

K-BUS KNX

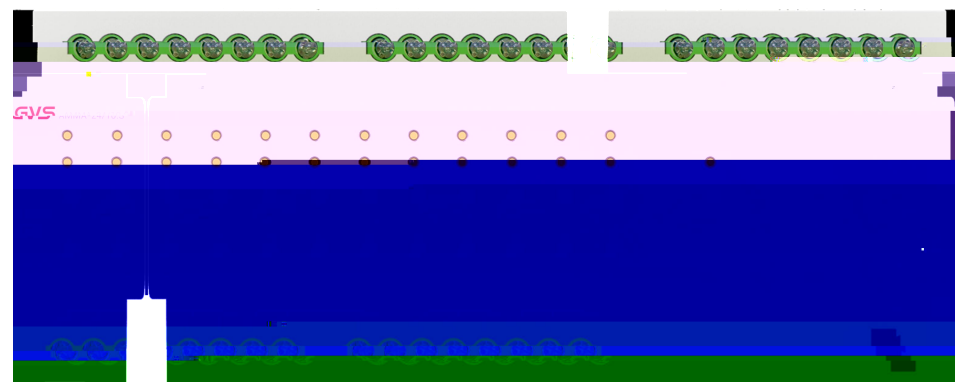
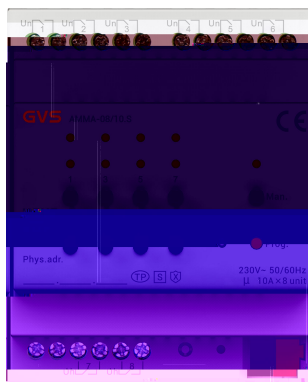
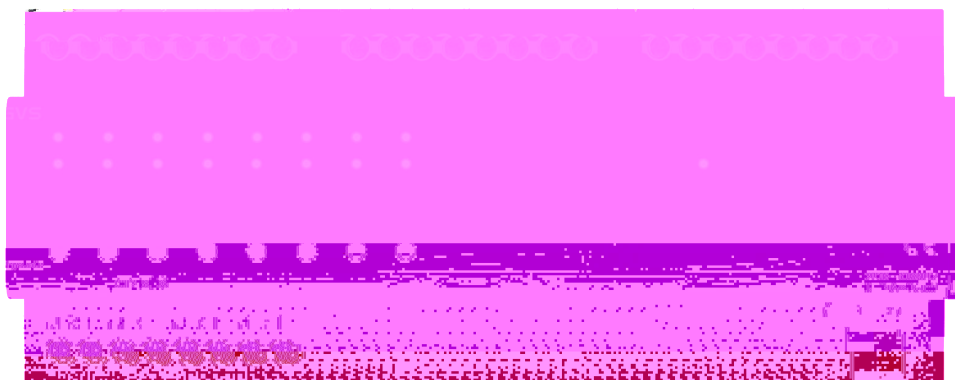
Multifunctional Actuator with Secure, 4/8/16/24-Fold_V1.5

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
	-----	1
2.1. AMMA-04/06.S	-----	1
2.2. AMMA-08/10.S	-----	3
2.3. AMMA-16/10.S	-----	5
2.4. AMMA-24/10.S	-----	7
	-----	9
3.1.	-----	9
3.2.	-----	11
3.2.1. AMMA-04/06.S	-----	11
3.2.2. AMMA-08/10.S	-----	12
3.2.3. AMMA-16/10.S	-----	13
3.2.4. AMMA-24/10.S	-----	14
ETS	-----	16
4.1. KNX	-----	16
4.2. "General"	-----	20
4.3. "Channel function"	-----	23
4.4. --Switch actuator	-----	26
4.4.1. "Switch actuator: Output X"	-----	26
4.4.2. "Ox: Time"	-----	31
4.4.3. "Ox: Logic"	-----	36
4.4.4. "Ox: Scene"	-----	40
4.4.5. "Ox: Forced"	-----	41
4.4.6. "Ox: Operation hours counter"	-----	43
4.4.7.	-----	44
4.5. --Heating actuator(without controller)	-----	45
4.5.1.	-----	51
4.6. (AC)	-----	52
4.6.1. "Curtain X: Venetian Blind"	-----	52

4.6.2.	"Curtain X: Shutter"	67
4.6.3.		67
4.7.	(DC)	68
4.8.		69
4.8.1.	"Fan type -- One level"	69
4.8.2.	"Fan type -- Multi-level"	78
4.8.3.		93
4.9.		94
4.9.1.	"Vx: Heating/Cooling"	98
4.9.2.		109
		111
5.1.		111
5.2.		112
5.2.1.	-- Switch actuator	112
5.2.2.	-- Heating actuator(without controller)	115
5.3.	(AC/DC)	116
5.4.		120
5.5.		123

KNX

DC/AC

4 8 16 24

1 AC

KNX

EN 60 715

35

KNX

KNX

--

24

/

8

1byte

1 bit/2bit

—	—	AC/DC				12
AC		230 V AC	370W	4/8-Fold	1000W(16/24-Fold)	
	6	DC				
		AC	DC		AC	DC

/

/

0...100%

0...100%

Venetian Blind

8

1 byte

Venetian Blind

Shutter

KNX/EIB

KNX

/

knxprod

ETS (ETS5

2.1.AMMA-04/06.S

			21~30V DC		KNX				
			<9mA/24V		<8mA/30V				
			<240mW						
			<20mA						
	KNX			/			0.8 mm Ø		
					0.2-2.5mm ²		0.4N-m		
			LED						
	LED								
			LED						
	/				/				
	/	LED			/				
	IP 20, EN 60 529								
			-5 ...+45						
			-25 ...+55						
			-25 ...+70						
			<93%						
					35mm DIN		DIN EN 60 715		
					36 × 90 × 64mm				
					0.20kg				
	4	/2	AC	/1	DC	/1	/2		2
		/1	4						
	U _n				230V AC		50/60Hz		
	I _n				6A				
					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

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				
			<270mW						
			<22mA						
	KNX			/			0.8 mm Ø		
					0.2-2.5mm ²		0.4N-m		
			LED						
	LED								
	LED								
	/			/					
	/	LED		/					
	IP 20, EN 60 529								
			-5 ...+45						
			-25 ...+55						
			-25 ...+70						
			<93%						
					35mm DIN		DIN EN 60 715		
					72 × 90 × 64mm				
					0.30kg				
	8	/4	AC	/2	DC	/2	/4		2
		/2 4							
	U _n		230V AC		50/60Hz				
	I _n		10A						
			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

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

2300W	>30000
2300W	>5000
2300W	>5000
2000W	>5000
2300W	>5000

2yTΥj J^ WP%Ms

5λLλ!

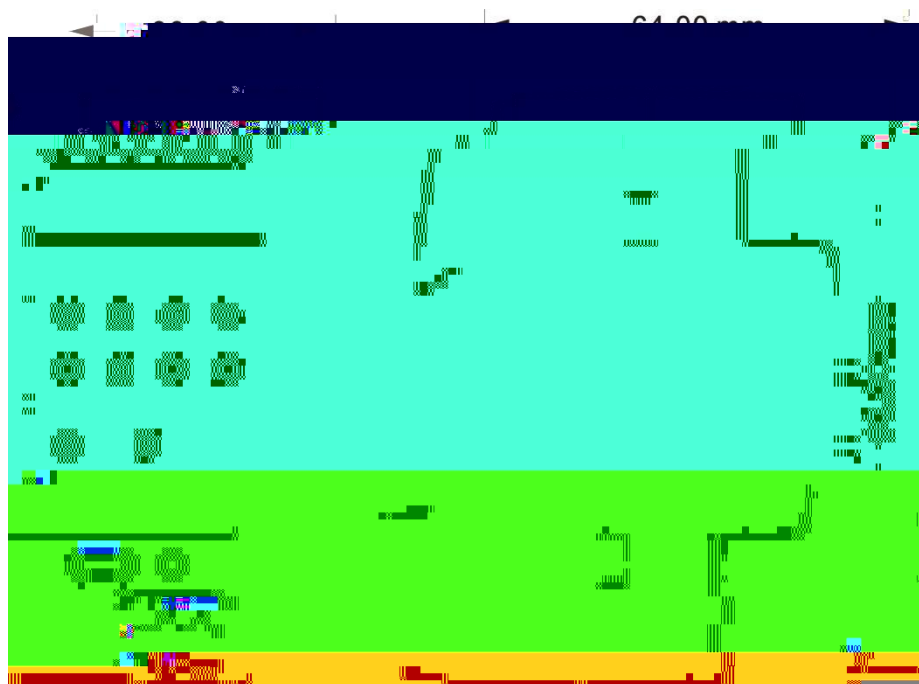
2.4.AMMA-24/10.S

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

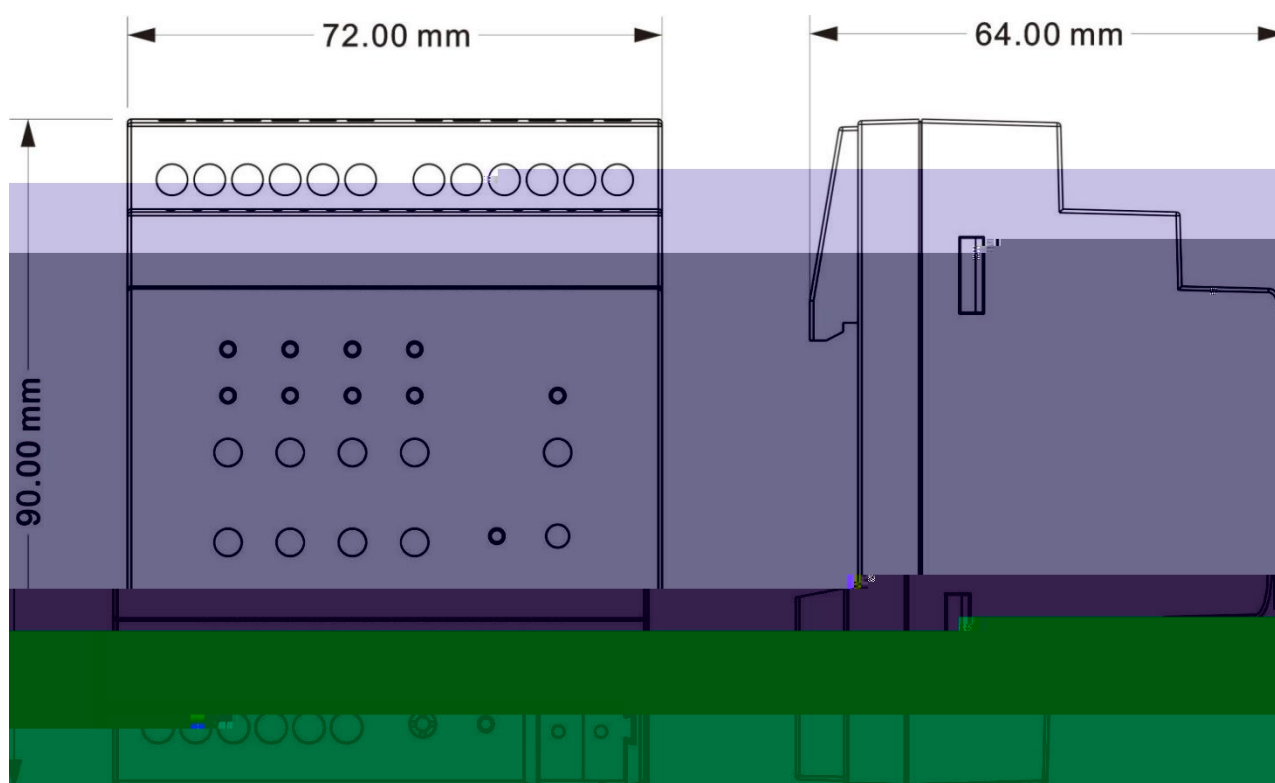
	2300W	>30000
	2300W	>5000
	2300W	>5000
	2000W	>5000
	2300W	>5000
	2000W	>5000
	1000W	>6000
LED 260A/120us	450W	>30000

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

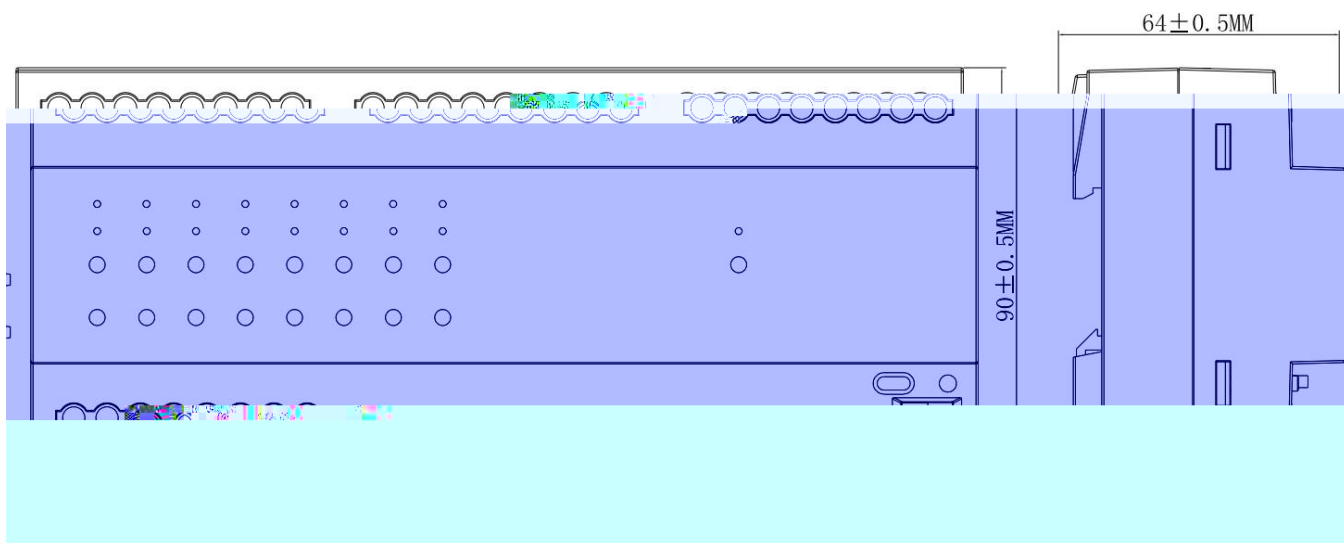
3.1.



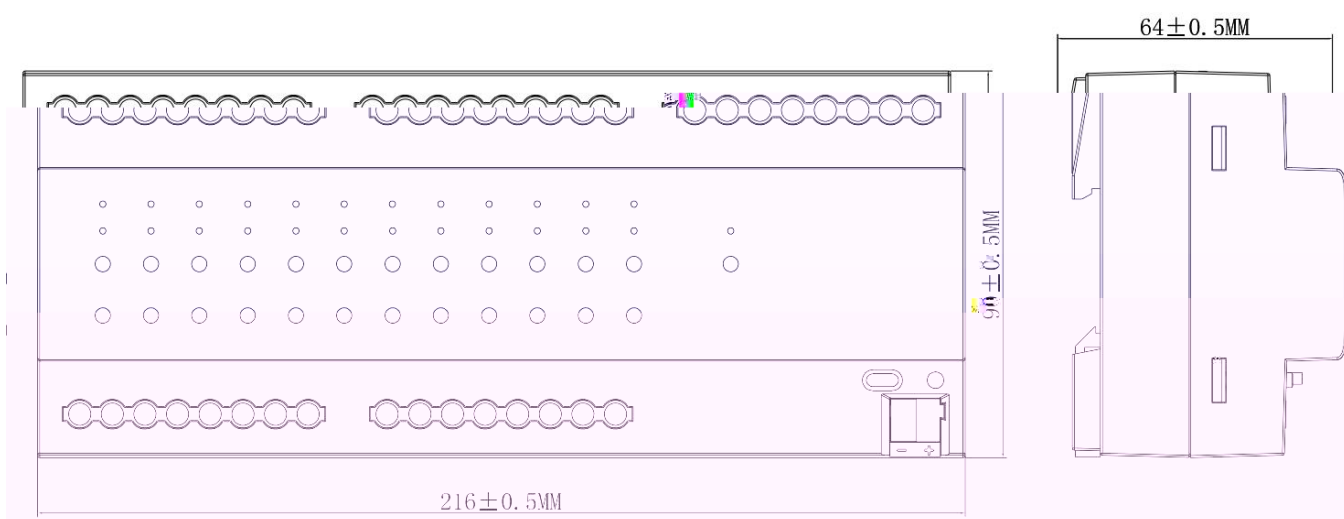
AMMA-04/06.S



AMMA-08/10.S



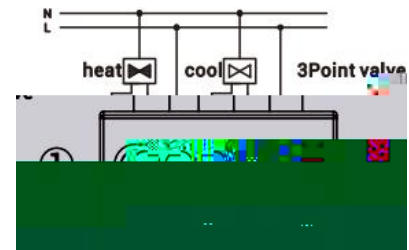
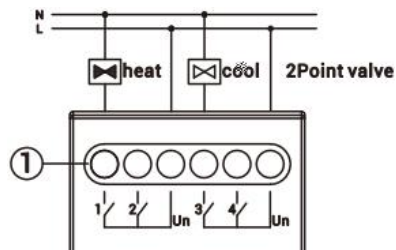
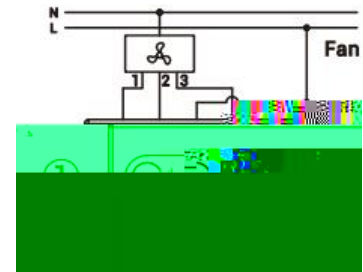
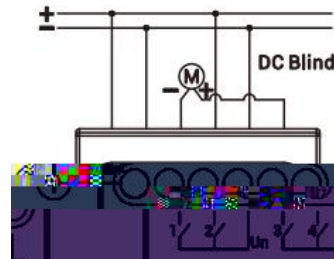
AMMA-16/10.S



