

k

k k

Report fault Report fault 1

0 k

## Function of forced operation

k

-- **Valve position during forced operation**

PWM k

**0%[Closed]**

**10%[26]**

**...**

**100%[Open]**

**Unchange**

Unchange k

k 40%

60% 60% k

**monitor**

k k

**4.5.1.**

**Heating actuator**

**1** !

**2** !

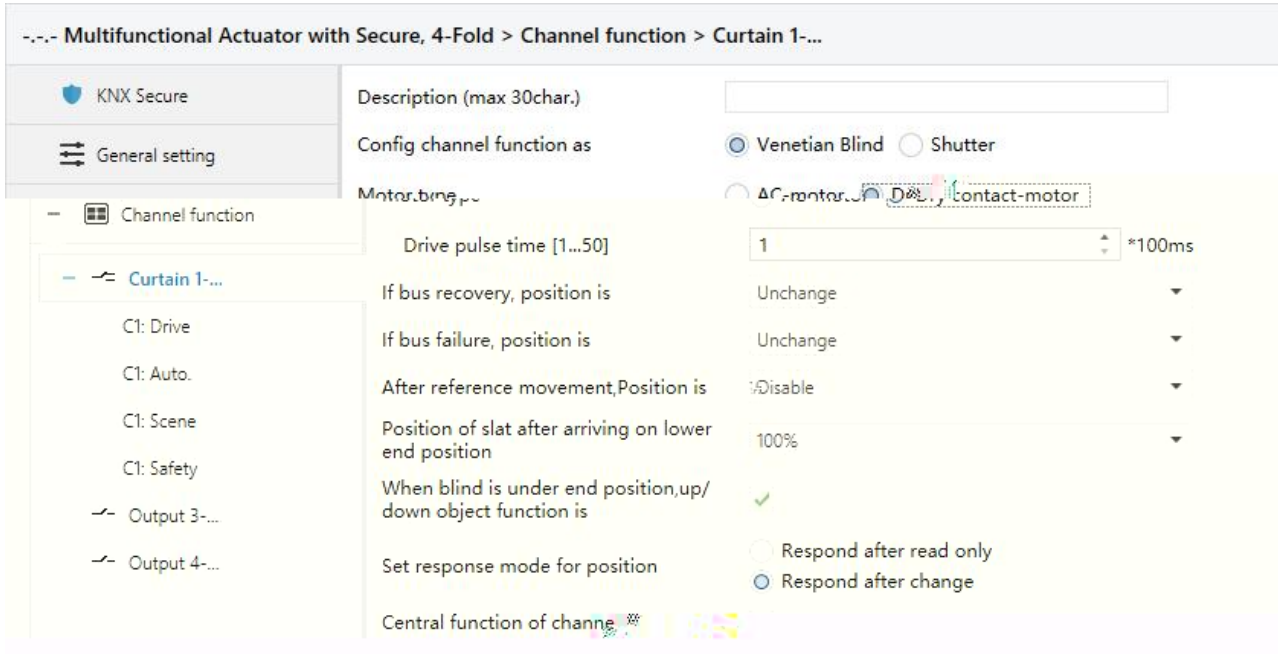
## 4.6. (AC)

AC 12

k

### 4.6.1. “Curtain X: Venetian Blind”

“Curtain X” 4.6.1 k




4.6.1 Curtain X

**“Description (max. 30char.)”**

30 k

**“Config channel function as:”**

k

**Venetian Blind**

**Shutter**

“Venetian Blind” k

“Shutter” “Venetian Blind” k

“Venetian Blind” k

**“Motor type”**

k

**AC-motor**

**Dry contact-motor**

AC-motor k

Dry contact-motor k

-- **Drive pulse time[1..50]**

Dry contact-motor k

**1..50 *100ms**

k

**“If bus recovery, position is”**

k

**Unchange**

**Up**

**Down**

**Stop**

“Unchange”

“Up”

“Down”

“Stop” k

k

**50%** k

k

k

## "If bus failure position is"

k

**Unchange**

**Up**

**Down**

**Stop**

"Unchange" □ □ □ □ □

"Up"

"Down"

"Stop" k

k

**stop** **stop** k

## "After reference movement, Position is"

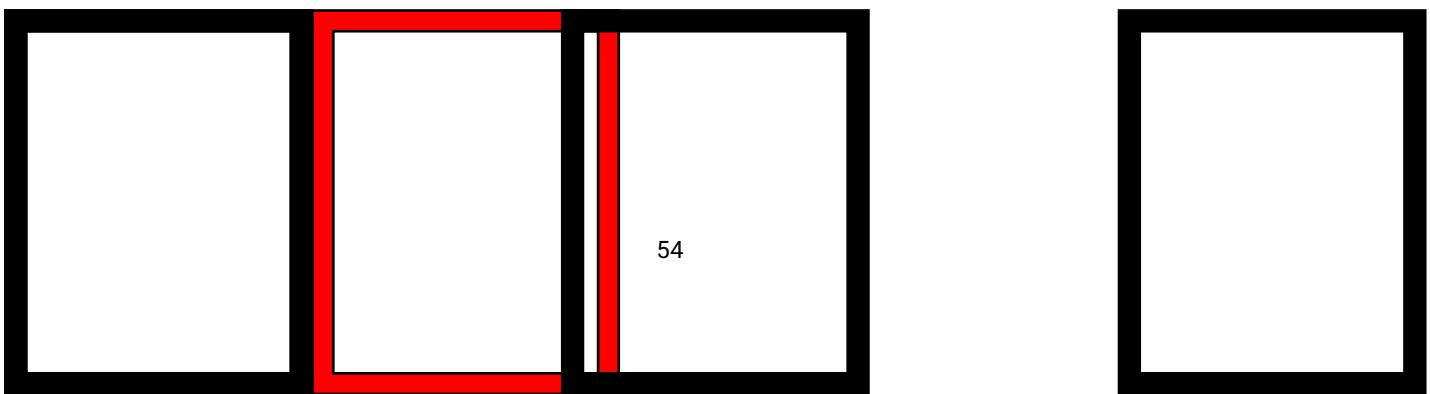
k

**Disable**

**fb** n

□ □ □ □ □ □ □ □ □

□



k k

**"position of slat after arriving on lower end position"**

k

**0%**

**10%**

**...**

**90%**

**100%**

"40%" "Move UP/DOWN" "1"

40% k

**down** **down**

**k**

**When blind is under end position, up/down object function is**

/ "Move UP/DOWN" k

k

k

**"Set response mode for position"**

k

**Respond after read only**

**Respond after change**

"Respond after read only"

"Position status 0..100%/Slat status 0..100%"

"Respond after change" "Position status 0..100%/Slat status 0..100%" k

## Central function of channel

k

Central control for Up/Down Central control for Slat/Stop

k

#### 4.6.1.1. “Cx: Drive”

“Cx: Drive” 4.6.1.1

k

□ □

“

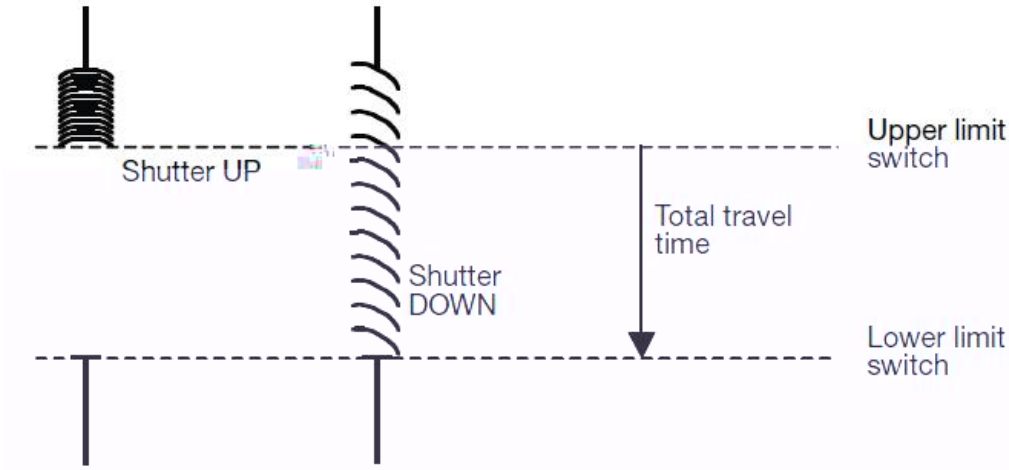
## "Total travel time [20...50000]"

k **20...50000 *0.1s**

k

k

k




!

k

## "Delay time from switch-on to moving [0..200]"

/

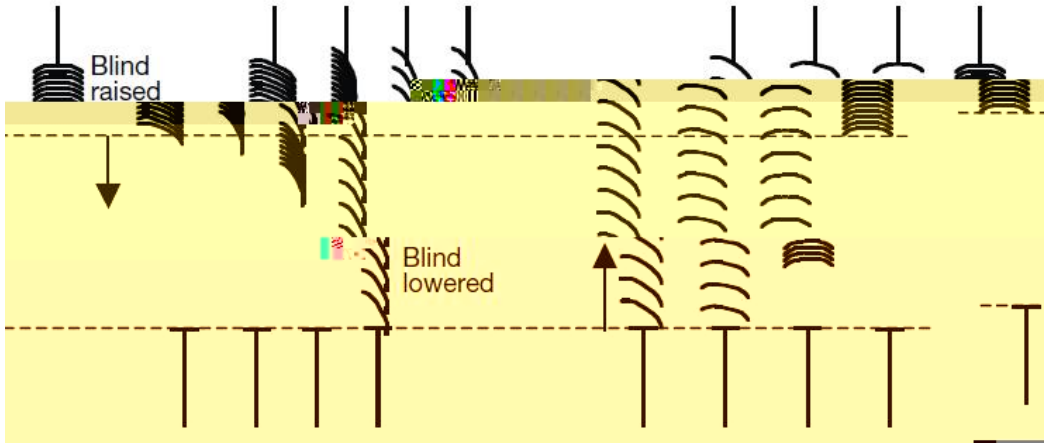
k **0..200 *10ms**

k

## "Duration of Slat adjustments [10...250]"

k **10...250 *10ms**

k k




## "Total travel time of Slat 0...100% in [10...250]"

k "

" ! " " k

**10...250 *10ms**

"Slat adj./Stop"

/ k

k

## "Pause on change in direction [5...255]"

k

k

k **5...255 *20ms**

"Additional travel time in upward direction [0..255]"

k

k 0%

k **0...255 *0.1s**

**0%** k

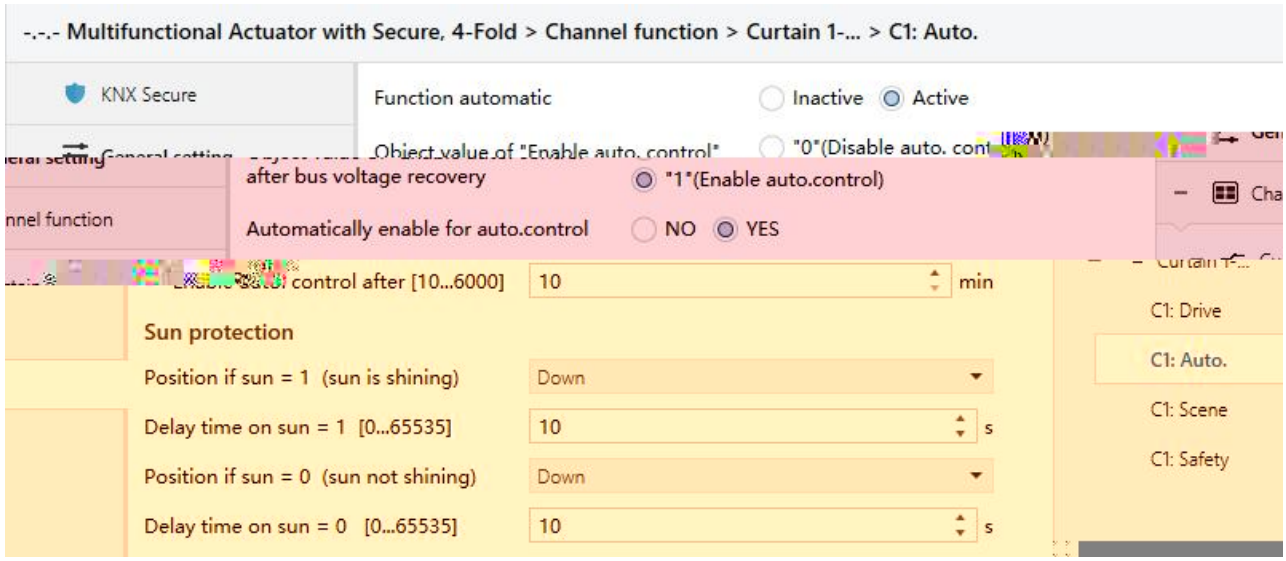
**4.6.1.2. "Cx: Auto."**

"Cx: Auto." 4.6.1.2 k

k

/ k /

k




4.6.1.2 Cx Auto.

## " Function automatic"

k

**Inactive**

**Active**

"Active" "Enable auto. control" ! "Sun operation" ! "Sun: blind/shutter position 0..100%" "Sun: slat adj.0..100%" k

"Enable auto. control" "1" "Enable auto. control" "0" /

k k

**Enable auto. control** **1**

**Enable auto. Control after[10、 6000min]**

**k**

## Object value of Enable auto. control after bus voltage recovery

"Enable auto. control" k

**0 (Disable auto. control)**

**1 (Enable auto. control)**

" 0" "Enable auto. control" 0

"1" "Enable auto. control" 1 k

## Automatically enable for auto. control

"Enable auto. control" k

**NO**

**YES**

"YES" k

-- **Enable auto. control after [10...6000]**

k **10...6000 min**

2232

“ Ena . cont

k

!

k

## Sun protection

**Position if sun= 1 (sun is shining)**

“Sun operation” “1”

k

**No reaction**

**Up**

**Down**

**Stop**

**Receive 1 byte value**

“No reaction” “Sun operation” “1”

k

“Receive 1 byte value” “Sun operation” “1” “Sun: blind/shutter position 0..100%” “Sun: slat adj. 0..100%”

