### APPLICATION PROGRAM INFORMATION

Dimmer 6 fold 10V Actuator M/DA6.10.1 KNX/EIB-BUS Document Version: 1.0, Date: <u>15. April.2015</u>

This document describes the M/DA6.10.1-functions with the KNX-product- application:<u>Dimmer 6ch</u> <u>10V10A (V1.1).vd5</u>

Compiled by (english name): <u>Mr. He</u>		
HDL-Position:Technical Manager, KNX-Products		1
Location: <u>Gungzhou</u> Date: <u>15. April.2015</u>	_ Signature:	何海米
Approved by (english name): <u>Dicky Du</u>		
HDL-Position: <u>Technical Manager</u>		1. 19
Location: <u>Gungzhou</u> Date: <u>15. April.2015</u>	_ Signature:	ge & (a

Document History				
Version	Date	Comments	Author (english name)	
1.0	2.4.2015	First issue	Jie Tan	

- A. General description
- B. Function overview flowchart
- C. Function description
- D. Communication objects
- E. Assistant software for DALI group setting



The 6 fold 10V dimmer accuator can be used in a vararity of buildings for dimming and accuator purposses, and is designed to be installed on a 35mm DIN rail. This manual details the programming information for the dimmer/ actuator.



B. Below the programming method for the M/DA6.10.1 is shown.

C. Description of functions:

1.1.	1 M/DALI.1	2014 2014			×
General Fault				General	
Function *Central	n I	System delay(3.	.255s)	3	÷
-C:Statu *Group	s	Heartbeat teleg	ram	Disable	×
>Group -G1:Sta	1 tus	Test(left short b	utton)	Enable	~
>Group -G2:Sta	2 tus	-Test time interv	val(2255s)	2	÷
*Chann >Chann	el nel 1	Function on/off	(right short button)	Disable	<b>₩</b>
-Ch1:St >Chann	atus nel 2	New address(le	ft long button)	Disable	
-Ch2:St	atus	Remove all add	Iress(right long button)	Disable	~
>Scene	2	*Replace the b	allast(left & right long button)	Disable	<b>₩</b>
Addition Additi:S	tair, light	DALI communic	ation fault-tolerant	FT-1(star	ndard) 💌
Addi2:5 Addi3:E	mer. light	Adjustment dela	ay time for query actual level	+0 s	~
		DALI power sup	pply output	Enable	~
		Fault information	n		
			ОК	Cancel	Default Info Help
			OK	Cancel	Default Info Help
	ETS-Paramete	r	ок Range (default)	Cancel	Default Info Help
•	ETS-Paramete System delay	۲	OK     Range (default)     (2)255s	Cancel	Description The operation delay time can be
	ETS-Paramete System delay	r	Ск Range (default) (2)255s	Cancel	Description The operation delay time can be for when the module is powered on
	ETS-Paramete System delay Heartbeat teleg	r gram	СК Range (default) (2)255s -(Disable)	Cancel	Description The operation delay time can be for when the module is powered on. Defines which telegram should be
	ETS-Paramete System delay Heartbeat teleg	r gram	CK Range (default) (2)255s -(Disable) -Send value"0" cyc	Cancel	Description The operation delay time can be for when the module is powered on. Defines which telegram should be sent.
•	ETS-Paramete System delay Heartbeat teleg	er gram	CK Range (default) (2)255s -(Disable) -Send value"0" cyc -Send value"1" cyc -Sendvalue"1/0" cyc	Cancel lically lically vclically	Description The operation delay time can be for when the module is powered on. Defines which telegram should be sent. -Send value"0" cyclically: Sendstelegram "0" to the bus.
	ETS-Paramete System delay Heartbeat teleg	er gram	CK Range (default) (2)255s -(Disable) -Send value"0" cyc -Send value"1" cyc -Sendvalue"1/0" cy	Cancel lically lically /clically	Description The operation delay time can be for when the module is powered on. Defines which telegram should be sent. -Send value"0" cyclically: Sendstelegram "0" to the bus.
•	ETS-Paramete System delay Heartbeat teleg	er gram	CK Range (default) (2)255s -(Disable) -Send value"0" cyc -Send value"1" cyc -Sendvalue"1/0" cy	Cancel lically lically /clically	Description The operation delay time can be a for when the module is powered on. Defines which telegram should be sent. -Send value"0" cyclically: Sendstelegram "0" to the bus. -Send value"1" cyclically: Sendstelegram "1" to the bus
•	ETS-Parameter System delay Heartbeat teles	gram	OK         Range (default)         (2)255s         -(Disable)         -Send value"0" cyc         -Send value"1" cyc         -Sendvalue"1/0" cyc	Cancel lically lically vclically	Description         The operation delay time can be a for when the module is powered on.         Defines which telegram should be sent.         -Send value"0" cyclically:         Sendstelegram "0" to the bus.         -Send value"1" cyclically:         Sendstelegram "1" to the bus.
•	ETS-Paramete System delay Heartbeat teleg	gram	OK         Range (default)         (2)255s         -(Disable)         -Send value"0" cyc         -Send value"1" cyc         -Sendvalue"1/0" cyc	Cancel lically lically /clically	Description The operation delay time can be a for when the module is powered on. Defines which telegram should be sent. -Send value"0" cyclically: Sendstelegram "0" to the bus. -Send value"1" cyclically: Sendstelegram "1" to the bus. -Send value"1/0" cyclically: Telegrams "0" and "1" are cent
•	ETS-Paramete System delay Heartbeat teles	ır gram	Range (default)         (2)255s         -(Disable)         -Send value"0" cyc         -Send value"1" cyc         -Sendvalue"1/0" cy	Cancel lically lically /clically	Description The operation delay time can be a for when the module is powered on. Defines which telegram should be sent. -Send value"0" cyclically: Sendstelegram "0" to the bus. -Send value"1" cyclically: Sendstelegram "1" to the bus. -Send value"1/0" cyclically: Telegrams "0" and "1" are sent alternatly to the bus.
•	ETS-Parameter System delay Heartbeat teles	gram	OK         Range (default)         (2)255s         -(Disable)         -Send value"0" cyc         -Send value"1" cyc         -Sendvalue"1/0" cy         -Sendvalue"1/0" cy         1(5)65535s	Cancel lically lically cclically	Description         The operation delay time can be for when the module is powered on.         Defines which telegram should be sent.         -Send value"0" cyclically:         Sendstelegram "0" to the bus.         -Send value"1" cyclically:         Sendstelegram "1" to the bus.         -Send value"1/0" cyclically:         Sendstelegram "1" to the bus.         Defines how often a telegram is souther to the bus.
	ETS-Paramete System delay Heartbeat teleg -Telegram is se interval(16553	gram nt time 35s)	OK         Range (default)         (2)255s         -(Disable)         -Send value"0" cyc         -Send value"1" cyc         -Sendvalue"1/0" cy         -Sendvalue"1/0" cy         1(5)65535s	Cancel lically lically /clically	Description         The operation delay time can be for when the module is powered on.         Defines which telegram should be sent.         -Send value"0" cyclically:         Sendstelegram "0" to the bus.         -Send value"1" cyclically:         Sendstelegram "1" to the bus.         -Send value"1/0" cyclically:         Sendstelegram "1" to the bus.         Defines how often a telegram is sent.
•	ETS-Parameter System delay Heartbeat teleg	er gram nt time 35s)	Image (default)         (2)255s         -(Disable)         -Send value"0" cyc         -Send value"1" cyc         -Sendvalue"1/0" cy         1(5)65535s	Cancel lically lically /clically	Description         The operation delay time can be for when the module is powered on.         Defines which telegram should be sent.         -Send value"0" cyclically:         Sendstelegram "0" to the bus.         -Send value"1" cyclically:         Sendstelegram "1" to the bus.         -Send value"1/0" cyclically:         Defines how often a telegram is sent.
•	ETS-Parameter System delay Heartbeat teles -Telegram is se interval(16553	gram gram nt time 35s) ce 1	OK         Range (default)         (2)255s         -(Disable)         -Send value"0" cyc         -Send value"1" cyc         -Send value"1/0" cy         -Sendvalue"1/0" cy         1(5)65535s         -Enable         -(Disable)	Cancel lically lically clically	Description         The operation delay time can be for when the module is powered on.         Defines which telegram should be sent.         -Send value"0" cyclically:         Sendstelegram "0" to the bus.         -Send value"1" cyclically:         Sendstelegram "1" to the bus.         -Send value"1/0" cyclically:         Telegrams "0" and "1" are sent alternatly to the bus.         Defines how often a telegram is sent.         Enable or disable sequences 1-5