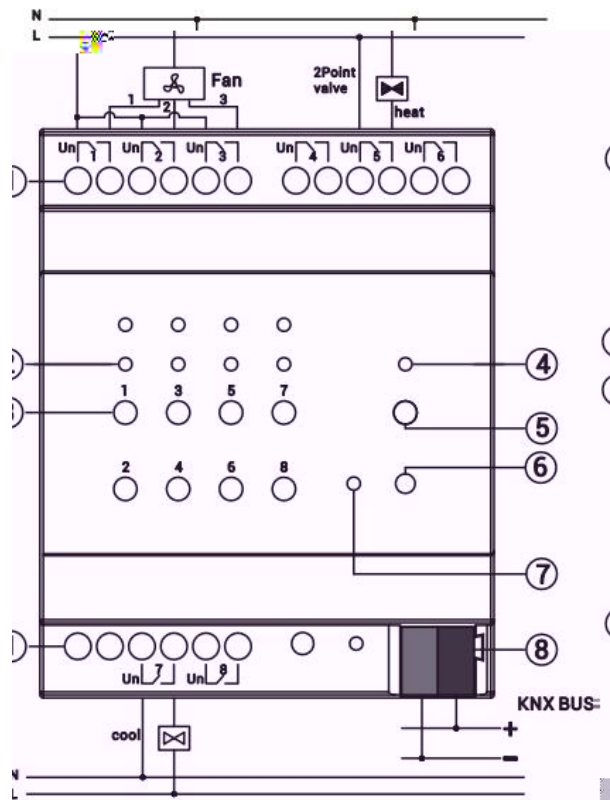
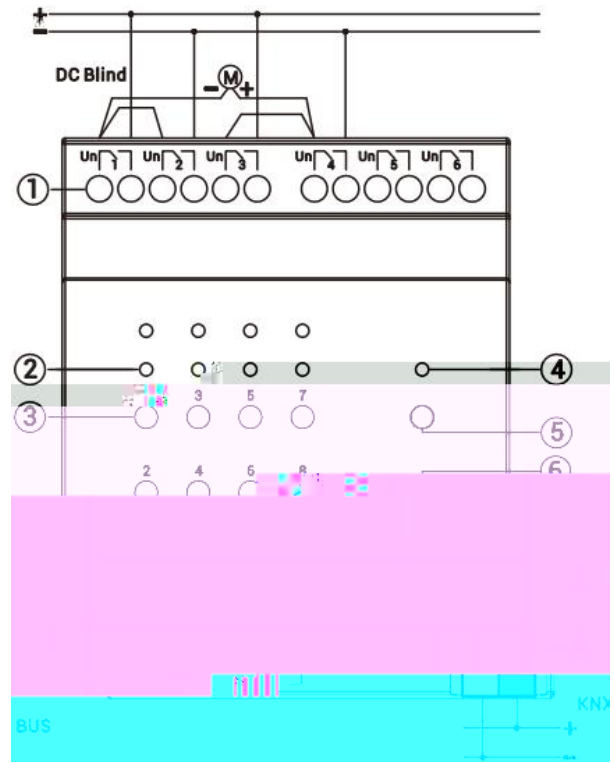
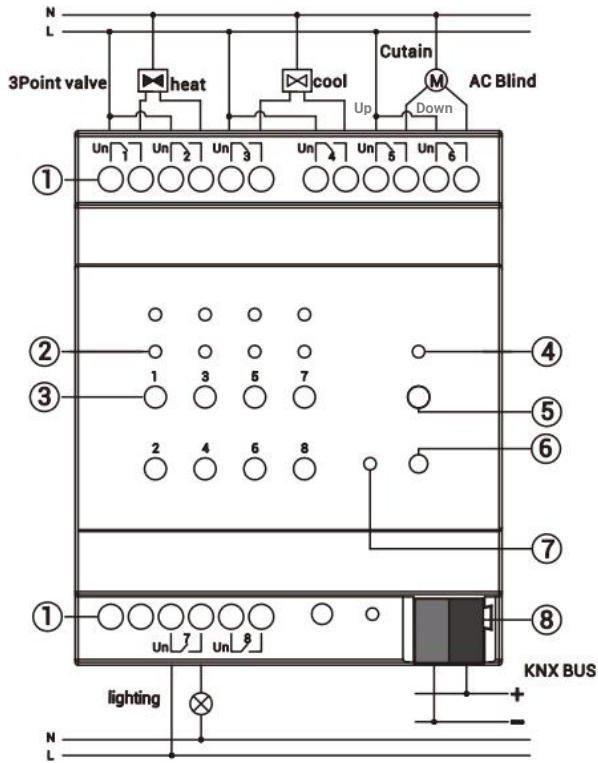
AMMA-24/10.S

3.2.

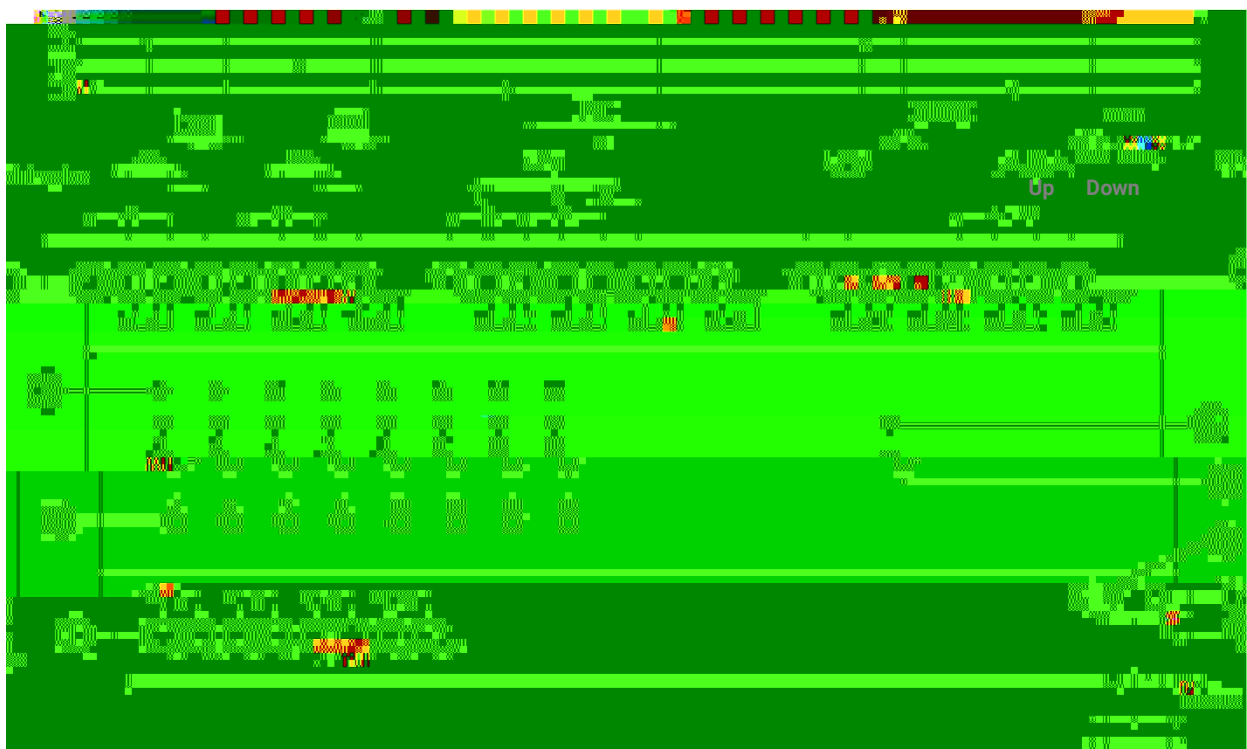
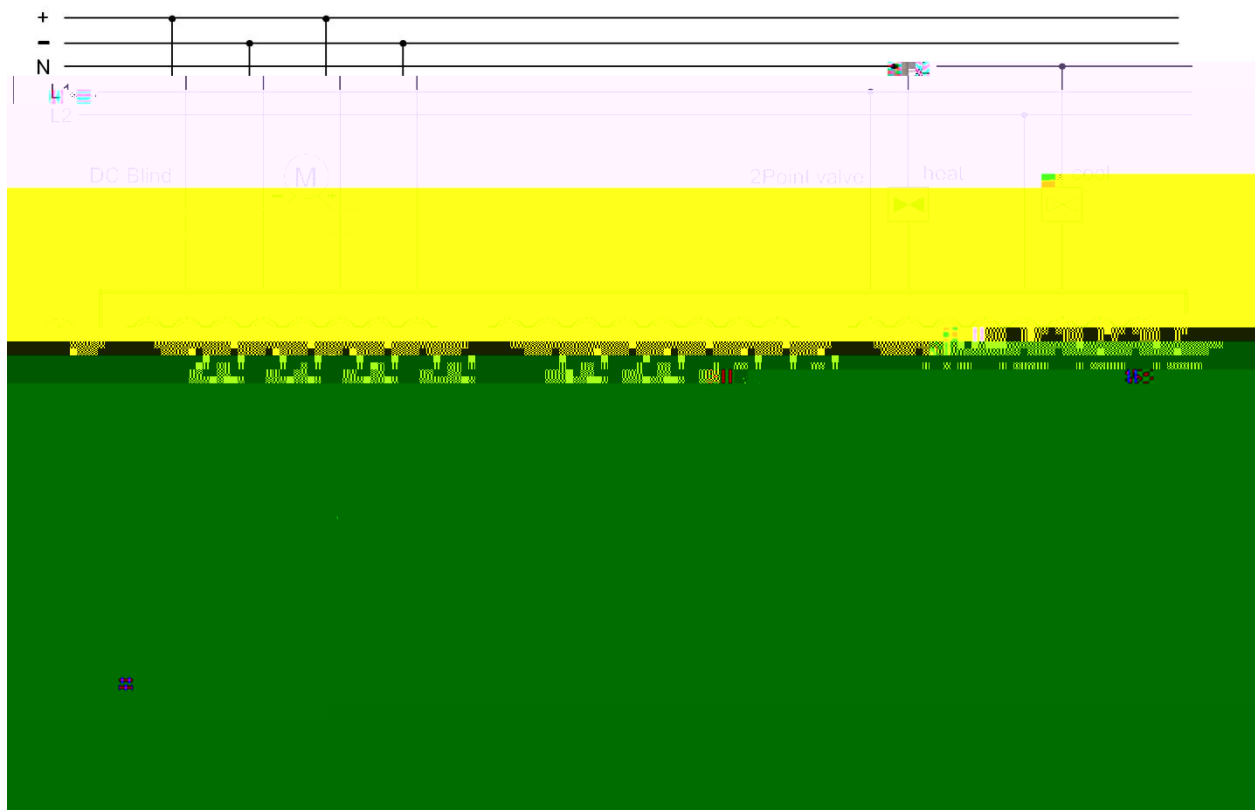
3.2.1.AMMA-04/06.S



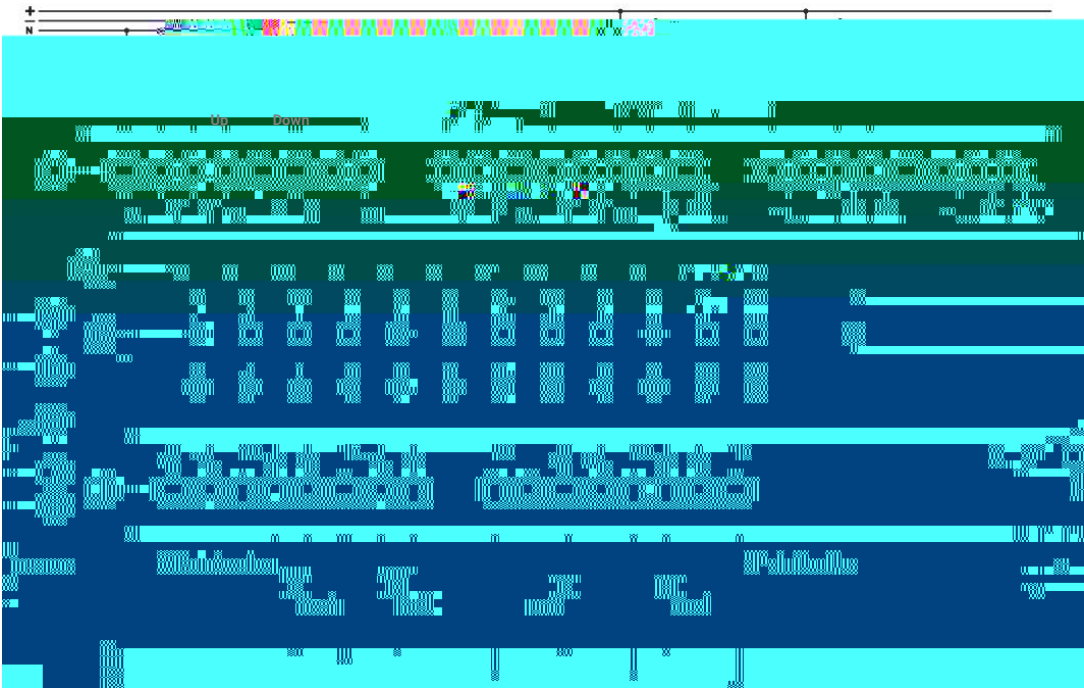
3.2.2.AMMA-08/10.S



3.2.3.AMMA-16/10.S



3.2.4.AMMA-24/10.S



:

1

,

/

AC/DC

(1)

(2)

/

/

(DC

(3)

(4)

)

(1)

1

(2)

2

(3)

3

2

(1)

/

/

(

/

)

(2)

4

(1)

(3)

(2) (4)

3Point valve

1

3

2

4

/

Man.

/

LED									
KNX									
				4		4			3
1.									
2.									
				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	
	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	
4.	8	16	24						4

ETS

4.1.KNX

KNX

KNX

KNX

--- Multifunctional Actuator with Secure, 4-Fold > KNX Secure

KNX Secure

General setting

Channel function

KNX Data Secure

KNX Data Secure is available in this device, it effectively protects user data against unauthorised access and manipulation by means of encryption and authentication for the installation.

ETS can active or deactive security function. Detailed specialist knowledge is required.

Device certificate

The device certificate label stick called FDSK is attached beside the device, and must use for security function, make sure keep securely.

4.1 (1) "KNX Secure"

KNX

KNX

ETS

4.1(1)

KNX Data Secure is available in this device, it effectively protects user data against unauthorised access and manipulation by means of encryption and authentication for the installation.

ETS can active or deactive security function. Detailed specialist knowledge is required.

KNX

ETS

The device certificate label stick called FDSK is attached beside the device, and must use for security function, make sure keep securely.

FDSK

ETS



KNX

KNX

KNX

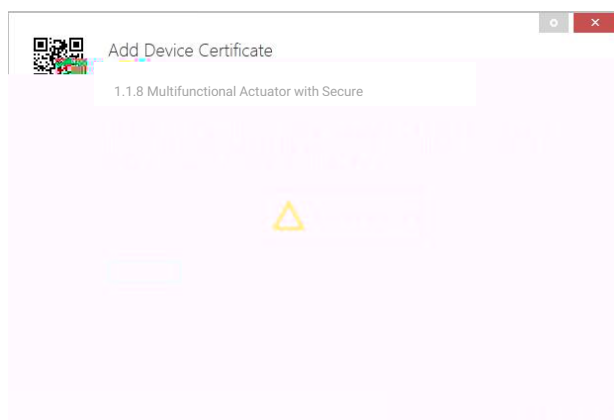
FDSK =

ETS

ETS

4.1 (2)

QR



4.1(2) Add Device Certificate

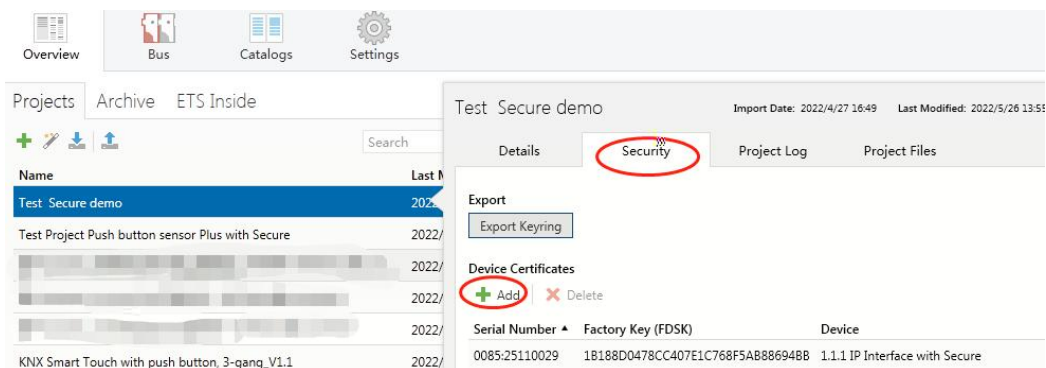
ETS

“Security”

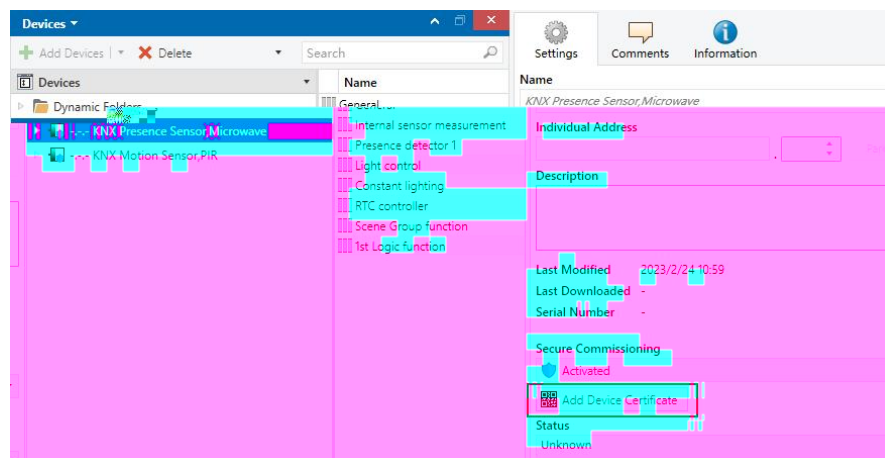
4.1(3)

“Add Device Certificate”

4.1(4)



4.1(3) Add Device Certificate



4.1(4) Add Device Certificate

FDSK

FDSK

KNX

FDSK

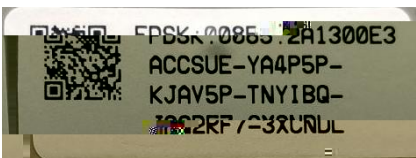
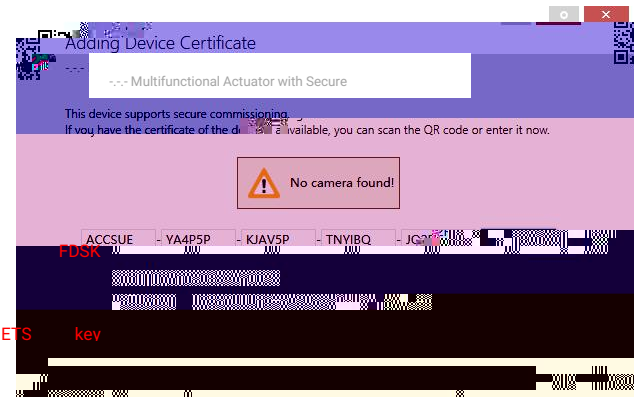
FDSK

ETS

4.1(5)

ETS

FDSK



4.1(5)

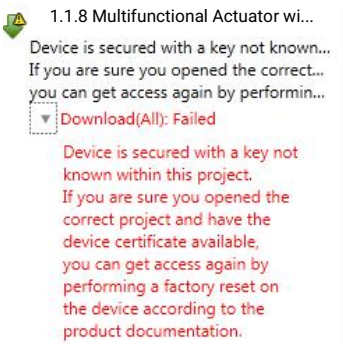
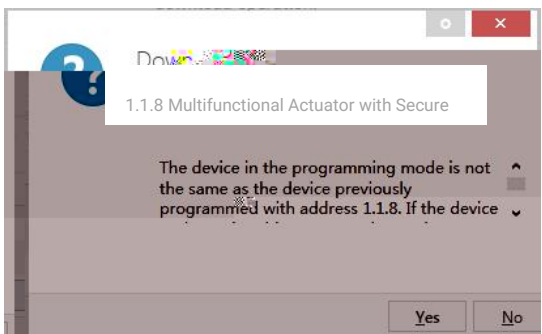
4.1(6)

“Yes”

“Add Device Certificate”