“130”(51%)

k

**Delay time on sun= 1 [0...65535]**

□ □ □ □ □

**Position if sun= 0 (sun not shining)**

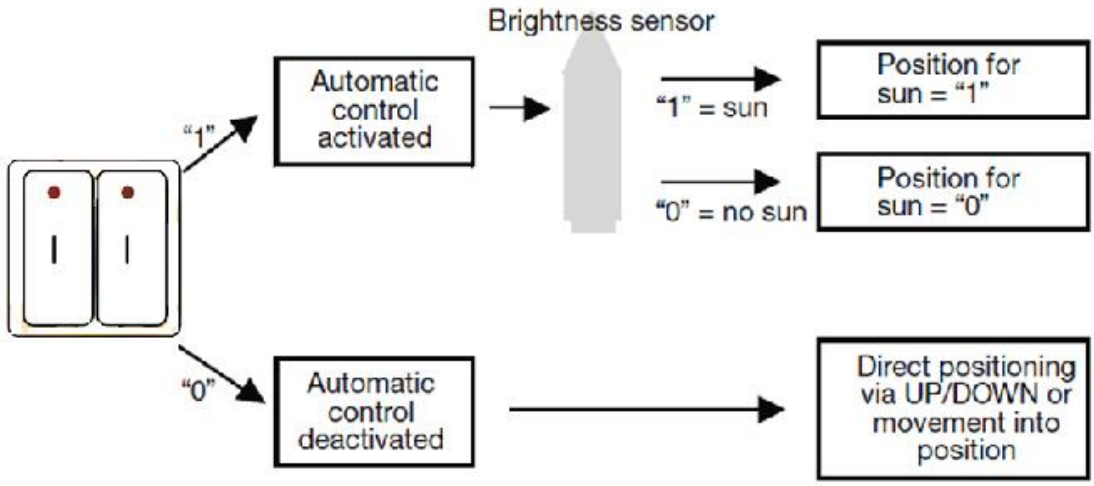
“Sun operation” “0”

k

**Delay time on sun= 0 [0...65535]**

“Sun operation” “0”

k **0…65535 s**




k

/ k

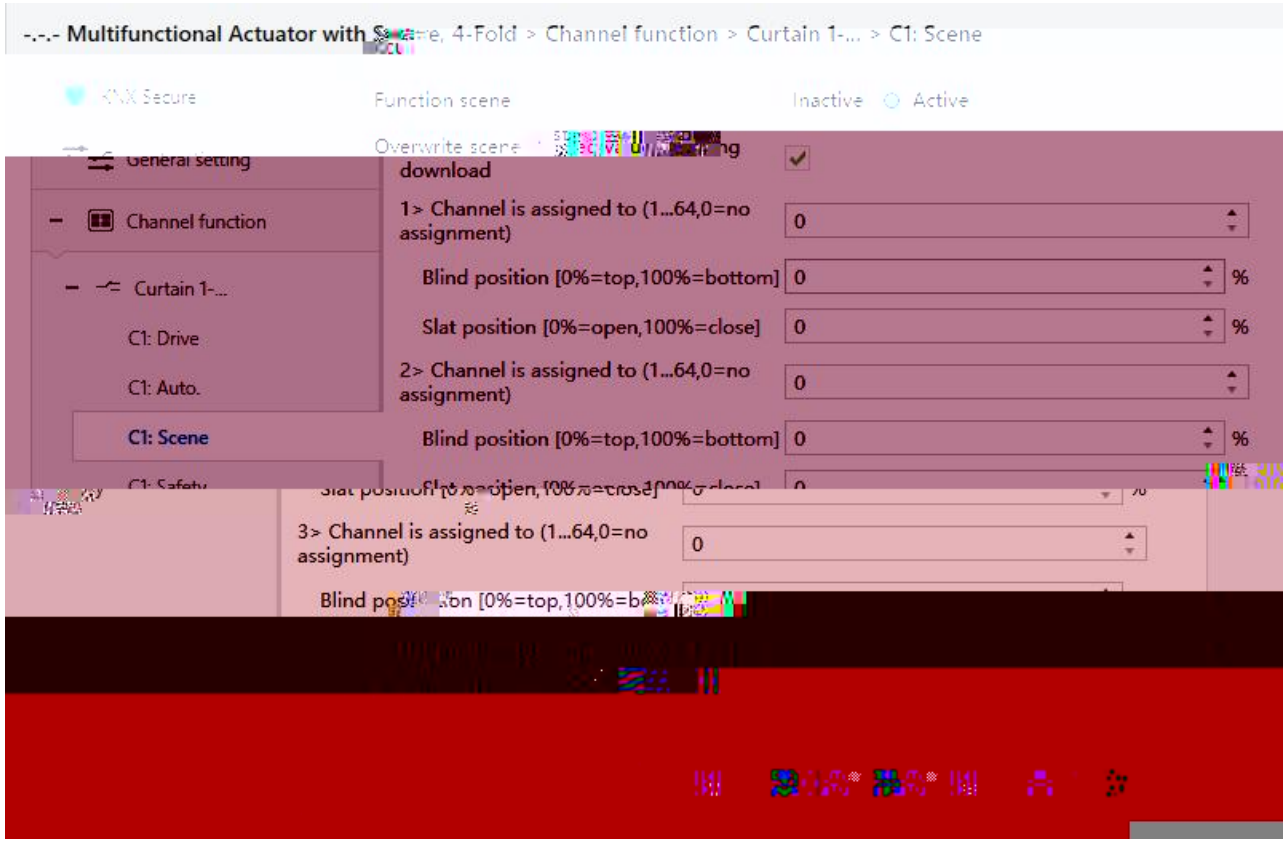
k

k

#### 4.6.1.3. “Cx: Scene”

“Cx: Scene” 4.6.1.3 k 8 ,

k




4.6.1.3 Cx Scene

**“ Function scene”**

k

**Inactive**

**Active**

“Active” k

**“Overwrite scene stored values during download”**

k

k

k

"Channel is assigned to (1...64 ,0= no assignment)"

64 k 8 k

**1...64 0=no assignment**

**1~64 0~63** k

k

**-- Shutter/Blind position [0%=top,100%=bottom]**

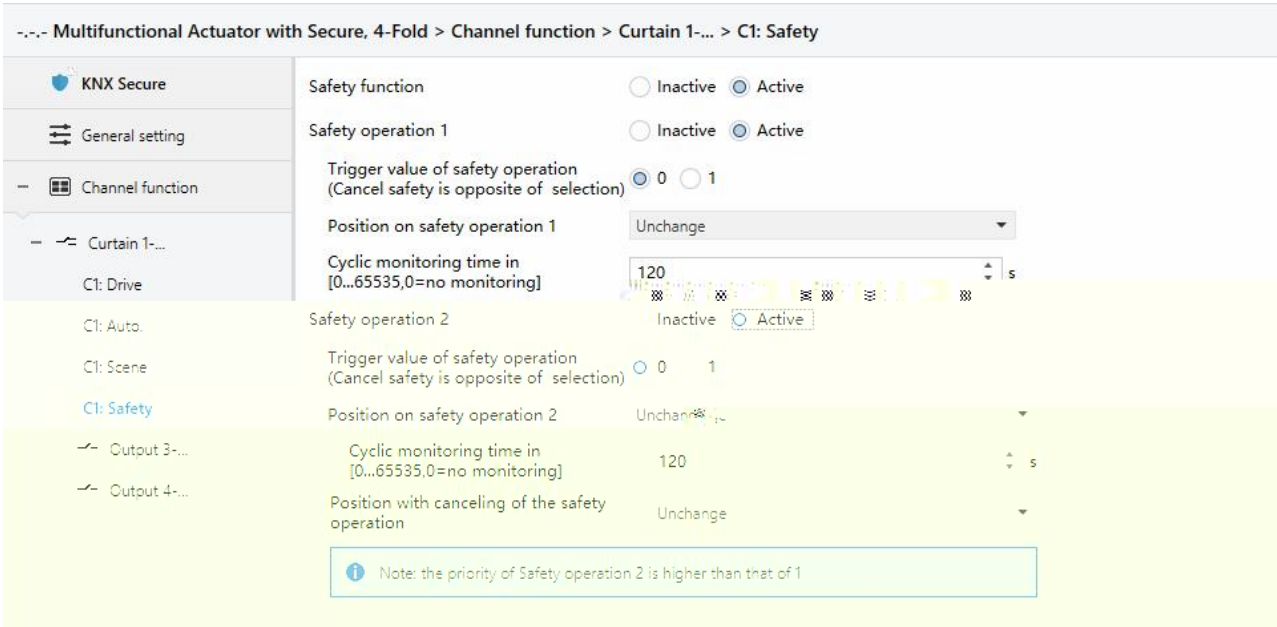
**0...100 % 0% top, 100%=bottom**

**-- Slat position [0%=opened,100%=closed]**

**0...100 % 0% opened, 100%=closed**

#### 4.6.1.4. "Cx: Safety"

"Cx: Safety" 4.6.1.4 k




4.6.1.4 Cx Safety

k

k

**"Safety operation x " (x=1 ! 2)**

k

**Inactive**

**Active**

"Inactive"

"Active",

"Safety operation 1/2" k

**"Trigger value of safety operation(cancel safety is opposite of selection)"**

k

**0**

**1**

"0 " "Safety operation 1/2" "0"

1

"1" "Safety operation 1/2" "1"

0 k

**"Position on safety operation x " (x=1 ! 2)**

k

**Unchange**

**Up**

**Down**

**Stop**

### "Cyclic monitoring time in [0..65535, 0=no monitoring]"

/ k

"0" k

**0..65535 s**

"Safety operation1/2" /

/ k

### "Position with canceling of the safety operation"

k

**Unchange**

**Up**

**Down**

**Stop**

k

/

safety 2 safety 1 k

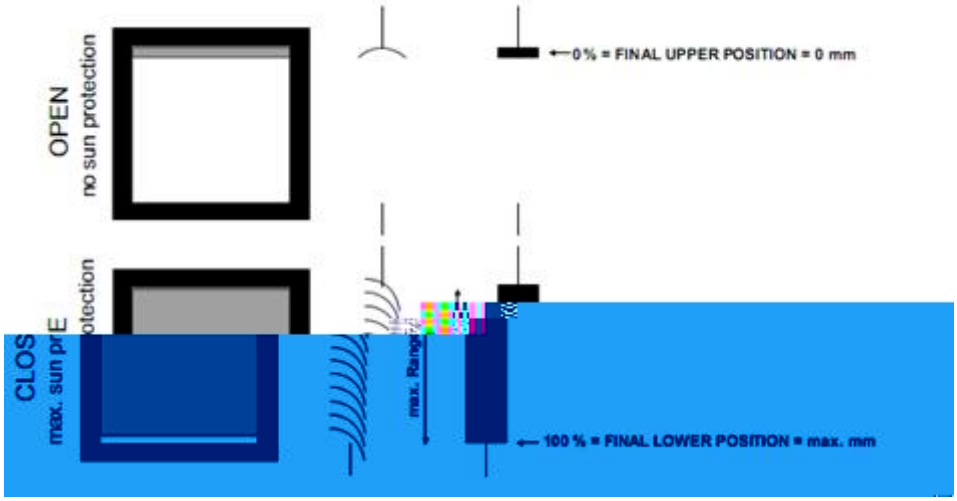
### 4.6.2. “Curtain X: Shutter”

“Shutter” “Venetian Blind”

k “Shutter” k “Shutter”

k

“Shutter” “Venetian Blind”




Venetian Blind Shutter

“Shutter” “Venetian Blind” ( ) k

### 4.6.3.

**safety 2 safety 1**

**1** !

**2** !

**3** !

**4**

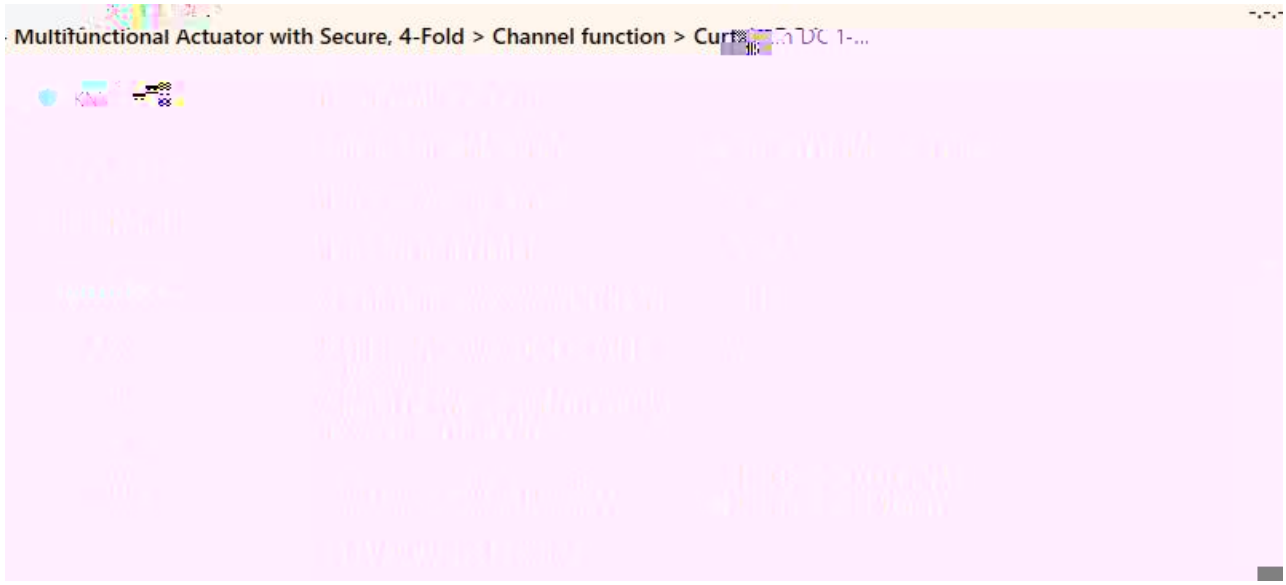
k □□□ □ □

k

## 4.7. (DC)

DC 6 AC

Motor type k 4.7 k




4.7 Curtain DC X

DC AC k

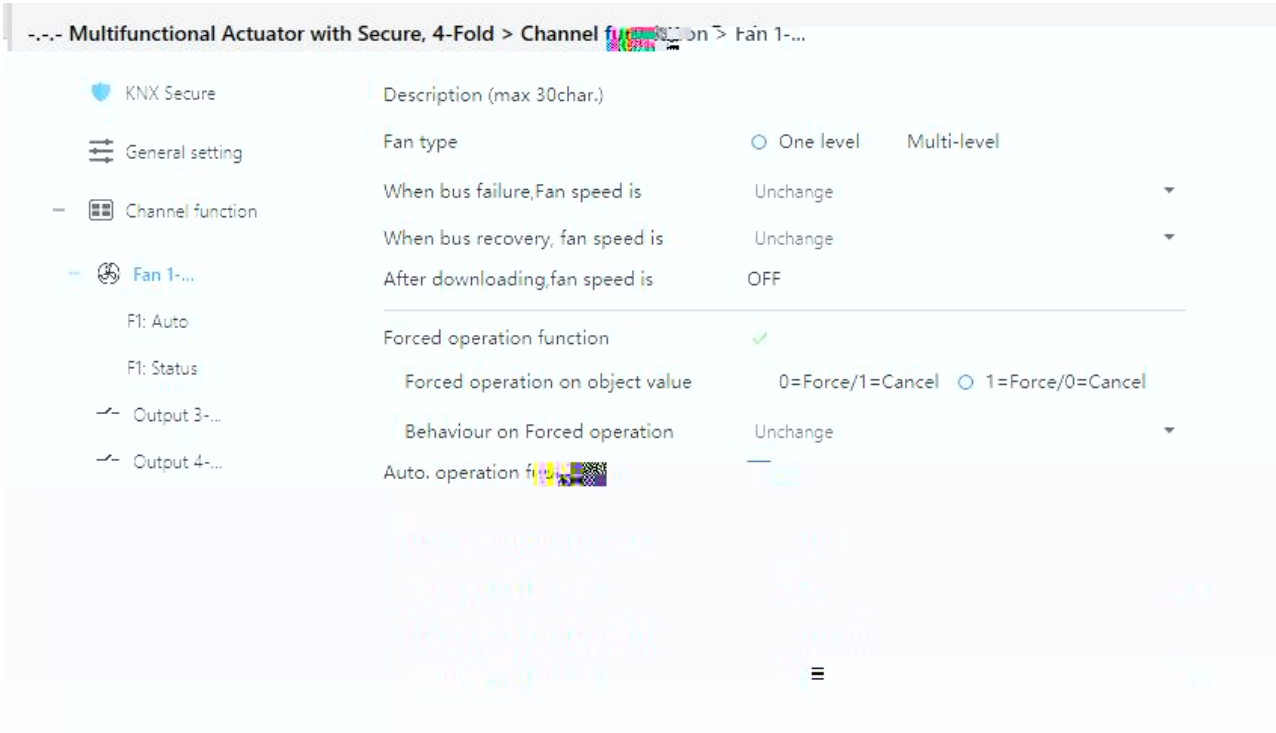
## 4.8.

