





CU-DIN DIM 4-CH 1.5A KNX

EC10430312

MA00651301

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1 Description

The ESYLUX CU-DIM 4-CH 1.5A KNX uses KNX/EIB BUS to communicate with other KNX devices. The database must be downloaded to the dimmer actuator VD4 AB version, as well as the description document on how to use these products. Our products are compliant with standards for electromagnetic compatibility (EMC), electrical safety and environmental conditions. The dimmer actuator control a number of loads, including:

- Lighting
- Motor
- Curtain
- Heating
- Other equipment

Note: Use this product only as intended (as described in the user instructions). Do not make any changes or alterations as this will render any warrantees null and void. You should check the device for damage immediately after unpacking it. If there is any damage, you should not install the device under any circumstances.

If you suspect that safe operation of the device cannot be guaranteed, you should turn the device off immediately and make sure that it cannot be operated unintentionally.

2 Safety instructions

- Work on the 230 V power system must be carried out by authorized personnel only, with due regard to the applicable installation regulations.
- Switch off the power supply before installing the system.
- The 21 30 V KNX bus voltage cannot be used as 24 V DC operating or auxiliary voltage.
- Max. dimmer output: 1.5 A



3 Product function

The dimmer actuator can dim over one, two, four or six channels independent of AC load.

Each channel output has maximum 1.5A current for dimmer 4fold actuator and cannot exceed 6A of total current.

The following functions can be set individually for each output channel:



- Total ON time statistics
- Response status
- Recovery status
- Over-temperature protection
- Read temperature
- Over-temperature alarm
- Staircase light
- Flashing light
- Scene control
- Scene dimming
- Sequence control
- Threshold switch
- Heating actuator (PWM)

4 Hardware

Technical characteristic of ESYLUX KNX/EIB Dimmer actuators are discussed in the following sections.

4.1 Technical data

Power supply		
 Operating voltage (supply by the bus) 	21–30 V 🔜	
 Current consumption EIB/KNX (operate) 	<15 mA	
 Current consumption 	<5 mA	





EIB/KNX(standby)	
 Power consumption EIB/KNX(operate) 	<450 mW
 Power consumption EIB/KNX(standby) 	<150 mW

Nominal output values

•	
 Number of contacts 	4
In rated current	1.5 A
 Power loss per device at max. load 	8 W
 In rated voltage 	230 V~

Output life expectancy		
Mechanical life	50 years	
Electrical life	20 years	
Dimmor actuator output without additional DC power		

Dimmer actuator output without additional DC power

• EIB/KNX	Bus connection terminal 0.8 mm Ø, single core
Load circuits	Screw terminal with slotted head 0.2–4 mm ² multi-core 0.4–6 mm ² single core
Cable shoe	12 mm
Tightening torque	Max. 0.8 Nm

Operation and display

• Red LED and EIB/KNX program button for assignment of the physical address.

Temperature range			
Operation	-5°C to +45° C		
Storage	-25°C to +55° C		
Transport	-25°C to +70° C		
Environmental conditions			
Humidity	max. 95% Non- condensing		





Appearance design • Modular DIN rail modular installation 90 x 216 x 65 • Dimensions (H x W x D) • Width W (mm) 216 • Mounting width (1P=18 12P mm) • Mounting depth (mm) 65 • Weight (kg) 0.49 • Installation use 35-mm mounting rail • Mounting position Electric dimmer box

Material and colour
 Plastic, White

CE Mark in accordance with

• EMC Standard	2004/1008/EC
LVD Standard	2006/95/EC
• RoHS	2011/65/EU

Note: All loads, at 230 V ~		
Programming requires the EIB Software Tools ETS3.0E		
 Max. number of communication objects 	90	
 Max. number of group addresses 	254	
Max. number of associations	254	





4.2 Dimming mode

4.2.1 Trailing edge dimming mode

If in trailing edge dimming mode, the red LED lashes for five seconds at power on.



Note: This mode should be used for resistive and capacitive loads. **For example**. Tungsten halogen lamp – mains voltage, incandescent lamp and low-voltage tungsten halogen lamps with electronic transformers.

4.2.2 Leading edge dimming mode

If in leading edge dimming mode, the red LED flashes for five seconds at power on.



Note: This mode should be used for Inductive and resistive loads. **For example** Tungsten halogen lamp – mains voltage, incandescent lamp, low-voltage tungsten halogen lamps with conventional transformers and motors.



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4.2.3 Changing dimming mode

Press the grey buttons simultaneously to change the dimming mode. The LED button flashes for five seconds.



Note: Press and hold the first and last buttons simultaneously to toggle between leading edge dimming mode and trailing edge dimming mode.

4.3 Dimensional drawings





4.4 Wiring diagram

Note: On the input side, the device is to be protected against short circuits with a 6 A circuit breaker.



- 1. Label area
- 2. Power input
- 3. KNX/EIB Bus Connector
- 4. Programming button and programming LED
- 5. Contact position indication and manual operation
- 6. LED state
- 7. Terminal for load connection sequence

Note:

a) Dimensions of the space provided for each dimmer

b) Dimensions and position of the means for supporting and fixing the dimmer within this space

c) Minimum clearance between the various parts of the dimmer and the surrounding parts where fitted

d) Minimum dimensions of ventilation opening, if needed, and their correct arrangement

e) Protective devices (fuses, automatic protective devices, etc.) to connect to the load to prevent overload





4.5 Maintenance and cautions

- Please read this user manual carefully before any operation.
- Do not operate close to interfering devices.
- Use in a cool, well ventilated environment.
- Protect from moisture, shocks and dust.
- Protect from rain, liquids and caustic gases.
- Contact professional maintenance staff or the ESYLUX service centre for repairs.
- Remove dust regularly, but do not wipe the unit with volatile liquids, such as alcohol and petrol.
- If the unit comes into contact with moisture or liquid, switch the unit off immediately.
- Regularly check the circuitry and other related circuits or cables, and replace outdated circuitry in a timely manner.
- For safety, connect all circuits to a miniature circuit breaker (MCB) or fuse.
- The installation location should be well ventilated and protected from moisture, shocks and dust.

5 Software

The ESYLUX KNX/EIB dimmer actuator database uses VD4 ETS 3.0e for design. The device type is CU-DIN DIM 4-CH 1.5A KNX, and the database name is Dimmer 4fold Actuator. All interfaces and functions use specific parameters. Please see the overview below.

Each output channel of the dimmer actuators are independent and identical. It is therefore sufficient to understand how one operates. The following section describes the first output channel in detail.



5.1 Overview of database functions

The following table provides an overview of the functions and some parameters involving switch actuators:

General	
Cycle telegram (heartbeat)	X
 System delay after recovery 	x
Sequence	x
Channel	
 Total ON time statistics 	x
 Recovery state voltage 	x
 Over-temperature protection 	x
 Read temperature 	x
Dimming	
 ON/OFF switch 	x
 Relative dimming 	x
 Absolute dimming 	x
Function	
Scene	x
 Scene Nos. 1–64 	x
Threshold	
 Lower threshold 	x
 Middle threshold 	x
 Upper threshold 	x
Heating actuator	
• PWM	x

Table 1: Database application overview

5.2 **Object/Association/Group address definition**

In the following table, objects are assigned to the same function of the output channel pages. If active, the same functions and object are valid. One or more



group addresses can be assigned to an object. The association connects group addresses to the object.

Туре	Max. number of communication objects	Max. number of associations	Max. number of group addresses
EC10430312	90	254	254

Table 2: Overview of the max. number of objects, max. number of associations and max. number of group addresses.

5.3 "General" function parameter

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ETS Edit Workplace Comm	nissioning Diagnostics Extras Wind	low			^ ()
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Devices 🔻	1.1 CU-DIN DIM 4-CH 1.5A KN	X > General			
Dynamic Folders					0
I.1 CU-DIN DIM 4-CH 1.5	General	System delay operation after recovery(2255s)	2 *		0
C General - Send cycles	Channel A	Cuela accel access telescore (1.65535a.0			**
IU: Output A - Channel o I1: Output A - Relative di		invalid)	0 -		
2 30: Output B - Channel o	A>dimming config				
2 31: Output B - Relative di	Channel B	The load type is	Leading edge dimming Trailing edge dimming		
■≵ 50: Output C - Channel o	Padimmina confin		 Training edge dimining 		
■2 51: Output C - Relative di	s>dimming comig	Enable sequence 1	Oisable C Enable		
70: Output D - Channel o	Channel C				
■2 71: Output D - Relative di	C>dimming config	Enable sequence 2	Disable Enable		
	Channel D	Enable sequence 3	Disable		
	D>dimming config	Enable sequence 4	Disable		
		Enable sequence 5	Disable		
	Group Objects Parameter				
<no *<="" interface="" s="" td=""><td></td><td>1.1 New line</td><td>1.1 M/D04.1</td><td>Default</td><td></td></no>		1.1 New line	1.1 M/D04.1	Default	

Fig. 1: "General" parameter window

In the general parameter window, seven parameters for "System delay after recovery" and "Cycle send general telegram and enable sequences 1-5" are available.





• System delay after recovery (2..255s)

Delay time of 2 to 255 seconds after power on to operate relay. The default value is 2 seconds. The min. value is 2 seconds, and the max. value is 255 seconds.