FDSK

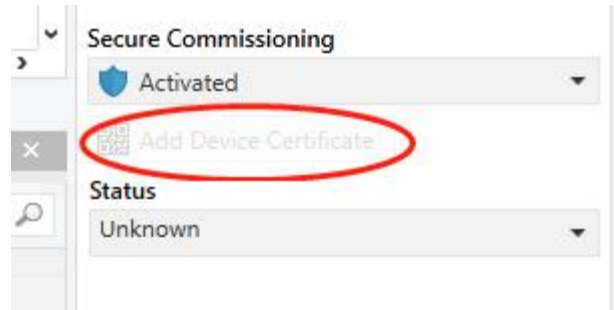
4.1(6)



4.1(6)

FDSK

“Add Device Certificate”

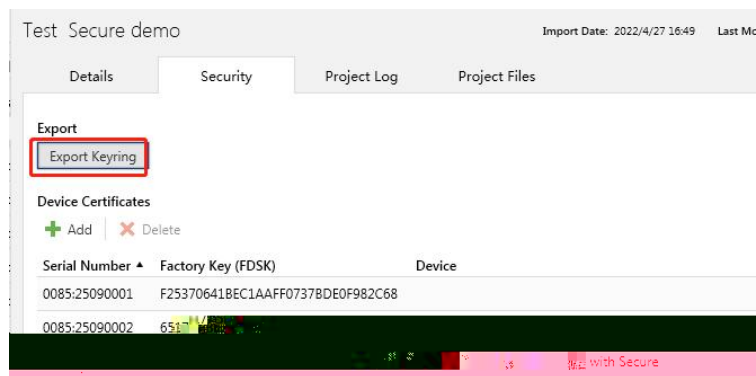


4.1(7)

ETS

4.1(8)

.knxkeys



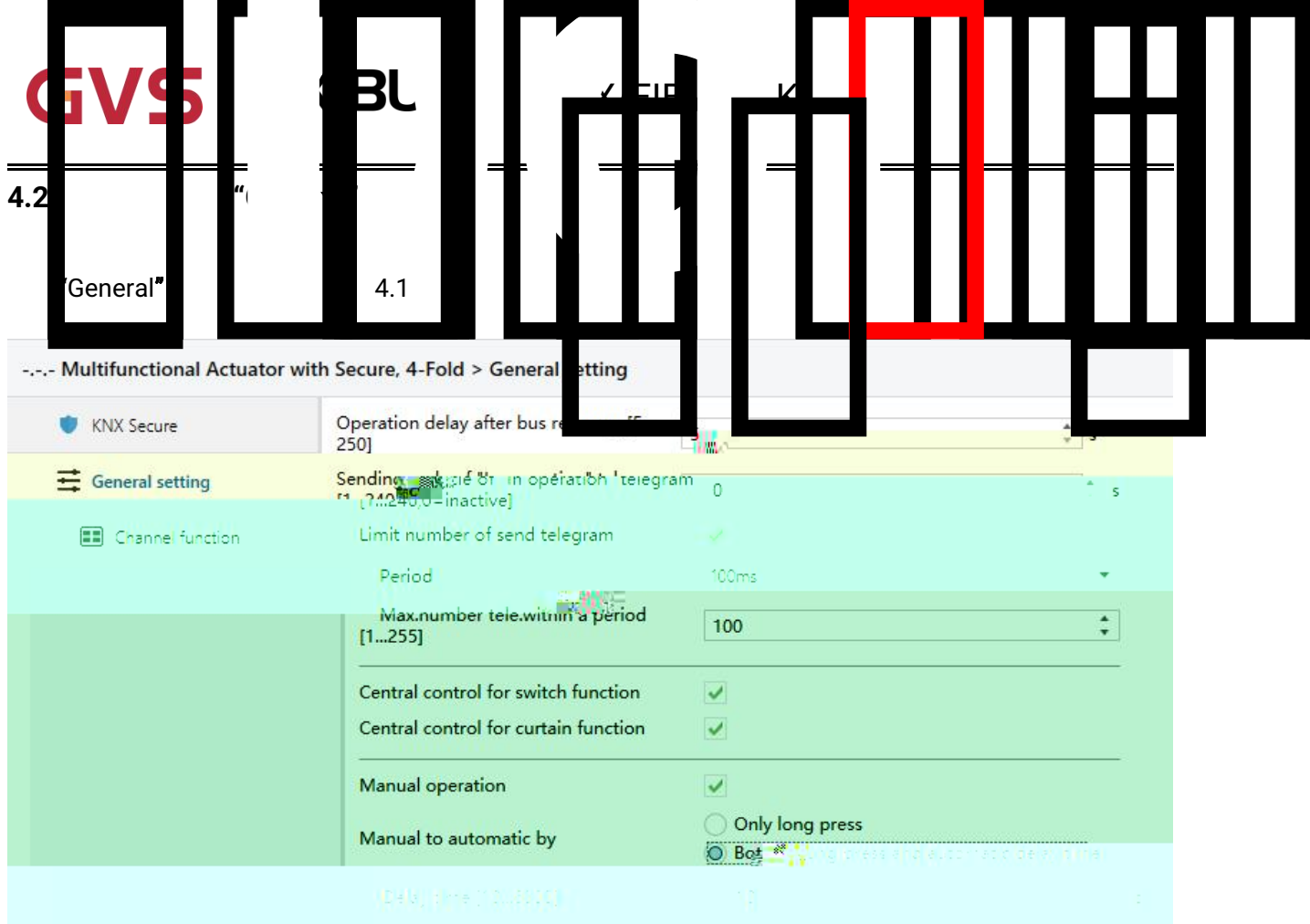
4.1(8)

KNX

USB

,

ETS



4.2

General

Operation delay after bus recovery [5...250]

0...240 s 0=

Limit number of send telegram

Period

100ms

500ms

...

10min

40

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

1...255

Central control for switch function

Central control for all of switch

Central control for curtain function

Central control for Up/Down

Central control for Slat/Stop

Manual operation

Manual to automatic by

Only long press

Both long press and automatic delay time

Only long press /

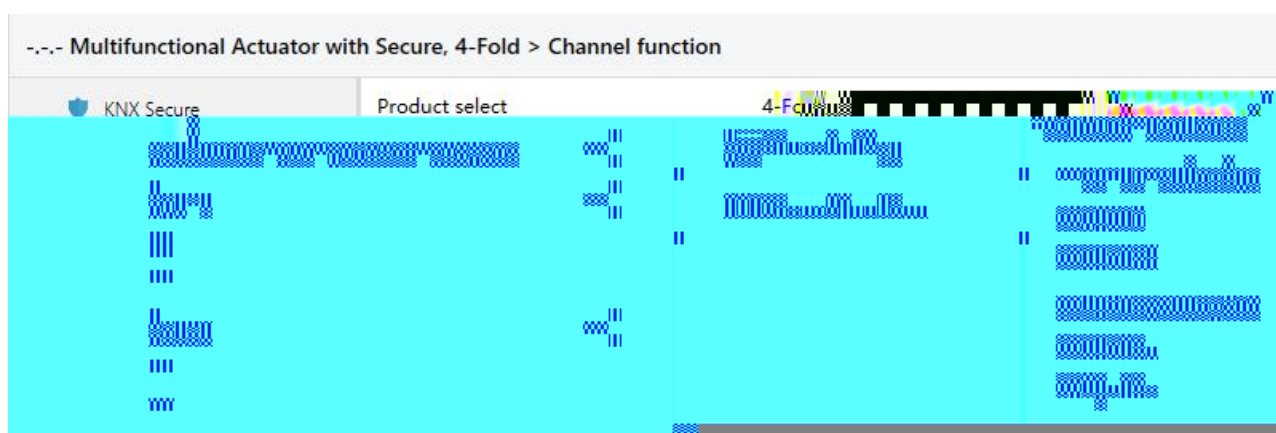
Both long press and automatic delay time /

Delay time [10...6000]

10..6000 s

4.3. “Channel function”

Channel function	4	8	16	24
		4		



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

Disable

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

Curtain DC

Fan control

Valve control 4-pipe 4

1~4

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	Curtain 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	
Output 4	Output 4						

1	3	Output 2	Output 4	2	4	Un
---	---	----------	----------	---	---	----

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

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

1 2 3 4

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

Output 1 Output 2

Output 1 Output 2 Un

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

Output 3

Output 4

Output 3

Output 4

Un

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

H V A C

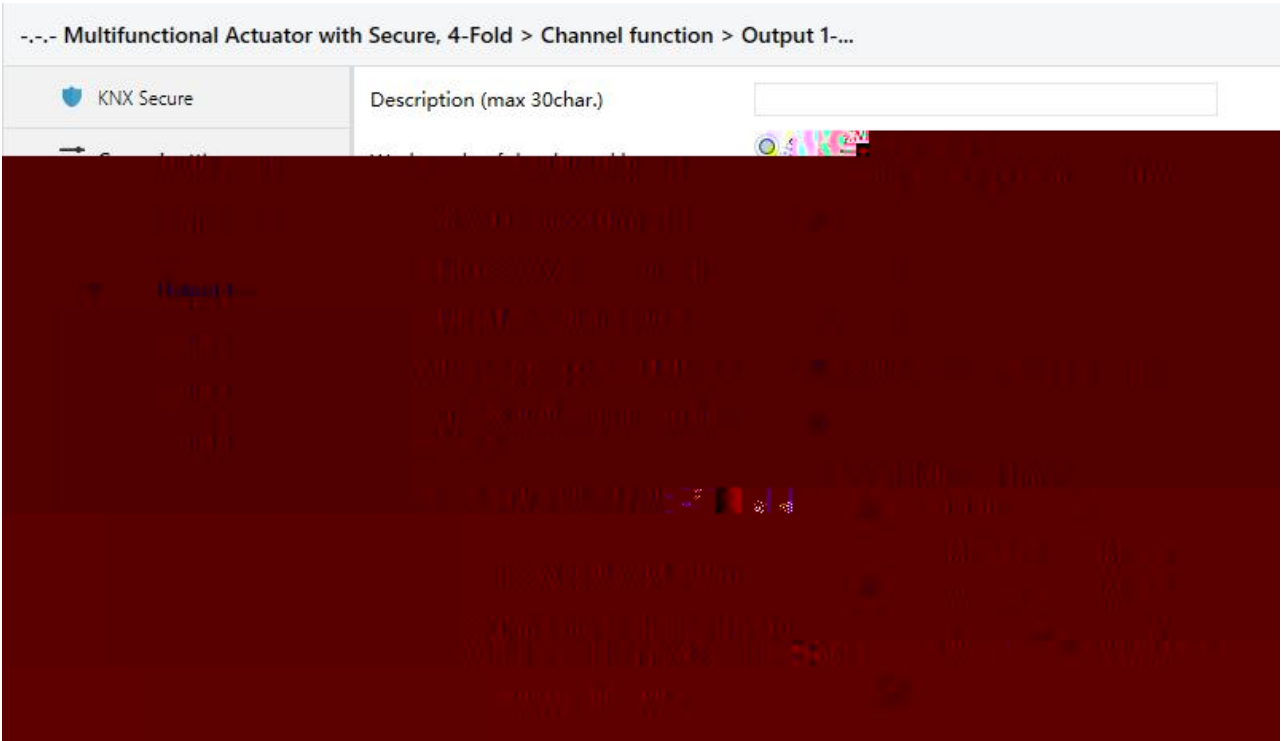
		Output 1		Output 1	
Un					
		Output 1	Output 2	Output 1	Output
2	Un				

4.4. --Switch actuator

24

4.4.1. "Switch actuator: Output X"

"Switch actuator: Output X" 4.4.1



4.4.1(1) Output X: Switch actuator

CVS

BUS

KNX/EIB

KNX

scription (m...

no v

30

channel is

□ □



If bus failure, output status is

- Unchange
- Contact open
- Contact close

“Unchange”

“Contact open”

“Contact close”

After downloading, output status is

- Contact open
- As bus recovery

“Contact open”

“As bus recovery”

“If bus recovery, contact is”

Object Value of switch after bus recovery

“Input 0”

“Switch”

“0” “1”

0

1

0

Set the reply mode of switch status

- Respond after read only
- Respond after change

“Respond after read only”

“Switch status”

“Respond after change”

“Switch status”

Object value of switch status :

“Switch status”

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”

Switch status

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

“Switch”

“Input

0”

“Switch”

“Input 0”

Contact open

Contact close

“Contact open”

1

0

“Contact close”

1

0

Input 0

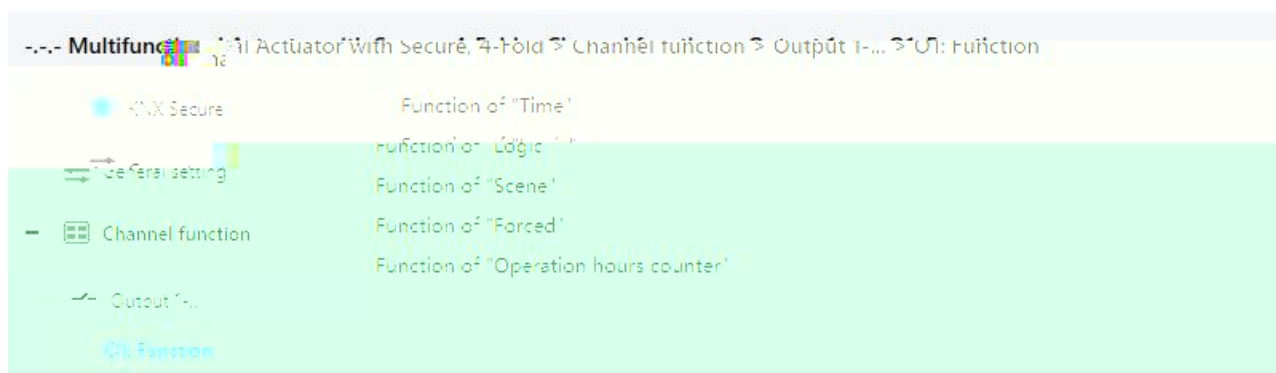
Switch

Input 0

Extension function

"Ox: Function"

4.4.1(2)



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"

Type of time function

Delay

Flashing

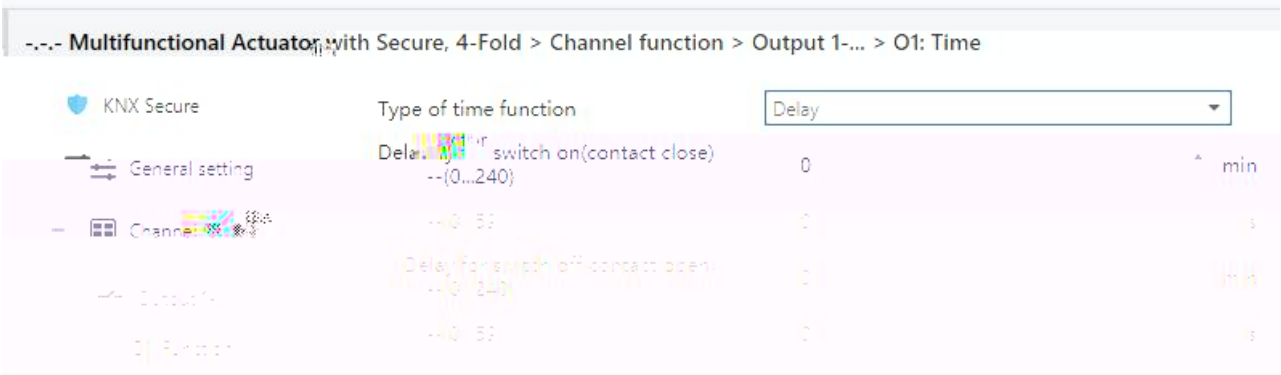
Staircase

4.4.2.1. "Delay"

"Delay"

4.4.2.1

"Delay function"



4.4.2.1 Ox:Time-Delay

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

0...240 min

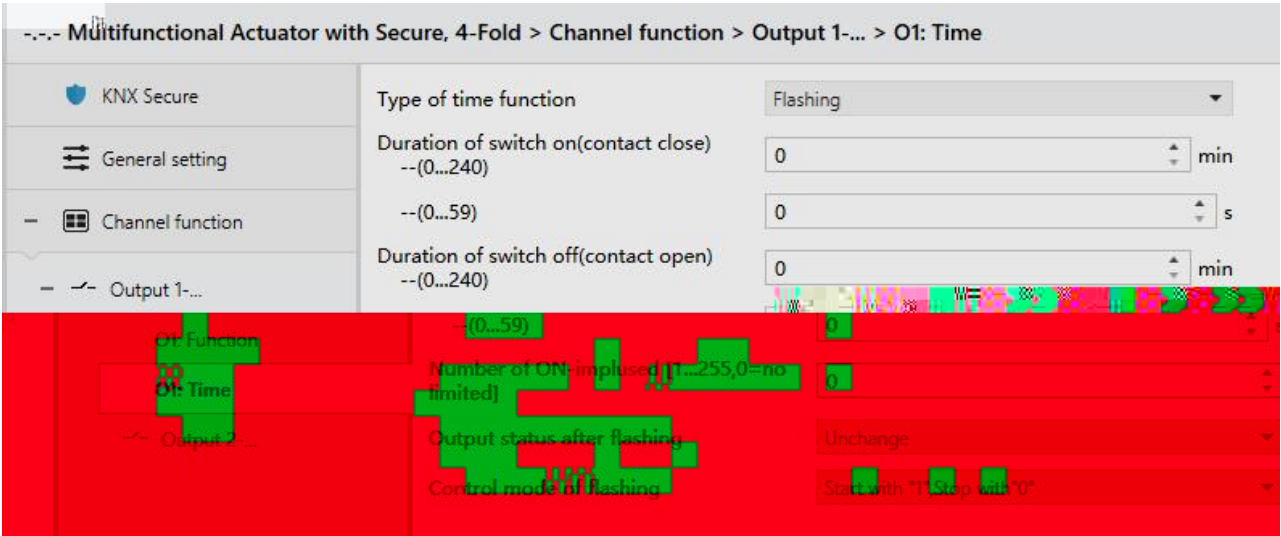
0...59 s

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

0...240 min
0...59 s

4.4.2.2. “Flashing ”

“Type of time function” “Flashing” 4.4.2.2



4.4.2.2 Ox:Time-Flashing

Flashing “Flashing function” “Delay for switch on” “Delay for switch off” “Flashing function”

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

0...240 min
0...59 s

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

0...240 min

0...59 s

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

1...255 0 /

0...255

Output status after flashing

Unchange

Open

Close

Control mode of flashing

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"

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

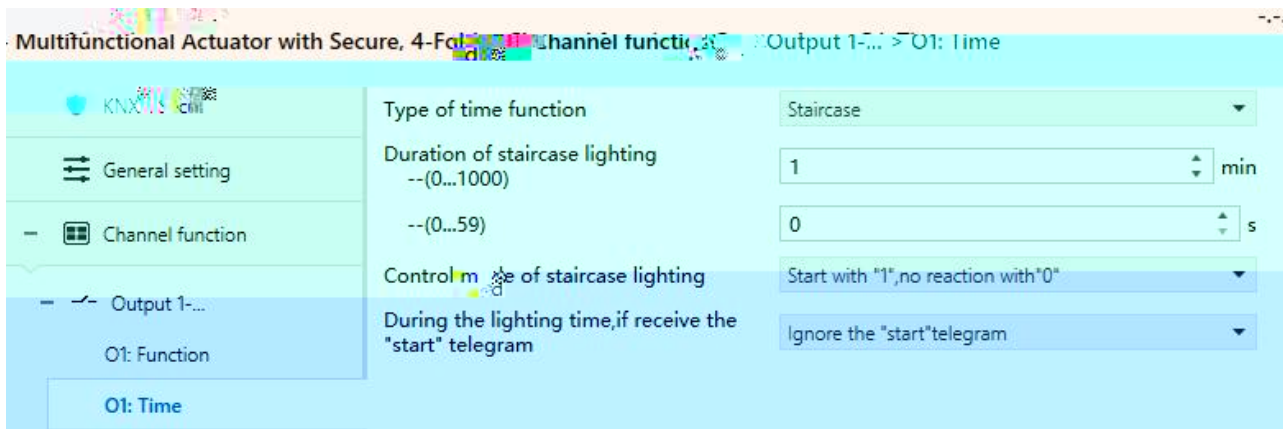
"Start with '0/1' can not be stop" "0" "1"