_Sequence(1-5)(All sequ	ence's sett	ing is same, here, take see	quence 1 as an example)
0.1.6 M/DA6.10.1		Insurance 2	X
General Gisequence 1		G:seque	nce 1
G:sequence 2 G:sequence 3	Operaton m	ode of the sequence 1	Start with "1",Stop with "0"
G:sequence 4 G:sequence 5	Control mod	e of the sequence 1	FwD
Channel A A≿dimmina confia	Runing mod	e of the sequence 1	Cycle
Channel B B>dimming config	Runing time	(0255 hours,0h&0m-unlimited)	0
Channel C Didimming config	Buning time	(0. 59 mins 0h&0m-unlimited)	0
Channel D D\dimming config	Position afte	r running time out	Invalid
Channel E El dimming config	Total 24 sta	es configuration as following:	Invalu
Channel F	Total 24 ste	ps,coninguration as following.	fuerra
r>ainining coning	>>Step / co	ninguration	
	Time for step	p 1 (065535s)	5
	Time for step	p 1 (0999ms)	0
	>>Step 2 co	nfiguration	Invalid
	Time for step	p 2 (065535s)	5
		Start with "0", Stop with "1" Start with "1/0", Can't stop	Start with "1", Stop with "0":If a telegram is recieved with a value of "1", sequence 1 will start. If a telegram is recieved with a value of "0", sequence 1 will stop. Start with "0", Stop with "1"::If a telegram is recieved with a value of "0", sequence 1 will start. If a telegram is recieved with a value of "1", sequence 1 will stop.
Control mode of the 1 Running mode of th	e sequence	-(FWD) -REW -RANDOM -Single	Start with "1/0", can't stop: :If atelegram is recieved with a value of"1" or "0", sequence 1 will startand not stop.Set the control mode for sequence1.FWD: Forward modeREW: Backward modeRANDOM: Random modeSet the running mode for sequence
sequence 1		-(Cycle)	1. Single: Will run once. Cycle: Will run cyclically.