Options: 2...255s

The timer starts at power on. At time out, dimming can be set to take place. This function is selected by the user.

• Cycle send general telegram (1..65535s,0-invalid)

The range of the parameter is 1 to 65535 seconds. Zero disables the function; non-zero enables the function

Options: 1...65535s

If set to a non-zero value, the device sends telegram data cyclically at time out. Send the value alternately between 0 and 1.

• Enable sequence 1

Set enable for the sequence.

Options: Disable

Enable

Disable: Disable the sequence function

Enable: Enable the sequence function, set as follows



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Devices -	1.1 CU-DIN DIM 4-CH 1.5A KM	IX > G:sequence 1		
Dynamic Folders 1.1 CU-DIN DIM 4-CH 1.5	General	Occurrence of the second of the	Charle with 191 Charle with 101	. 1
2 0: General - Send cycles	C	Operation mode of the sequence i	start with 1,stop with 0	
■ 1: General - Sequence 1	Gisequence 1	Control mode of the sequence 1	FWD	•
I0: Output A - Channel o I1: Output A - Relative di	Channel A	Runing mode of the sequence 1	Single Scycle	
all 30: Output B - Channel o	A>dimming config			
2 31: Output B - Relative di	Channel B	Runing time(0255 hours,0h&0m-unlimited)	0	× 7
50: Output C - Channel o	Pa dimening section	Runing time(059 mins,0h&0m-unlimited)	0	k Y
70: Output D - Channel o	b>dimming comig			
■2 71: Output D - Relative di	Channel C	Position after running time out	Invalid	•
	C>dimming config	Total 24 steps, configuration as following:		
	Channel D	>>Step 1 configuration	Invalid	
	D>dimming config	Time for step 1 (065535s)	5	k r
		Time for step 1 (0999ms)	0	r V
		>>Step 2 configuration	Invalid	•
		Time for step 2 (065535s)	5	r r
		Time for step 2 (0999ms)	0	r v
		>>Step 3 configuration	Invalid	
		Time for step 3 (065535s)	5	r F
		Time for step 3 (0999ms)	0	λ. Υ
		>>Step 4 configuration	Invalid	
	Group Objects Parameter			
con interface c		11 New Fee	11- CLEDIN DIM 4-CH 154 KNY	Default

Fig. 1.1: "G: sequence 1" parameter window. This includes 24 steps.

•Operation mode of sequence 1

Set the operation mode.

Options: Start with "1", stop with "0" Start with "0", stop with "1" Start with "1/0", cannot stop

Start with "1", stop with "O": If 1 is received, run sequence 1, if 0 is received, stop sequence 1.

Start with "O", stop with "1": If O is received, run sequence 1, If 1 is received, stop sequence 1.

Start with "1/0", cannot stop: If 1 or 0 is received, start sequence 1.

• Control mode of sequence 1

Set the control mode.

Options: FWD REW Random FWD: Forward mode REW: Back work mode







RANDOM: Random mode

•Run mode of sequence 1 Set run mode Options: Single Cycle Single: Run only ones. Cycle: Run cycle.

•Run time (0...255hours,0h&Om-unlimited) Set the sequence run time. Options: 0-255

•Run time (0...59mins, Oh&Om-unlimited) Set the sequence run time. The longest time is 59 minutes. Options: 0-59 Note: Unlimited if the time is set to Oh&Om.

Position after timeout

If the sequence is running in Cycle mode and run time greater than zero, after timeout, the sequence returns to this set position.

With 24 steps, the configuration is as follows:

•-Step 1 configuration Options: Invalid Scene No. 01 ... Scene No. 64

• Time for step 1 (0...65535s)

Set the time for this step. The longest time is 65535 seconds.

•-Time for step 1 (0...999ms)

Set the time for this step. The longest time is 999 milliseconds.

The other steps are identical to those in step 1.



5.4 Channel "N" function parameter

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Devices 🔹	1.1 CU-DIN DIM 4-CH 1.5A KN	(> Channel A			
Dynamic Folders					0
🔺 🔲 1.1 CU-DIN DIM 4-CH 1.5	General	The response of channel state(1bit)	1bit only changed	•	Ō
■之 0: General - Send cycles ■之 1: General - Sequence 1	G:sequence 1	The response of channel state(1bvte)	1byte only changed	•	<u>٢</u>
10: Output A - Channel o	Channel A	Statistics total ON time to allow			
 II: Output A - Relative di II: Output A - Respone st 	A>dimming config	(065535h=7.4years)	Uisable Inable		
14: Output A - Respone st	Channel B	Alarm when time out(165535h,0-invalid)	30000	÷.	
16: Output A - Alarm whe	B>dimming config	Transmit telegram interval when alarm(1255s)	10	*	
■之 30: Output B - Channel o ■之 31: Output B - Relative di	Channel C	The status after bus voltage recovery	OFF	•	
50: Output C - Channel o	C>dimming config	Over temperature protection	Invalid	•	
■↓ 51: Output C - Relative di	Channel D	Read temperature(Deorees Celsius)	Disable Enable		
■2 71: Output D - Relative di	D>dimming config	No. incomposition (1000((205))		
		Maximum level	100%(255)	·	
		Upper threshold level	100%(255)	•	
		Lower threshold level	0%(0)	•	
		Dimming minimum level	0%(0)	•	
		Show the function page ==>>	Disable		
	Group Objects Parameter				
<no +<="" interface="" s="" td=""><td></td><td>1.1 New line</td><td>1.1 CU-DIN DIM 4-CH 1.5A KNX</td><td></td><td>Default</td></no>		1.1 New line	1.1 CU-DIN DIM 4-CH 1.5A KNX		Default

Fig. 2: "Channel N" parameter (N=A,B,C...) windows

Use the "Channel N" parameter windows, to set some common functions. Select the function and download the database to the device; the device will work in accordance with the selected function.

• Response of channel state

If the dimmer is controlled, response is the result.

Options: Invalid

- 1 bit always response
- 1 bit only changed
- 1 byte always response

1 byte only changed

1 bit always response: It always responds,

If the channel is ON, response 1

If the dimmer is OFF, response 0

1 bit only changed: Response if the dimmer state has changed





• Total ON time statistics to allow (0...65535h=7.4years)

ETS5™ - CU-DIN DIM 4 1.5A KNX					
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Dynamic Folders	1.1 CU-DIN DIM 4-CH 1.5A KNX	> Channel A			0
🔺 🚺 1.1 CU-DIN DIM 4-CH 1.5	General	The response of channel state(1bit)	1bit only changed	•	ŏ
■之 0: General - Send cycles ■之 1: General - Sequence 1	G:sequence 1	The response of channel state(1bvte)	1byte only changed	•	\$
10: Output A - Channel o	Channel A		,,		
■2 11: Output A - Relative di ■2 13: Output A - Respone st	A>dimming config	Statistics total ON time to allow (065535h=7.4years)	O Disable I Enable		
14: Output A - Respone st	Channel B	Alarm when time out(165535h,0-invalid)	30000	A V	
15: Output A - R/W total	B>dimming config	Transmit telegram interval when alarm(1255s)	10	* *	
■之 30: Output B - Channel o ■之 31: Output B - Relative di	Channel C	The status after bus voltage recovery	OFF	•	
■之 50: Output C - Channel o ■之 51: Output C - Relative di	C>dimming config	Over temperature protection	Invalid	•	
70: Output D - Channel o	Channel D	Read temperature(Degrees Celsius)	Disable		
	D>dimming config	Maximum level	100%(255)	•	
		Upper threshold level	100%(255)	-	
		Lower threshold level	0%(0)	•	
		Dimming minimum level	0%(0)	•	
		Show the function page ==>>	Disable		
	Group Objects Parameter				
<no a<="" interrace="" s="" td=""><td></td><td>1.1 New line</td><td>1.1 CU-DIN DIM 4-CH 1.5A KNX</td><td>Default</td><td></td></no>		1.1 New line	1.1 CU-DIN DIM 4-CH 1.5A KNX	Default	

Fig. 2.1: "Total ON time statistics to allow"

This function is used to calculate the total ON time for channel output. The maximum time is 65535 hours. This function is very useful for knowing the channel work status.

Options: **Disable Enable Disable:** No timing.

Enable: Statistics time.

•Alarm at timeout (1...65535h,0-invalid)

If the device's operating time reaches the set value, an alarm is triggered. The value range is 1 to 65535 hours; 0 is invalid.





• Transmit telegram interval at alarm

Set the alarm time interval.