4.4.2.3. "Staircase"

"Type of time function"

"Staircase"

4.4.2.3



4.4.2.3

Ox:Time-Staircase

"Staircase function"

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

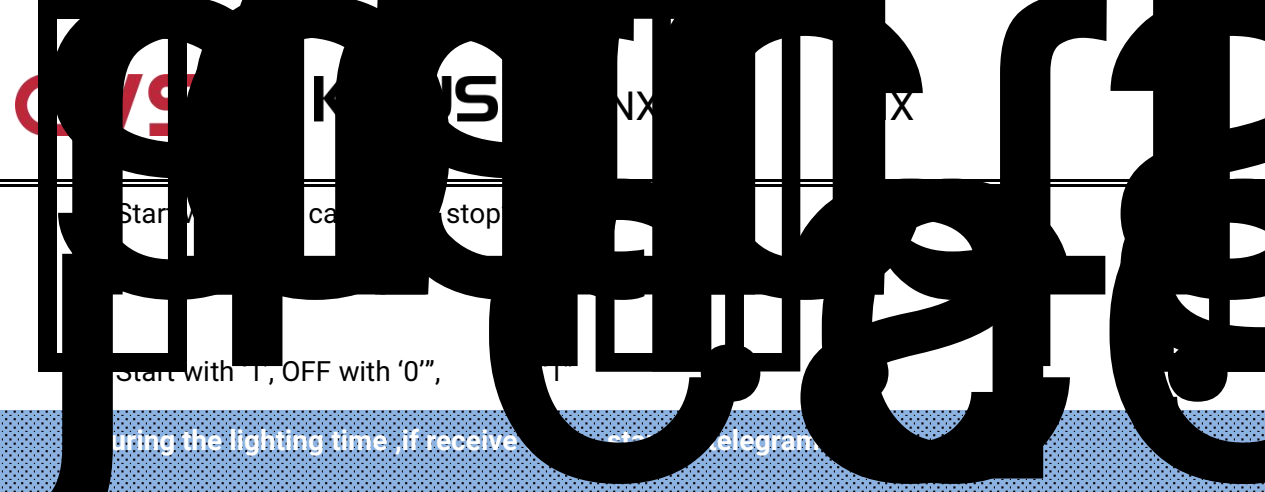
0...1000 min

0...59 s

Control mode of staircase lighting

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

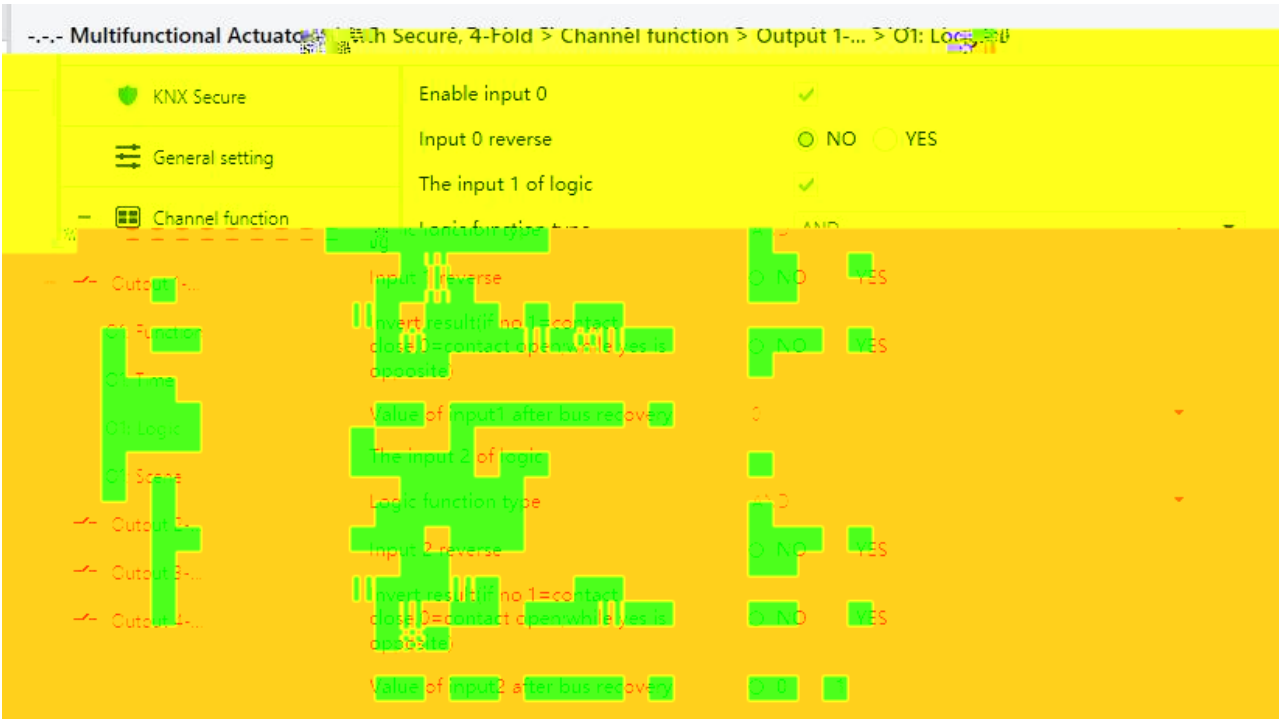
□ □ □ □ □ □ □ □

□
□

4.4.3. "Ox: Logic"

4.4.1(2) "Ox: Function" "Function of "logic" "

4.4.3



4.4.3 Ox Logic

2

"Switch"

"1"

"0"

"Logic 1"

"Switch"

"Logic 2"

Enable input 0

"Input 0"

"Input 0"

"Switch"

"Input 0"

Input 0/1/2 reverse

Input 0/1/2

"YES"

"NO"

NO

YES

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

1 2

"Logic 1" "Logic 2"

Logic function type

(AND, OR, XOR)

"GATE"

"GATE"

"1"

Input 1

1 Input 0

Input

2 1 Input 1 Input0/Input1

AND

OR

XOR

GATE

	Input0(Switch)	Input1	Result of Input 0/1	Input2	Output	
AND	0 0 1 1	0 1 0 1	0 0 0 1	0 1 0 1	0 0 0 1	1 1
OR	0 0 1 1	0 1 0 1	0 1 1 1	0 1 0 1	0 1 1 1	1 1
XOR	0 0 1 1	0 1 0 1	0 1 1 0	0 1 0 1	0 0 1 1	1.
GATE	0 0 1 1	Closed Open Closed Open	0 1	Closed Open Closed Open	0 1	open 1
1 "Input 1" "Switch" "Input 2" 2 3 4 (GATE) Input1 Input0 Input2						

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

“YES”

“NO”

NO

YES

Value of input1 after bus recovery

“Logic 1”

“1” “0”

0

1

Value before power off

“Value before power off”

0

Value of input2 after bus recovery

“Logic 2”

“1” “0”

0

1

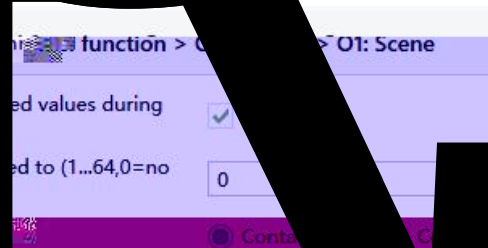
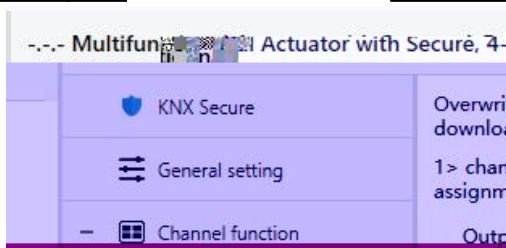
4.4.4.

"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

8

1...64 0=no assignment

1~64

0~63

“Output status”

Contact open

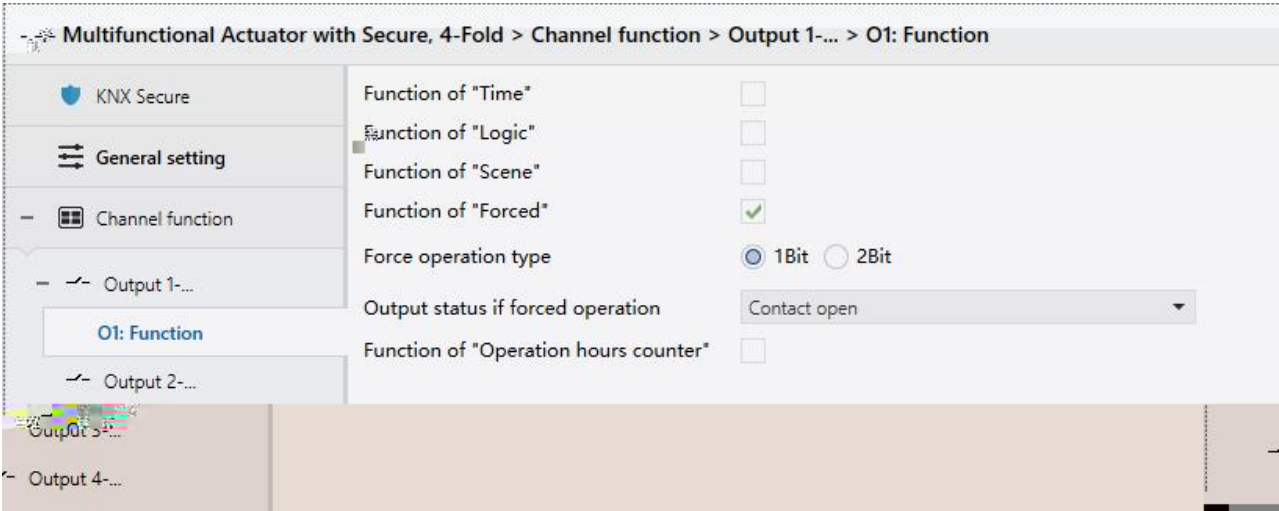
Contact close

4.4.5. “Ox: Forced”

4.4.1(2) “Ox: Function”

“Function of “Forced” ”

4.4.5



4.4.5

Ox Forced

“Forced output”

Force operation type

1bit

2bit

"1bit", "Forced output" "1" "0"

"2bit", "Forced output"

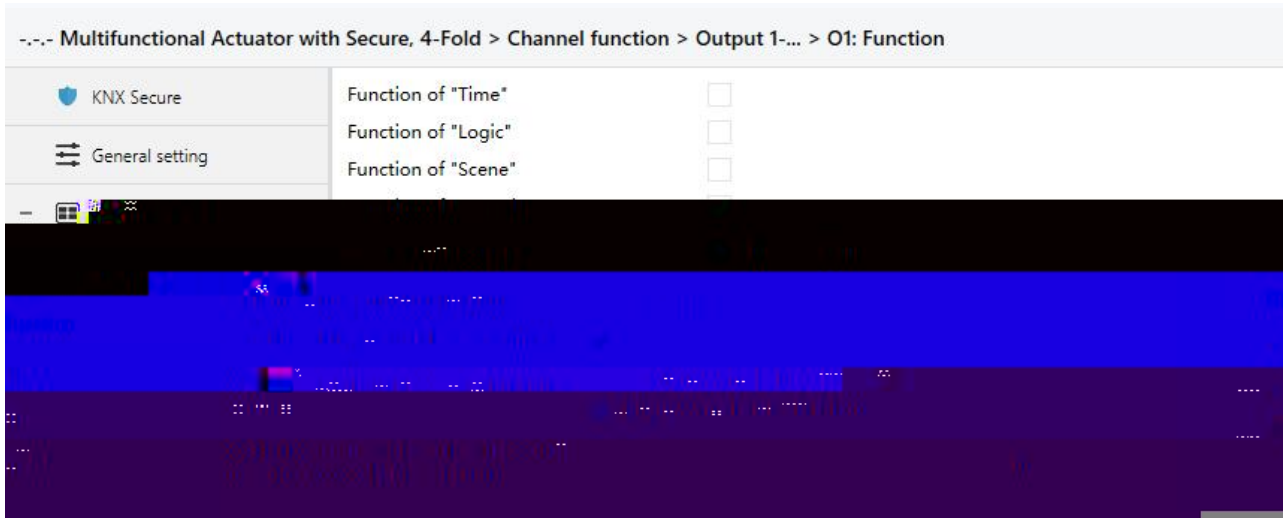
"Forc&4

4.4.6. "Ox: Operation hours counter"

4.4.1(2) "Ox: Function" "Function of "Operation hours

counter" "

4.4.6



4.4.6

Ox Operation hours counter

"Object datatype of " Operation hours counter"

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

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

0...100 h

0

1...100

1

100

Object of switch and operation hours counter

2byte

4byte

s

4.4.7.

(Switch actuator)

1

force operation

2

3

4.5. --Heating actuator(without controller)

Work mode of the channel is

Heating actuator (without controller)

4.5(1) 4.5(2)

1bit

1byte

1bit

On-off control value

1byte

Control value (Continuous)

0%[Closed]

100%[Open]

0~100%

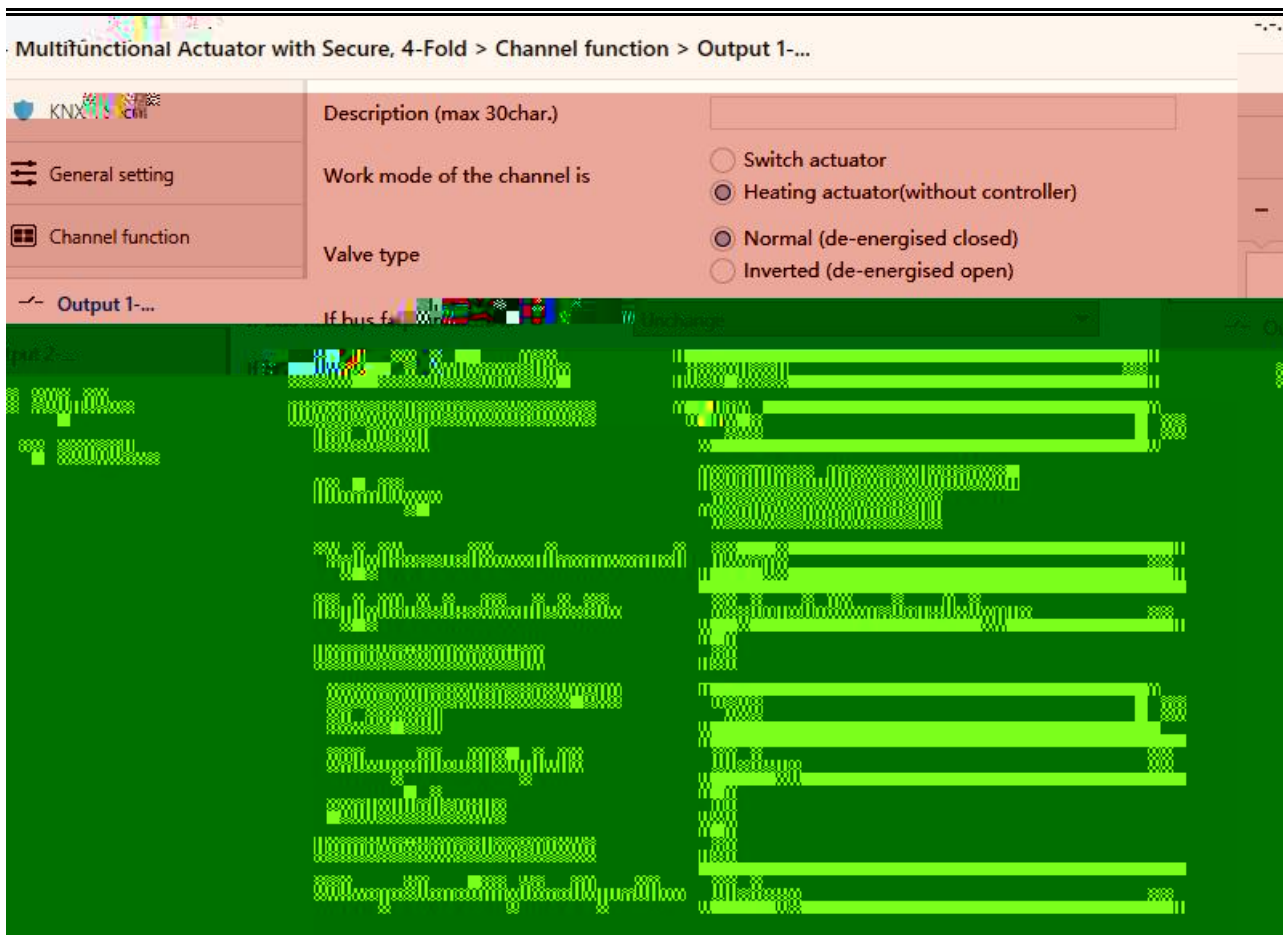
x%

--- Multifunctional Actuator with Secure, 4-Fold > Channel function > Output 1---

- KNX Secure - General setting - Channel function - Output 1... - Output 2... - Output 3... - Output 4...	Description (max 30char.) Work mode of the channel is Valve type If bus failure, output status is If bus recovery, valve position PWM cycle time for continuous [60...65535] Control type Reply the status of contact state Function of monitoring Cyclic monitoring control value [0...65535] Valve position during fault Report fault status Function of forced operation Valve position during forced operation	☐ Switch actuator ☒ Heating actuator(without controller) ☒ Normal (de-energised closed) ☐ Inverted (de-energised open) Unchange 0%[Closed] 120 s ☒ 1bit (on-off control or PWM) ☐ 1byte (Continuous) Yes, 1=contact close; 0=contact open ✓ 120 s Unchange ✓ ✓ Unchange
---	--	--

4.5(1)

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



4.5(2)

Output X:

If bus failure,output status is

Unchange
Contact open
Contact close

“Unchange”

“Contact open”

“Contact close”

If bus recovery, valve position

0%[Closed]
10%[26]
20%[51]
...
90%[230]
100%[Open]

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

PWM cycle time for continuous [60..65535]

(PWM) 60..65535 s

1bit (PWM)

KNX/EIB

KNX

"1"

"1=contact close; 0=contact open"

Status of contact

Function of Monitoring

Function of Monitoring

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

0..65535 s

-- **Valve position during fault**

PWM

0%[Closed]

10%[26]

...

100%[Open]

Unchange

20% PWM

100s 1 40s

20s, 80s

Unchange

-- **Report fault status**

Report fault

Report fault

1

0

Function of forced operation

-- **Valve position during forced operation**

PWM

0%[Closed]

10%[26]

...

100%[Open]

Unchange

Unchange

40%

60%

60%

monitor

4.5.1.

Heating actuator

1

2

4.6. (AC)

AC 12

4.6.1. "Curtain X: Venetian Blind"

"Curtain X" 4.6.1

KNX Secure

General setting

Channel function

Curtain 1-...