8	Running time (0255 hours, 0h&0m-unlimited)	(0)255	Set the running time.
9	Running time (059 mins, 0h&0m-Unlimited)	(0)59	Set the running time.
10	Position after running time out	-(Invalid) -Scene NO.01Scene NO.64	Set the sceneto be activated when time out occurs.
1.2_Step	0 1-24		
11	>>Step 1 configuration  Step 24 configuration	-(Invalid) -Scene NO.01Scene NO.64	Set the scene for step 124.
12	Time for step 1  Time for step 24	0(5)65535s	Set the time for step 124.
13	Time for step 1  Time for step 1	(0)999ms	Set the time for step 124.

General			Channel A
G:seque G:seque G:seque	nce 1 nce 2 nce 3	)imming output range	0-10v -
G:seque G:seque	nce 4 nce 5	he response of channel state(1bit)	Invalid
Channel A>dimmir	A ng config	he response of channel state(1byte)	[Invalid 🗸
Channel B>dimmir	B	itatistics total ON time to Illowed(065535h=7.4years)	Disable 🗸
C>dimmir	ng config	he status after bus voltage recovery	OFF
D>dimmi	ng config	1aximum level	100%(255)
E>dimmir	r	Ipper threshold level	100%(255) -
F>dimmir	ng config	ower threshold level	0%(0) •
		Dimming minimum level	0%(0)
		how the function page ==>>	Disable 🗸
2		ОК	Cancel Default Info Help
	ETS-Parameter	Range (default)	Description
	Dimming output range	-(0-10V) -1-10V -2-10V	Set the dimming output.
	The response of chann	el -(Invalid) -1 bit always respons	Set the channel state responce

			1 bit always response: The channel will always respond, if on it will respond with 1, if off it will resond with 0.
			1 bit only changed: The channel will respond only when the dimmer state has changed.
14	The response of channel state(byte)	-(Invalid) -1 byte always response -1 byte only changed	Set the channel state responce parameters. 1 byte always response: The channel will always respond.
			1 byte only changed: The channel will respond when the light value has changed.
15	Statistics total ON time to allowed (065535h=7.4 years)	-Enable -(Disable)	Enable or disable the statistics function.
16	Alarm when time out (165535h, 0-invalid)	-1(30000)65535h -0-invalid	Set the alarm time out parametes.
17	Transmit telegram interval when alarm(1255s)	1(10)255s	Set the alarm time interval.
18	The status after bus voltage recovery	-(OFF) -Defined brightness value -Last brightness value	Set the status after bus voltage- OFF: After powered on, the channel will be OFF. Defined brightness value: After powered on, the channels status will be defined by the brightness value. Last brightness value: After powered on, the channels status
10	Brightness value	(0%)100%	brightness value.
1.5	Marian and Land		parameters.
20	iviaximum ievel	0(100%)	Set the maximum level .
21	Upper threshold level	0(100%)	Set the upper threshold level.
22	Lower threshold level	(0)100%	Set lower threshold level.
23	Dimming minimum level	(0)100%	Set the minimum dimming level.
24	Show the function page==>>	-Enable -(Disable)	Enable or disable the function page.

### 2.1\_Dimming

General Channel A	A>dimming config		
A>dimming config Channel B	Enable switch ON/OFF	Enable 🗸	
B>dimming config Channel C	-Switching ON fade time(0255s)	3	
C>dimming config Channel D	-Switching OFF fade time(0255s)	3	
D>dimming config Channel E	-Switching ON when light OFF	Normal 🔻	
E Jamming Coning Channel F E Jamming config	-Switching OFF when light ON	Normal 👻	
F>aimming config	Enable relative dimming	Enable	
	-Relative(4bits) dimming fade time(brightness0%100%/2255s)	5	
	-Relative dimming is saved as the brightness of the switch	No	
	Enable absolute dimming	Enable	
	-Absolute(1byte) dimming fade time(brightness0%100%/0255s)	5	
	-Absolute dimming is saved as the brightness of the switch	No	
	OK Cance	el Default Info Help	
ETS-Paramet	er Range (default)	Description	

No.	ETS-Parameter	Range (default)	Description
25	Enable switch ON/OFF	-(Enable) -Disable	Enable or disable the ON/OFF switch.
26	-Switching ON fade time (0255s)	0(3)255s	Set the switch ON fade time.
27	-Switching OFF fade time (0255s)	0(3)255s	Set the switch OFF fade time.
28	-Switching ON when light OFF	-(Normal) -Not allowed to swicth ON	Set the parameter for switching ON when the light is OFF-