• Status after bus voltage recovery

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Dynamic Folders	1.1 CU-DIN DIM 4-CH 1.5A KN	(> Channel A		
🔺 🔲 1.1 CU-DIN DIM 4-CH 1.5	General	The response of channel state(1hit)	Invalid	
■↓ 0: General - Send cycles ■↓ 1: General - Sequence 1	G:sequence 1	The response of channel state(lbste)	Invalid	<u>م</u>
10: Output A - Channel o	Channel A	The response of channel state(rojte)		
11: Output A - Relative di	As dimming config	Statistics total ON time to allow (065535h=7.4years)	Disable	
30: Output B - Channel O 31: Output B - Relative di	At dimining coming	The status offer how where some set	Defined briefdense solut	
2 50: Output C - Channel o	Channel B	The status after bus voltage recovery	Defined brightness value	
■2 51: Output C - Relative di	B>dimming config	Brightness value	0%(0) -	
■之 70: Output D - Channel o				
■之 71: Output D - Relative di	Channel C	Over temperature protection	Invalid	
	C>dimming config	Read temperature(Degrees Celsius)	Disable	
	Channel D	Maximum level	100%(255)	
	D>dimming config	Upper threshold level	100%(255) -	
		Lower threshold level	0%(0) -	
		Dimming minimum level	0%(0) -	
		Show the function page ==>>	Disable	
	Group Objects Parameter			
<no +<="" interface="" s="" td=""><td></td><td>1.1 New line</td><td>1.1 CU-DIN DIM 4-CH 1.5A KNX</td><td>Default</td></no>		1.1 New line	1.1 CU-DIN DIM 4-CH 1.5A KNX	Default

Fig. 2.2: "Status after bus voltage recovery"

Set the status of restore mode after power on for each channel.

Options: Off

Defined brightness value Last brightness value

Off: After power on, with the channel's status off.

Defined brightness value: After power on, the channel's status is at the defined brightness value

Last brightness value: After power on, the channel's status is at last brightness value.





• Over-temperature protection

Set the mode of the channel if there is over-temperature.

Options: Invalid Alarm Off

Reduce power

Invalid: No function.

Alarm: If there is over-temperature, the alarm is triggered.

OFF: If there is over-temperature, the device switches OFF.

Reduce: If there is over-temperature, the device reduces power.

Reference - CU-DIN DIM 4 1.5A KNX	1				
ETS Edit Workplace Comm	nissioning Diagnostics Extras Windo	w			^ ()
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🔺 🔲 1.1 CU-DIN DIM 4-CH 1.5	General	The response of channel state(1bit)	Invalid	•	0
■之 0: General - Send cycles ■之 1: General - Sequence 1	G:sequence 1	The response of channel state(1byte)	Invalid	•	5
■ 10: Output A - Channel o	Channel A	Statistics total ON time to allow	Disable Enable		
17: Output A - Temperatu	A>dimming config	(065535h=7.4years)			
■之 30: Output B - Channel o	Channel B	The status after bus voltage recovery	OFF	•	
■ 50: Output C - Channel o	B>dimming config	Over temperature protection	Alarm	•	
 ■2 51: Output C - Relative di ■2 70: Output D - Channel o 	Channel C	Compare temperature for alarm base(Degrees	85(C)	•	
■ 71: Output D - Relative di	C>dimming config		e .	*	
	Channel D	Alarm temperature time interval(1.2555)	5	Ŧ	
	D>dimming config	Read temperature(Degrees Celsius)	Oisable Enable		
		Maximum level	100%(255)	•	
		Upper threshold level	100%(255)	•	
		Lower threshold level	0%(0)	•	
		Dimming minimum level	0%(0)	•	
		Show the function page ==>>	Oisable Enable		
	Group Objects Parameter				
<no +<="" interface="" s="" td=""><td></td><td>1.1 New line</td><td>1.1 CU-DIN DIM 4-CH 1.5A KNX</td><td>Default</td><td></td></no>		1.1 New line	1.1 CU-DIN DIM 4-CH 1.5A KNX	Default	

Alarm: If there is over-temperature, the alarm is triggered.

Fig. 2.3: "Over-temperature protection"

• Compare temperature protection

Set the standard temperature. If the temperature exceeds the standard temperature, when the channel Protection is enabled. The range is 70–90.Alarm temperature time interval.







• The alarm telegram time interval range is 1–255.

Off: If there is over-temperature, the device switches off.

ETS5™ - CU-DIN DIM 4 1.5A KNX						- • ×
ETS Edit Workplace Comr	missioning Diagnostics Extras Wind	ow				^ ()
🛛 👩 Close Project 🖌 Undo 🥖	💊 Redo 🛛 🚔 Print 📰 Workplac	e 🔻 📗 Catalogs 🛛 📰 Diagnostics				
Devices 🔻						N 🗆 🗡 🧹
🕂 Add i 🔹 🗙 Delete ± Downi	load 🔹 🥒 Highlight Changes 🛛 Default P	arameters			Search	
Devices •	1.1 CIL-DIN DIM 4-CH 1.54 KN					
🖻 🛅 Dynamic Folders						0
4 🔲 1.1 CU-DIN DIM 4-CH 1.5	General	The response of channel state(1bit)	Invalid	-		0
■之 0: General - Send cycles ■之 1: General - Sequence 1	G:sequence 1	The response of channel state(1bvte)	Invalid	•		٢
■之 10: Output A - Channel o	Channel A					
 ■2 11: Output A - Relative di ■2 17: Output A - Temperatu 	A>dimming config	Statistics total ON time to allow (065535h=7.4years)	Disable C	Enable Enable		
30: Output B - Channel o	Channel R	The status after bus voltage recovery	OFF	•		
31: Output B - Relative di	Channel b					
50: Output C - Channel o	B>dimming config	Over temperature protection	OFF	*		
■之 51: Output C - Relative di ■之 70: Output D - Channel o	Channel C	Compare temperature for OFF base(Degrees Celsius)	85(C)	•		
■2 71: Output D - Relative di	C>dimming config	Alarm temperature(Degrees Celsius)	Disable	Enable		
	Channel D					
	D>dimming config	Alarm temperature time interval(1255s)	5	*		
		Read temperature(Degrees Celsius)	Disable) Enable		
		Maximum level	100%(255)	•		
		Upper threshold level	100%(255)	•		
		Lower threshold level	0%(0)	•		
		Dimming minimum level	0%(0)	•		
		Show the function page ==>>	Disable C) Enable		
	Group Objects Parameter					
<no *<="" interface="" s="" td=""><td>,</td><td>1.1 New line</td><td>11</td><td>1 CU-DIN DIM 4-CH 1.5A KNX</td><td>Default</td><td></td></no>	,	1.1 New line	11	1 CU-DIN DIM 4-CH 1.5A KNX	Default	

Fig. 2.3: "Over-temperature protection"

• Compare temperature protection

Set the standard temperature, and the devices switch off if the temperature exceeds it. The range is 70–90.

• Alarm temperature (degrees Celsius)

Set the standard temperature, and an alarm is triggered if the temperature exceed it.

• Alarm temperature time interval (1...255s)

The time interval range is 1–255.



Reduce power: If there is over-temperature, the power decreases.

ETS5™ - CU-DIN DIM 4 1.5A KNX						
ETS Edit Workplace Comm	nissioning Diagnostics Extras Windo	w				^ ()
🛛 👩 Close Project 🛛 🏠 Undo 🦯	🔪 Redo 🛛 🚔 Print 📄 Workplace	🔹 📗 Catalogs 🛛 🔤 Diagnostics				
Devices 🔻						∧ □ × <
🕂 Add 🔹 🗙 Delete 🛨 Downle	oad 🔻 🥒 Highlight Changes 🛛 Default Pa	rameters			Search	P
Devices •		A Channel A				~
Dynamic Folders	1.1 CO-DIN DIM 4-CH 1.5A KN7	> Channel A				0
🔺 🔳 1.1 CU-DIN DIM 4-CH 1.5	General	The response of channel state(1bit)	Invalid	-		Õ
■之 0: General - Send cycles ■之 1: General - Sequence 1	G:sequence 1	The response of channel state(1byte)	Invalid	•		£
2 10: Output A - Channel o	Channel A	Chaline and a CNI Aires to allow				
 11: Output A - Relative di 17: Output A - Temperatu 	A>dimming config	(065535h=7.4years)	Disable			
30: Output B - Channel o	Channel B	The status after bus voltage recovery	OFF	•		
■ 1 51: Output B - Relative di	B>dimming config	Over temperature protection	Reduce power	•		
 I S1: Output C - Relative di I 70: Output D - Channel o 	Channel C	Compare temperature for reduce power base (Degrees Celsius)	85(C)	•		
■之 71: Output D - Relative di	C>dimming config	Reduce the relative power value(-x%/5C)	-5%	•		
	Channel D	Aleren terrenetur (Deeren Celvius)	Disable Disable			
	D≻dimming config	Alarm temperature(Degrees Celsius)	Uisable Venable			
		Alarm temperature time interval(1255s)	5	Å T		
		Read temperature(Degrees Celsius)	Disable			
		Maximum level	100%(255)	•		
		Upper threshold level	100%(255)	•		
		Lower threshold level	0%(0)	•		
		Dimming minimum level	0%(0)	•		
		Show the function page ==>>	Disable			
	Group Objects Parameter					
<no *<="" interface="" s="" td=""><td></td><td>1.1 New line</td><td>1.1 CU-DIN DIM 4-CH 1.5A KNX</td><td></td><td>Default</td><td></td></no>		1.1 New line	1.1 CU-DIN DIM 4-CH 1.5A KNX		Default	

Fig. 2.4: "Over-temperature protection"

• Compare temperature base [70–90 (degrees Celsius)]

Set the standard temperature, and the devices reduce power if the temperature exceeds it. The range is 70–90.

• Power reduction value (-x%/5C)

Set the standard temperature, and an alarm is triggered if the temperature exceeds it.