6

k

### 4.8.1. “Fan type -- One level”

Fan type -- One level 4.8.1 1 k




4.8.1 Fan type -- One level

**“Description (max. 30char.)”**

30 k

**Fan type**

k

**One level**

**Multi-level**

One level 1

Multi-level 3 2 3 k

**When bus failure, Fan speed is**

k

**Unchange**

**OFF**

**ON**

**When bus recovery, Fan speed is**

k

**Unchange**

**OFF**

**ON**

**As before as bus fail**

Unchange:

OFF

ON

As before as bus fail k

k

**After downloading, fan speed is**

k

**"Forced operation function"**

k 1bit "Forced operation"

k

—— **Forced operation on object value**

k

**0=Force/1=Cancel**

**1=Force/0=Cancel**

| | | | |
|---|---|---|---|
| 0=Force/1=Cancel | “Forced operation” | “0” | “1” |
| 1=Force/0=Cancel | “Forced operation” | “1” | “0” |

k

—— **“Behaviour on Forced operation ”**

k

**Unchange**

**OFF**

**ON**

Unchange

OFF

ON k

k

**“Auto. operation function ”**

k 4.8.1.1 k

! k

**“Time mode for function ON”**

k

**None**

**Switch delay**

**Minimum time**

None

Switch delay ON “Delay time [1..65535]” k “Fan speed” “1”

**ON** k

Minimum time

“Minimum time[1..65535]” k

k

—— **“Delay time [1..65535]”**

k **1…65535 *0.1s**

—— **“Minimum time [1..65535]”**

k **1…65535 s**

**“Time mode for function OFF”**

k

**None**

**Switch delay**

**Minimum time**

None

Switch delay OFF “Delay time [1..65535]”

Minimum time

“Minimum time[1..65535] ” k

k OFF k

—— **“Delay time [1..65535]”**

k **1…65535 *0.1s**

—— **“Minimum time [1..65535]”**

k **1…65535 s**

#### 4.8.1.1. “Fx: Auto.”

4.8.1 Auto. operation function 4.8.1.1

1 k

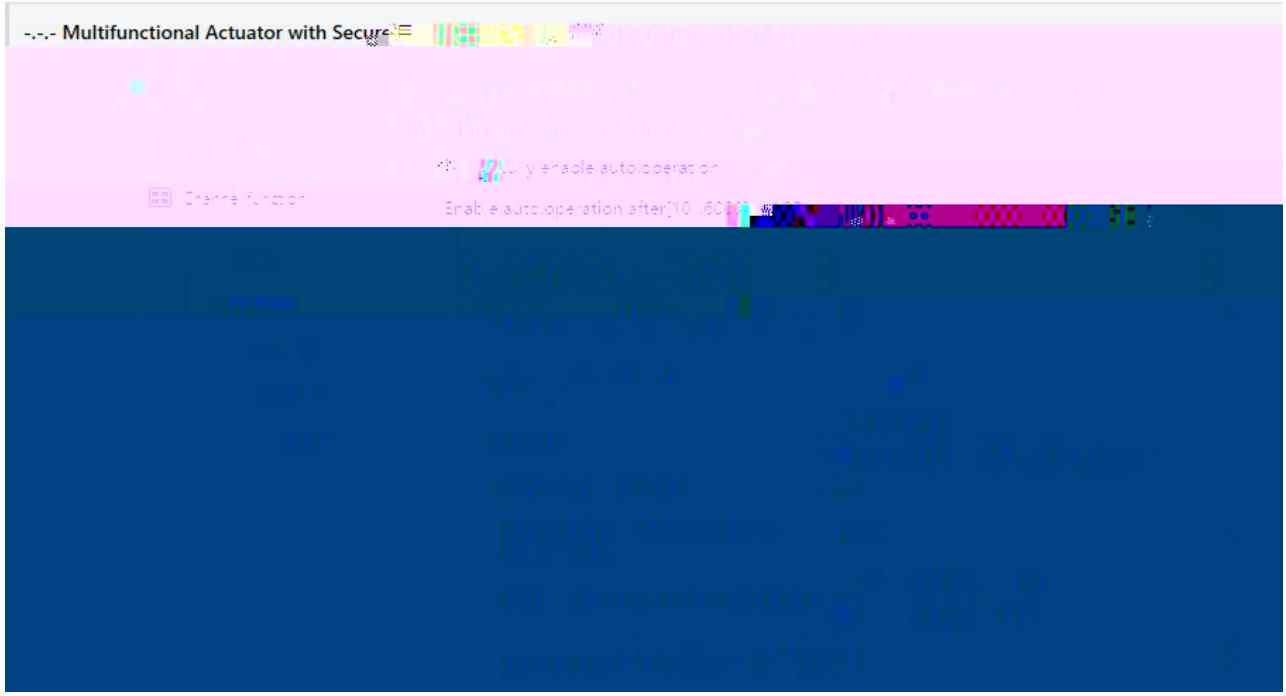
k

k

Automatic function

, Automatic

function , Status Automatic k




4.8.1.1 Fx: Auto.

**“Auto. Operation on object value”**

k

**0=Auto/1=Cancel**

**1=Auto/0=Cancel**

| | | | |
|---|---|---|---|
| 0=Auto/1=Cancel | Automatic function | 0 | 1 |
| 1=Auto/0=Cancel | Automatic function | 1 | 0 |

k

### "State of Auto. operation after startup"

k

k

### "Automatically enable auto. operation"

k k

k

—— **"Enable auto.operation after [10..6000]"**

k **10..6000 min**

### "Threshold value OFF<->ON [1...100]"

Control

value k **1...100 %**

k

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

k

**0...50 %**

0

10 50 60 + 40 -

40~60 k

40 60 k

KNX/E

k 1 2

k

**Monitoring control value**

k k

– **Monitoring period of control value[10..65535]”**

k **10…65535 s**

– **“Reply mode of Obj. “Control value fault””**

k

**Respond after read only**

**Respond after change**

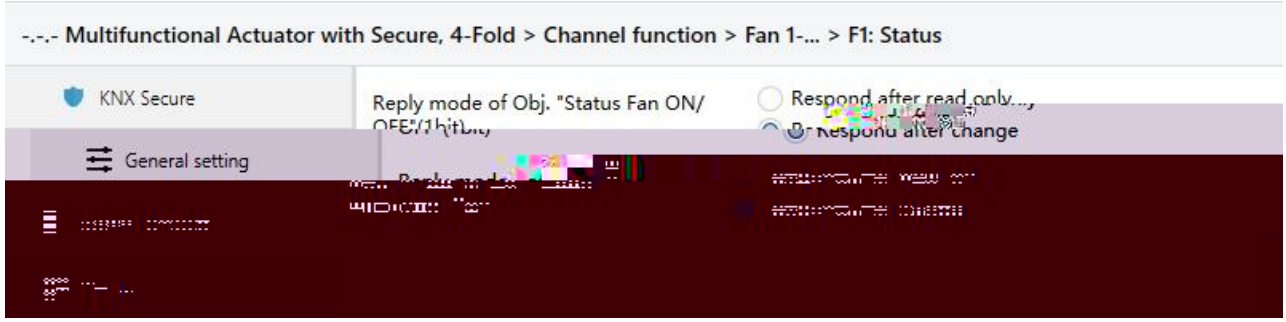
Respond after read only

“Control value fault”

Respond after change “Control value fault”

#### 4.8.1.2. “Fx: Status”

Fx: Status 4.8.1.2 k




4.8.1.2 Fx: Status

**“Reply mode of Obj. “Status Fan ON/OFF” (1bit)”**

k

**Respond after read only**

**Respond after change**

Respond after read only

Status Fan ON/OFF

Respond after change Status Fan ON/OFF k

**“Reply mode of Obj. “status Automatic”(1bit)”**

k

Status Automatic 1 0 k

**Respond after read only**

**Respond after change**

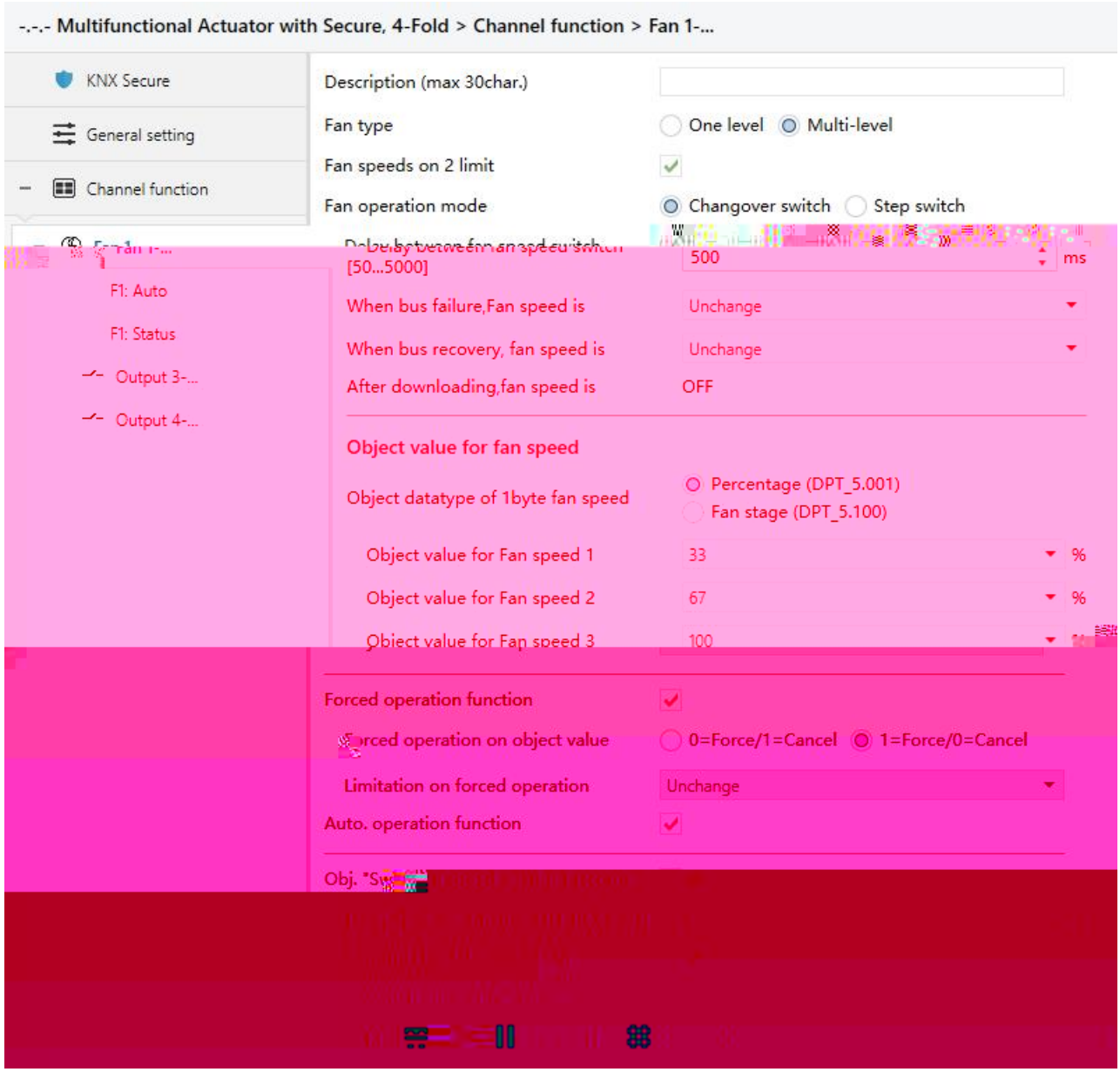
Respond after read only

Status Automatic

Respond after change Status Automatic k

### 4.8.2. “Fan type -- Multi-level”

4.8.2 k




4.8.2 Fan type - Multi-level

2 3 2 3

2 k

1

k

**"Description (max. 30char.)"**

30 k

**"Fan speeds on 2 limit"**

Multi-level 2 3 k

2 3 k 3

k

**2** **3** **k**

**"Fan operation mode"**

k

**Changeover switch**

**Step switch**

Changeover switch k

k

Step switch k 3 3

Output 1&2&3 2 2 Output 1&2 k

**k**

**—— "Delay between fan speed switchover[50、5000]"**

Changeover switch

k **50...5000 ms**

k

k

## "When bus failure, Fan speed is"

k

**Unchange**

**OFF**

**1**

**2**

**3**

OFF

1 2 3 1 2 3 k

**2** **3** k

## "When bus recovery, fan speed is"

k

**Unchange**

**OFF**

**1**

**2**

**3**

**As before as bus fail**

OFF

1 2 3 1 2 3

As before as bus fail k

k **2** **3** k

## "After downloading, fan speed is"

k

## Object value for fan speed

**Object datatype of 1byte fan speed**

1byte k

**Percentage (DPT_5.001)**

**Fan stage (DPT_5.100)**

**Object value for Fan speed 1/2/3**

Fan speed--1byte k **1..255** **1..100 %**

0 k

**1< 2< 3** **ETS** k

**Forced operation function**

k

,1bit Forced Operation

k

**Forced operation on object value**

k

**0=Force/1=Cancel**

**1=Force/0=Cancel**

| | | | |
|---|---|---|---|
| 0=Force/1=Cancel | Forced Operation | 0 | 1 |
| 1=Force/0=Cancel | Forced Operation | 1 | 0 |

k

k

k

**Limitation on forced operation**

k

**Unchange**

**1**

**1, off**

**2**

**2, 1**

**2, 1, off**

**3**

**3, 2**

**3, 2, 1**

**Off**

Unchange

1 1

1, off 1

2 2

2, 1 1 2

2, 1, off 1 2

3 3

3, 2 3 2

3, 2, 1 1 2 3

Off k

**1** **2 ! 3**

**2** **1** **2** k

**0** **1 ! 2 ! 3** **3**

**3** **1** **2** **1 ! 2**

**0** **1** k

**"Auto. operation function"**

k 4.8.2.1 k

**"Obj.'Switch speed x' 1bit function"**

1bit k 1bit Fan speed 1 , Fan speed 2 Fan speed 3 k

1 0 k

ON/OFF k

k

k

k k

**"Delay time for function OFF[0...65535]"**

k speed1 OFF

k

**0...65535 *0.1s**

**Minimum time in fan speed [0...65535] 0**

k

**"Starting characteristic of fan"**

k

k

!