C1: Drive

C1: Auto.

C1: Scene

C1: Safety

Output 3-...

Output 4-...

Description (max 30char.)

Config channel function as

Motor, bring...

Drive pulse time [1...50]

If bus recovery, position is

If bus failure, position is

After reference movement, Position is

Position of slat after arriving on lower end position

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

Set response mode for position

Central function of channel

Venetian Blind

Shutter

AC-motor...

contact-motor

1

*100ms

Unchange

Unchange

Disable

100%

Respond after read only

Respond after change

4.6.1 Curtain X

"Description (max. 30char.)"

30

"Config channel function as:"

Venetian Blind
Shutter

"Venetian Blind"
"Shutter" "Venetian Blind"

"Venetian Blind"

"Motor type"

AC-motor

Dry contact-motor

AC-motor

Dry contact-motor

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

Dry contact-motor

1..50 *100ms

"If bus recovery, position is"

Unchange

Up

Down

Stop

"Unchange"

"Up"

"Down"

"Stop"

50%

"If bus failure position is"

Unchange

Up

Down

Stop

"Unchange" □ □ □ □ □

"Up"

"Down"

"Stop"

stop

stop

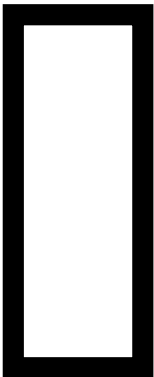
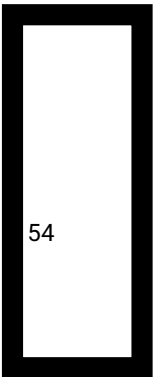
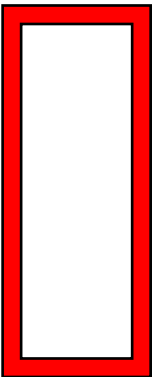
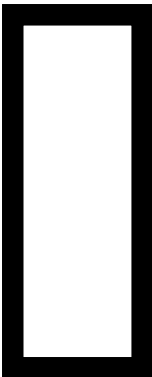
"After reference movement, Position is"

Disable

fb i)

□ □ □ □ □ □ □ □

□



"position of slat after arriving on lower end position"

0%

10%

...

90%

100%

"40%"

"Move UP/DOWN"

"1"

40%

down

down

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

/

"Move UP/DOWN"

"Set response mode for position"

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%"

Central function of channel

Central control for Up/Down

Central control for Slat/Stop

4.6.1.1. "Cx: Drive"

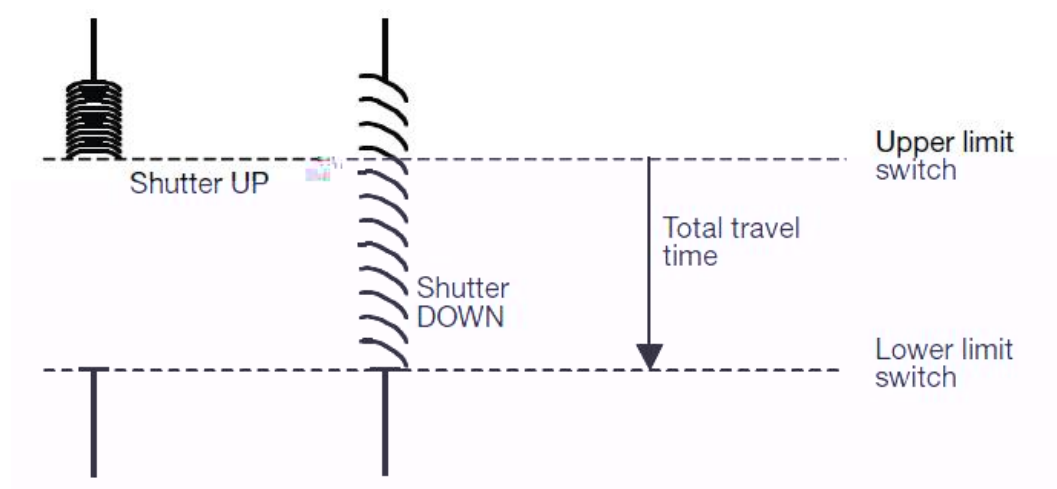
"Cx: Drive" 4.6.1.1

□ □

"

"Total travel time [20..50000]"

20...50000 *0.1s



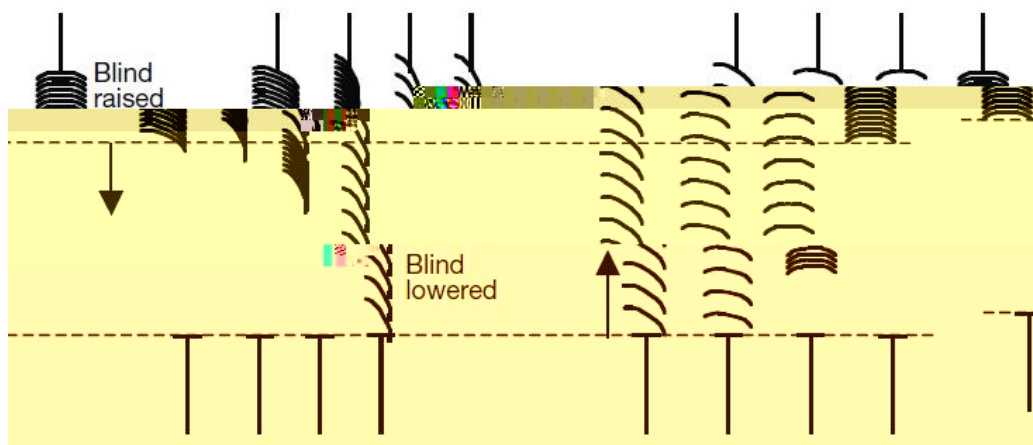
"Delay time from switch-on to moving [0..200]"

/

0..200 *10ms

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

10...250 *10ms



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

"

" "

10...250 *10ms

"Slat adj./Stop"

/

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

5...255 *20ms

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

0%

0...255 *0.1s

0%

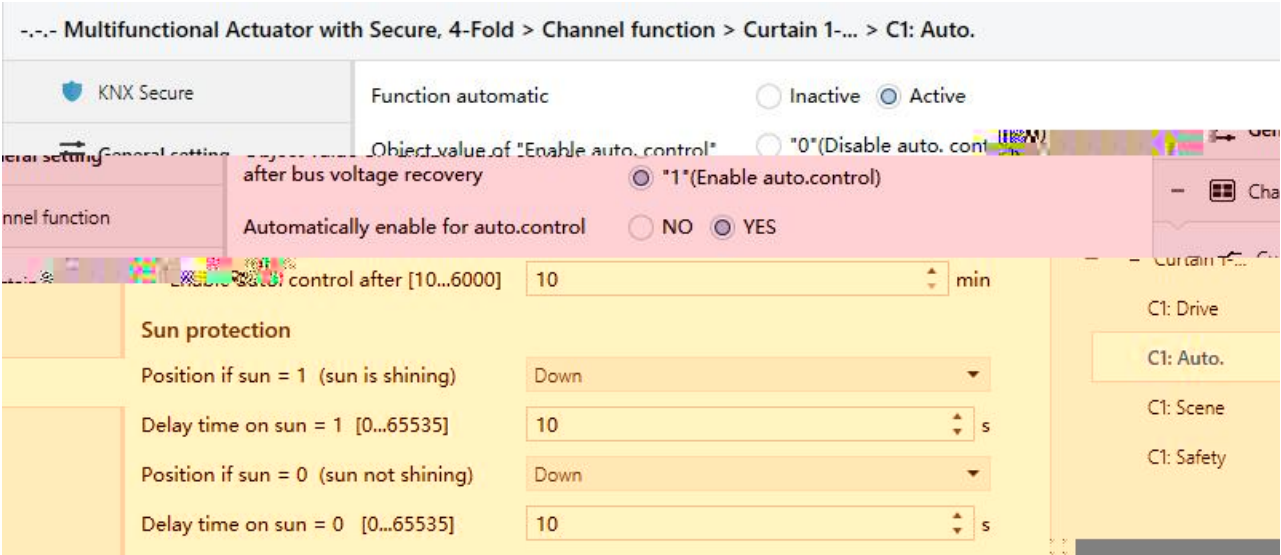
4.6.1.2. "Cx: Auto."

"Cx: Auto."

4.6.1.2

/

/



4.6.1.2

Cx Auto.

"Function automatic"

Inactive

Active

"Active" "Enable auto. control" "Sun operation" "Sun:
blind/shutter position 0..100%" "Sun: slat adj.0..100%"
"Enable auto. control" "1" "Enable auto.
control" "0" /

Enable auto. control 1

Enable auto. Control after[10 6000min]

Object value of Enable auto. control after bus voltage recovery

"Enable auto. control"

0 (Disable auto. control)

1 (Enable auto. control)

"0" "Enable auto. control" 0

"1" "Enable auto. control" 1

Automatically enable for auto. control

"Enable auto. control"

NO

YES

"YES"

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

10...6000 min

2232

Sun protection

Position if sun= 1 (sun is shining)

"Sun operation"

"1"

No reaction

Up

Down

Stop

Receive 1 byte value

"No reaction"

"Sun operation"

"1"

"Receive 1 byte value"

"Sun position"

"1"

"Sun:

blind/shutter position 0..100%" "Sun: slat adj. 0..100%"

"130"(51%)

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

□ □ □ □ □

Position if sun= 0 (sun not shining)

"Sun operation"

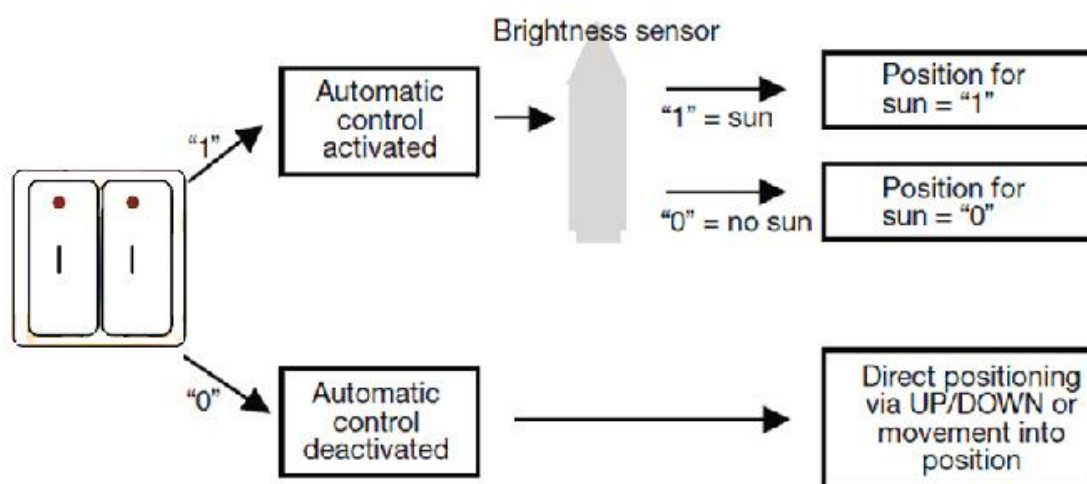
"0"

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

"Sun operation"

"0"

0...65535 s



/

4.6.1.3.

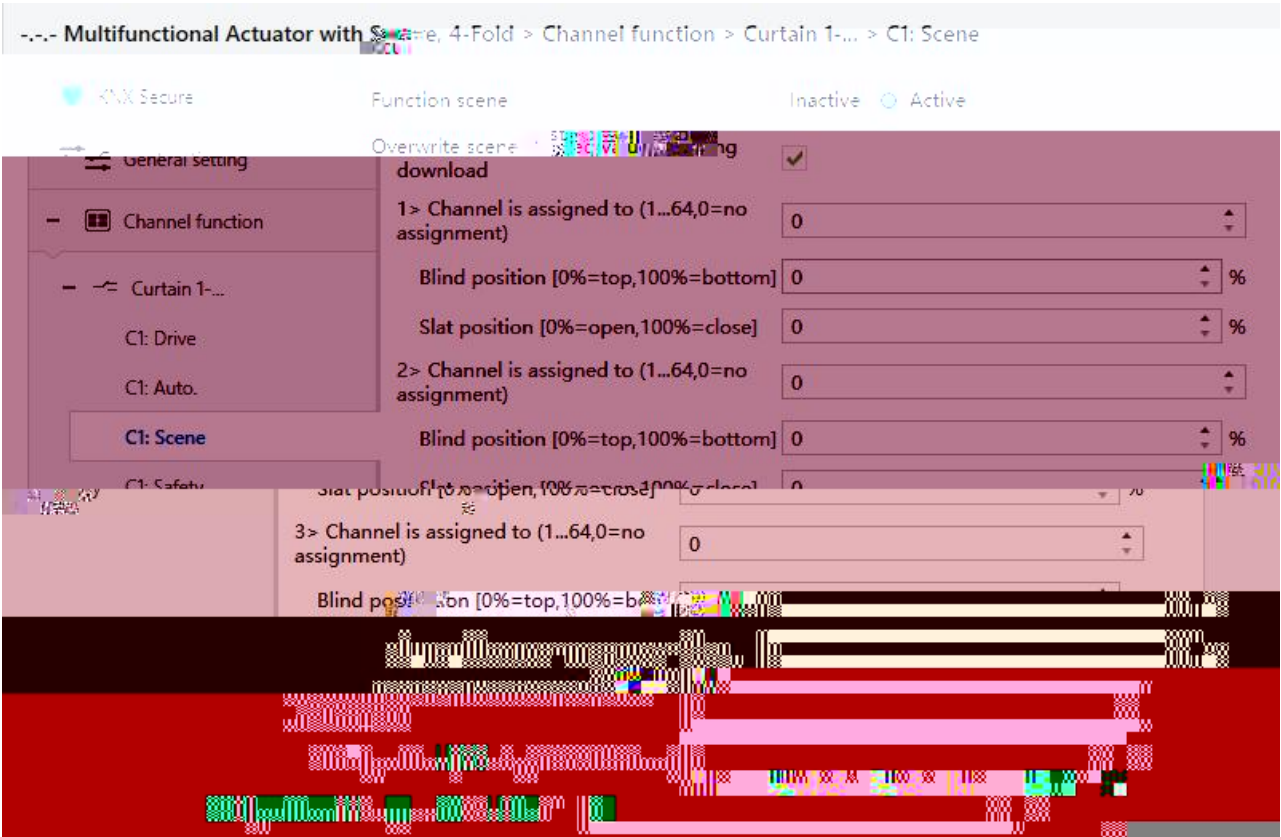
Cx: Scene

Cx: Scene

4.6.1.3

8

,



4.6.1.3

Cx Scene

Function scene

Inactive

Active

Active

Overwrite scene stored values during download

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

64

8

1...64 0=no assignment

1~64

0~63

-- **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

--- Multifunctional Actuator with Secure, 4-Fold > Channel function > Curtain 1-... > C1: Safety

	KNX Secure	Safety function	☐ Inactive ☒ Active
	General setting	Safety operation 1	☐ Inactive ☒ Active
	Channel function	Trigger value of safety operation (Cancel safety is opposite of selection)	☒ 0 ☐ 1
	Curtain 1-...	Position on safety operation 1	Unchange
	C1: Drive	Cyclic monitoring time in [0...65535,0=no monitoring]	120 s
	C1: Auto.	Safety operation 2	☐ Inactive ☒ Active
	C1: Scene	Trigger value of safety operation (Cancel safety is opposite of selection)	☐ 0 ☒ 1
	C1: Safety	Position on safety operation 2	Unchange
	Output 3-...	Cyclic monitoring time in [0...65535,0=no monitoring]	120 s
	Output 4-...	Position with canceling of the safety operation	Unchange

Note: the priority of Safety operation 2 is higher than that of 1

4.6.1.4

Cx Safety

"Safety operation x " (x=1 2)

Inactive

Active

"Inactive"

"Active",

"Safety operation 1/2"

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

0

1

"0 "

"Safety operation 1/2"

"0"

1

"1"

"Safety operation 1/2"

"1"

0

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

Unchange

Up

Down

Stop

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

/

"0"

0..65535 s

"Safety operation1/2"

/

/

"Position with canceling of the safety operation"

Unchange

Up

Down

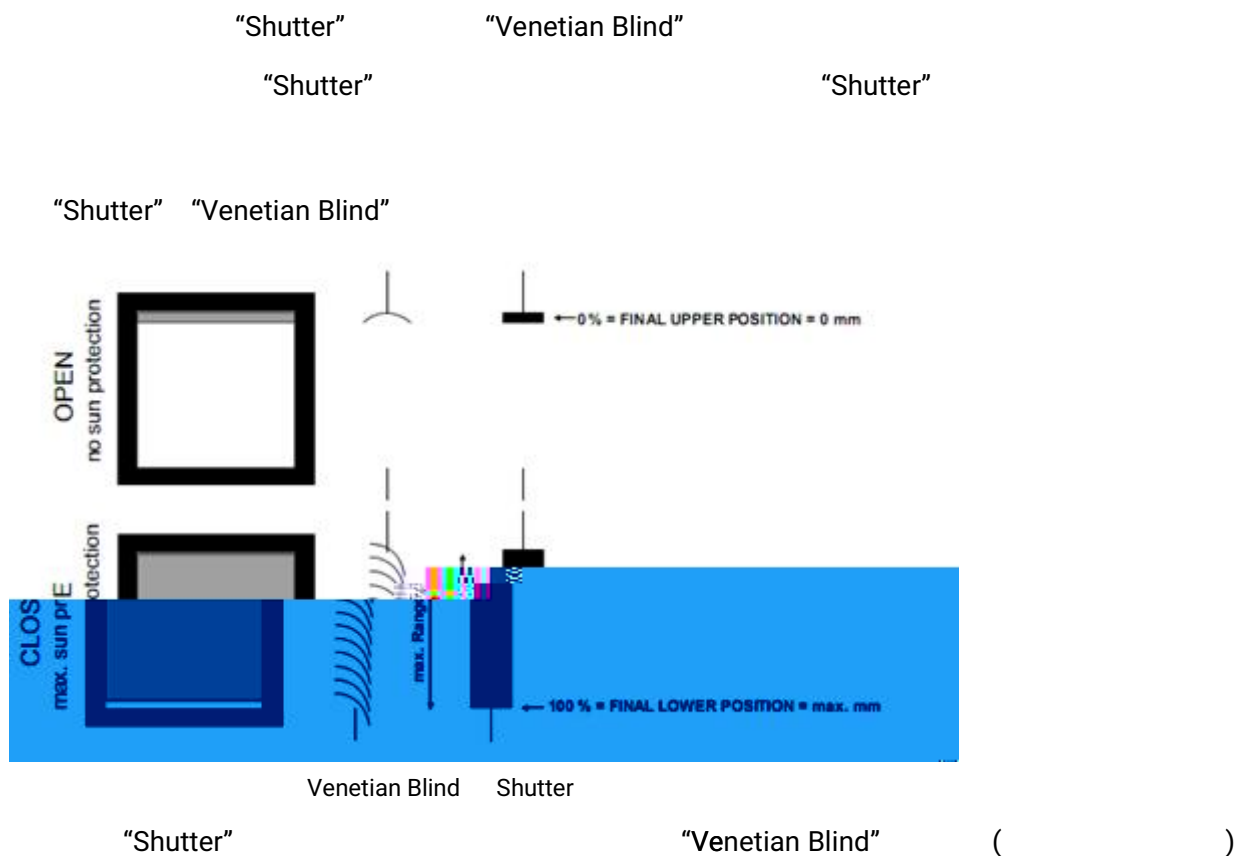
Stop

/

safety 2

safety 1

4.6.2. "Curtain X: Shutter"



4.6.3.

safety 2 safety 1

1

2

3

4

□ □ □ □

4.7. (DC)

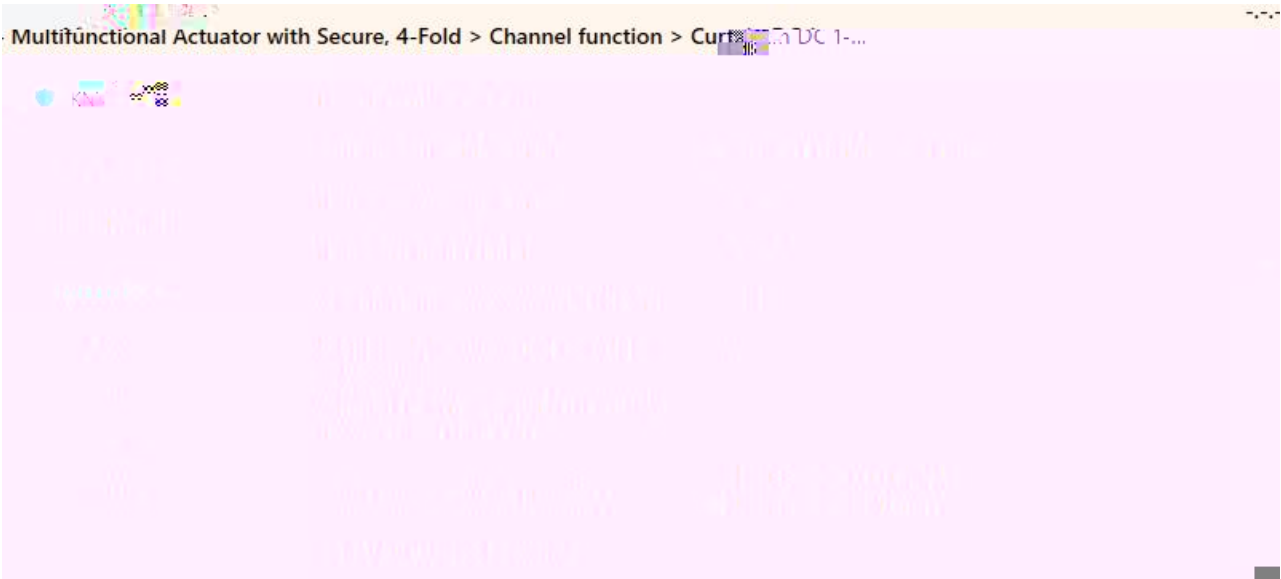
DC

6

AC

Motor type

4.7



4.7

Curtain DC X

DC

AC

4.8.