• Alarm temperature (degrees Celsius)

Set the standard temperature, and an alarm is triggered if the temperature exceeds it.

•Alarm temperature time interval (1...255s)

The time interval range is 1–255.





• Read temperature (degrees Celsius) Set to enable read temperature.

Options: **Disable** Enable Disable: Do not read temperature Enable: Read temperature

Maximum level

Set the maximum level. Options: **0%(0)-100%(255)**

• Upper threshold level

Set the upper threshold level. Options: **0%(0)-100%(255)**

• Lower threshold level

Set the lower threshold level. Options: **0%(0)-100%(255)**

• Minimum dimming level

Set the minimum dimming level. Options: **0%(0)-100%(255)**



Fig. 2.5: Switch ON/OFF or Absolute dimming





Brightness



Fig 2.6: Relative dimming

• Show the function page

Set to enable, and show the function page.

Options: **Disable**

Enable

Disable: Don't show the dimmer function page.

Enable: Show the function page; the page is for setting dimmer functions.



5.5 A>dimming config

ETS5™ - CU-DIN DIM 4 1.5A KNX					• ×
ETS Edit Workplace Comm	missioning Diagnostics Extras Wind	ow			^ ()
🛛 👩 Close Project 🖌 Undo 🥖	💊 Redo 🛛 🚔 Print 📰 Workplac	e 🔻 💷 Catalogs 🛛 📰 Diagnostics			
Devices 🔻				∧ □	× <
🕂 Add 🔹 🗙 Delete ± Downl	load 🐐 🥒 Highlight Changes 🛛 Default Pi	arameters		Search	P 🗈
E Devices •					
Dynamic Folders	1.1 CO-DIN DIM +-CH 1.5A KW				0
4 🔲 1.1 CU-DIN DIM 4-CH 1.5	General	Switching ON fade time(0255s)	3		Ō
C: General - Send cycles	Gisequence 1				1
1: General - Sequence 1		Switching OFF fade time(0255s)	4		
10: Output A - Channel o 11: Output A - Relative di	Channel A	Fachle relative discoving	Disable Cashle		
12: Output A - Absolute d	A>dimming config	Enable relative dimining			
17: Output A - Temperatu		-Relative(4bits) dimming fade time	5		
■Z 30: Output B - Channel o	Channel B	(brightness0%100%/2255s)			
📫 31: Output B - Relative di	B>dimming config	-Relative dimming is saved as the brightness	NO VES		
📫 50: Output C - Channel o		of the switch			
■2 51: Output C - Relative di	Channel C	Enable absolute dimming	Disable Enable Enable		
70: Output D - Channel o	C>dimming config				
71: Output D - Relative di	Channel D	-Absolute(1byte) dimming fade time (brightness0%100%/0255s)	5		
	chamero	Abarban disercian is sound as the brinteness			
	D>dimming config	of the switch	NO VES		
	Group Objects Parameter				
<no interface="" s="" td="" 🔺<=""><td> , ,</td><td>1.1 New line</td><td>1.1 CU-DIN DIM 4-CH 1.5A KNX</td><td>Default</td><td>1</td></no>	, ,	1.1 New line	1.1 CU-DIN DIM 4-CH 1.5A KNX	Default	1

Fig. 3: A>dimming config

• Switching ON fade time (0...255s)

Set the time for the ON switch.

Note: brightness0%...100%/0..255s

• Switching OFF fade time (0...255s)

Set the time for switching OFF.

Note: brightness0%...100%/0..255





•Enable relative dimming Options: Disable Enable Disable: Do not allow relative dimming Enable: Allow relative dimming

Note: Relative dimming fade time (brightness0%...100%/0..255s); the data length is 4 bits

•Enable absolute dimming Options: Disable Enable Disable: Do not allow absolute dimming Enable: Allow absolute dimming

Note: Absolute dimming fade time (brightness0%...100%/0..255s); the data length is 1 byte





5.6 A: function

ETS5™ - CU-DIN DIM 4 1.5A KNX						_	x
ETS Edit Workplace Comm	nissioning Diagnostics Extras Wind	low				^	0
🛛 👩 Close Project 🖌 Undo 🥖	🔪 Redo 🛛 🚔 Print 📰 Workplac	ce 🔹 📗 Catalogs 🛛 📰 Diagnostics					
Devices 🔻					<u>^</u>		<
🕂 Add 🔹 🗙 Delete ± Downl	load 👻 🤌 Highlight Changes 🛛 Default F	arameters			Search	ρ	
Devices •	1.1 CU-DIN DIM 4-CH 1.5A KN	X > A:function					
Dynamic Folders	Count						0
1.1 CO-DIN DIM 4-CH 1.5	General	Enable function "staircase light"	🔘 Disable 💿 Enab	ble			5
1: General - Sequence 1	G:sequence 1	Enable function "flathing"	Dirable 🗿 Enak				
10: Output A - Channel o	Channel A	enable runction hashing		Jie			
11: Output A - Relative di		Enable function "scene"	Disable Inable	ble			
12: Output A - Absolute d	A>dimming config						
■之 17: Output A - Temperatu ■之 19: Output A - Staircase li	A:function	Enable function "threshold"	🔘 Disable 🔘 Enab	ble			
22: Output A - Flashing	A:staircase light	Enable function "heating"	🔘 Disable 🔘 Enab	ble			
23: Output A - Scene(8bit)	A:flashing	NOTE:Recommend to only use a funct	ion for a channel.				
25: Output A - Threshold							
28: Output A - Heat with	A:scene						
■2 30: Output B - Channel o	A:threshold						
■ 31: Output B - Relative di	A:heating						
2 51: Output C - Relative di	Channel B						
■之 70: Output D - Channel o ■之 71: Output D - Relative di	B>dimming config						
	Channel C						
	C>dimming config						
	Channel D						
	D>dimming config						
	Group Objects Parameter						
<no *<="" interface="" s="" td=""><td></td><td>1.1 New line</td><td>1.1 CU-DI</td><td>N DIM 4-CH 1.5A KNX</td><td>Default</td><td></td><td>.af</td></no>		1.1 New line	1.1 CU-DI	N DIM 4-CH 1.5A KNX	Default		.af

Fig. 4: Function window

This window makes it possible to set the functions below.

- Enable "staircase light" function
- Enable "flashing" function
- Enable "scene" function
- Enable "threshold" function
- Enable "heating" function



5.6.1 A: "Staircase light" function

ETS5™ - CU-DIN DIM 4 1.5A KNX					
ETS Edit Workplace Comm	nissioning Diagnostics Extras Wind	DW			^ (}
💊 Close Project 🖌 Undo 🥖	🔪 Redo 🛛 🚔 Print 🛛 📰 Workplac	e 🔹 🔢 Catalogs 🔤 Diagnostics			
Devices -					∧ □ × <
🕂 Add 🔹 🗙 Delete ± Downl	oad 🔻 🥒 Highlight Changes 🛛 Default Pi	arameters		Search	P
Devices 🔹	1.1 - CH-DIN DIM 4-CH 1.54 KN	(> A·flashing			
Dynamic Folders					0
🔺 🔲 1.1 CU-DIN DIM 4-CH 1.5	General	Flashing operation	Start with "1",Stop with "0"	•	Ō
C: General - Send cycles	Granuence 1				s.
1: General - Sequence 1	0.3equence 1	Brightness value	100%(255)	•	
10: Output A - Channel o	Channel A			•	
11: Output A - Relative di	As dimension months	Fade time of brighter(0255s)	3	*	
12: Output A - Absolute d	A>dimming contig	Ende time of darker(0, 255r)	2	*	
2 17: Output A - Temperatu	A:function	rade time of darker(0.2355)	5	Ŧ	
↓ 19: Output A - Staircase II		Duration time for brightness(0255min)	0	* *	
■ 22: Output A - Flashing	A:staircase light				
24: Output A - Scene dim	A:flashing	Duration time for brightness(059sec)	5	*	
25: Output A - Threshold	A	Duration time for darknors(0, 255min)	0	*	
28: Output A - Heat with	Ascene	Duration time for darkness(0.255mm)	0	Ŧ	
2 30: Output B - Channel o	Athreshold	Duration time for darkness(059sec)	5	*	
■2 31: Output B - Relative di	A.L				
2 50: Output C - Channel o	Atheating	Flashing number(1255,0-Unlimited)	0	* *	
2 51: Output C - Relative di	Channel B				
70: Output D - Channel o		Brightness after achieves the flashing number	Invalid	•	
71: Output D - Relative di	B>dimming config				
	Channel C				
	C>dimming config				
	Channel D				
	D>dimming config				
	Crue Obiete / Bernet				
con interface r	Group Objects / Parameter /	11 New Eng	11. CLI DIN DIM 4 CH 154 KNY		Default
sho interface s		LTINEW line	THE CO-DIN DIM 4-CH LSR KNX		Delaur

Fig. 4.1: "Staircase light" window

For staircase application

• Staircase lighting operation

Options: Start with "1", stop with "O" Start with "1", invalid with "O" Start with "1/0", cannot stop

Start with "1", stop with "0": If a 1 is received and the staircase light begins automatic run, stop at timeout or stop with 0.