k

k

k

**No** k

3 2 OFF 1

3 2 1

k

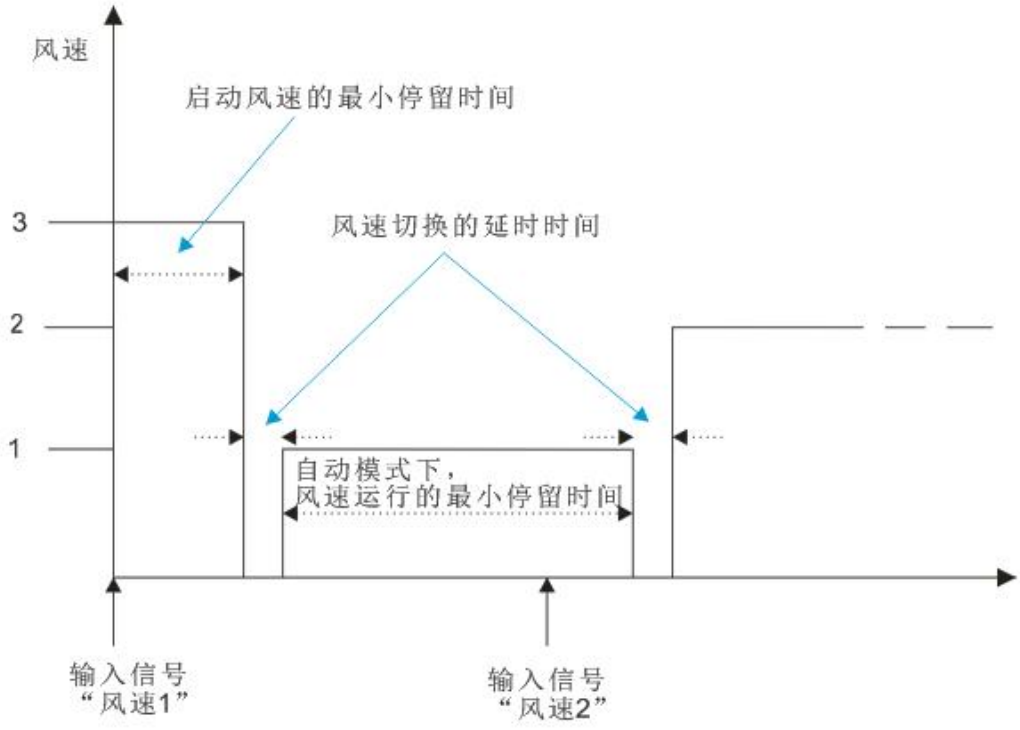
k k

k

k

—— “Switch on over fan speed”

OFF k


风速
启动风速的最小停留时间
3
风速切换的延时时间
2
1
自动模式下，
风速运行的最小停留时间
输入信号
“风速1”
输入信号
“风速2”

1 3

1 1

2

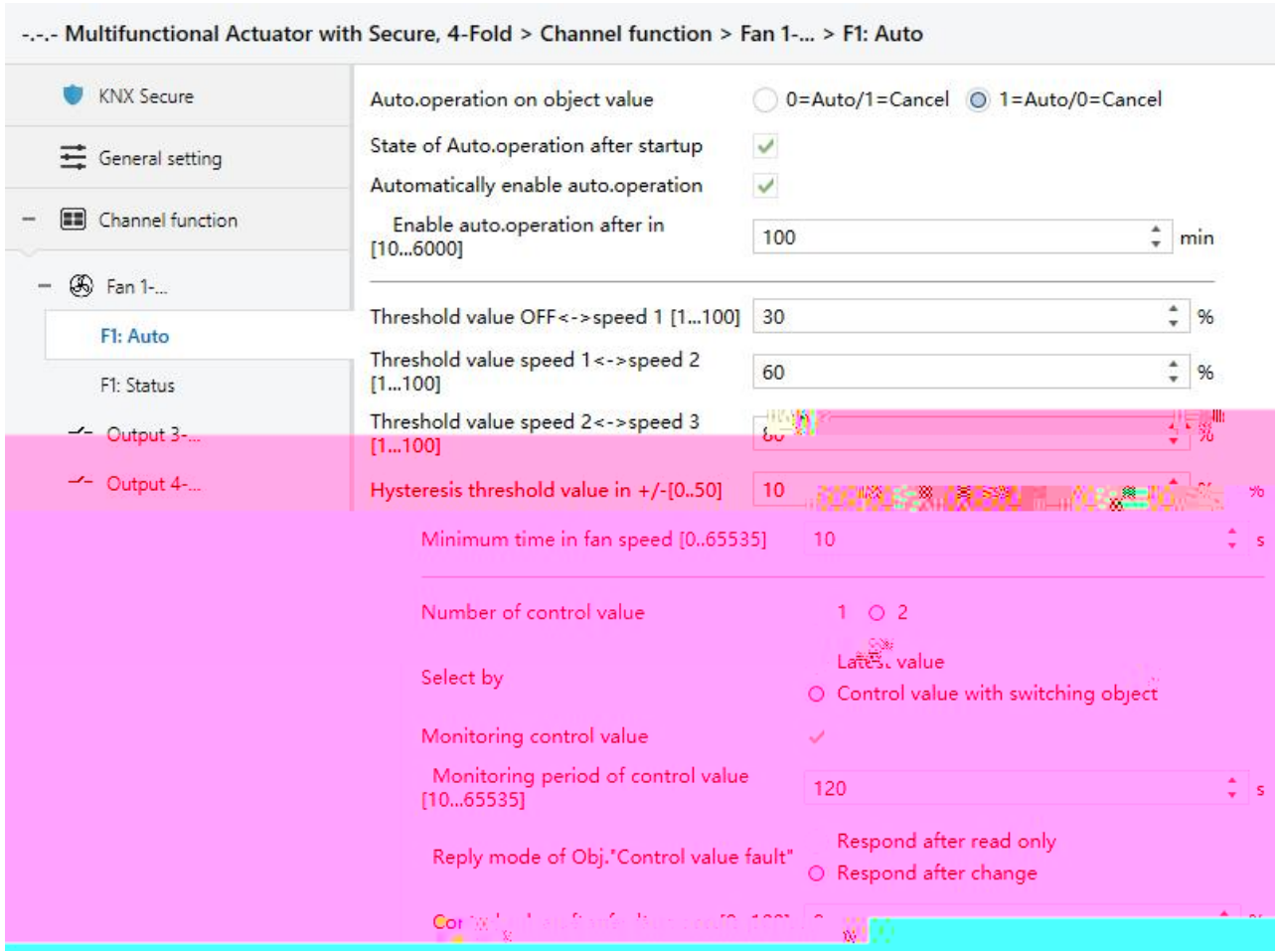
2 k

**4.8.2.1. "Fx: Auto."**

4.8.2 Auto. operation function 4.8.2.1 k

k

k




4.8.2.1 Fx: Auto.

**"Auto. operation on object value "**

k

**0=Auto/1=Cancel**

**1=Auto/0=Cancel**

0=Auto/1=Cancel Fan Automatic ON/OFF 0

1

1=Auto/0=Cancel Fan Automatic ON/OFF 1

0 k

k

k

**“Automatically enable auto. operation”**

k k

k

—— **“Enable auto. Operation after [10..6000]”**

k **10..6000 min**

**“Threshold value OFF<-->speed 1 [1...100]”**

1 **1...100 %**

1

k

k k

**“Threshold value 1<->speed 2 [1...100]”**

2 k

1

OFF <-> 1 10%

1 <-> 2 20%

2 <-> 3 30%

15%

OFF

OFF 25% 10%+15% 2 25% 20% 30%

1

3

3 14% <30%-15% 1 14% 10% 20%

2 k

2

OFF <-> 1 10%

1 <-> 2 40%

2 <-> 3 70%

5%

OFF

OFF 15% 10%+5% k

41% 2 41% 40% 70%

1

39% 1 39% 10% 40% k

3

3 64% <70%-5% k

39% 1 39% 10% 40%

2 k

3 0 k

**"Minimum time in fan speed [0...65535]"**

k

k **0...65535 s**

0 k

**k**

**off** **k**

**1** **3** **1** **2** **3**

**k**

**k**

**0** **k**

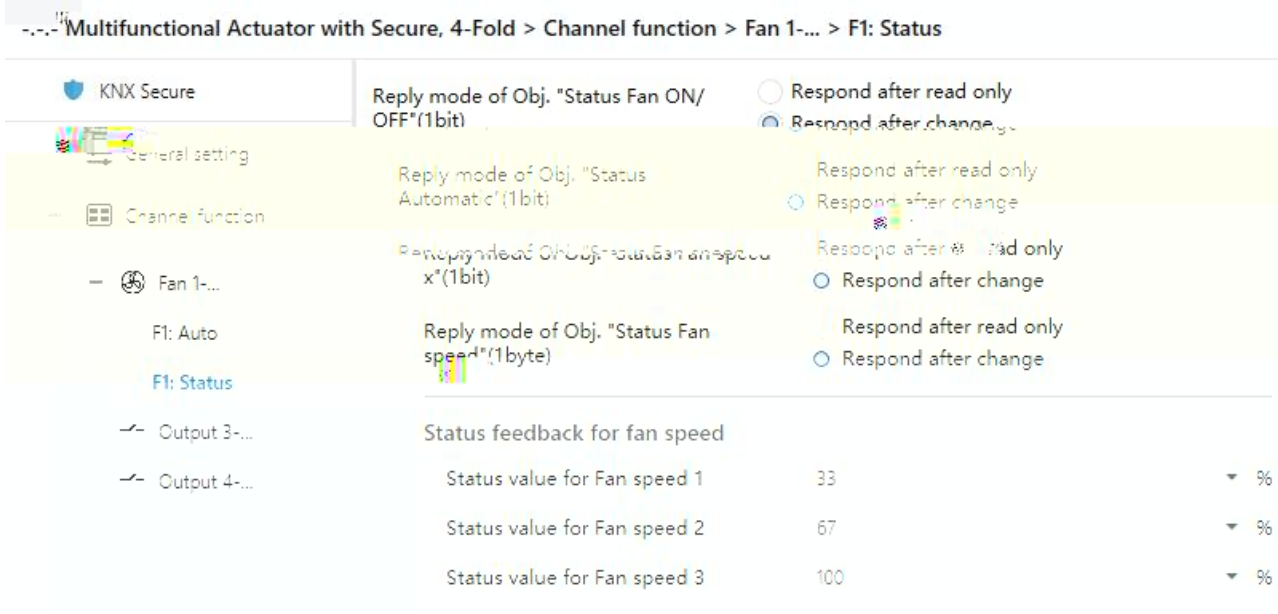
**"Number of control value"**

4.8.1.1 "Number of control value"