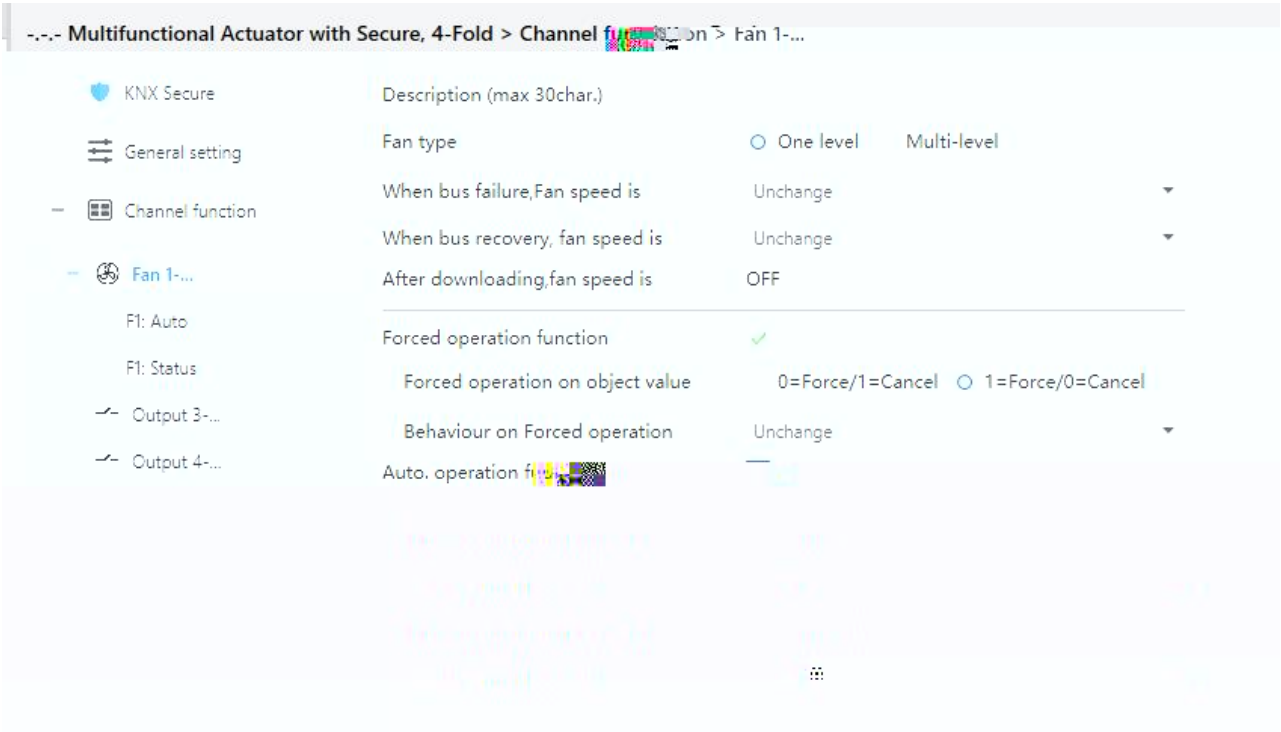
6

4.8.1. “Fan type -- One level”

Fan type -- One level

4.8.1

1



4.8.1

Fan type -- One level

“Description (max. 30char.)”

30

Fan type

One level

Multi-level

One level

1

Multi-level

3

2

3

When bus failure, Fan speed is

Unchange

OFF

ON

When bus recovery, Fan speed is

Unchange

OFF

ON

As before as bus fail

Unchange:

OFF

ON

As before as bus fail

After downloading, fan speed is

"Forced operation function"

1bit

"Forced operation"

— Forced operation on object value

0=Force/1=Cancel

1=Force/0=Cancel

0=Force/1=Cancel	"Forced operation"	"0"	"1"
1=Force/0=Cancel	"Forced operation"	"1"	"0"

-- "Behaviour on Forced operation "

- Unchange
- OFF
- ON

- Unchange
- OFF
- ON

"Auto. operation function "

4.8.1.1

"Time mode for function ON"

- None
- Switch delay
- Minimum time

- None
- Switch delay ON "Delay time
- [1..65535]" "Fan speed" "1"

ON

Minimum time

"Minimum time[1..65535]"

-- "Delay time [1..65535]"

1...65535 *0.1s

-- "Minimum time [1..65535]"

1...65535 s

"Time mode for function OFF"

None

Switch delay

Minimum time

None

Switch delay

OFF

"Delay time

[1..65535]"

Minimum time

"Minimum time[1..65535] "

OFF

-- "Delay time [1..65535]"

1...65535 *0.1s

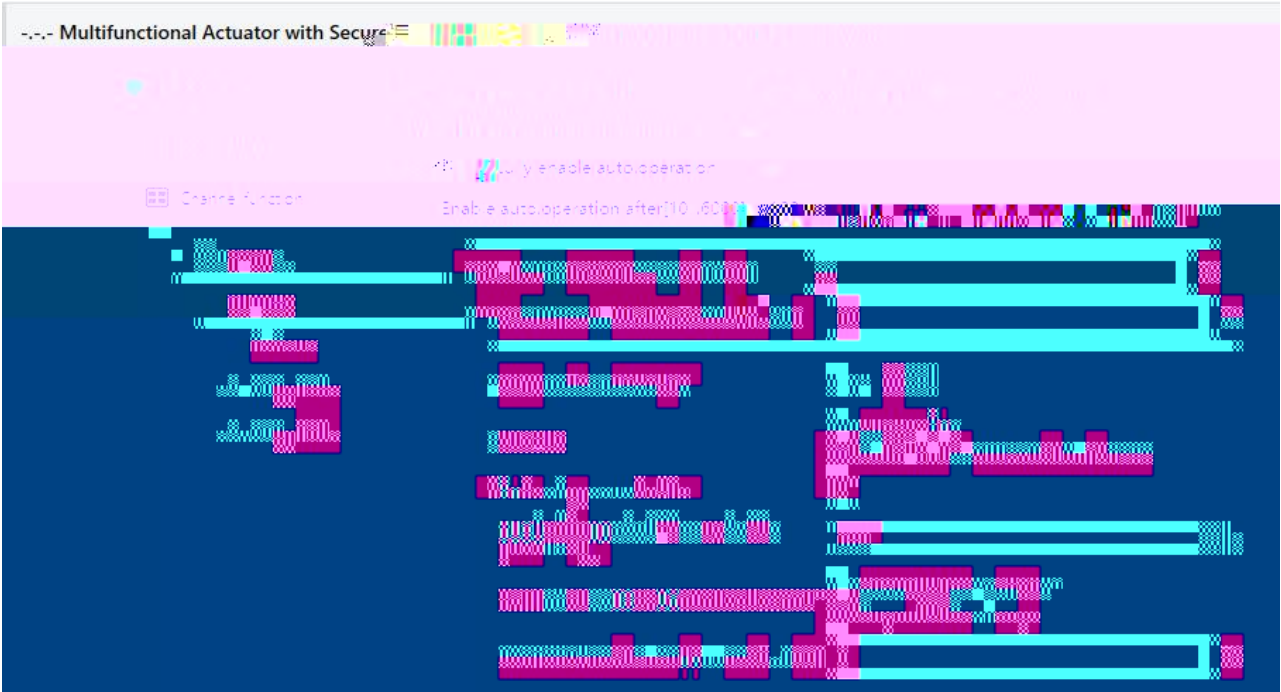
-- "Minimum time [1..65535]"

1...65535 s

4.8.1.1. "Fx: Auto."

4.8.1	Auto. operation function	4.8.1.1
1		

Automatic function
Automatic
function , Status Automatic



4.8.1.1 Fx: Auto.

"Auto. Operation on object value"

0=Auto/1=Cancel
1=Auto/0=Cancel

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

"State of Auto. operation after startup"

"Automatically enable auto. operation"

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

10..6000 min

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

Control

value 1...100 %

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

0...50 %

0

10

50

60

+

40

-

40~60

40

60

KNX/E

Monitoring control value

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

90 "

10...65535 s

"Reply mode of Obj. "Control value fault""

Respond after read only

Respond after change

Respond after read only

"Control value fault"

Respond after change

"Control value fault"

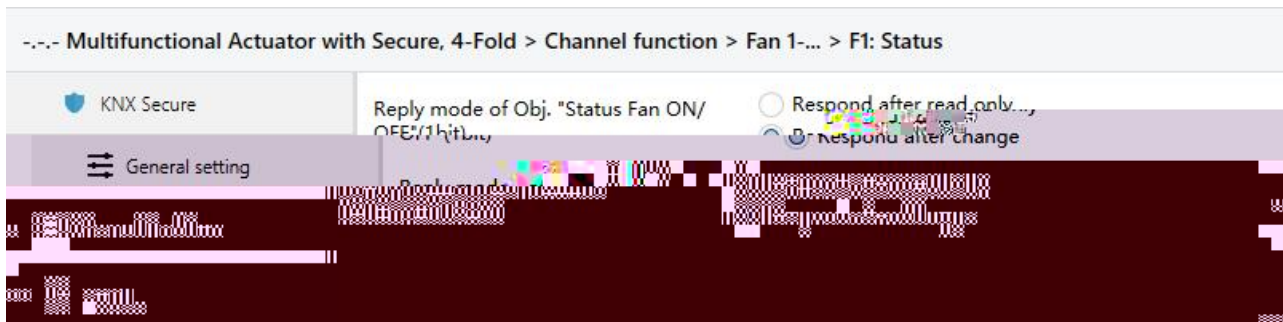
"Control value

4.8.1.2.

"Fx: Status"

Fx: Status

4.8.1.2



4.8.1.2

Fx: Status

"Reply mode of Obj. "Status Fan ON/OFF" (1bit)"

Respond after read only

Respond after change

Respond after read only

Status Fan ON/OFF

Respond after change

Status

Fan ON/OFF

"Reply mode of Obj. "status Automatic" (1bit)"

Status Automatic

1

0

Respond after read only

Respond after change

Respond after read only

Status Automatic

Respond after change

Status

Automatic

4.8.2. "Fan type -- Multi-level"

4.8.2

--- Multifunctional Actuator with Secure, 4-Fold > Channel function > Fan 1---

KNX Secure

General setting

Channel function

Description (max 30char.)

Fan type ☐ One level ☒ Multi-level

Fan speeds on 2 limit ☒

Fan operation mode ☒ Changover switch ☐ Step switch

Delay between fan speed switch [50...5000] 500 ms

When bus failure, Fan speed is Unchange

When bus recovery, fan speed is Unchange

After downloading, fan speed is OFF

Object value for fan speed

Object datatype of 1byte fan speed ☐ Percentage (DPT_5.001) ☐ Fan stage (DPT_5.100)

Object value for Fan speed 1 33 %

Object value for Fan speed 2 67 %

Object value for Fan speed 3 100 %

Forced operation function ☒

Forced operation on object value ☐ 0=Force/1=Cancel ☒ 1=Force/0=Cancel

Limitation on forced operation Unchange

Auto. operation function ☒

Obj. "Secure" ☒

4.8.2

Fan type - Multi-level

2

3

2

3

2

1

"Description (max. 30char.)"

30

"Fan speeds on 2 limit"

Multi-level

2

3

2

3

3

2

3

"Fan operation mode"

Changeover switch

Step switch

Changeover switch

Step switch

3

3

Output 1&2&3

2

2

Output 1&2

-- "Delay between fan speed switchover[50 5000]"

Changeover switch

50...5000 ms

"When bus failure, Fan speed is"

Unchange

OFF

1

2

3

OFF

1 2 3

1 2 3

2

3

"When bus recovery, fan speed is"

Unchange

OFF

1

2

3

As before as bus fail

OFF

1 2 3

1 2 3

As before as bus fail

2

3

"After downloading, fan speed is"

Object value for fan speed

Object datatype of 1byte fan speed

1byte

Percentage (DPT_5.001)

Fan stage (DPT_5.100)

Object value for Fan speed 1/2/3

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

0

1< 2< 3 ETS

Forced operation function

,1bit Forced Operation

Forced operation on object value

0=Force/1=Cancel

1=Force/0=Cancel

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

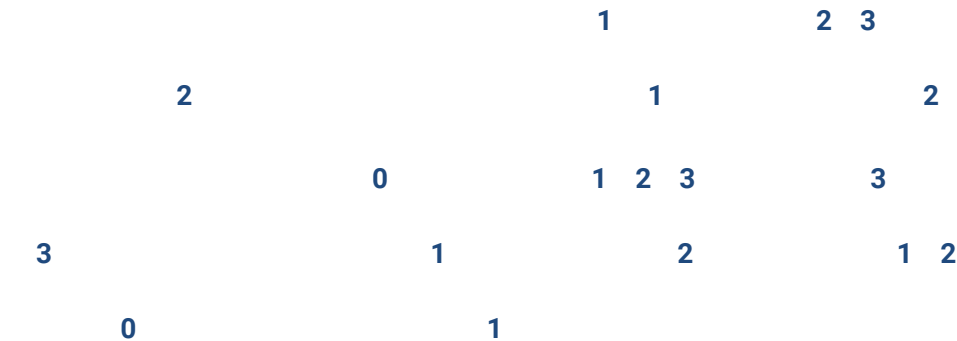
Limitation on forced operation

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 | |



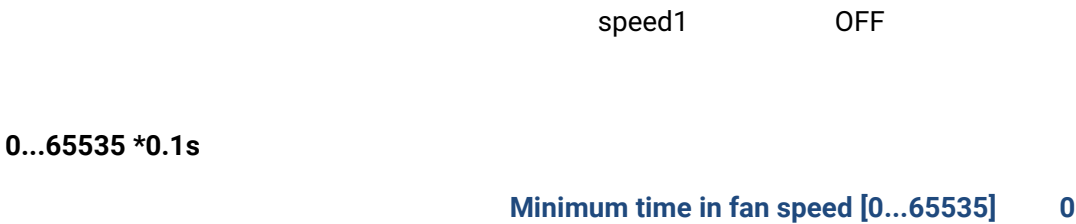
"Auto. operation function"

4.8.2.1

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



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

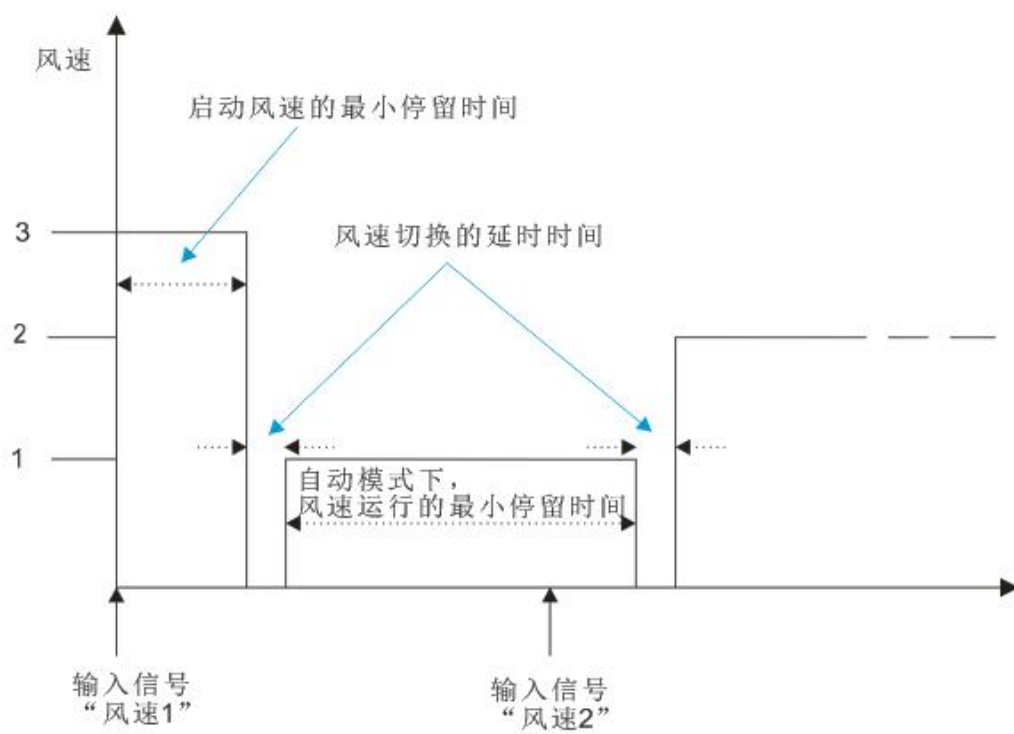


"Starting characteristic of fan"

No

3	2	OFF	1
3	2	1	

-- "Switch on over fan speed"
OFF



1

3

1

1

2

2

4.8.2.1.