Start with "1", invalid with "0": If a 1 is received and the staircase light begins automatic run, 0 is invalid.

Start with "1/0", cannot stop: If a 1/0 is received and the staircase light begins automatic run, cannot stop.

• Brightness value

Set the brightness value for the staircase light.



• Fade down time: (0...255s)

Fade in seconds from bright to dark.

• Fade up time: (0...255s)

Fade in seconds from dark to bright.

• Duration time for brightness: (0...255 Min)

Duration in minutes for the brightness state.

• Duration time for brightness: (0...59 Sec)

Duration in seconds for the brightness state

• Change staircase lighting time via bus

Options: **Disable**

Enable

Disable: It is not possible to modify the staircase lighting delay off time via the bus; this can only be set in the database.

Enable: Allow modification of staircase lighting delay off time via bus by user.

Staircase lighting warning

Options: **Disable**

Enable

Disable: Prohibition alarm.

Enable: Allow sending a warning state using warning data point for staircase light ON/OFF.



5.6.2 A: "Flashing" function

ETS5™ - CU-DIN DIM 4 1.5A KNX							x
ETS Edit Workplace Comm	nissioning Diagnostics Extras Windr	ow					< ?
🛛 👩 Close Project 🛛 🌾 Undo 🦯	📏 Redo 🛛 🚔 Print 📰 Workplace	e 🔻 💷 Catalogs 🔤 Diagnostics					
Devices 🔻						∧ □ ×	<
🕂 Add i 🔹 🗙 Delete ± Downli	load 🔻 🥒 Highlight Changes 🛛 Default Pa	arameters			Search	Q	
Devices •		V > Aiflashing					2
Dynamic Folders	1.1 CO-DIN DINI 4-CH 1.5A KINA	C > A:Hashing					0
🔺 🔳 1.1 CU-DIN DIM 4-CH 1.5	General	Flashing operation	Start with "1",Stop with "0"	•			Õ
2 0: General - Send cycles	Granuence 1						•
1: General - Sequence 1	0.sequence i	Brightness value	100%(255)	•			
10: Output A - Channel o	Channel A						
11: Output A - Relative di	As dimming config	Fade time of brighter(0255s)	3	Ŧ			
12: Output A - Absolute d	A>aimming coniig	Fade time of darker(0, 255s)	2	*			
2 1/: Output A - Temperatu	A:function	Table time or darker(o.coss)	5	¥			
19: Output A - Stalicase II	A Asiana Baka	Duration time for brightness(0255min)	0	*			
22: Output A - Flashing	A:staircase light						
24: Output A - Scene dim	A:flashing	Duration time for brightness(059sec)	5	÷			
25: Output A - Threshold	A	Duration time for deductor (0, 355 min)	0				
28: Output A - Heat with	A:scene	Duration time for darkness(v255mm)	0	Ŧ			
■2 30: Output B - Channel o	A:threshold	Duration time for darkness(059sec)	5	*			
2 31: Output B - Relative di							
50: Output C - Channel o	A:heating	Flashing number(1255,0-Unlimited)	0	*			
■2 51: Output C - Relative di	Channel B						
70: Output D - Channel o		Brightness after achieves the flashing number	Invalid	•			
71: Output D - Relative di	B>dimming config						
	Channel C						
	C>dimming config						
	Channel D						
	D>dimming config						
	Group Objects Parameter						
<no +<="" interface="" s="" td=""><td></td><td>1.1 New line</td><td>1.1 CU-DIN DIM 4-CH 1.5A KNX</td><td></td><td>Default</td><td></td><td></td></no>		1.1 New line	1.1 CU-DIN DIM 4-CH 1.5A KNX		Default		

Fig. 4.2: "Flashing" window

Flashing between ON and OFF in this mode.

• Flashing operation

Three Control modes for this function.

Options: Start with "1", stop with"O" Start with "1", invalid with "O" Start with"1/0", cannot stop

Start with "1", stop with"O": Start flashing with 1 and stop flashing with 0. **Start with "1", invalid with "O":** Start flashing with 1 and invalid with 0. **Start with "1/O", cannot stop:** Start flashing with 1 or 0, cannot stop.

• Fade time from bright to dark: (0...255s)

Fade in seconds from bright to dark.

• Fade up time: (0...255s)

Fade in seconds from dark to bright.





• Duration time for brightness: (0...255 Min) Duration in minutes for the brightness state.

• Duration time for brightness: (0...59 Sec) Duration in seconds for the brightness state

• Duration time for darkness: (0...255 Min) Duration in minutes in the darkness state.

• Duration time for darkness: (0...59 Sec) Duration in seconds in the darkness state

• Flashing number (0...255, 0-Unlimited)

The number of flashes; range between 0 and 255. 0 is unlimited.

• Brightness after flashing stops

Brightness after flashing stops by overflow counter; the range is 0%(0) to 100% (255).





5.6.3 A: "Scene" function

ISS Edit Workplace Commissioning Diagnostics Extras Window ISS Detects ISS Detects ISS Detects ISS Detects ISS Detects ISS Classelite A ISS Output A Section ISS Output A Section <th>🚆 ETS5™ - CU-DIN DIM 4 1.5A KNX</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>×</th>	🚆 ETS5™ - CU-DIN DIM 4 1.5A KNX							×
Core Project M Undo Ref W Workplace * Catalog Despondence • Action * • Action * • Action * Search Action * Action * Action * Search Search Search Search Search Action * Search Search Search Search Search Action *	ETS Edit Workplace Comr	nissioning Diagnostics Extras Wind	low					^ ?
Devices ▲ Classical ▲ Initial State Stat	👩 Close Project 🖌 Undo 🥖	🔪 Redo 🛛 🚔 Print 🛛 📰 Workplac	e 🔻 📳 Catalogs 🔤 Diagnostics					
Add (*) Denkes Denkes Pightight Changes. Default Parameters Seach C Denkes Pightight Changes. Default Parameters Seach Seach C Denkes Pightight Changes. Default Parameters Seach	Devices 🔻						∧ □ ×	<
Devices 1.1.C UDD ND M4-CH 1.5A KMX > Ascene Opparatic Folders General Fade time of scene dimming(2.255) S Cli () General - Sequence 1 Gasquence 1 Fade time of scene dimming(2.255) S S Cli () () Cutyut A - Channel A Channel A >> Output assigned toicene 1.64) Not allocate Impact (255) S Cli () () Output A - Channel A A>dimming config Output assigned toicene 1.64) Not allocate Impact (255) S Cli () Output A - Therepatha AAutition Fade time for brighter/darke(0.255) S S S Cli () Output A - Stearcea dim Attricease light Autiticease light S S S Cli () Output A - Therepatha Autotion Fade time for brighter/darke(0.255) S S S Cli () Output A - Therepatha Autotion Fade time for brighter/darke(0.255) S S S Cli () Output A - Therepatha Autotion Fade time for brighter/darke(0.255) S S S Cli () Output A - Therepatha Autotion Fade time for brighter/darke(0.255) S S S S () Output A - Therehold Attricehold <td>🕂 Add 🔹 🗙 Delete 🔮 Down</td> <td>load 👻 🥖 Highlight Changes 🛛 Default P</td> <td>arameters</td> <td></td> <td></td> <td>Search</td> <td>Q.</td> <td>E</td>	🕂 Add 🔹 🗙 Delete 🔮 Down	load 👻 🥖 Highlight Changes 🛛 Default P	arameters			Search	Q.	E
Impanatic Folders General Impanatic Folders Folde time of scene dimming(2.255) Impanatic Folders Astainase light Impanatin Folders Astainase light	Devices •	1.1 CU-DIN DIM 4-CH 1.5A KN	X > A:scene					
Image: Comparison of Compar	Dynamic Folders							0
I C Greneral - Send cycles Gsequence 1 Total 10 scenes, configuration as following: I L GUDUPLA - Channel one Channel A >>Output assigned to(scene 1.64) Not allocate I L GUDUPLA - Channel one A>dimming config Output brightness value 100%(255) - I L GUDUPLA - Stainsea Astaincase light ->Output assigned to(scene 1.64) Not allocate - I S Output A - Stainsea Astaincase light ->Output assigned to(scene 1.64) Not allocate - I S Output A - Stainsea Aflasting ->Output assigned to(scene 1.64) Not allocate - I S Output A - Stainsea Aflasting ->Output brightness value 100%(255) - - I S Output A - Stainsea - Fade time for brighter/darker(0.255s) 3 - - I S Output A - Thershold - - ->Output assigned to(scene 1.64) Not allocate - I S Output B - Relative dia - - ->Output assigned to(scene 1.64) Not allocate - I S Output C - Channel do - - ->Output assigned to(scene 1.64) Not allocate - I S Output C - Channel do - -	4 🚺 1.1 CU-DIN DIM 4-CH 1.5	General	Fade time of scene dimming(2255s)	5	*			0
It is General - Sequence 1 Channel A Total 10 scenes_configuration as following: It 10: Output A - Channel A Channel A ->Output assigned to(scene 1.64) Not allocate It 11: Output A - Relative dia. A-dimming config Output brightness value 100%(255) - It 2: Output A - Staincase lim A-dimming config Output assigned to(scene 1.64) Not allocate - It 2: Output A - Staincase lim A-dimming config Output assigned to(scene 1.64) Not allocate - It 2: 2: Output A - Staincase lim A-dimming config Output brightness value 100%(255) - It 2: 2: Output A - Staincase lim A-disting ->Output brightness value 100%(255) - It 2: 2: Output A - Threshold. Asteree Fade time for brighter/darker(0.255s) 3 - It 2: 2: Output A - Relative dim Athreshold ->Output assigned to(scene 1.64) Not allocate - It 2: 2: Output B - Channel Com Athreshold ->Output assigned to(scene 1.64) Not allocate - It 2: 2: Output C - Channel Com Athreshold ->Output assigned to(scene 1.64) Not allocate - It 2: 2: Output D - Relative dim Channel S	C: General - Send cycles	Graduence 1						1
III: Output A Relative dia. Channel A >>Output assigned to(scene 1.64) Not allocate III: Output A Relative dia. A>dimming config Output brightness value 100%(255) III: Output A Temperatu. A-function Fade time for brighter/darker(0.255s) 3 III: Output A Relative dia. A-function Fade time for brighter/darker(0.255s) 3 III: Output A Temperatu. A-function Fade time for brighter/darker(0.255s) 3 III: Output A Teshing Astaincess light >> Output brightness value 100%(255) • III: Output A Scene dim Afteshing Output brightness value 100%(255) • III: Output A Teshing Ascene Output brightness value 100%(255) • III: Output A Teshind Afteshing Output assigned to(scene 1.64) Not allocate • III: Output A Teshind Afteshind >> Output assigned to(scene 1.64) Not allocate • III: Output A Teshind Afteshind >> Output assigned to(scene 1.64) Not allocate • III: Storuput A Teshind Afteshind >> Output assigned to(scene 1.64) Not allocate •	1: General - Sequence 1		Total 10 scenes, configuration as following:					
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D>dimming config		Channel D	Fade time for brighter/darker(0, 255s)	3	*			
		D>dimming config	rade and to brighter, dance(di.ess)	5	Ŧ			
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Ende Kine fan binkkerderder (* 2551) 2 4			Ende time for brighter/darker(0, 255-)	2	*			
rade time for originer/darke(0.2553) 5 v			race une for brighter/darker(02555)	2	Ŧ			
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Fig. 4.3: "Scene" window