			Normal: When the status is normal,
			the function can be used.
			Not allowed to switch ON: When the status is not allowed to switch ON, the function can not be used.
29	-Switching OFF when light ON	-(Normal) -Not allowed to swicth OFF	Set the parameter for switching OFF when the light is ON- Normal: When the status is normal, the function can be used.
			When the status is not allowed to switch OFF, the function can not be used.
30	Enable relative dimming	-(Enable) -Disable	Enable/disbale relative dimming- Enable: Allows relative dimming Disable:Disallows relative dimming
31	-Relative (4bits) dimming fade time (brightness 0%100%/2255s)	2(5)255s	Set the fade time for relative dimming.
32	-Relative dimming is saved as the brightness of the swicth	-(No) -Yes	Enable/disable relative dimming.
33	Enable absolute dimming	-Enable -(Disable)	Enable/disable absolute dimming.
34	-Absolute(1 byte) dimming fade time(brightness 0%100%/0255s)	0(5)255s	Set the fade time for absolute(1 byte) dimming.
35	-Absolute dimming is saved as the brightness of the switch	-Yes -(No)	Enable/disablethe absolute dimming saved brightness.

### 2.2\_function

aeneral Chappel A	A:function		
A> dimming config A> dimming config Channel B B> dimming config	Enable function "staircase light" Enable function "flashing"	Disable Disable	•
Channel C C>dimming config Channel D	Enable function "scene"	Disable	
)>dimming config Channel E	Enable function "threshold"	Disable	
E>dimming config Channel F	Enable function "logic"	Disable	•
	NOTE:Recommend to only use a function for channel.	â	

No.	ETS-Parameter	Range (default)	Description		
36	Enable function "staircase light"	-Enable -(Disable)	Enable or disable "staircase lighting".		
37	Enable function "flashing"	-Enable -(Disable)	Enable or disable "flashing".		
38	Enable funcation "scene"	-Enable -(Disable)	Enable or disable "scenes".		
39	Enable function "threshold"	-Enable -(Disable)	Enable or disable the "threshold" function		
40	Enable function "logic"	-Enable -(Disable)	Enable or disable the "logic" function		
41	Enable function "heating'	-Enable -(Disable)	Enable or disable "heating".		
2.2.1_Staircase light					

0.1.6 M/DA6.10.1	die Capita	Channel scapes	X
General		A:staircase light	
Channel A A>dimming config	Staircase light operati	on Start wi	th "1" Stop with "0"
A:function A:staircase light	Stalicase light operati		
A:flashing A:scene	Brightness value	100%(2	55J <b>*</b>
A:threshold A:logic	Fade time of brighter(	33	
A:heating Channel B	Fade time of darker(0.	255s) 3	×
B>dimming config Channel C	Duration time for brigh	ntness(0255min) 0	
C>dimming config Channel D	Duration time for brigh	ntness(059sec) 5	×
D>dimming config	Change staircase ligh	t time via bus Disable	•
E>dimming config	Alarm staircase light v	ia bus Disable	•
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid	Setting the parameters for staircase lighting-
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	Setting the parameters for staircase lighting- Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	Setting the parameters for staircase lighting- Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate.
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	Setting the parameters for staircase lighting- Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate. Start with "1", Invalid with
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	Setting the parameters for staircase lighting- Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate. Start with "1", Invalid with "0": If telegram "1" is
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	Setting the parameters for staircase lighting- Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate. Start with "1", Invalid with "0": If telegram "1" is received, the staircase lighting will activate, if
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	<ul> <li>Setting the parameters for staircase lighting-</li> <li>Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate.</li> <li>Start with "1", Invalid with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "1" is received, the staircase lighting will activate, if telegram "0" is received.</li> </ul>
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	Setting the parameters for staircase lighting- Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate. Start with "1", Invalid with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received thefuncation will be invalid.
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	Setting the parameters for staircase lighting- Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate. Start with "1", Invalid with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received thefuncation will be invalid. Start with "1/0", Can't stop:
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	<ul> <li>Setting the parameters for staircase lighting-</li> <li>Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate.</li> <li>Start with "1", Invalid with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the funcation will be invalid.</li> <li>Start with "1/0", Can't stop: If telegram "1/0" is received, the staircase</li> </ul>
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	<ul> <li>Setting the parameters for staircase lighting-</li> <li>Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate.</li> <li>Start with "1", Invalid with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the funcation will be invalid.</li> <li>Start with "1/0", Can't stop: If telegram "1/0" is received, the staircase lighting will remain</li> </ul>
Staircase light	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop	Setting the parameters for staircase lighting- Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate. Start with "1", Invalid with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received thefuncation will be invalid. Start with "1/0", Can't stop: If telegram "1/0" is received, the the staircase lighting will remain constantly active.
Staircase light Brightness va	t operation	<ul> <li>-(start with "1", Stop with "0")</li> <li>-Start with "1", Invalid with "0"</li> <li>-Start with "1/0", Can't stop</li> <li>0(100%)</li> </ul>	Setting the parameters for staircase lighting-Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate.Start with "1", Invalid with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the funcation will be invalid.Start with "1/0", Can't stop: If telegram "1/0" is received, the the staircase lighting will remain constantly active.Set the light intensity.
Staircase light Brightness va Fade time of	t operation	-(start with "1", Stop with "0") -Start with "1", Invalid with "0" -Start with "1/0", Can't stop 0(100%) 0(100%)	Setting the parameters for staircase lighting-Start with "1", Stop with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "0" is received the staircase lighting will deactivate.Start with "1", Invalid with "0": If telegram "1" is received, the staircase lighting will activate, if telegram "1" is received, the staircase lighting will activate, if telegram "0" is received thefuncation will be invalid.Start with "1/0", Can't stop: If telegram "1/0" is received, the the staircase lighting will remain constantly active.Set the light intensity.Set the rate at which the lighting intensity.