"Fx: Auto."

4.8.2

Auto. operation function

4.8.2.1

--- Multifunctional Actuator with Secure, 4-Fold > Channel function > Fan 1-... > F1: Auto

KNX Secure

General setting

Channel function

Fan 1-...

F1: Auto

F1: Status

Output 3-...

Output 4-...

Auto.operation on object value ☐ 0=Auto/1=Cancel ☒ 1=Auto/0=Cancel

State of Auto.operation after startup ☒

Automatically enable auto.operation ☒

Enable auto.operation after in min
[10...6000]

Threshold value OFF<->speed 1 [1...100] %

Threshold value speed 1<->speed 2 [1...100] %

Threshold value speed 2<->speed 3 %
[1...100]

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

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

Number of control value ☐ 1 ☐ 2

Select by ☒ Latest value
☐ Control value with switching object

Monitoring control value ☒

Monitoring period of control value s
[10...65535]

Reply mode of Obj. "Control value fault" ☒ Respond after read only
☐ Respond after change

Control value fault to 1001 %

4.8.2.1

Fx: Auto.

"Auto. operation on object value"

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

“Automatically enable auto. operation”

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

10..6000 min

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

1

□

1...100 %

1

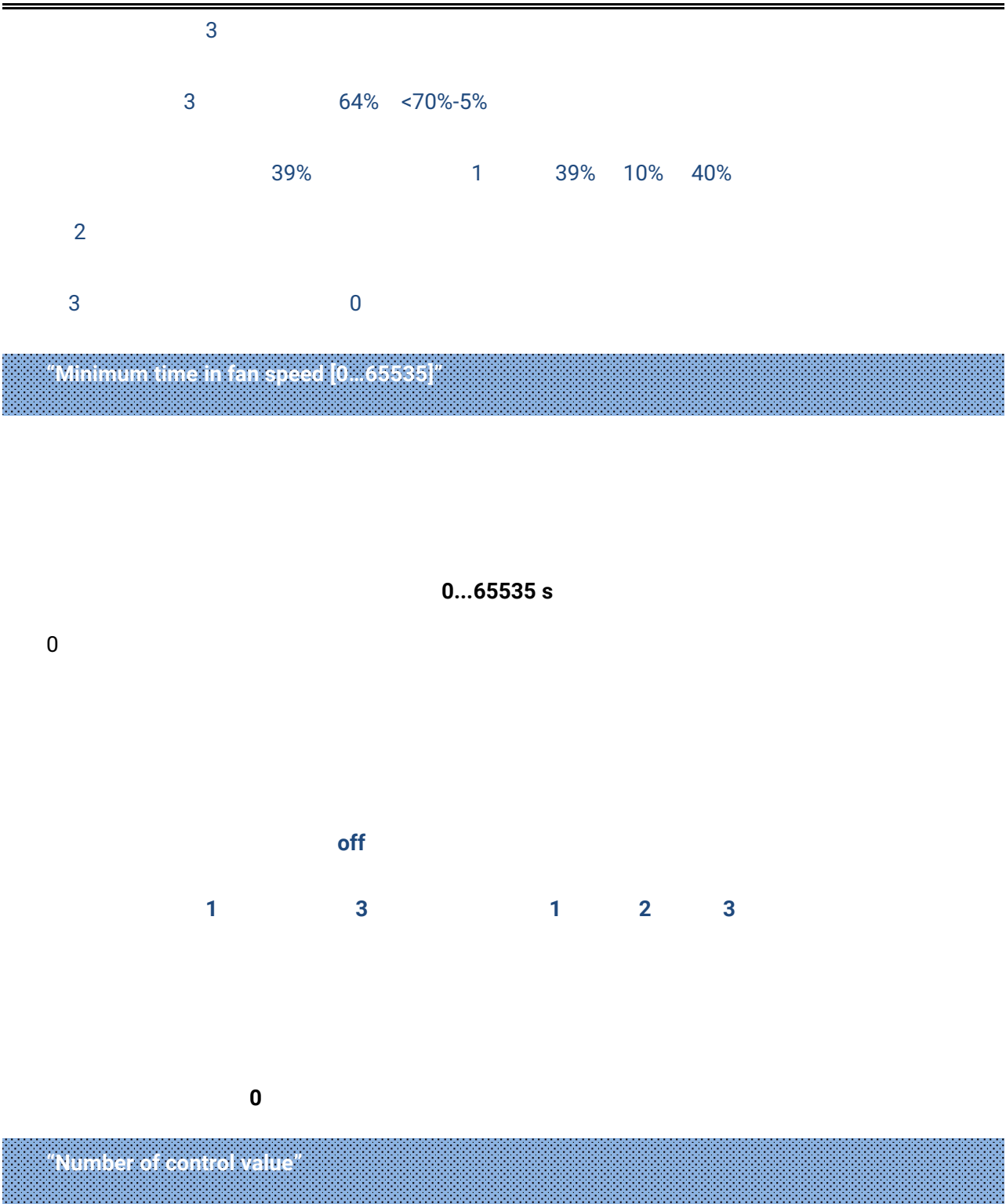
“Threshold value <□> <1> <--> speed 2 [1...100]A

□ □ □ □ □ □ □ □ □ □ 2 □

□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □



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																
2																
OFF <->	1	10%														
1 <->	2	40%														
2 <->	3	70%														
5%																
OFF																
OFF		15%	10%+5%													
41%																
2																
41%																
40%																
70%																
1																
39%																
1																
39%																
10%																
40%																



4.8.1.1 "Number of control value"

4.8.2.2. "Fx: Status"

Fx: Status 4.8.2.2

Multifunctional Actuator with Secure, 4-Fold > Channel function > Fan 1-... > F1: Status

KNX Secure	Reply mode of Obj. "Status Fan ON/OFF"(1bit)	☐ Respond after read only ☒ Respond after change
General setting	Reply mode of Obj. "Status Automatic"(1bit)	☐ Respond after read only ☒ Respond after change
Channel function	Reply mode of Obj. "Status Fan speed"(1byte)	☐ Respond after read only ☒ Respond after change
Fan 1-...	Reply mode of Obj. "Status Fan speed"(1byte)	☐ Respond after read only ☒ Respond after change
F1: Auto	Reply mode of Obj. "Status Fan speed"(1byte)	☐ Respond after read only ☒ Respond after change
F1: Status		
Output 3-...	Status feedback for fan speed	
Output 4-...	Status value for Fan speed 1	33 %
	Status value for Fan speed 2	67 %
	Status value for Fan speed 3	100 %

4.8.2.2 Fx: Status

"Reply mode of Obj. "Status Fan ON/OFF"(1bit)"

Respond after read only
Respond after change

Respond after read only
Status Fan ON/OFF
Respond after change

Status

Fan ON/OFF

"Reply mode of Obj. "Status Automatic"(1bit)"

Status Automatic 1 0
Respond after read only
Respond after change

Respond after read only
Status Automatic

Respond after change

Status

Automatic

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

1bit

Status Fan speed 1

Status Fan speed 2

Status Fan speed 3

Respond after read only

Respond after change

Respond after read only

Respond after change

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

Status Fan speed

1byte

Respond after read only

Respond after change

Respond after read only

Respond after change

Status feedback for fan speed

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

1..255

1..100 %

0

1<

2<

3

ETS

KNX/EIB

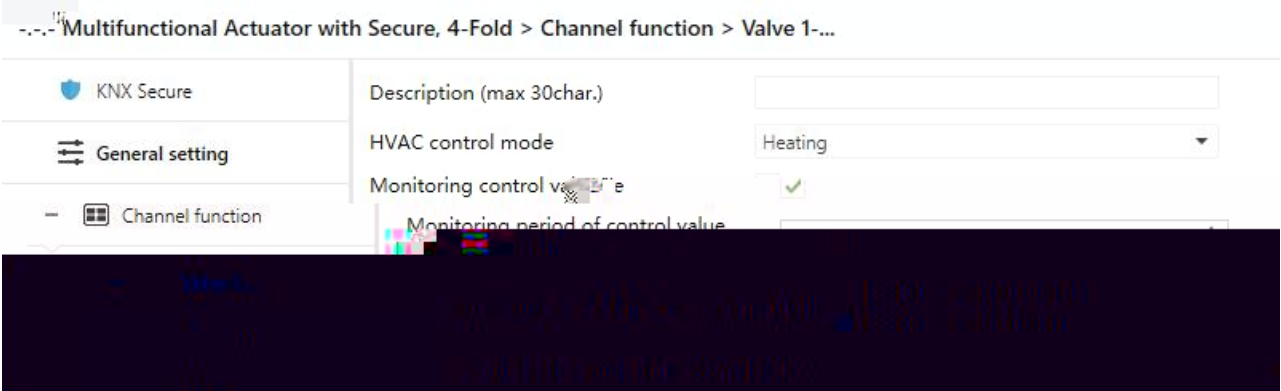
KNX

4.9.

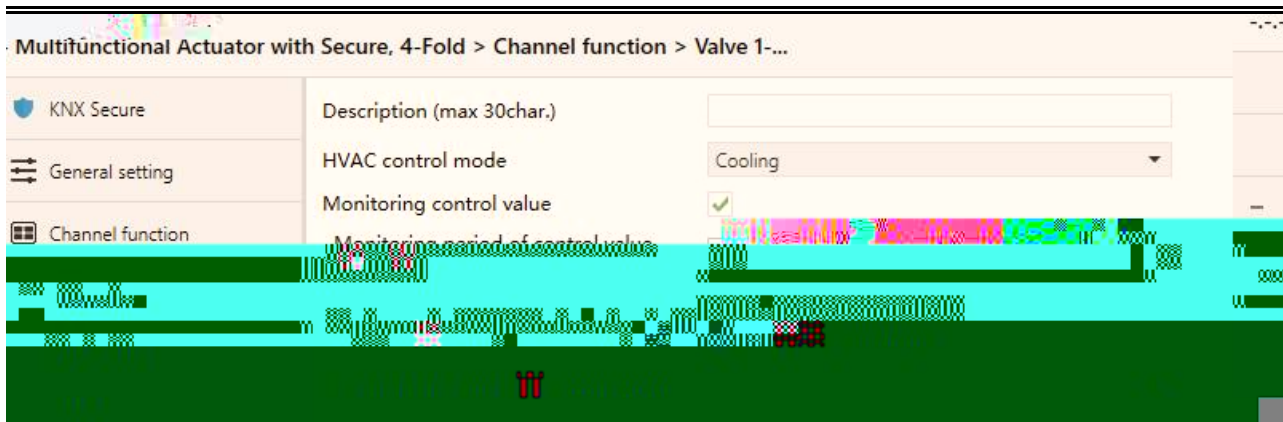
	2	4		
	2		4	4
	2	12	4	6
Channel function"		4.9(1)	2	
4.9(2)~(4)	4	4.9(5)		



4.9(1) Channel function--valve type

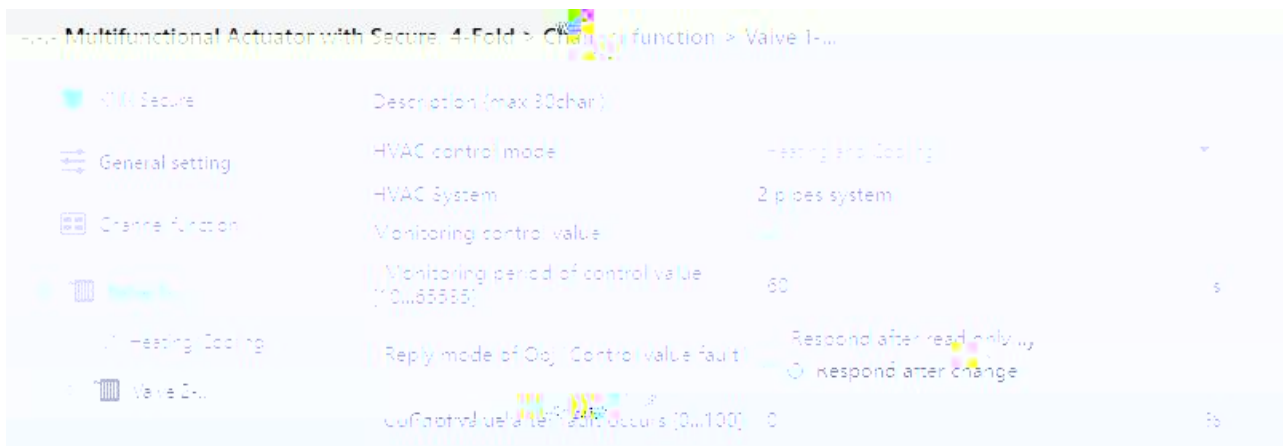


4.9(2) Valve X General--Heating



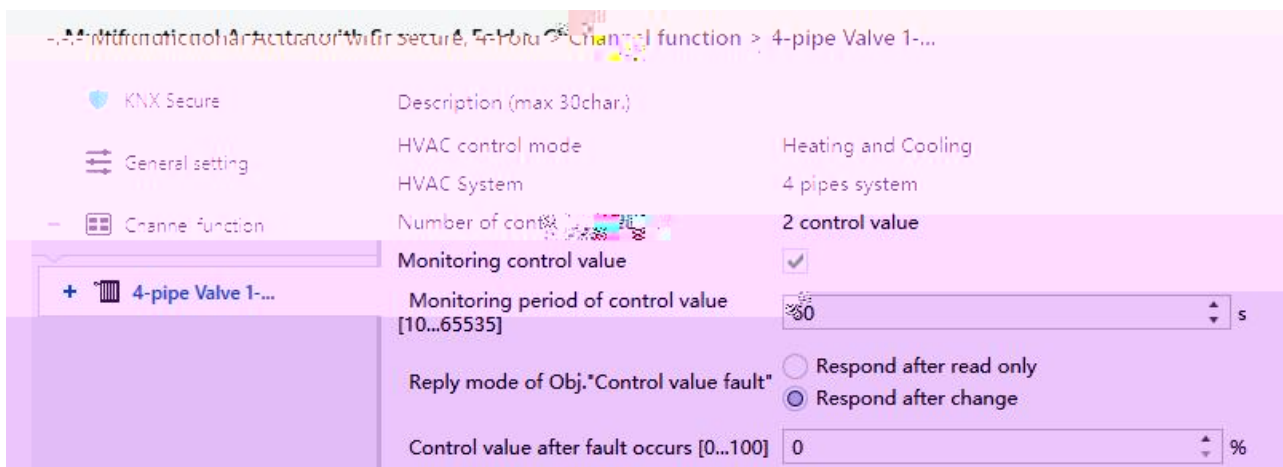
4.9(3)

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

HVAC Control mode

- HVAC
 - Heating
 - Cooling
 - Heating and Cooling

- Heating
- Cooling
- Heating and cooling

HVAC System"

2 4 HVAC

2 pipes system:

4 pipes system:

"Number of control value"

4 4

Monitoring control value

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

10...65535 s

"Reply mode of Obj. "Control value fault""

Respond after read only

Respond after change

Respond after read only

"Control value fault"

Respond after change

"Control value

fault"

— "Control value after fault occurs [0..100]"

0...100 %

>0%

0%

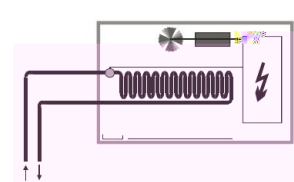
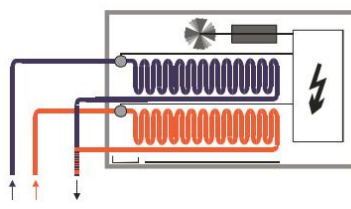
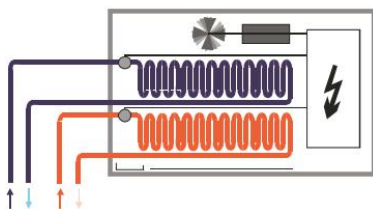
2 4

2 3 4

/

/

/



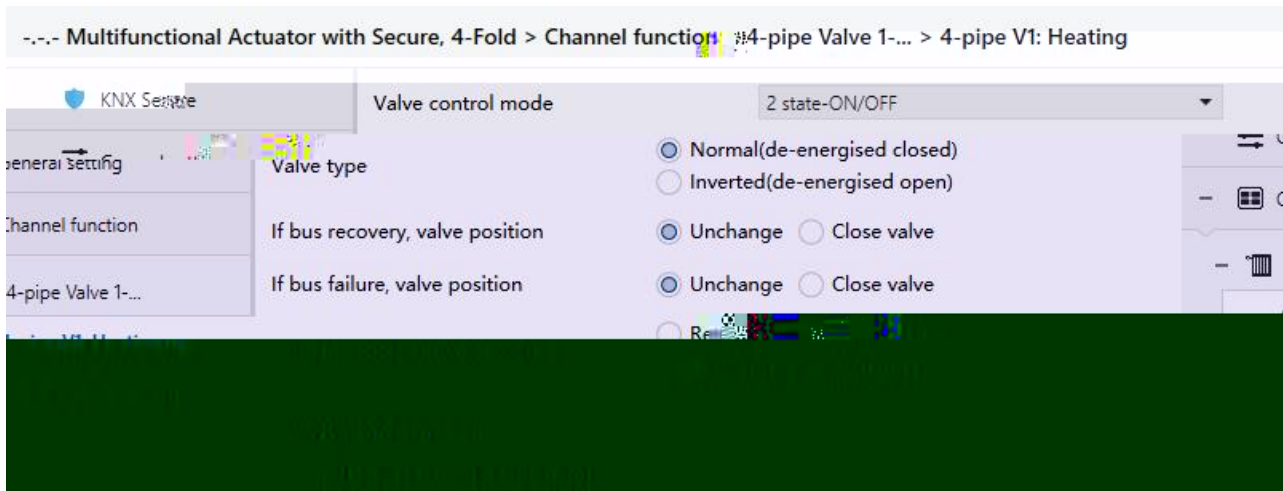
4.9.1. "Vx: Heating/Cooling"

"Vx:Heating " "Vx: Cooling"

4.9.1(1) 4.9.1(2)

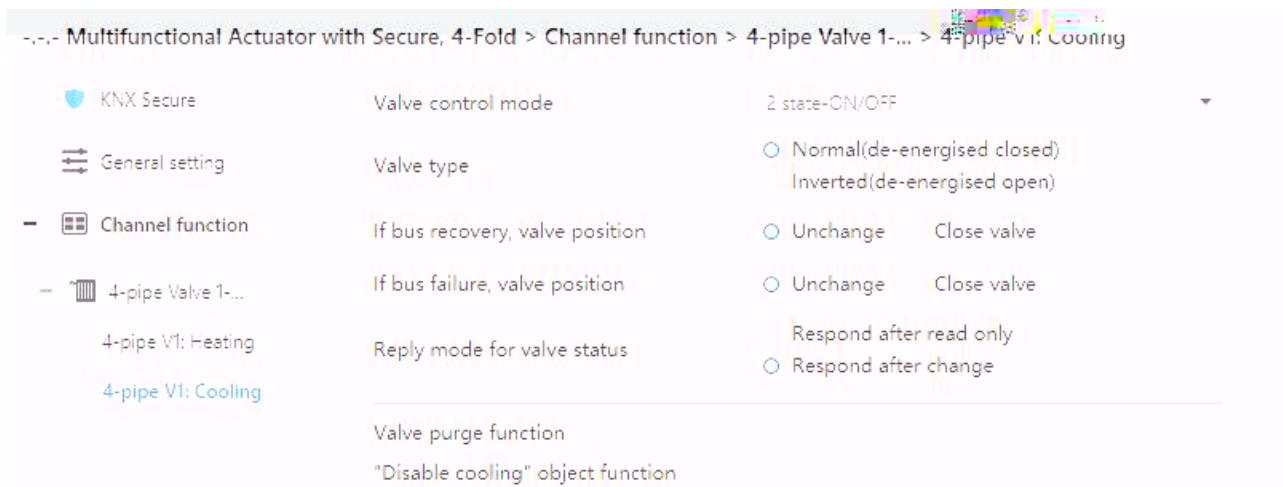
(2 4

)



4.9.1(1)

"Vx: Heating"



4.9.1(2)

"Vx: Cooling"

Valve control mode"

2 state-ON/OFF

Continuous, PWM

3 point, open and close

2 state-ON/OFF

Continuous, PWM PWM

3 point, open and close:

4.9.1.1.2 state-ON/OFF

4.9.1.1

--- Multifunctional Actuator with KNX Secure, 4-1 bit 2 Channel function 4-pipe Valve 1-... 4-pipe V1: Heating

KNX Secure Valve control mode 2 state-ON/OFF

General setting Valve type

Channel function

4-pipe Valve 1-...