k

#### 4.8.2.2. “Fx: Status”

Fx: Status 4.8.2.2 k




4.8.2.2 Fx: Status

**“Reply mode of Obj.“Status Fan ON/OFF“(1bit)”**

k

**Respond after read only**

**Respond after change**

Respond after read only

Status Fan ON/OFF

Respond after change Status Fan ON/OFF k

**“Reply mode of Obj.“Status Automatic“(1bit)”**

k

Status Automatic 1 0 k

**Respond after read only**

**Respond after change**

Respond after read only

Status Automatic

Respond after change Status

Automatic k

**"Reply mode of Obj."status fan speed x"(1bit)"**

k 1bit Status Fan speed 1 ! Status Fan speed 2

Status Fan speed 3 k

**Respond after read only**

**Respond after change**

Respond after read only

Respond after change

k

**"Reply mode of Obj."Status fan speed "(1byte)"**

Status Fan speed 1byte

k

**Respond after read only**

**Respond after change**

Respond after read only

Respond after change

k

## Status feedback for fan speed

**"Status value for Fan speed 1/2/3"**

k **1..255** **1..100 %** 0 k

**1< 2< 3** **ETS** k

KNX/EIB KNX

**4.9.**

! ! 2 4

! 2 4 4

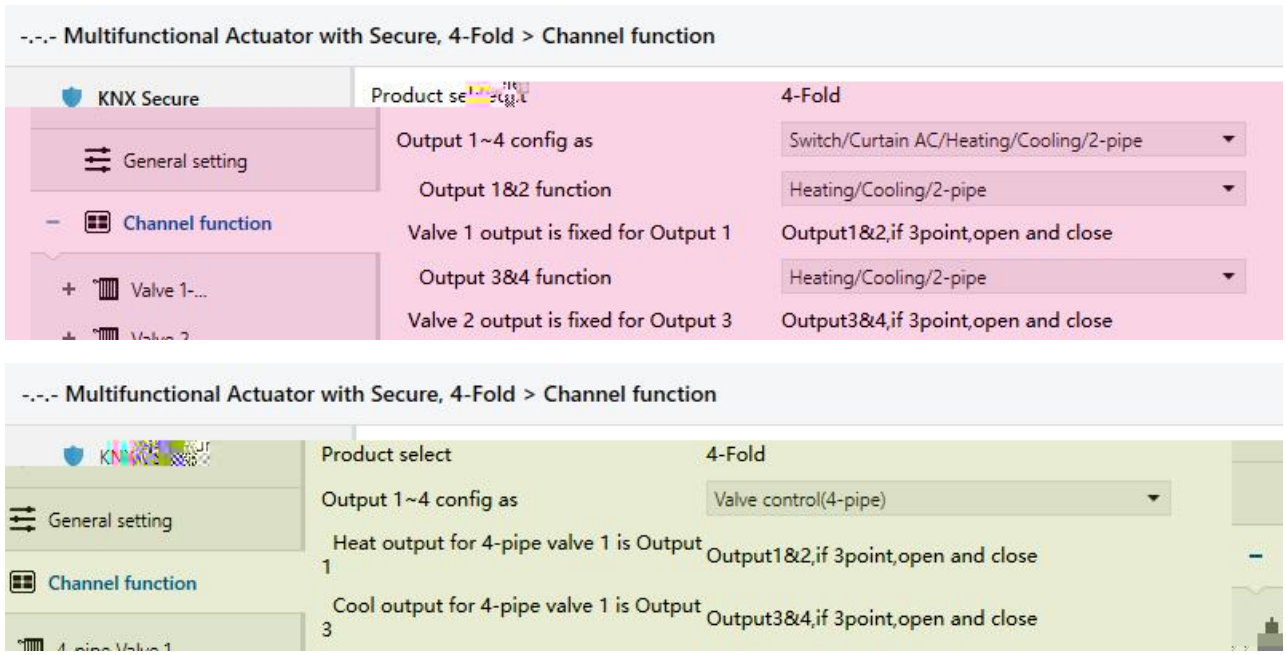
k ! 2 12 4 6

k

Channel function” 4.9(1) ! 2

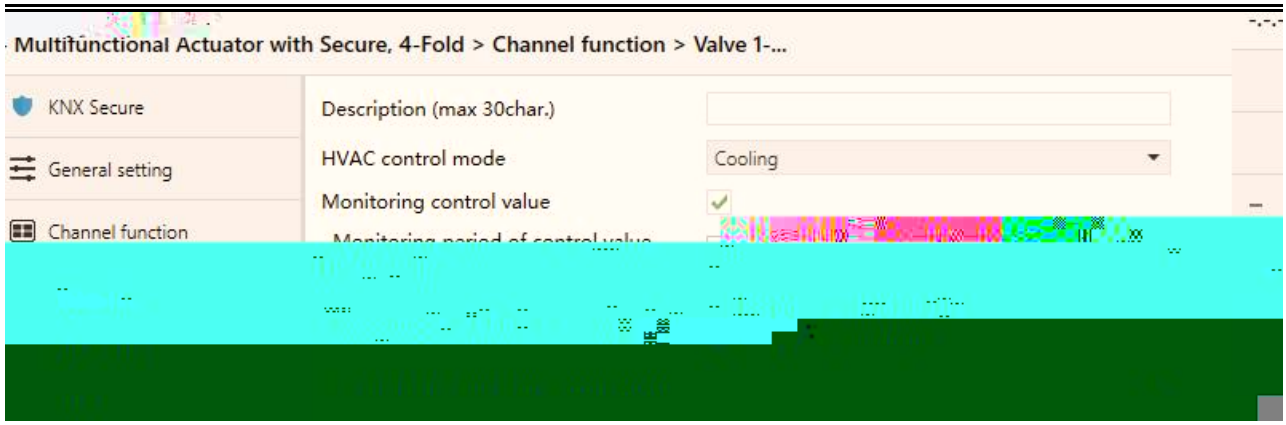
4.9(2)~(4) 4 4.9(5) k

k

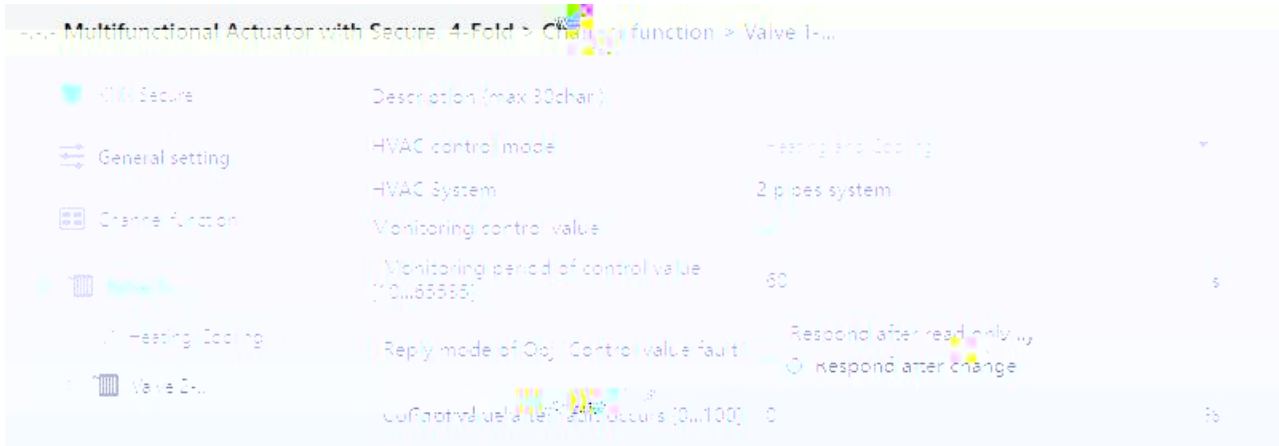



4.9(1) Channel function--valve type

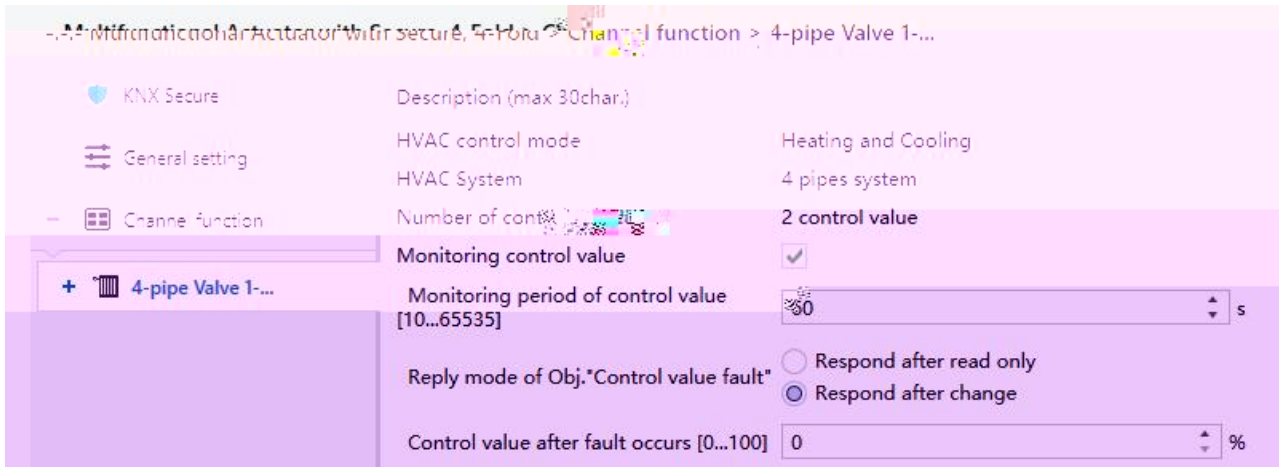
4.9(2) Valve X General--Heating




4.9(3) Valve X General--Cooling




4.9(4) Valve X General--Heating and Cooling (2-pipes)




4.9(5) 4-Pipe Valve X General--Heating and Cooling (4-pipes)

**"Description (max. 30char.)"**

30 k

**HVAC Control mode**

HVAC

**Heating**

**Cooling**

**Heating and Cooling**

Heating

Cooling

Heating and cooling k

**HVAC System"**

2 4 HVAC

k

2 pipes system:

4 pipes system:

k

**"Number of control value"**

4 4

k

**Monitoring control value**

k k

**Monitoring period of control value[10..65535]"**

k **10...65535 s**

**“Reply mode of Obj. “Control value fault””**

k

**Respond after read only**

**Respond after change**

Respond after read only

“Control value fault”

Respond after change “Control value fault” k

**—— “Control value after fault occurs [0..100]”**

k **0…100 %**

>0% 0% k

**2 4**

2 3 4 k

/

k k

k

k

/

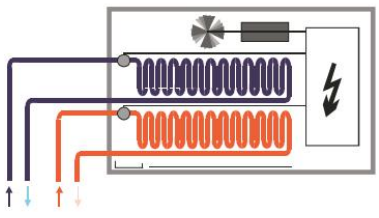
k

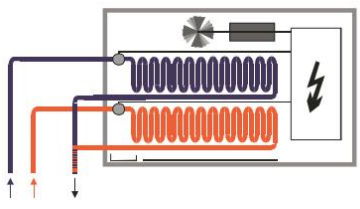
k

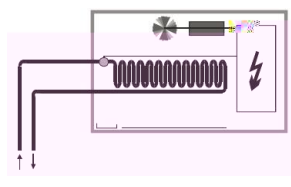
k

/

k





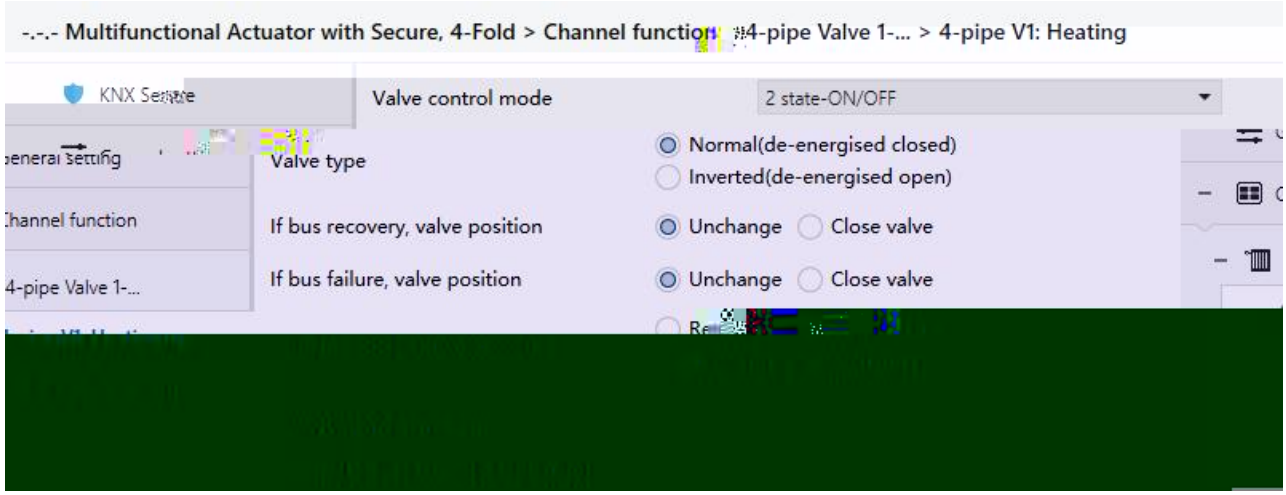


### 4.9.1. “Vx: Heating/Cooling”

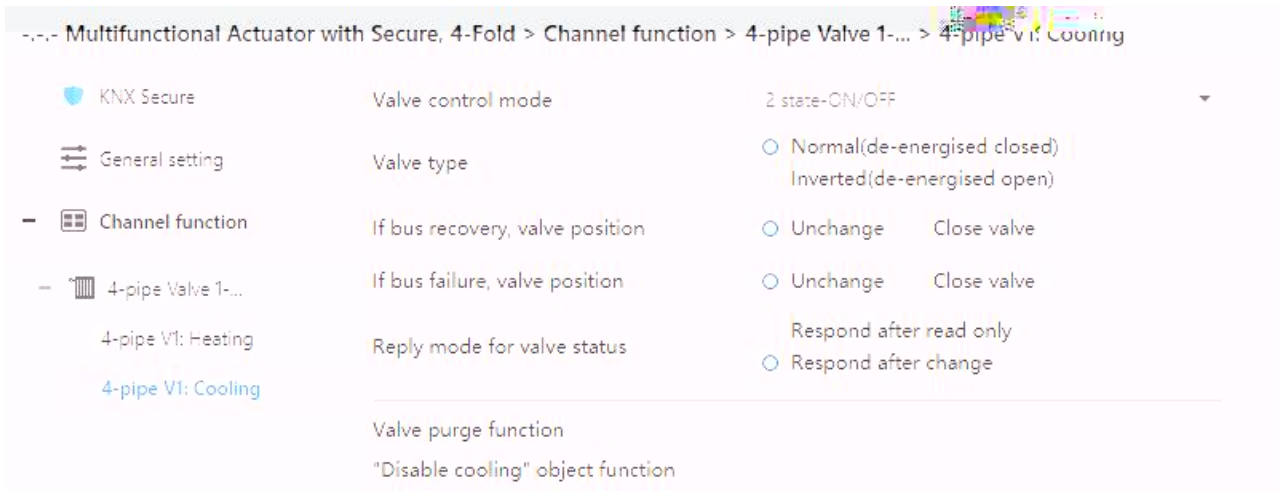
“Vx:Heating ” “Vx: Cooling” 4.9.1(1) 4.9.1(2)

k (2 4

)




4.9.1(1) “Vx: Heating”




4.9.1(2) “Vx: Cooling”