46	Duration time for brightness(0255min)	(0)255s	Set the time to attain maxinum brightness.
47	Duration time for brightness(059sec)	0(5)59(Sec)	Set the time to attain maxinum brightness.
48	Change staircase light time via bus	-Enable -(Disable)	Enable or disable staircase lighting times- Enable: Allows the staircase lighting time to be modifyed. Disable: Does not allow the staircase lighting time to be modifyed. If this is set the lighting can only be set via
49	Alarm staircase light via bus	-Enable -(Disable)	the database. Enable or disable the staircase warning light via the bus- Enable: Allows a alarm to be triggered Disable: Does not allow an alarm to be triggered.

General Chappel A	A:	flashing	
A>dimming config A:function	Flashing operation	Start with "1",Stop with "0"	•
A:staircase light A:flashing	Brightness value	100%(255)	•
A:scene A:threshold	Fade time of brighter(0255s)	3	×
A:heating	Fade time of darker(0255s)	3	*
Channel B B>dimming config	Duration time for brightness(0255min)	0	×
Channel C C>dimming config	Duration time for brightness(059sec)	5	*
D>dimming config Channel F	Duration time for darkness(0255min)	0	*
E>dimming config Channel E	Duration time for darkness(059sec)	5	×
F>dimming config	Flashing number(1255,0-Unlimited)	0	*
	Brightness after achieves the flashing number	Invalid	Ŧ
	OK Ca	ncel Default Info	Help
. ETS-Paramete	r Range (default)	Description	

50	Flashing operation	-(Start with "1", Stop with "0")	Setting the parameters for 'flashing'-
		-Start with "1/0". Can't stop	Start with "1", Stop with "0": If
			telegram "1" is received, 'flashing' will
			be activated, if telegram "0" is
			received'flashing' will be deactivated.
			Start with "0", Stop with "1": If
			telegram "0" is received, 'flashing' will
			be activated, if telegram "1" is
			received'flashing' will be deactivated.
			Start with "1/0", Can't stop: If telegram
			"1/0" is received, 'flashing' will remain
			constantly active.
51	Brightness value	0(100%)	Set the brightness value.
52	Fade time of brighter	0(3)255s	Set the rate at which the lighting
-	(0255s)		intensity increases.
53	Fade time for darker (059Sec)	0(3)59Sec	Set the dimming time.
54	Duration time for brightness (0255min)	(0)255min	Set the brightness duration time.
55	Duration time for brightness (059Sec)	0(5)59Sec	Set the brightness duration time.
56	Duration time for	(0)255min	Set the brightness duration time.
	darkness (0255min)		
57	Duration time for darkness (059Sec)	0(5)59Sec	Set the brightness duration time.
58	Flashing	-(0-unlimited)	Set the number of flashes.
	number(1255, 0-	-1255	
	Unlimited)		
59	Brightness after	-(Invalid)	Set the brightness parameters for after
	achieves the flashing	-0100%	a set number of flashes has been
	number		
			1

### 2.2.3\_scene

General		A:scene
Channel A A>dimming config A:function	Fade time of scene dimming(2255s)	5
A:staircase light A:flashing	Total 10 scenes,configuration as following:	
Alscene Althreshold	>>Output assigned to(scene 164.)	Not allocate
Allogic Alheating Channel B	Output brightness value	100%(255)
B>dimming config Channel C	Fade time for brighter/darker(0255s)	3
C>dimming config Channel D	>>Output assigned to(scene 164 )	Not allocate
D>dimming config Channel E	Output brightness value	100%(255)
E>dimming config Channel F	Fade time for brighter/darker(0255s)	3
F>dimming config	>>Output assigned to(scene 164 )	Not allocate
	Output brightness value	100%(255)
	Fade time for brighter/darker(0255s)	3
	>>Output assigned to(scene 164 )	Not allocate

No.	ETS-Parameter	Range (default)	Description
60	Fade time of scene dimming (2255s)	2(5)255s	Set the fade time for scene dimming.
61	Total 10 scenes, configuration as following:		
62	>Output assigned to (scene 164)	-(Not alloacate) -Scene No 1Scene No 64	Set the output scene.
63	Output brightness value	0(100%)	Set brightness output value.
64	Fade time for brighter/darker(0255s)	0(3)255s	Set the brightening and dimming fading rate.