•Fade time for scene dimming: (0...255s) Fade in seconds from bright to dark. Total of 10 scenes; configuration and settings appear below. Each scene is as follows:

• Output assigned to (scene 1..64)

Allocate the scene.

• Output brightness value

Set the output brightness value 0% to 100%

• Fade time for brighter/darker (0...255s)

Set the time for bright or dark.



5.6.4 A: "Threshold" function

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C General - Send cycles	Granuage 1				4	2
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10: Output A - Channel o	Channel A		-	•		
11: Output A - Relative di	Asdimming config	Fade time for switch OFF of threshold(0255s)	3	v		
12: Output A - Absolute d 17: Output A - Temperatu		Threshold 1 value is(0255)	80	2		
19: Output A - Staircase li	A:function					
22: Output A - Flashing	Aistaircase light	Threshold 2 value is(0255)	180	÷		
23: Output A - Scene(8bit)						
24: Output A - Scene dim	A:flashing	Input value <lower td="" threshold<=""><td>OFF</td><td>•</td><td></td><td></td></lower>	OFF	•		
25: Output A - Threshold	A:scene	Lower threshold <= Input value <= Upper	ON	•		
28: Output A - Heat with		threshold				
2 30: Output B - Channel o	A:threshold	Input value>Upper threshold	OFF	•		
■↓ 31: Output B - Relative di	A:heating					
51: Output C - Relative di		Change threshold 1 via bus	Disable			
2 70: Output D - Channel o	Channel B	Characterized and 2 to have	 No.11 For 11 			
■2 71: Output D - Relative di	B>dimming config	Change threshold 2 via bus	Uisable U Enable			
	Channel C					
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Fig. 4.4: "Threshold" window

• Brightness value for ON switch for threshold

Configure the brightness for ON switch

• Fade time for ON switch for threshold (0...255s) Configure the time for ON switch

• Fade time for OFF switch for threshold (0...255s) Configure the time for OFF switch

• Threshold 1 value is (0...255)

Set threshold 1 value between 0 and 255. Default is 80.

• Threshold 2 value is (0...255)

Set threshold 2 value between 0 and 255. Default is 180.





• Input value < Lower threshold

If the value of the telegram received from the bus is lower than the minimum threshold value, the switch actuates in accordance with the option below (ON or OFF or no Unchange)

Options: Unchange

ON

OFF

Unchange: The channel switch position does not change.

ON: The channel switch position is set to ON.

OFF: The channel switch position is set to OFF

•Lower threshold <= Input value <= Upper threshold

If the value of the telegram received from the bus is between the lower and upper thresholds, the switch actuates in accordance with the option below (ON or OFF or no action

Options: Unchange ON

OFF

Unchange: The channel switch position does not change.

ON: The channel switch position is set to ON.

OFF: The channel switch position is set to OFF

• Input value > Upper threshold

If the value of telegram received from bus is greater than the upper threshold value, the switch actuates in accordance with the option below (ON or OFF or no action)

Options: Unchange

ON OFF

Unchange: The channel switch position does not change. **ON:** The channel switch position is set to ON.

OFF: The channel switch position is set to OFF

• Change threshold 1 via bus

Options: **Disable**

Enable

Disable: Do not allow change to threshold 1 value from bus. **Enable:** Allow change to threshold 1 value from bus.







• Change threshold 2 via bus Options: Disable Enable

Disable: Do not allow change to threshold 2 value from bus. **Enable:** Allow change to threshold 2 value from bus.

5.6.5 A: "Heating" function

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10: Output A - Channel o	Channel A	Fade time for switch QEE of heating(0, 255s)	1	•	
12: Output A - Absolute d	A>dimming config			•	
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■ 22: Output A - Flashing	A:staircase light	PWM cycle time set(059sec)	0	* *	
 23: Output A - Scene(8bit) 24: Output A - Scene dim 	A:flashing	Control telegram is received as	1bit pwm("ON"-start, "OFF"-stop) 1bit pwm("2FF" - ON "0" OFF - stop)		
 ■2 25: Output A - Threshold ■2 28: Output A - Heat with 	A:scene				
2 30: Output B - Channel o	Athreshold	The scale of ON	50%(128)	•	
■之 31: Output B - Relative di ■之 50: Output C - Channel o	A:heating	Running automatically after bus voltage recovery	NO	•	
2 51: Output C - Relative di	Channel B	Forced position of PWM	NO VES		
■2 71: Output D - Relative di	B>dimming config				
	Channel C				
	C>dimming config				
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Fig. 4.5: "Heating" window

• Brightness value for ON switch for heating Configure the brightness for ON switch

• Fade time for ON switch for heating (0...255s) Configure the time for ON switch

• Fade time for OFF switch for heating (0...255s) Configure the time for OFF switch





• PWM cycle time set (1...65535min)

Options: 1...65535m This cycle time is set to a minimum of 1 minute

•PWM cycle time set (1...59sec) Options: 1..59s This cycle time is set in seconds

• Control telegram is received as

Type of control can be 1 bit or 1 byte.

Options: 1bit PWM(1-start/0-stop)

1byte (255-switch ON/O-switch OFF/ other value)

1bit PWM (1-start/0-stop): The PWM start-up and switch ON based on the telegram value "1" and stop "0" received.

1 byte (255-0N/O-OFF/other valve): The switch ON always based on the telegram value "255" received, and switch OFF telegram value "0" received. The PWM runs and the pulse width of PWM is set based on the telegram value (1 to 254) received.

•Scale of ON

This parameter sets the valve of the PWM (pulse width).

Options: 0% (0FF) 10% (26) 20% (51) 30% (77) 40% (102) 50% (128) 60% (153) 70% (179) 80% (204) 90% (230) 100% (0N)

• Power on and automatic run

The PWM runs automatically by setting to YES. The PWM runs manually by setting to NO.

Options: NO

YES

YES: PWM runs automatically at power on.

NO: PWM runs manually.





6 Communication objects description

Note: In following sections, N=A,B,C...

6.1 "General" objects

	Number 4	Name	Object Function	Description	Group Addres	Length	С	R	w	т	U	Data Type	Priority
∎ ‡ ()	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
∎‡1		General	Sequence 1			1 bit	С	-	W	-	U	start/stop	Low
∎ ‡ 2	2	General	Sequence 2			1 bit	C	-	W	-	U	start/stop	Low
∎‡1:	ł	General	Sequence 3			1 bit	С	-	W	-	U	start/stop	Low
∎‡4	Ļ	General	Sequence 4			1 bit	С	-	W	-	U	start/stop	Low
;	; ;	General	Sequence 5			1 bit	С	-	W	-	U	start/stop	Low

NO	Object name	Function	Flags	Data type
0	General	Send cycles	CRT	DPT 1.003
				1 bit

This communication object is always active and valid. Invert the send telegram value to bus in the next frame. Example: Last telegram value is "1", next telegram value is "0"

15	General	Sequence	CWU	DPT 1.010
		15		1 bit

This communication object is used to start or stop the sequence. Send telegram value "1" to start one sequence; send telegram value "0" to stop one sequence.