**Valve control mode”**

k

**2 state-ON/OFF**

**Continuous, PWM**

**3 point, open and close**

2 state-ON/OFF

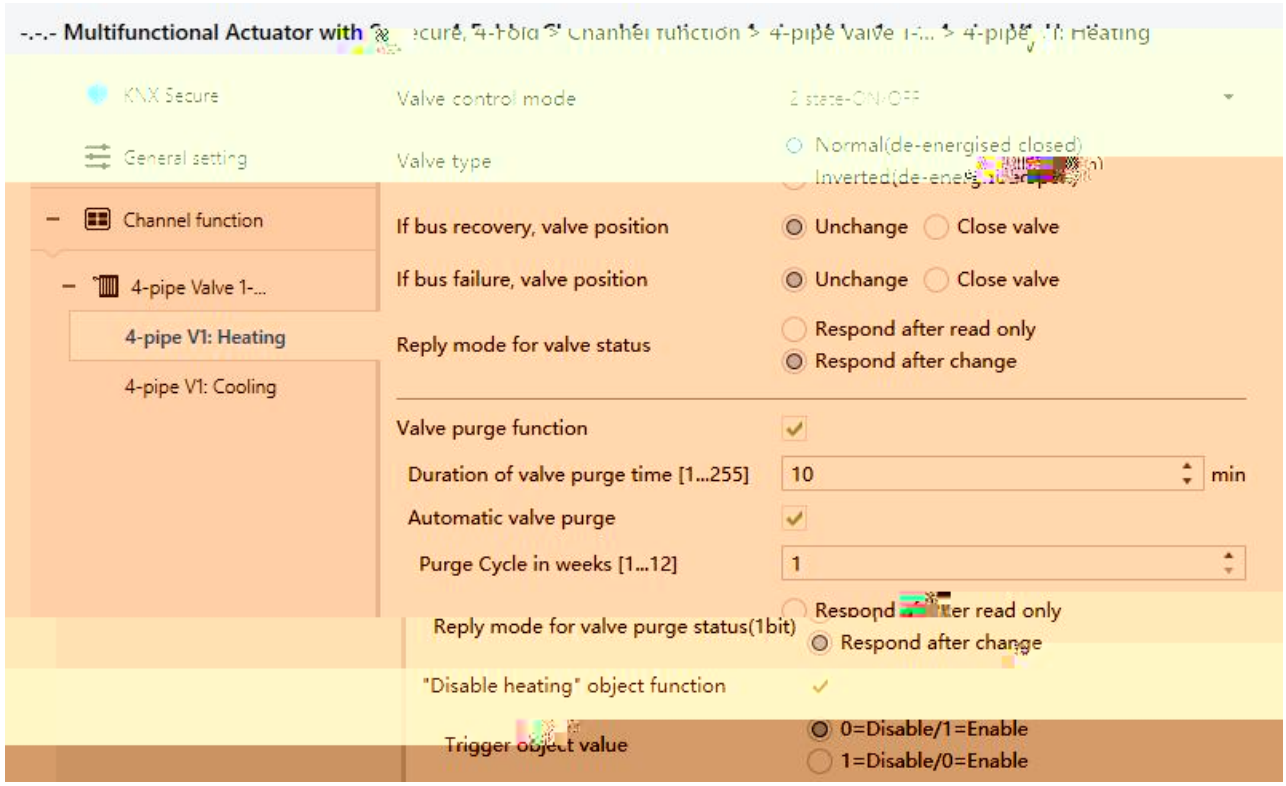
Continuous, PWM PWM

3 point, open and close: k

k

#### 4.9.1.1.2 state-ON/OFF

4.9.1.1 k




4.9.1.1 “2 state-ON/OFF”

**Valve type**

k

**Normal(de-energised closed)**

**Inverted(de-energised open)**

Normal(de-energised closed) Inverted(de-energised open)

k

### If bus recovery,valve position

k

**Unchange**

**Close valve**

Unchange

Close valve k

### If bus failure,valve position

k

**Unchange**

**Close valve**

Unchange

Close valve k

k

### Reply mode for valve status(1bit)

k

**Respond after read only**

**Respond after change**

Respond after read only “Valve status,Heat/Cool” k

Respond after change “Valve status, Heat/Cool” k

### Valve purge function

k 1bit Trigger valve purge, Heat/Cool

k

**Duration of valve purge time[1...255]**

k **1...255 min**

1=Disable/0=Enable Disable, Heat/Cool 1 /

0 k

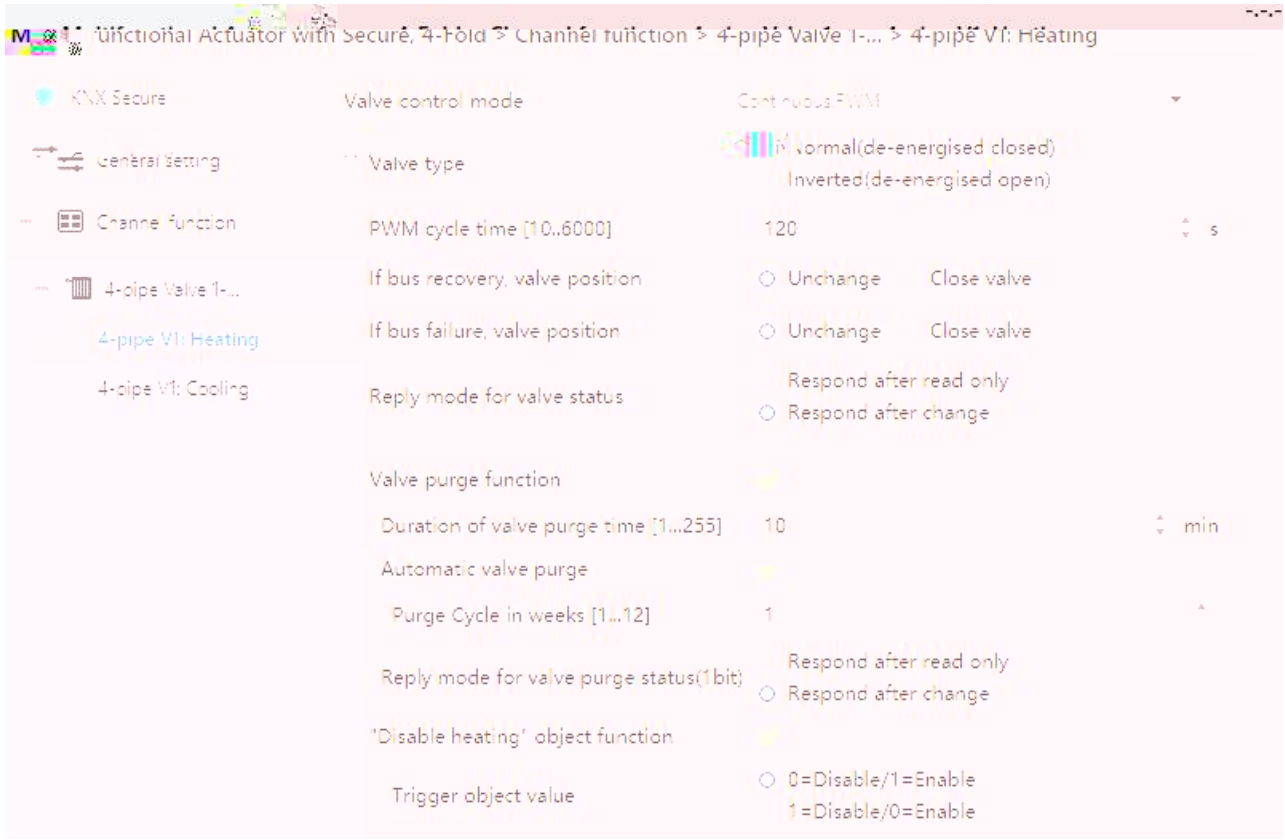
k

k

k

#### 4.9.1.2.Continuous, PWM

4.9.1.2 k




4.9.1.2 “Continuous, PWM”

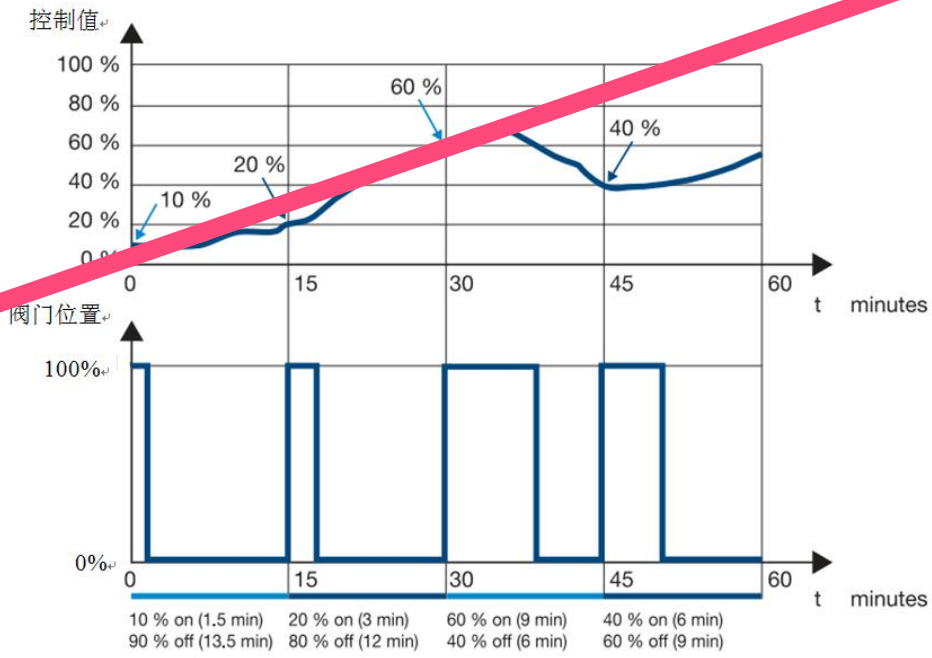
k

PWM

20% PWM 15min 3min 12min 60%

9min 6min

k




!

k

“2state-ON/OFF” k

PWM

**PWM cycle time [10...6000]**

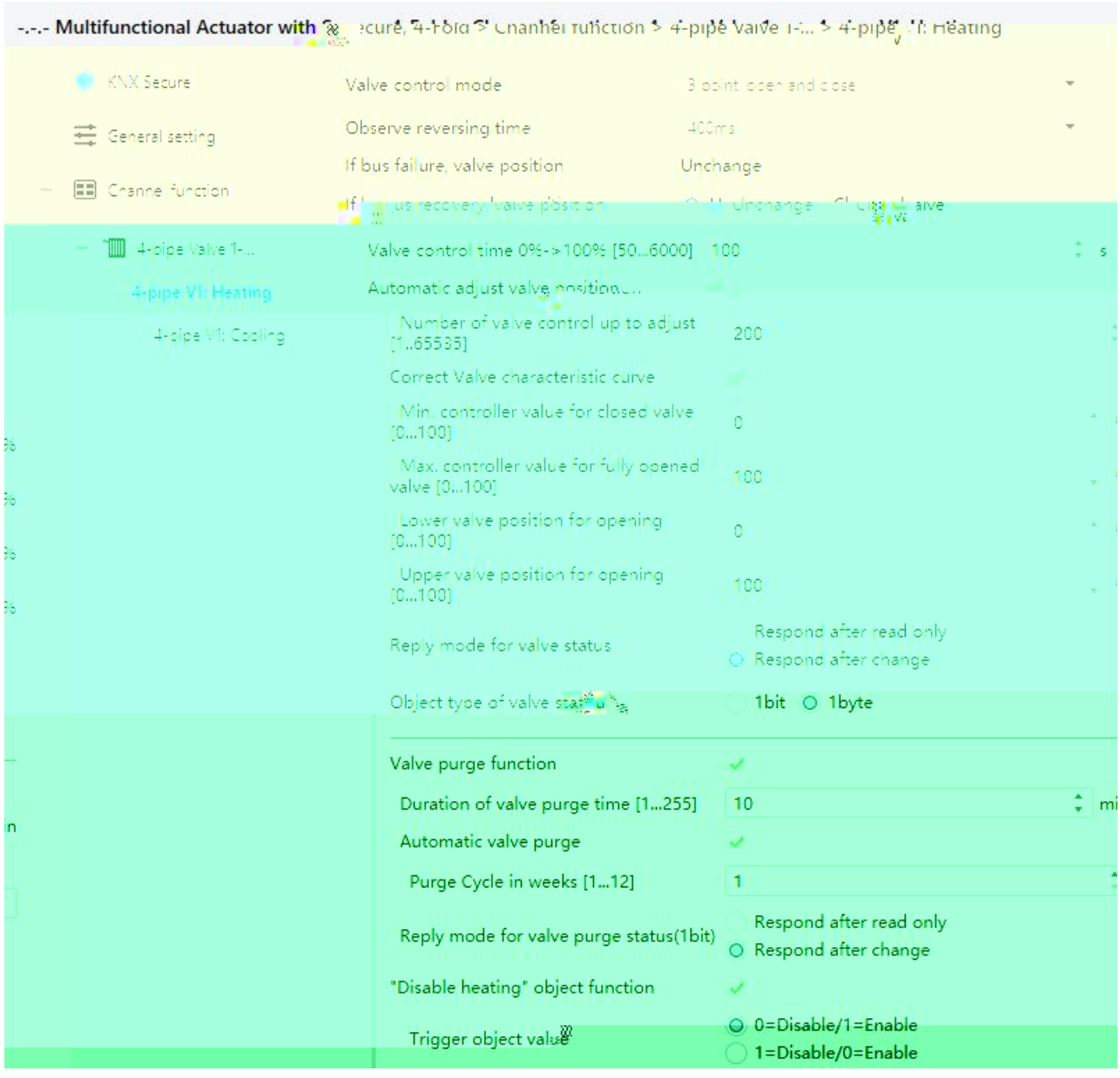
PWM k

k **10...6000 s**

**Contin** RRyypÖÜuUv›¡ðQWuY@BXE•’@ "

**4.9.1.3.point, open and close**

4.9.1.3 k

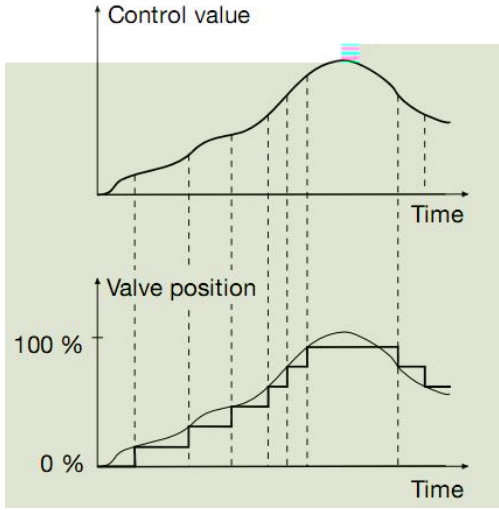



4.9.1.3 “3 point, open and close”

!

k

20% 20% k




**"Observe reversing time"**

k

**100ms**

**200ms**

**...**

**1s**

**1.2s**

**1.5s**

k

**"If bus failure, valve position"**

k

**"If bus recovery, valve position"**

k

**Unchange**

**Close valve**

Unchange k

Close valve k

0% 0%

k

k

"Valve control time 0% 100% [50...6000]"

k

**50...6000 s**

180s 20% 60% 20% 60%

72s k

k

"Automatic adjust valve position"

k k

k

**Number of valve control up to adjust[1...65535]**

0%

k **1...65535**

100 100 101

0%

k 100 50% 101 60%

101 40% 0%

40% k 5% + Ô

5% Ô 5% 1min 1min 1min k

k

k

k

k

## "Correct Valve characteristic curve"

k k

- **Min. controller value** for **closed valve [0..100]**
- **Max. controller value for fully opened valve [0...100]**
- **Lower valve position for opening [0...100]**
- **Upper valve position for opening [0...100]**

k **0...100 %**

Min. controller value for closed valve

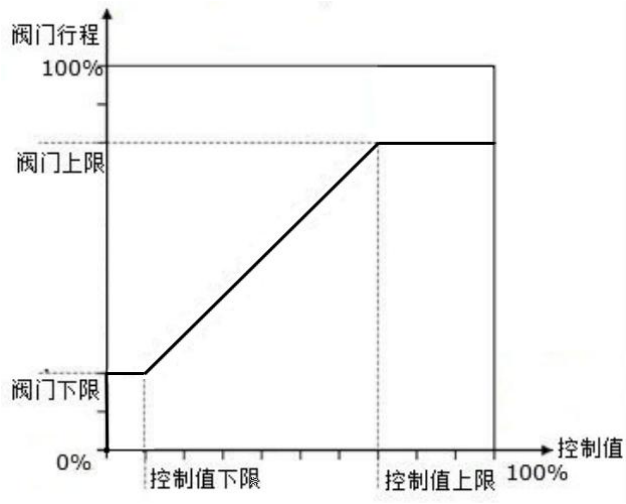
Max. controller value for fully opened valve