4-pipe V1: Heating

4-pipe V1: Cooling

If bus recovery, valve position

If bus failure, valve position

Reply mode for valve status

Valve purge function

Duration of valve purge time [1...255] 10 min

Automatic valve purge

Purge Cycle in weeks [1...12] 1

Reply mode for valve purge status(1bit)

"Disable heating" object function

Trigger object value

Normal(de-energised closed)

Inverted(de-energised open)

Unchange Close valve

Unchange Close valve

Respond after read only

Respond after change

Respond after read only

Respond after change

0=Disable/1=Enable

1=Disable/0=Enable

4.9.1.1

"2 state-ON/OFF"

Valve type

Normal(de-energised closed)

Inverted(de-energised open)

Normal(de-energised closed)

Inverted(de-energised open)

If bus recovery, valve position

Unchange

Close valve

Unchange

Close valve

If bus failure, valve position

Unchange

Close valve

Unchange

Close valve

Reply mode for valve status(1bit)

Respond after read only

Respond after change

Respond after read only "Valve status, Heat/Cool"

Respond after change "Valve status, Heat/Cool"

Valve purge function

1bit

Trigger valve purge, Heat/Cool

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

1...255 min

1=Disable/0=Enable

Disable, Heat/Cool

1

/

0

4.9.1.2. Continuous, PWM

4.9.1.2

Functional Actuator with Secure, 4-Pipe Channel function > 4-pipe Valve 1-... > 4-pipe V1: Heating

KNX Secure

Valve control mode

Continuous PWM

General setting

Valve type

Normal(de-energised closed)

Inverted(de-energised open)

Channel function

PWM cycle time [10..6000]

120 s

4-pipe Valve 1-...

If bus recovery, valve position

Unchange Close valve

If bus failure, valve position

Unchange Close valve

4-pipe V1: Heating

4-pipe V1: Cooling

Reply mode for valve status

Respond after read only

Respond after change

Valve purge function

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

10 min

Automatic valve purge

Purge Cycle in weeks [1...12]

1

Reply mode for valve purge status(1 bit)

Respond after read only

Respond after change

"Disable heating" object function

Trigger object value

0=Disable/1=Enable

1=Disable/0=Enable

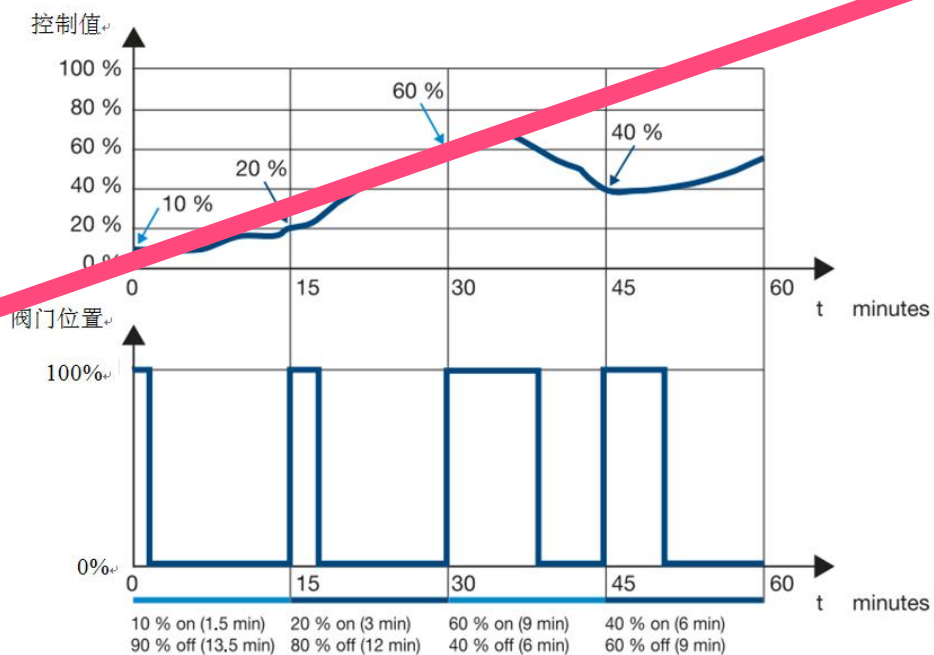
4.9.1.2

"Continuous, PWM"

PWM

20% PWM 15min 3min 12min 60%

9min 6min



"2state-ON/OFF"

PWM

PWM cycle time [10...6000]

PWM

10...6000 s

Contin Rypö...iööQWY@SE " 10

4.9.1.3.point, open and close

4.9.1.3

--- Multifunctional Actuator with KNX Secure, 4-1-bit Channel function > 4-pipe Valve 1-... > 4-pipe V1: Heating

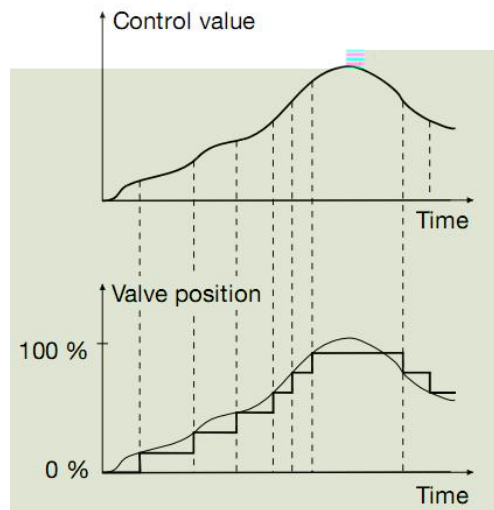
KNX Secure	Valve control mode	3 point, open and close
General setting	Observe reversing time	400ms
Channel function	If bus failure, valve position	Unchange
	If bus recovery valve position	Unchange
4-pipe Valve 1-...	Valve control time 0%->100% [50...6000]	100
4-pipe V1: Heating	Automatic adjust valve position...	
4-pipe V1: Cooling	Number of valve control up to adjust [1...65535]	200
	Correct Valve characteristic curve	☒
	Min. controller value for closed valve [0...100]	0
	Max. controller value for fully opened valve [0...100]	100
	Lower valve position for opening [0...100]	0
	Upper valve position for opening [0...100]	100
	Reply mode for valve status	☐ Respond after read only ☐ Respond after change
	Object type of valve status	☐ 1bit ☐ 1byte
	Valve purge function	☒
	Duration of valve purge time [1...255]	10 min
	Automatic valve purge	☒
	Purge Cycle in weeks [1...12]	1
	Reply mode for valve purge status(1bit)	☐ Respond after read only ☐ Respond after change
	"Disable heating" object function	☒
	Trigger object value	☒ 0=Disable/1=Enable ☐ 1=Disable/0=Enable

4.9.1.3

"3 point, open and close"

20%

20%



"Observe reversing time"

100ms

200ms

...

1s

1.2s

1.5s

"If bus failure, valve position"

"If bus recovery, valve position"

Unchange

Close valve

Unchange

Close valve

0%

0%

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

50...6000 s

180s

20%

60%

20% 60%

72s

"Automatic adjust valve position"

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

0%

1...65535

100

100

101

0%

100

50%

101

60%

101

40%

0%

40%

5%

+

Ö

5%

Ö 5%

1min

1min

1min

"Correct Valve characteristic curve"

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]

0...100 %

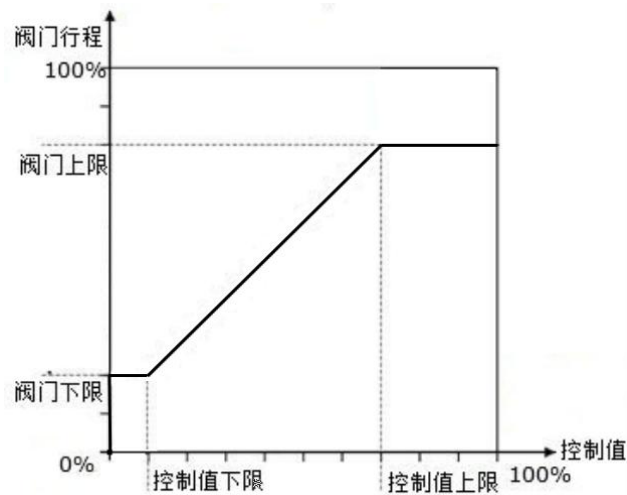
Min. controller value for closed valve

Max. controller value for fully opened valve

Lower valve position for opening

Upper valve position for opening

70% 80% 10% 20%



<

□ □ □ □ □ □ □ □ □

Valve position for opening [0...100] 40

Upper valve position for opening [0...100] 10

Reply mode for valve status(1bit)

Respond after read only

Respond after change

Respond after read only

Valve

status, Heat/Cool

Respond after change

Valve status,

Heat/Cool

"Object type of valve status "

1bit

1byte

1bit

1bit

Valve status, Heat/Cool

1byte

1byte

Valve status, Heat/Cool

Object value with valve position >0

0

0

1

1

0

Valve status, Heat/Cool

1

0

0

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	Switch			1 bit	C	-	W	-	-	switch	Low
3	Output 1-...	Switch status	Switch status			1 bit	C	R	-	T	-	switch	Low
4	Output 1-...	Enable time function	Enable time function			1 bit	C	-	W	-	-	enable	Low
5	Output 1-...	Staircase function	Staircase function			1 bit	C	-	W	-	-	switch	Low
6	Output 1-...	Operation hours counter	Operation hours counter			4 bytes	C	R	W	T ²¹	U	time lag (s)	Low
7	Output 1-...	Scene	Scene			1 byte	C	-	W	-	-	scene control	Low
8	Output 1-...	Forced output	Forced output			1 bit	C	-	W	-	-	enable	Low
9	Output 1-...	Logic 1	Logic 1			1 bit	C	-	W	-	-	boolean	Low
10	Output 1-...	Logic 2	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
“Input 0” “Switch” 对象“Switch, X” 开关功能 逻辑功能“Input 0”使能 否 对象“switch”的值 是 对象“switch”的值 对象“Input 1 of logic, X” AND, OR, XOR, GATE Logical connection 对象“Input 2 of logic, X” AND, OR, XOR, GATE Logical connection 逻辑功能 逻辑运算结果 输出（继电器执行动作） “Description (max.30 char.)” “Output 1-...”					
3	Switch status	Output 1-{{...}}	1bit	C,R,T	1.001 DPT_Switch
“Output X” “Object value of switch status: ”					

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

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-...	On-Off control value	1 bit	C, W	1 bit	C	R	-	T	-	switch	Low
4	Output 1-...	Status of contact	1 bit	C, R, T	1 bit	C	R	-	T	-	switch	Low
7	Output 1-...	Report fault	1 bit	C, R, T	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	1 bit	C	R	-	T	-	switch	Low
4	Output 1-...	Status of continuous, 1bit	1 bit	C, R, T	1 bit	C	R	-	T	-	switch	Low
5	Output 1-...	Control value(Continuous)	1 byte	C, W	1 byte	C	-	W	-	-	percentage (0..100%)	Low
6	Output 1-...	Status of continuous, 1byte	1 byte	C, R, T	1 byte	C	R	-	T	-	percentage (0..100%)	Low
7	Output 1-...	Report fault	1 bit	C, R, T	1 bit	C	R	-	T	-	alarm	Low
8	Output 1-...	Forced output	1 bit	C, W	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"					
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"					
5	Control value (continuous)	Output 1-{{...}}	1byte	C,W	5.001 DPT_Scaling
"Control telegram is received as" "1byte(Continuous)" 1Byte 0...100% "0%" "100%"					
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)" "Yes, 0% =0, otherwise"1"(1 bit)" "0" "1" "Yes, 0% =1, otherwise"0"(1 bit)" "1" "0"					
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 " (PWM)					
7	Report fault	Output 1-{{...}}	1bit	C,R,T	1.005 DPT_Alarm

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

<table><tr><td></td><td></td></tr><tr><td>0</td><td>1</td></tr><tr><td>1</td><td>2</td></tr><tr><td>2</td><td>3</td></tr><tr><td>...</td><td>...</td></tr><tr><td>63</td><td>64</td></tr><tr><td>128</td><td>1</td></tr><tr><td>129</td><td>2</td></tr><tr><td>130</td><td>3</td></tr><tr><td>...</td><td>...</td></tr><tr><td>191</td><td>64</td></tr></table>								0	1	1	2	2	3	...	...	63	64	128	1	129	2	130	3	...	...	191	64
0	1																										
1	2																										
2	3																										
...	...																										
63	64																										
128	1																										
129	2																										
130	3																										
...	...																										
191	64																										
8	Position status 0..100%	Curtain 1-{{...}}	1byte	C,R,T	5.001 DPT_Scaling																						
/ / 0% -- -- 100%--																											
9	Slat status 0..100%	Curtain 1-{{...}}	1byte	C,R,T	5.001 DPT_Scaling																						
"Venetian Blind" 0% -- -- 100%--																											
10	Sun operation	Curtain 1-{{...}}	1bit	C,W	1.001 DPT_Switch																						
"0" "1"																											
11	Enable auto. control	Curtain 1-{{...}}	1bit	C,W	1.003 DPT_Enable																						
"0" "1" 0-- 1--																											
12	Sun:blind/shutter position 0...100%	Curtain 1-{{...}}	1byte	C,W	5.001 DPT_Scaling																						
/ "Venetian Blind" "Sun:slat adj. 0...100%" 0% -- -- 100%--																											
13	Sun: slat adj. 0...100%	Curtain 1-{{...}}	1byte	C,W	5.001 DPT_Scaling																						

5.4.

Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
219	Fan 1-...	Fan speed			1 byte	C	-	W	-	-	fan stage (0..255)	Low
220	Fan 1-...	Status Fan ON/OFF			1 bit	C	-	W	-	-	switch	Low
221	Fan 1-...	Fan speed 1			1 bit	C	-	W	-	-	switch	Low
222	Fan 1-...	Fan speed 2			1 bit	C	-	W	-	-	switch	Low
223	Fan 1-...	Fan speed 3			1 bit	C	-	W	-	-	switch	Low
224	Fan 1-...	Status Fan ON/OFF			1 bit	C	R	-	T	-	switch	Low
225	Fan 1-...	Status Fan speed			1 byte	C	R	-	T	-	fan stage (0..255)	Low
226	Fan 1-...	Status Fan speed 1			1 bit	C	R	-	T	-	switch	Low
227	Fan 1-...	Status Fan speed 2			1 bit	C	R	-	T	-	switch	Low

5.4(1) _One level

Number	Name	Object Function	Description	Group Address	Length	C	R	W	T	U	Data Type	Priority
219	Fan 1-...	Fan speed			1 byte	C	-	W	-	-	fan stage (0..255)	Low
220	Fan 1-...	Fan speed 1			1 bit	C	-	W	-	-	switch	Low
221	Fan 1-...	Fan speed 2			1 bit	C	-	W	-	-	switch	Low
222	Fan 1-...	Fan speed 3			1 bit	C	-	W	-	-	switch	Low
223	Fan 1-...	Status Fan ON/OFF			1 bit	C	R	-	T	-	switch	Low
224	Fan 1-...	Status Fan speed			1 byte	C	R	-	T	-	fan stage (0..255)	Low
225	Fan 1-...	Status Fan speed 1			1 bit	C	R	-	T	-	switch	Low
226	Fan 1-...	Status Fan speed 2			1 bit	C	R	-	T	-	switch	Low

5.4(2) _Multi-level

					DPT
219	Fan speed	Fan 1-{{...}}	1bit 1byte	C,W	1.001 DPT_Switch 5.001 percentage(0..100%) 5.100 fan stage
1bit 0-- 1-- 1byte 1...255 1...100 0 "Description (max.30 char.)" "Fan 1-..."					
220	Fan speed 1	Fan 1-{{...}}	1bit	C,W	1.001 DPT_Switch
1 1~3 ON 1~3 OFF					

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
0-- 1--					
224	Status Fan speed	Fan 1-{{...}}	1byte	C,R,T	5.001 percentage(0..100%) 5.100 fan stage
			Status value for Fan speed 1/2/3 "0"		
225	Status Fan speed 1	Fan 1-{{...}}	1bit	C,R,T	1.001 DPT_Switch
1 0-- 1 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
"0 Auto/1=Cancel" 0-- 1--					

"1 Auto/0=Cancel 0-- 1-- 219 Fan X--Fan speed 220-222 Fan X-- Fan speed x (x=1,2,3)					
229	Status Automatic	Fan 1-{{...}}	1bit	C,R,T	1.003 DPT_Enable
0-- 1--					
230	Forced Operation	Fan 1-{{...}}	1bit	C,W	1.003 DPT_Enable
"Limitation on forced operation" "0 Force/1=Cancel" 0-- 1-- "1 Force/0=Cancel" 1-- 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					
233	Switching control value 1/2	Fan 1-{{...}}	1bit	C,W	1.001 DPT_Switch
2 0--Control value 1 (1) 1--Control value 2 (2)					
234	Control value fault	Fan 1-{{...}}	1bit	C,R,T	1.005 DPT_Alarm
0-- 1--					

5.5.

4

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 Valve 1-...	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	-	T	-	enable	Low
322	4-pipe Valve 1-...	Disable, HCool			1 bit	C	-	W	-	-	enable	Low
323	4-pipe Valve 1-...	Control value, Cool			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 Valve 1-...	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
0-- 1-- "Description (max.30 char.)" "4-pipe Valve 1-..."					
316	Control value fault	4-pipe Valve 1-{{...}}	1bit	C,R,T	1.005 DPT_Alarm
0-- 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
/ 0%					
318	Control value, Heat	4-pipe Valve 1-{{...}}	1byte 1bit	C,W	5.001 DPT_Scaling 1.001 DPT_Switch
323	Control value, Cool	4-pipe Valve 1-{{...}}	1byte 1bit	C,W	5.001 DPT_Scaling 1.001 DPT_Switch
2 (318) 1bit 1byte					
319	Valve status, Heat	4-pipe Valve 1-{{...}}	1byte 1bit	C,R,T	5.001 DPT_Scaling 1.001 DPT_Switch

324	Valve status, Cool	4-pipe Valve 1-{{...}}	1byte 1bit	C,R,T	5.001 DPT_Scaling 1.001 DPT_Switch
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
0 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
0 1					

5.5