6.2 "Channel N output" objects

Image: Constraint of the second system Send cycles 1 bit C R - T - enable Low Image: Constraint of the second system Output A Channel output 1 bit C - W - U switch Low Image: Constraint of the second system Absolute dimming(4bit) 4 bit C - W - U dimming c Low Image: Constraint of the second system Output A Absolute dimming(4bit) 4 bit C - W U percentag Low Image: Constraint of the second system Output B Channel output 1 bit C - W U switch Low Image: Constraint of the second system Absolute dimming(4bit) 4 bit C - W U switch Low Image: Second system Absolute dimming(8b 1 byte C - W U switch Low Image: Second system Output D Channel output 1 bit C - W U switch Low Image: Second system	Number	* Name	Object Function	Description	Group Addres	Length	С	R	w	т	U	Data Type	Priority
ID Output A Channel output 1 bit C - W - U switch Low II1 Output A Relative dimming(4bit) 4 bit C - W - U dimming c Low II12 Output A Absolute dimming(8b 1 byte C - W - U dimming c Low II230 Output B Channel output 1 bit C - W - U switch Low II31 Output B Relative dimming(4bit) 4 bit C - W U switch Low II32 Output B Relative dimming(4bit) 4 bit C - W U switch Low II33 Output B Relative dimming(8b 1 byte C - W U gencentag Low II350 Output C Channel output 1 bit C - W U gencentag Low II51 Output C Relative dimming(4bit) 4 bit C - W U dimming c Low II52 Output D Channel output <	■之 0	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
11 Output A Relative dimming(4bit) 4 bit C - W - U dimming c Low 12 Output A Absolute dimming(8b 1 byte C - W - U percentag Low 13 Output B Channel output 1 bit C - W - U switch Low 13 Output B Relative dimming(4bit) 4 bit C - W - U dimming c Low 13 Output B Relative dimming(4bit) 4 bit C - W U dimming c Low 13 Output B Absolute dimming(8b 1 byte C - W U dimming c Low 14 32 Output C Channel output 1 bit C - W U percentag Low 15 Output C Relative dimming(4bit) 4 bit C - W U dimming c Low 15 Output C Relative dimming(4bit) 4 bit C - W U dimming c Low 15 Output D Channel output 1 bit	■≵ 10	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
12 Output A Absolute dimming(8b 1 byte C - W - U percentag Low 13 Output B Channel output 1 bit C - W - U switch Low 131 Output B Relative dimming(4bit) 4 bit C - W U dimming c Low 132 Output B Absolute dimming(8b 1 byte C - W U dimming c Low 133 Output C Channel output 1 bit C - W U percentag Low 1430 Output C Channel output 1 bit C - W U percentag Low 1431 Output C Relative dimming(4bit) 4 bit C - W U dimming c Low 1435 Output C Absolute dimming(4bit) 4 bit C - W U dimming c Low 1435 Output D Channel output 1 bit C - W U dimming c Low 1435 Output D Channel output 1 bit C - W	■# 11	Output A	Relative dimming(4bit)			4 bit	С	-	W	-	U	dimming c	Low
130 Output B Channel output 1 bit C - W - U switch Low 131 Output B Relative dimming(4bit) 4 bit C - W - U dimming c Low 132 Output B Absolute dimming(8b 1 byte C - W - U percentag Low 1430 Output C Channel output 1 bit C - W U percentag Low 151 Output C Relative dimming(4bit) 4 bit C - W U dimming c Low 152 Output C Absolute dimming(8b 1 byte C - W U dimming c Low 151 Output D Channel output 1 bit C - W U dimming c Low 152 Output D Channel output 1 bit C - W U switch Low 170 Output D Channel output 1 bit C - W U switch Low 171 Output D Relative dimming(4bit) 4 bit C <td< td=""><td>■‡ 12</td><td>Output A</td><td>Absolute dimming(8b</td><td></td><td></td><td>1 byte</td><td>С</td><td>-</td><td>W</td><td>-</td><td>U</td><td>percentag</td><td>Low</td></td<>	■‡ 12	Output A	Absolute dimming(8b			1 byte	С	-	W	-	U	percentag	Low
1 Output B Relative dimming(4bit) 4 bit C - W - U dimming c Low 2 Output B Absolute dimming(8b 1 byte C - W - U percentag Low 2 Output C Channel output 1 bit C - W - U percentag Low 2 50 Output C Relative dimming(4bit) 4 bit C - W - U switch Low 2 51 Output C Relative dimming(4bit) 4 bit C - W U dimming c Low 2 F2 Output C Absolute dimming(8b 1 byte C - W U percentag Low 2 770 Output D Channel output 1 bit C - W U switch Low 2 71 Output D Relative dimming(4bit) 4 bit C - W U dimming c Low 2 72 Output D Absolute dimming(4bit) 4 bit C - W U dimming c Low <td>■‡ 30</td> <td>Output B</td> <td>Channel output</td> <td></td> <td></td> <td>1 bit</td> <td>С</td> <td>-</td> <td>W</td> <td>-</td> <td>U</td> <td>switch</td> <td>Low</td>	■‡ 30	Output B	Channel output			1 bit	С	-	W	-	U	switch	Low
1232 Output B Absolute dimming(8b 1 byte C - W - U percentag Low 150 Output C Channel output 1 bit C - W - U switch Low 151 Output C Relative dimming(4bit) 4 bit C - W - U dimming c Low 152 Output C Absolute dimming(8b 1 byte C - W U percentag Low 151 Output C Absolute dimming(8b 1 byte C - W U percentag Low 152 Output D Channel output 1 bit C - W U switch Low 171 Output D Relative dimming(4bit) 4 bit C - W U dimming c Low 171 Output D Relative dimming(8bit) 1 bit C - W U dimming c Low	■ ‡ 31	Output B	Relative dimming(4bit)			4 bit	С	-	W	-	U	dimming c	Low
12 50 Output C Channel output 1 bit C - W U switch Low 12 51 Output C Relative dimming(4bit) 4 bit C - W - U dimming c Low 12 52 Output C Absolute dimming(8b 1 byte C - W U percentag Low 12 70 Output D Channel output 1 bit C - W U switch Low 12 71 Output D Relative dimming(4bit) 4 bit C - W U switch Low 17 Output D Relative dimming(4bit) 4 bit C - W U switch Low 17 Output D Absolute dimming(8bit) 1 bit C - W U mining c Low	■2 32	Output B	Absolute dimming(8b			1 byte	С	-	W	-	U	percentag	Low
1 Output C Relative dimming(4bit) 4 bit C - U dimming c Low 52 Output C Absolute dimming(8b 1 byte C - W - U percentag Low 57 Output D Channel output 1 bit C - W - U percentag Low 77 Output D Relative dimming(4bit) 4 bit C - W U switch Low 71 Output D Relative dimming(4bit) 4 bit C - W U mining c Low 712 Output D Absolute dimming(8bit) 4 bit C - W U mining c Low	■≵ 50	Output C	Channel output			1 bit	С	-	W	-	U	switch	Low
1 2 Output C Absolute dimming(8b 1 byte C - U percentag Low 2 70 Output D Channel output 1 bit C - W - U switch Low 2 71 Output D Relative dimming(4bit) 4 bit C - W U dimming c Low 2 72 Output D Relative dimming(8bit) 4 bit C - W U dimming c Low	■≵ 51	Output C	Relative dimming(4bit)			4 bit	С	-	W	-	U	dimming c	Low
1 bit C - W - U switch Low 2 71 Output D Relative dimming(4bit) 4 bit C - W - U dimming Low 2 72 Output D Absolute dimming(8bit) 1 bitse C - W - U dimming Low	■‡ 52	Output C	Absolute dimming(8b			1 byte	С	-	W	-	U	percentag	Low
Image: Transmitter Image: Transmitter Image: Transmitter Absolute diamaing(4bit) 4 bit C - W - U diamaing c Low Image: Transmitter Absolute diamaing(8bit) 1 bits C - W - U diamaing c Low	■≵ 70	Output D	Channel output			1 bit	С	-	W	-	U	switch	Low
72 Output D Absolute dimming/8b 1 bute C - W - II percented Iow	■2 71	Output D	Relative dimming(4bit)			4 bit	С	-	W	-	U	dimming c	Low
-+ Pre C W O percentag com	■2 72	Output D	Absolute dimming(8b			1 byte	С	-	W	-	U	percentag	Low

NO	Object name	Function	Flags	Data type
10	Output N	Channel output	CWU	DPT 1.001
				1 bit



This communication object is for switching channel output ON/OFF; the dimmer channel output is ON if the object receives the value "1". The dimmer channel output is OFF if the object receives the value "0".

11	Output N	Relative	CWU	DPT 3.007
		dimming		4 bit

This communication object for channel output is used for relative dimming of channel output. Relative dimming mode is UP or DOWN.Dimming UP if the telegram increase value is received, and dimming DOWN if the telegram decrease value is received.

12	Output N	Absolute	CWU	DPT 5.001
		dimming		1 byte

This communication object for channel output is used for absolute dimming of channel output. Channel output absolute dimming to a brightness level based on the telegram value received.