Lower valve position for opening

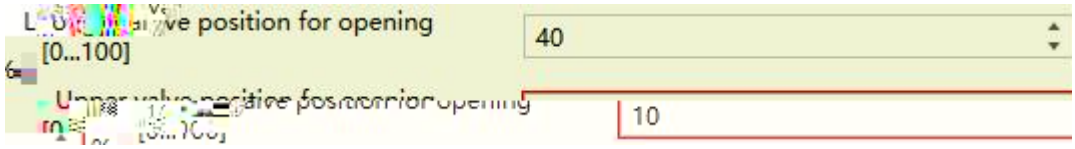
Upper valve position for opening k

10% 20%

70% 80%



< ETS




**Reply mode for valve status(1bit)**

k

**Respond after read only**

**Respond after change**

Respond after read only Valve status, Heat/Cool k

Respond after change Valve status, Heat/Cool k

**"Object type of valve status "**

k

**1bit**

**1byte**

1bit 1bit Valve status, Heat/Cool k

1byte 1byte Valve status, Heat/Cool k

**Object value with valve position >0**

0 k

**0**

**1**

1 0 Valve status, Heat/Cool 1

0 0 k

**4.9.2.**

KNX/EIB KNX

## 5.2.

### 5.2.1. -- Switch actuator

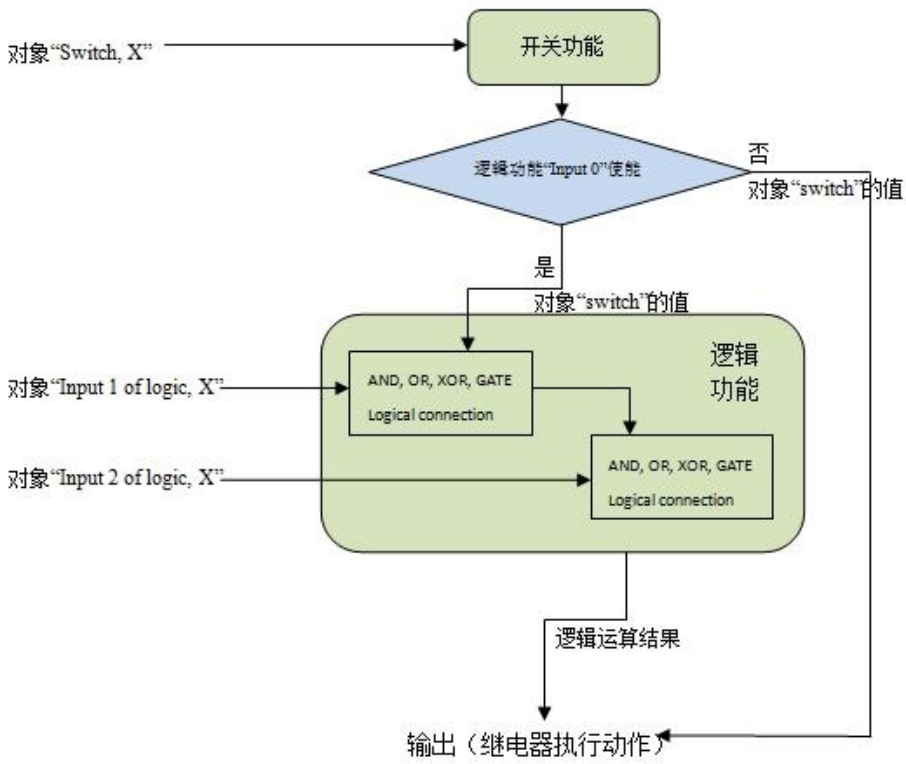
| Number | Name | Object Function | Description | Group Address | Length | C | R | W | T | U | Data Type | Priority |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | Output 1-... | Switch | | | 1 bit | C | - | W | - | - | switch | Low |
| 3 | Output 1-... | Switch status | | | 1 bit | C | R | - | T | - | switch | Low |
| 4 | Output 1-... | Enable time function | | | 1 bit | C | - | W | - | - | enable | Low |
| 5 | Output 1-... | Staircase function | | | 1 bit | C | - | W | - | - | switch | Low |
| 6 | Output 1-... | Operation hours counter | | | 4 bytes | C | R | W | T | U | time lag (s) | Low |
| 7 | Output 1-... | Scene | | | 1 byte | C | - | W | - | - | scene control | Low |
| 8 | Output 1-... | Forced output | | | 1 bit | C | - | W | - | - | enable | Low |
| 9 | Output 1-... | Logic 1 | | | 1 bit | C | - | W | - | - | boolean | Low |
| 10 | Output 1-... | Logic 2 | | | 1 bit | C | - | W | - | - | boolean | Low |

5.2.1 --Switch actuator

| | | | | | DPT |
|---|---|---|---|---|---|
| **2** | **Switch** | **Output 1-{{...}}** | **1bit** | **C,W** | **1.001 DPT_Switch** |

k

“Input 0” “Switch” k




“Description (max.30 char.)” “Output 1-...” k k

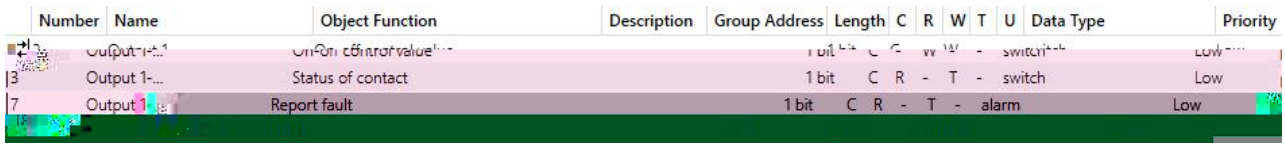
| | | | | | |
|---|---|---|---|---|---|
| **3** | **Switch status** | **Output 1-{{...}}** | **1bit** | **C,R,T** | **1.001 DPT_Switch** |

“Output X” “Object value of switch status: ” k

| | | | | | |
|---|---|---|---|---|---|
| | “Respond after read only”<br><br>“Respond after change” k | | | | |
| **4** | **Enable time function** | **Output 1-{{...}}** | **1bit** | **C,W** | **1.003 DPT_Enable** |
| | k “1”<br>“0”<br>k<br>k | | | | |
| **5** | **Delay function** | **Output 1-{{...}}** | **1bit** | **C,W** | **1.001 DPT_Switch** |
| | “Type of time function” “Delay” k | | | | |
| **5** | **Flashing function** | **Output 1-{{...}}** | **1bit** | **C,W** | **1.001 DPT_Switch** |
| | “Type of time function” “Flashing” k | | | | |
| **5** | **Staircase function** | **Output 1-{{...}}** | **1bit** | **C,W** | **1.001 DPT_Switch** |
| | “Type of time function” “Staircase” k | | | | |
| **6** | **Operation hours counter** | **Output 1-{{...}}** | **2byte**<br>**4byte** | **C,R,W,T,U** | **7.007 DPT_TimePeriodHrs**<br>**13.100 DPT_LongDeltaTimeSec** |
| | “Function of “ Operation hours counter”” “Enable”<br>“Object datatype of “Operation hours counter”” k 2byte 4byte k | | | | |
| **7** | **Scene** | **Output 1-{{...}}** | **1byte** | **C,W** | **18.001 DPT_SceneControl** |
| | 8bit k k<br>8bit k<br>8bit ( ) FXNNNNNN<br>F: “0” “1”<br>X 0<br>NNNNNN 0…63 k | | | | |

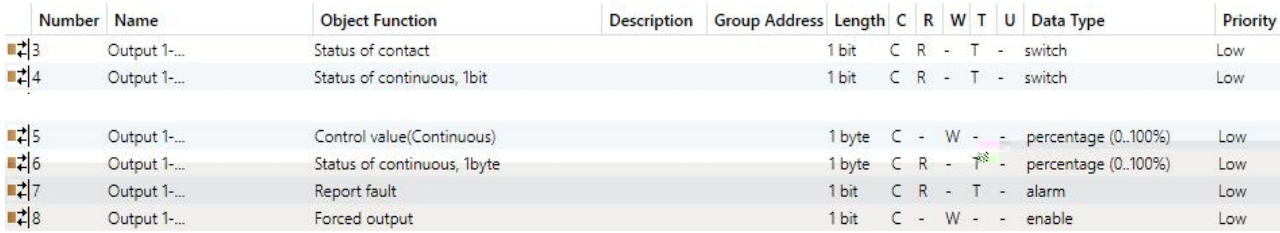
KNX/EI

### 5.2.2. -- Heating actuator(without controller)



| Number | Name | Object Function | Description | Group Address | Length | C | R | W | T | U | Data Type | Priority |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | Output 1-... | Status of contact | | | 1 bit | C | R | - | T | - | switch | Low |
| 7 | Output 1-... | Report fault | | | 1 bit | C | R | - | T | - | alarm | Low |

1bit(on-off control or PWM)



| Number | Name | Object Function | Description | Group Address | Length | C | R | W | T | U | Data Type | Priority |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | Output 1-... | Status of contact | | | 1 bit | C | R | - | T | - | switch | Low |
| 4 | Output 1-... | Status of continuous, 1bit | | | 1 bit | C | R | - | T | - | switch | Low |
| 5 | Output 1-... | Control value(Continuous) | | | 1 byte | C | - | W | - | - | percentage (0..100%) | Low |
| 6 | Output 1-... | Status of continuous, 1byte | | | 1 byte | C | R | - | T | - | percentage (0..100%) | Low |
| 7 | Output 1-... | Report fault | | | 1 bit | C | R | - | T | - | alarm | Low |
| 8 | Output 1-... | Forced output | | | 1 bit | C | - | W | - | - | enable | Low |

1byte(Continuous)

5.2.2 --Heating actuator(without controller)

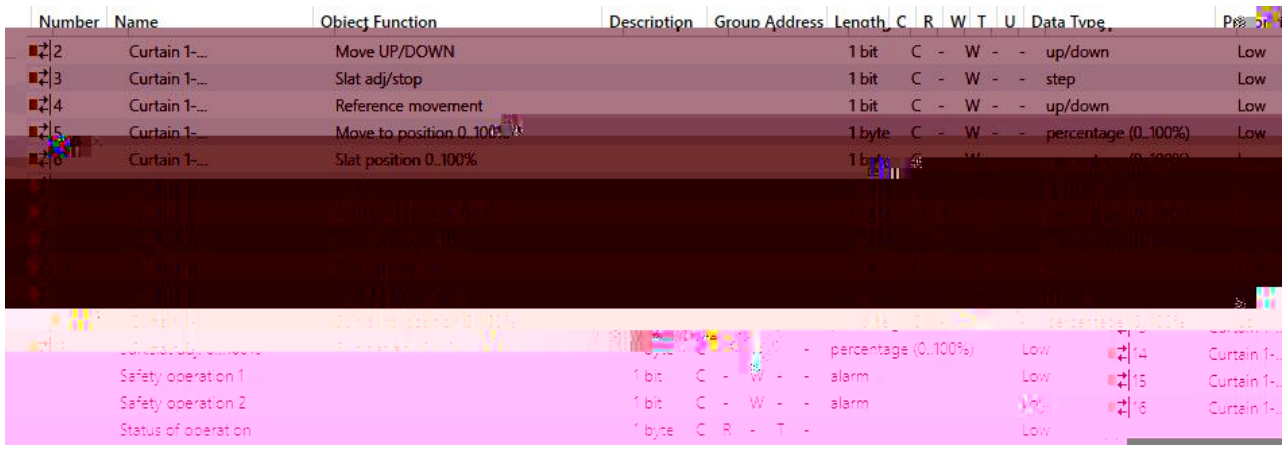
| | | | | | DPT |
|---|---|---|---|---|---|
| **2** | **On-off control value** | **Output 1-{{...}}** | **1bit** | **C,W** | **1.001 DPT_Switch** |
| “Control telegram is received as” “1bit(on-off control or PWM)” 1bit “0” “1” k | | | | | |
| **3** | **Status of contact** | **Output 1-{{...}}** | **1bit** | **C,R,T** | **1.001 DPT_Switch** |
| “Reply the status for contact” “Yes, 1= contact close ; 0=contact open” “Yes,0= contact close ; 1=contact open” k k | | | | | |
| **5** | **Control value (continuous)** | **Output 1-{{...}}** | **1byte** | **C,W** | **5.001 DPT_Scaling** |
| “Control telegram is received as” “1byte(Continuous)” 1Byte k 0…100% “0%” “100%” k | | | | | |
| **4** | **Status of continuous,1 bit** | **Output 1-{{...}}** | **1bit** | **C,R,T** | **1.001 DPT_Switch** |
| “Reply the status for continuous control” “Yes 0%=0, otherwise “1”(1bit)” “Yes 0%=1, otherwise “0”(1bit)” k k “Yes, 0% =0, otherwise”1”(1 bit)” “0” “1” “Yes, 0% =1, otherwise”0”(1 bit)” “1” “0” k | | | | | |
| **6** | **Status of continuous,1 byte** | **Output 1-{{...}}** | **1byte** | **C,R,T** | **5.001 DPT_Scaling** |
| “Reply the status for continuous control” “Yes continues control value 1byte ” k (PWM) k | | | | | |
| **7** | **Report fault** | **Output 1-{{...}}** | **1bit** | **C,R,T** | **1.005 DPT_Alarm** |

| | | | | | |
|---|---|---|---|---|---|
| | | “Send object “Report fault” is” “Enable” k<br>“1” “0” k | | | |
| **8** | **Forced output** | **Output 1-{{...}}** | **1bit** | **C,W** | **1.003 DPT_Enable** |
| | | k “1”<br>“0” k k k | | | |

5.2.2 --Heating actuator(without controller)