### 2.2.4\_Threshold

General Chammel A	A:th	reshold
Channel A A>dimming config A:function	Brightness value for switch ON of threshold	100%(255)
A:staircase light A:flashing	Fade time for switch ON of threshold(0255s)	3
A.scene A:threshold	Fade time for switch OFF of threshold(0255s)	3
A:logic A:heating Channel P	Threshold 1 value is(0255)	80
channel b B>dimming config Channel C	Threshold 2 value is(0255)	180
C>dimming config Channel D	Input value <lower td="" threshold<=""><td>OFF</td></lower>	OFF
D>dimming config Channel E	Lower threshold<=Input value<=Upper threshold	
E>dimming config Channel F	Input value>Upper threshold	OFF
F>dimming config	Change threshold 1 via bus	Disable
	Change threshold 2 via bus	Disable

No.	ETS-Parameter	Range (default)	Description
65	Brightness value for switch ON of threshold	0(100%)	Set the brightness value when switched on.
66	Fade time for switch ON of threshold (0255s)	0(3)255s	Set the switch on fade time.
67	Fade time for switch OFF of threshold (0255s)	0(3)255s	Set the switch off fade time.
68	Threshold 1 value is (0255)	0(80)255	Set the value for threshold 1
69	Threshold 2 value is (0255)	0(180)255	Set the value for threshold 2
70	Input value <=Lower threshold	-Unchanged -ON -(OFF)	Set the <= lower threshold input value status- Unchanged: The switch position will not change. ON: The swich position is set to ON. OFF: The switch position is set to OFF.
71	Lower threshold< =Input value< =Upper threshold	-Unchanged -(ON) -OFF	Set the status for the lower threshold <=input value<=upper threshold- Unchanged: The switch position will not change. ON: The swich position is set to ON OFF: The switch position is set to OFF

72	Input value> Upper threshold	-Unchanged -ON -(OFF)	Set the upper input threshold value status-
			Unchanged: The switch position will not change.
			ON: The swich position is set to ON.
			OFF: The switch position is set to OFF.
73	Change threshold 1 via	-Enable	Enable/disable the threshold 1
	bus	-(Disable)	function-
			Enable: The value of threshold 1 can be changed from the bus.
			Disable: The value of threshold 1 can not be changed from the bus.
74	Change threshold 2 via	-Enable -(Disable)	Enable/disable the threshold 2
			Enable: The value of threshold 1 can be changed from the bus.
			Disable: The value of threshold 1 can not be changed from the bus.

General	A:I	ogic
Channel A A>dimming config A:function A:function A:staircase light A:scene A:threshold A:logic A:heating Channel B B>dimming config Channel C C>dimming config Channel C D>dimming config Channel E E>dimming config Channel F F>dimming config	Logic connection 1 enable Function of logic block1 Object value of logic connection 1 after bus voltage recovery Result of logic block1 inverted Logic connection 2 enable Function of logic block2 Object value of logic connection 2 after bus voltage recovery Result of logic block2 inverted	Enable AND "0" No Enable AND "0" No No No No

No.	ETS-Parameter	Range (default)	Description
75	Logic connection 1 enable	-Enable -(Disable)	Enableor disable logic connection 1.
76	-Function of logic block	-(And)	Set the logic block 1 functions-
	1	-OR -XOR -GATE	And: Boolean calculation is according to <i>"AND"</i> .
			OR: Boolean calculation is according to "OR".
			XOR: Boolean calculation is according to "XOR".
			GATE: When the Condition 1 is set to '1', the channel will pass through logic block 1 to logic block 2.
77	Object value of logic	-('0')	Send the logic 1 connection parameters
	connection 1 after	- '1'	after bus voltage recovery.
	bus voltage recovery		
78	Result logic of block 1	-Yes	Enable or disable the inversion of results
79	Logic connection 2	-Enable	Enable or disable logic connection 2.
	enable	-(Disable)	
80	-Function of logic block	-(And) -OR	Set the logic block 1 functions-
		-XOR -GATE	And: Boolean calculation is according to <i>"AND"</i> .
			<i>OR: Boolean calculation is according to "OR".</i>
			XOR: Boolean calculation is according to "XOR".
			GATE: When the Condition 1 is set to '1', the channel will pass through logic block 1 to logic block 2.
81	-Object value of logic connection 2 after bus voltage recovery	-('0') - '1'	Send the logic 2 connection parameters after bus voltage recovery.
82	Result logic of block 2inverted	-Yes -(No)	Enable or disable the inversion of results from logic block 2.