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6.3 "Respone" objects

Number	⁴ Name	Object Function	Description	Group Addres	Length	С	R	W	T	U	Data Type	Priority
■‡ 0	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
■之 10	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
■‡ 13	Output A	Respone state(1bit)			1 bit	С	R	-	Т	-	switch	Low

Respone 1bit status

Numbe	r [*] Name	Object Function	Description	Group Addres	Length	C	R	W	Т	U	Data Type	Priority
■‡ 0	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
■‡ 10	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
■‡ 14	Output A	Respone state(1byte)			1 byte	С	R	-	Т	-	percentag	Low

Respone 1 byte status

NO	Object name	Function	Flags	Data type
13	Output N	Respone status	CRT	DPT 1.001
				1 bit

This communication object is used to respond to the channel output N state; if the channel state is ON, the response state is "1"; otherwise, the state is "0".

14	Output N	Respone status	CWU	DPT 5.001 1 byte							
This o	This communication object is used to respond to the channel output N brightness.										





6.4 "Statistics ON time" objects

	Number 4	Name	Object Function	Description	Group Addres	Length	С	R	w	т	U	Data Type	Priority
∎Ż	0	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
ŧ.	10	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
∎ ‡	15	Output A	R/W total ON time			2 bytes	С	R	W	Т	U		Low
ا ¢	16	Output A	Alarm when total ON			1 bit	С	R	-	Т	-		Low

NO	Object name	Function	Flags	Data type
15	Output N	R/W total ON	CRWTU	DPT 7.007
		time		2 bytes

This communication object is used to change the initial value. Statistical ON time, which increases every hour.

16	Output N	Alarm at total	CRT	DPT 1.005
		ON timeout		1 bit

This communication object is used to trigger an alarm if statistical ON time reaches a set maximum value.

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6.5 **"Temperature" objects**

	Number 4	Name	Object Function	Description	Group Addres	Length	С	R	W	T	U	Data Type	Priority
∎ ‡)	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
∎ ‡	10	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
∎ ‡	17	Output A	Temperature alarm			1 bit	С	R	-	Т	-		Low
₽	18	Output A	Read temperature			2 bytes	С	R	-	Т	-	temperatu	Low

NO	Object name	Function	Flags	Data type					
17	Output N	Temperature	CWU	DPT 1.005					
		alarm		1 bit					
This communication object is used to trigger an alarm if there is over-temperature.									
18	Output N	Read	CRT	DPT 9.001					
		temperature		2 bytes					
This communication object is used to read the channel output temperature.									





6.6 "Staircase light" objects

	Number *	Name	Object Function	Description	Group Addres	Length	С	R	w	Т	U	Data Type	Priority
∎ ‡	0	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
‡	10	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
‡	19	Output A	Staircase light			1 bit	С	-	W	-	U	switch	Low
∎₹	20	Output A	Change staircase ligh			2 bytes	С	-	W	-	U		Low
∎ ‡	21	Output A	Warning staircase light			1 bit	С	R	-	Т	-		Low

NO	Object name	Function	Flags	Data type
19	Output N	Staircase light	CWU	DPT 1.001
				1 bit

This communication object is used to start or stop the staircase light function. Start the staircase light if the telegram value received is "1".

20	Output N	Change staircase light time	CWU	DPT 7.005 2 bytes
This d	communication of	bject is used to o	change the stairca	ase light time.
21	Output N	Warning staircase light	CRT	DPT 1.005 1 bit
This o	communication o	bject is used to a	activate staircase	light warning.

6.7 "Flashing" objects

	Number 4	Name	Object Function	Description	Group Addres	Length	С	R	w	т	U	Data Type	Priority
∎ ‡	0	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
;	10	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
∎ ¢	22	Output A	Flashing			1 bit	С	-	W	-	U	switch	Low

NO	Object name	Function	Flags	Data type
22	Output N	Flashing	CWU	DPT 1.001
				1 bit

This communication object is used for channel light flashing. Channel light flashing occurs if the start value is received.

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6.8 "Scene" objects

Number	* Name	Object Function	Description	Group Addres	Length	n C	R	W	Т	U	Data Type	Priority
■ ‡ 0	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
■之 10	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
₽ ₽23	Output A	Scene(8bit)			1 byte	С	-	W	-	U		Low
■24	Output A	Scene dimming(4bit)			4 bit	С	-	W	-	U	dimming c	Low

NO.	Object name	Function	Flags	Data type				
23	Output N	Scene (8 bits)	CWU	DPT 18.001				
				1 byte				

This communication object is used to call or save the channel output scene.

See the following explanation of scene control:

Telegram value:

C: O-Call scene

1- Store scene (if scene allocated and scene is in the current

switch state)

R: Reserved

N: Scene No.(bin:000000...111111=N0.1...64)

Example: Hexadecimal

00h-----call scene 1 (If scene allocated) 01h-----call scene 2 (If scene allocated) 3Fh-----call scene 64 (If scene allocated)

80h-----store scene 1 (If scene allocated) 81h-----store scene 2 (If scene allocated) BFh-----store scene 64 (If scene allocated)

24	Output N	Scene	CWU	DPT 3.007						
		dimming		4 bit						
		(4 bits)								
This communication object is used to dim the channel output scene										





6.9 "Threshold" objects

	Number 4	Name	Object Function	Description	Group Addres	Length	С	R	w	т	U	Data Type	Priority
∎‡ ()	General	Send cycles			1 bit	С	R	- 1	Т	-	enable	Low
■ ‡ 1	0	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
∎ ‡ 2	25	Output A	Threshold input			1 byte	С	-	W	-	U		Low
∎ ‡ 2	26	Output A	Change threshold 1			1 byte	С	-	W	-	U		Low
∎‡ 2	27	Output A	Change threshold 2			1 byte	С	-	W	-	U		Low

NO	Object name	Function	Flags	Data type		
25	Output N	Threshold	CWU	DPT 5.004		
		input		1 byte		

If this communication object is active, the input value of the telegram received from the bus is compared with thresholds 1 and 2 to calculate the switch state based on the database setting.

26	Output N	Change threshold 1	CWU	DPT 5.004 1 byte								
Chang	Change threshold 1 value via bus.											
27	Output N	Change threshold 2	CWU	DPT 5.004 1 byte								
Change threshold 2 value via bus.												

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6.10 "Heating" objects

Number	r * Name	Object Function De	escription	Group Addres Le	ngth C	R	W	Т	U	Data Type	Priority
■‡ 0	General	Send cycles		1 bit	c C	R	-	Т	-	enable	Low
∎‡ 10	Output A	Channel output		1 bi	t C	-	W	-	U	switch	Low
■‡ 28	Output A	Heat with 1bit control		1 bit	t C	-	W	-	U	switch	Low

1-bit heating control

Number '	Name	Object Function	Description	Group Addres	Length	С	R	W	т	U	Data Type	Priority
■ ≵ 0	General	Send cycles			1 bit	С	R	-	Т	-	enable	Low
■之 10	Output A	Channel output			1 bit	С	-	W	-	U	switch	Low
■28	Output A	Heat with 1byte control			1 byte	C	-	W	-	U		Low

1-byte heating control

NO	Object name	Function	Flags	Data type
28	Output N	Heating with 1-bit control	CWU	DPT1.001 1 bit

If the heating actuator is operational, this communication object default is displayed and valid. Start PWM if telegram "1" is received; stop PWM if telegram "0" is received; start automatic run if power on set by ETS.

	8	USER MANU	AL		ESYLUX•					
	28	Output N	Heating with	CWU	DPT 5.004					
If "heat with byte control" is selected, this communication object is disp and is valid. Possible to modify PWM value with 1 byte of data. Always (output if value received is 255; OFF output if value received is 0; otherw										
PWM output based on the value of telegram received from bus.										

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7 Application

7.1 Program functions diagram





8 Product disposal

This device must not be disposed of as unsorted household waste. Used devices must be disposed of correctly. Contact your local town council for more information.

9 ESYLUX manufacturer's guarantee

ESYLUX products are tested in accordance with applicable regulations and manufactured with the utmost care. The guarantor, ESYLUX Deutschland GmbH, Postfach 1840, D-22908 Ahrensburg, Germany (for Germany) or the relevant ESYLUX distributor in your country (visit www.esylux.com for a complete overview) provides a guarantee against manufacturing/material defects in ESYLUX devices for a period of three years from the date of manufacture. This guarantee is independent of your legal rights with respect to the seller of the device.

The guarantee does not apply to natural wear and tear, changes/interference caused by environmental factors or damage in transit, nor to damage caused as a result of failure to follow the user or maintenance instructions and/or as a result of improper installation. Any illuminants or batteries supplied with the device are not covered by the guarantee.

The guarantee can only be honoured if the device is sent back with the invoice/receipt, unchanged, packed and with sufficient postage to the guarantor, along with a brief description of the fault, as soon as a defect has been identified. If the guarantee claim proves justified, the guarantor will, within a reasonable period, either repair the device or replace it. The guarantee does not cover further claims; in particular, the guarantor will not be liable for damages resulting from the device's defectiveness. If the claim is unfounded (e.g. because the guarantee has expired or the fault is not covered by the guarantee), then the guarantor may attempt to repair the device for you for a fee, keeping costs to a minimum.