## 5.3. (AC/DC)

AC DC AC k




5.3 AC

DPT

| 4 | **Reference movement** | **Curtain 1-{{...}}** | **1bit** | **C,W** | **1.008 DPT_UpDown** |
|---|---|---|---|---|---|
| “After reference movement, Position is” “disable” / / k k 0—— / 1—— / | | | | | |
| **5** | **Move to position 0…100%** | **Curtain 1-{{...}}** | **1byte** | **C,W** | **5.001 DPT_Scaling** |
| / k “Venetian Blind” “Slat position 0…100%” k 0% —— ..... —— 100%—— | | | | | |
| **6** | **Slat position 0…100%** | **Curtain 1-{{...}}** | **1byte** | **C,W** | **5.001 DPT_Scaling** |
| “Venetian Blind” k 0% —— ..... —— 100%—— | | | | | |
| **7** | **Scene** | **Curtain 1-{{...}}** | **1byte** | **C,W** | **18.001 DPT_SceneControl** |
| 8bit k 8bit k 8bit ( ) FXNNNNNN F: ‘0’ ‘1’ X 0 NNNNNN 0…63 k 1~64 “Scene” 0~63 k 1 “Scene” 0 k | | | | | |

| | |
|---|---|
| 0<br>1<br>2<br>...<br>63 | 1<br>2<br>3<br>...<br>64 |
| 128<br>129<br>130<br>...<br>191 | 1<br>2<br>3<br>...<br>64 |

| | | | | | |
|---|---|---|---|---|---|
| **8** | **Position status 0..100%** | **Curtain 1-{{...}}** | **1byte** | **C,R,T** | **5.001 DPT_Scaling** |
| / / k<br>0% ——<br>..... ——<br>100%—— | | | | | |
| **9** | **Slat status 0..100%** | **Curtain 1-{{...}}** | **1byte** | **C,R,T** | **5.001 DPT_Scaling** |
| “Venetian Blind”<br>k k<br>0% ——<br>..... ——<br>100%—— | | | | | |
| **10** | **Sun operation** | **Curtain 1-{{...}}** | **1bit** | **C,W** | **1.001 DPT_Switch** |
| “0” “1” k | | | | | |
| **11** | **Enable auto. control** | **Curtain 1-{{...}}** | **1bit** | **C,W** | **1.003 DPT_Enable** |
| “0” “1” k<br>0——<br>1—— | | | | | |
| **12** | **Sun:blind/shutter position 0…100%** | **Curtain 1-{{...}}** | **1byte** | **C,W** | **5.001 DPT_Scaling** |
| / k “Venetian Blind”<br>“Sun:slat adj. 0…100%”<br>k<br>0% ——<br>..... ——<br>100%—— | | | | | |
| **13** | **Sun: slat adj. 0…100%** | **Curtain 1-{{...}}** | **1byte** | **C,W** | **5.001 DPT_Scaling** |

“Venetian Blind”

k

0% ——

…… ——

100%——

| | | | | | |
|---|---|---|---|---|---|
| **14** | **Safety operation1** | **Curtain 1-{{...}}** | **1bit** | **C,W** | **1.005 DPT_Alarm** |
| **15** | **Safety operation2** | **Curtain 1-{{...}}** | **1bit** | **C,W** | **1.005 DPT_Alarm** |

0 1 “1”

/g/ü`i @",`7Ød j,`ú N›

“1”

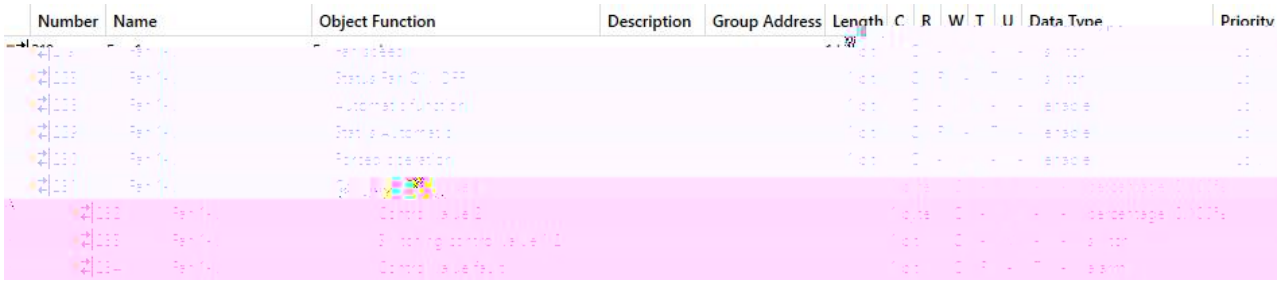
k

k

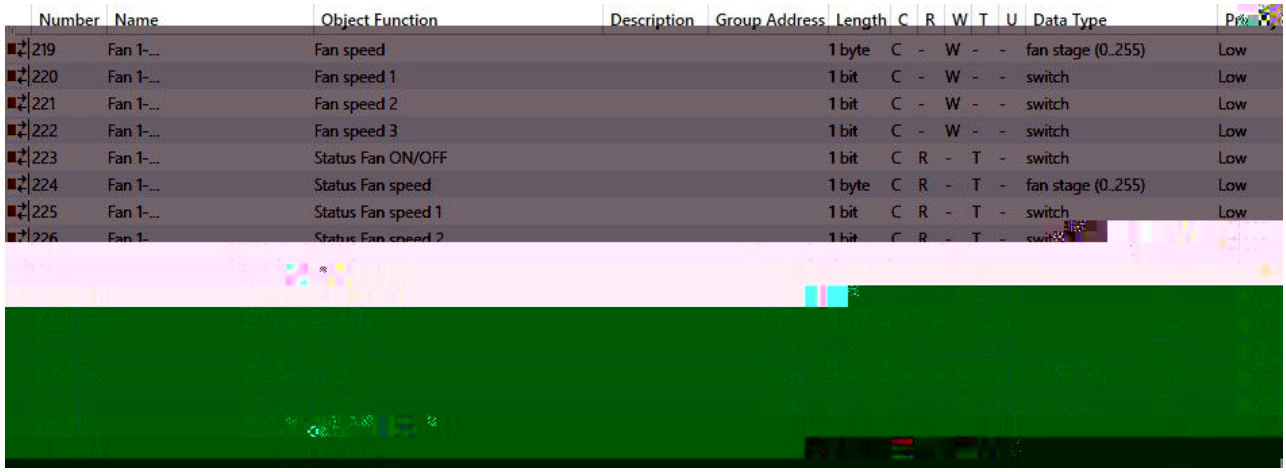
**2** **1** k

**16** **Status of operatioo**

## 5.4.




5.4(1) _One level




5.4(2) _Multi-level

| | | | | | |
|---|---|---|---|---|---|
| | | | | | DPT |
| **219** | **Fan speed** | **Fan 1-{{...}}** | **1bit**<br>**1byte** | **C,W** | **1.001 DPT_Switch**<br>**5.001 percentage(0..100%)**<br>**5.100 fan stage** |
| , 1bit k<br>0——<br>1——<br>1byte<br>k 1...255 1...100 0 k<br>“Description (max.30 char.)” “Fan 1-...” k k | | | | | |
| **220** | **Fan speed 1** | **Fan 1-{{...}}** | **1bit** | **C,W** | **1.001 DPT_Switch** |
| k<br>1 1~3 ON<br>k<br>1~3 OFF k | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | | 0—— | | | |
| | | 1—— 1 | | | |
| **221** | **Fan speed 2** | **Fan 1-{{...}}** | **1Bit** | **C,W** | **1.001 DPT_Switch** |
| | | 220 | | | |
| **222** | **Fan speed 3** | **Fan 1-{{...}}** | **1Bit** | **C,W** | **1.001 DPT_Switch** |
| | | 220 | | | |
| **223** | **Status Fan ON/OFF** | **Fan 1-{{...}}** | **1bit** | **C,R,T** | **1.001 DPT_Switch** |
| | | k | k | | |
| | | 0—— | | | |
| | | 1—— | | | |
| **224** | **Status Fan speed** | **Fan 1-{{...}}** | **1byte** | **C,R,T** | **5.001 percentage(0..100%)**<br>**5.100 fan stage** |
| | | k<br>k<br>k | Status value for Fan speed 1/2/3 “0” | | |
| **225** | **Status Fan speed 1** | **Fan 1-{{...}}** | **1bit** | **C,R,T** | **1.001 DPT_Switch** |
| | | k<br>1 k<br>0—— 1<br>1—— 1 | | | |
| **226** | **Status Fan speed 2** | **Fan 1-{{...}}** | **1bit** | **C,R,T** | **1.001 DPT_Switch** |
| | | 225 | | | |
| **227** | **Status Fan speed 3** | **Fan 1-{{...}}** | **1bit** | **C,R,T** | **1.001 DPT_Switch** |
| | | 225 | | | |
| **228** | **Automatic function** | **Fan 1-{{...}}** | **1bit** | **C,W** | **1.003 DPT_Enable** |
| | | k<br>k k<br>k k<br>“0 Auto/1=Cancel”<br>0——<br>1—— | | | |

| | | | | | |
|---|---|---|---|---|---|
| | “1 Auto/0=Cancel<br>0——<br>1——<br><br>219 Fan X--Fan speed<br>220-222 Fan X-- Fan speed x (x=1,2,3,) | | | | |
| **229** | **Status Automatic** | **Fan 1-{{...}}** | **1bit** | **C,R,T** | **1.003 DPT_Enable** |
| | k<br>0——<br>1—— | | | | |
| **230** | **Forced Operation** | **Fan 1-{{...}}** | **1bit** | **C,W** | **1.003 DPT_Enable** |
| | k “Limitation on forced operation” k<br>“0 Force/1=Cancel”<br>0——<br>1——<br>“1 Force/0=Cancel”<br>1——<br>0—— | | | | |
| **231** | **Control value** | **Fan 1-{{...}}** | **1byte** | **C,W** | **5.001 DPT_Scaling** |
| **231** | **Control value 1** | **Fan 1-{{...}}** | **1byte** | **C,W** | **5.001 DPT_Scaling** |
| **232** | **Control value 2** | **Fan 1-{{...}}** | **1byte** | **C,W** | **5.001 DPT_Scaling** |
| | 1 Control value 2 Control value1/2 k<br>k | | | | |
| **233** | **Switching control value 1/2** | **Fan 1-{{...}}** | **1bit** | **C,W** | **1.001 DPT_Switch** |
| | 2 k<br>0——Control value 1 ( 1 )<br>1——Control value 2 ( 2) | | | | |
| **234** | **Control value fault** | **Fan 1-{{...}}** | **1bit** | **C,R,T** | **1.005 DPT_Alarm** |
| | k k<br>0——<br>1—— | | | | |

5.4

## 5.5.

4 k

| Number | Name | Object Function | Description | Group Address | Length | C | R | W | T | U | Data Type | Priority |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 315 | 4-pipe Valve 1-... | Heat/Cool mode status | | | 1 bit | C | R | - | T | - | cooling/heating | Low |
| 316 | 4-pipe Va... | Control value fault | | | 1 bit | C | R | - | T | - | alarm | Low |
| 317 | 4-pipe Valve 1-... | Disable,Heat | | | 1 bit | C | - | W | - | - | enable | Low |
| 318 | 4-pipe Valve 1-... | Control value, Heat | | | 1 bit | C | - | W | - | - | switch | Low |
| 319 | 4-pipe Valve 1-... | Valve status, Heat | | | 1 bit | C | R | - | T | - | switch | Low |
| 320 | 4-pipe Valve 1-... | Trigger valve purge, Heat | | | 1 bit | C | - | W | - | - | enable | Low |
| 321 | 4-pipe Valve 1-... | Valve purge status, Heat | | | 1 bit | C | R | - | [illegible] | | | |
| [illegible] | [illegible] | [illegible] | | | [illegible] | | | | | | | Low |
| 323 | 4-pipe Valve 1-... | Control value, Coo | | | 1 byte | C | - | W | - | - | percentage (0..100%) | Low |
| 324 | 4-pipe Valve 1-... | Valve status, Cool | | | 1 bit | C | R | - | T | - | switch | Low |
| 325 | 4-pipe Valve 1-... | Trigger valve purge, Cool | | | 1 bit | C | - | W | - | - | enable | Low |
| 326 | 4-pipe Va... | Valve purge status, Cool | | | 1 bit | C | R | - | T | - | enable | Low |

5.5

| | | | | | DPT |
|---|---|---|---|---|---|
| **315** | **Heat/Cool mode status** | **4-pipe Valve 1-{{...}}** | **1bit** | **C,R,T** | **1.100 DPT_Heat/Cool** |
| / k<br>0——<br>1——<br>“Description (max.30 char.)” “4-pipe Valve 1-...” k k | | | | | |
| **316** | **Control value fault** | **4-pipe Valve 1-{{...}}** | **1bit** | **C,R,T** | **1.005 DPT_Alarm** |
| k<br>k<br>0——<br>1—— | | | | | |
| **317** | **Disable, Heat** | **4-pipe Valve 1-{{...}}** | **1bit** | **C,W** | **1.003 DPT_Enable** |
| **322** | **Disable, HCool** | **4-pipe Valve 1-{{...}}** | **1bit** | **C,W** | **1.003 DPT_Enable** |
| / k 0%<br>k | | | | | |
| **318** | **Control value, Heat** | **4-pipe Valve 1-{{...}}** | **1byte**<br>**1bit** | **C,W** | **5.001 DPT_Scaling**<br>**1.001 DPT_Switch** |
| **323** | **Control value, Cool** | **4-pipe Valve 1-{{...}}** | **1byte**<br>**1bit** | **C,W** | **5.001 DPT_Scaling**<br>**1.001 DPT_Switch** |
| k<br>2 (318) k<br>1bit 1byte k | | | | | |
| **319** | **Valve status, Heat** | **4-pipe Valve 1-{{...}}** | **1byte**<br>**1bit** | **C,R,T** | **5.001 DPT_Scaling**<br>**1.001 DPT_Switch** |

| | | | | | |
|---|---|---|---|---|---|
| **324** | **Valve status, Cool** | **4-pipe Valve 1-{{...}}** | **1byte**<br>**1bit** | **C,R,T** | **5.001 DPT_Scaling**<br>**1.001 DPT_Switch** |
| k | | | | | |
| **320** | **Trigger valve purge, Heat** | **4-pipe Valve 1-{{...}}** | **1bit** | **C,W** | **1.003 DPT_Enable** |
| **325** | **Trigger valve purge, Cool** | **4-pipe Valve 1-{{...}}** | **1bit** | **C,W** | **1.003 DPT_Enable** |
| k<br>0 ˚<br>1 ˚ | | | | | |
| **321** | **Valve purge status, Heat** | **4-pipe Valve 1-{{...}}** | **1bit** | **C,R,T** | **1.003 DPT_Enable** |
| **326** | **Valve purge status, Cool** | **4-pipe Valve 1-{{...}}** | **1bit** | **C,R,T** | **1.003 DPT_Enable** |
| k k<br>0 ˚<br>1 ˚ | | | | | |

5.5