### 2.2.6 heating

Channel	A	A:h	eating
A>dimmi A:functic	ng config n	Brightness value for switch ON of heating	100%(255)
A:stairca A:flashin	se light 9	Fade time for switch ON of heating(0255s)	1
A:scene A:thresh	old	Fade time for switch OFF of heating(0255s)	1
A:logic A:heatin		PWM cycle time set(165535min)	1
Channel B>dimmii Channal	B ng config	PWM cycle time set(059sec)	0
Channel C>dimmii Channal	ng config	Control telegram is received as	1bit pwm("ON"-start,"OFF"-stop)
D>dimmi Channel	ng config	The scale of ON	50%(128)
E>dimmi Channel	ng config	Running automatically after bus voltage recovery	NO
F>dimmir	ng config	Forced position of P'WM	No
		OK Can	cel Default Info Help
	ETS-Parameter	OK Can Range (default)	cel Default Info Help Description
	ETS-Parameter Brightness value for switch ON of heating	OK Can Range (default) 0(100%)	cel Default Info Help Description Set the brightness value for when heating is switched on.

85	Fade time for switch OFF of heating (0255s)	0(1)255	Set the rate at which the heating intensity decreases when switched OFF.
86	PWM cycle time set(165535min)	(1)65535min	Set the PWM cycle time.
87	PWM cycle time set(059Sec)	(0)59Sec	Set the PWM cycle time.
88	Control telegram is received as	-(1 bit pwm("ON"-start,"OFF"- stop)) -1 byte ("255"-ON, "0"-OFF, other value)	Set the control type- 1 bit PWM (1-start/0-stop): If telegram "1" is received, the PWM will start, if telegram "0" is recieved, the PWM will stop. 1 byte ("255"-ON, "0"-OFF, other value): If telegram "255" is recieved , the PWM will switch ON. If telegram "0" is received, the PWM will stop and the PWM status will be set accordingto the other value(1254).
89	The scale of ON	<mark>1(50%)100%</mark>	Set the value for scale of ON
90	Running automaticallly after bus voltage recovery	-(NO) -Defined valve -Recovery	Set the PWM parameters- No:The PWM will run a customised value. Defined Valve: The PWM will run a defined value. Recovery: The PWM will run automatically.
91	-Position of the valve	<mark>0(50)100%</mark>	Set the value for position of the valve
92	Forced position of PWM	-Yes -(No)	Enable or disable the forced PWM position.

### D. Communication objects

Object	"Gen	eral"			
<b>□</b> ≹ 0	General	Heartbeat telegram		1 bit (	C T - 1 bit DPT_Enable
<b>⊒</b> ‡ 0	General	Heartbeat telegram		1 bit (	C T - 1 bit DPT_Enable
	General	Heartbeat telegram		1 bit 0	C T - 1 bit DPT_Enable
⊒‡1	General	Sequence 1		1 bit (	C - W - U 1 bit DPT_Start
■【2	General	Sequence 2		1 bit (	C - W - U 1 bit DPT_Start
⊒द्य 3	General	Sequence 3		1 bit (	C - W - U 1 bit DPT_Start
<b>⊒</b> ‡ 4	General	Sequence 4		1 bit (	C - W - U 1 bit DPT_Start
■2 5	General	Sequence 5		1 bit (	C - W - U 1 bit DPT_Start
NO.		Objectname	Function	Flags	Data type
0		General	Heartbeat telegram	СТ	DPT 1.003
					1bit
0		General	Heartbeat telegram	СТ	DPT 1.003
					1bit
0		General	Heartbeat telegram	СТ	DPT 1.003
					1bit
These co	วททเ	unication obiects are used to	enable or disable the heartb	eat telegram funct	tion. If enabled the
heartbe	at tel	egram will be sent, if disable	d it will not be sent.		
1		General	Sequence1	CWU	DPT 1.010
					1bit

2	General	Sequence 2	CWU	DPT1.010		
				1bit		
3	General	Sequence 3	CWU	DPT 1.010		
				1bit		
4	General	Sequence 4	CWU	DPT1.010		
				1bit		
5	General	Sequence 5	CWU	DPT 1.010		
				1bit		
These communication objects are used to enable or disable sequences. If telegram "0" is sent the sequences						
will be disabled, if telegram "1" is sent the sequences will be enabled.						

### D 1 Channel N output (All channel's setting is same, here take output A as an example)

Objects "O	utput N″				
[武] 10 Ou [武] 11 Ou [武] 12 Ou	utput A Chan utput A Relati utput A Absol	hel output ve dimming(4bit) ute dimming(8bit)		1 bit C - W - U 4 bit C - W - U 1 Byte C - W - U	
NO.	Object name	Function	Flags	Data type	
10	Output A	Channel output	CWU	DPT1.001	
				1bit	
This comm	unication object is ι	ised for channel output, and	d can control ON/OFF.		
11	Output A	Relative dimming (4	CWU	DPT3.007	
		bit)		4bit	
This comm	unication object is ι	ised for relative dimming. V	When the "increase" tel	egram is received, the value	
will go UP.	When the "decreas	e" telegram is received, the	value will go down.		
12	Output A	Absolute dimming (8	CWU	DPT5.001	
		bit)		1byte	
This communication object is used for absolute dimming. When the absolute dimming telegram is received,					
the lights will be dimmed according to the telegrams value.					

Objects "Response state"

■2 13 ■2 14	Output A Output A	Respone state(1 Respone state(1	bit) byte)		1 bit CR - T - 1 Byte CR - T -
NO.	Object name		Function	Flags	Data type
13	Output A		Response state (1bit)	CRT	DPT1.001
					1 bit
This com	munication obje	ct is used fo	r response the state, when t	he response state is	"1", the channel is ON. If
the respo	onse state is "O",	the channe	l is OFF.		
14	Output A		Response state (1 byte)	CRT	DPT5.001
					1 byte
This communication object is used for the response state of the output channel brightness.					

Objects	s " Statistic ON tim	ie"		
■試15 ■試16	Output A Output A	R/W total ON time Alarm when total ON time out		2 Byte C R W T U 1 bit C R - T -
NO.	Object name	Function	Flags	Data type
15	Output A	R/W total ON time	C R W T U	DPT7.007
				2 byte
This cor every h	mmunication obje our.	ct is used if the initial value is cha	nged. The Statistical	ON time will increase again
16	Output A	Alarm when total	CRT	DPT1.005
		ON time out		1 bit
This cor set valu	mmunication obje Ie.	ct is used to trigger an alarm, wh	en the statistical ON	time has reached the maximum

Objects	Objects "Staircase light"							
<b>■</b> 2,17	Output A	Staircase ligi	nt		1 bit	C - W - U 1 bit DPT_Switch		
<b>⊒</b> द्ग18 <b>⊒</b> द्ग19	Output A Output A	Change staircase light Alarm staircase light			2 Byte 1 bit	C - W - U C R - T		
NO.	Objec	t name	Function	Flags		Data type		

17	Output A	Staircase light	C W U	DPT 1.001				
				1 bit				
This com	This communication object is used for staircase lighting. If telegram "1" is received, the staircase lighting will							
be activa	ted. If telegram "0" is rece	ived, the staircase lig	hting will be deactiva	ted.				
18	Output A	Change staircase	CWU	DPT7.005				
		light time		2 byte				
19	Output A	Alarm case light	CRT	DPT 1.005				
				1 bit				
This communication object is used to change the staircase lighting illumination time.								

Objec	ts "flash"					
<b>■</b> 20	Output A Fla	shing		1 bit C - W - U 1 bit DPT_Switch		
No	Object name	Function	Flags	Data type		
20	Output A	Flashing	CWU	DPT1.001		
				1 bit		
This	This communication object is used for the flashing function. When the start value is recieved, the lighting					
chann	nel will flash.					

Objects "Scene"						
대21 C 대222 C	Dutput A Scene(8bit) Dutput A Scene dimmi	rg(4bit)	1 By 4 bit	e C - W - U C - W - U 3 bit controlled		
NO.	Object name	Function	Flags	Data type		
21	Output A	Scene(8 bit)	CWU	DPT18.001		
				1 byte		
This comm	unication object is used	to call or save the channel of	output scene.			
22	Output A	Scene dimming (4bit)	C W U	DPT 3.007		
				4 bit		
This communication object is used for scene dimmina						

Objects	"threshold"						
■君23	Output A	Threshold input		2 Byte	с-	w -	U
교라 24	Output A	Change threshold 1		2 Byte	С -	w -	U
교려 25	Output A	Change threshold 2		2 Byte	С -	w -	U
NO.	Object name	Function	Flags	Data type			

APPLICAT	ION PROGRAM INFORM	ATION –Dimmer 6 fold 1	.0V Actuator, M/E	DA6.10.1- Version 1.0	)L
23	Output A	Threshold input	CWU	DPT 5.004	
				1 byte	
This comm	unication object is used for	threshold input. The input	value is compared	with threshold 1 and	
threshold 2	2.				
24	Output A	Change threshold 1	C W U	DPT5.004	
				1 byte	
25	Output A	Change threshold 2	C W U	DPT5.004	
				1 byte	
This comm	unication object is used to	change threshold 1 or 2 via	the bus network.		

Objects "logic"									
■컱26 ■컱27 1	0	lutput A lutput A	Logic connection 1 Logic connection 2		1 bit 1 bit	C - W - U 1 bit DPT_Bool C - W - U 1 bit DPT_Bool			
NO.		Object na	ame	Function	Flags	Data type			
26		Output A		Logic connection 1	CWU	DPT 1.002			
						1bit			
27		Output A		Logic connection 2	CWU	DPT 1.002			
						1 bit			
These c	com	munication	objects are used	to set the logic state.					

Objects heating"								
<b>⊒</b> ≵28 — 1	Output A Heat	1 bit C - W - U 						
NO.	Object name	Function	Flags	Data type				
28	Output A	Heat with 1 bit	CWU	DPT 1.001				
		control		1 bit				
This communication object is used for the heating actuator, if telegram "1" is received the PWM will start. If								
telegram "0" is received the PWM will stop.								
⊒28 —	Output A Heat	1 Byte C - W - U						
28	Output A	Heat with 1 byte	C W U	DPT5.004				
		control		1 byte				
This com	munication is used to m	nodify the PWM value by receiv	ving 1 byte data. If	telegram "255" is received,				
the output will be on. If telegram "O" is received, the output will be OFF.								

--- End of Document --