

# DESIGN SWITCHES KNX MANUAL



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#### 1. The collections

CJC has 5 different collections directly for KNX (these collections are also available as a low voltage push-button, no direct KNX compatibility). These collections are:

ANNA, small levers (double push-buttons): Available with or without leds (1 red orientation led & yellow feedback leds above & below the lever).

ZITA, round push-buttons: available with leds (1 red orientation led & white feedback leds integrated in the round button).

MONA, square push-buttons: available with or without leds (1 red orientation led & white feedback leds integrated in the square button).

LARA, square flat push-buttons: available with leds (leds not programmed will not be visible -1 red orientation led & white feedback leds in the corners).

LOLA, little square flat push-buttons: available with or without leds (no orientation led, only white feedback leds next to the button).

Every collection is available in the different finishings as stated in the catalogue 'Design Switches' of CJC Systems.















# 2. The KNX PCB-board by CJC Systems

CJC worked together with a partner company Lingg & Janke for the development of the PCB-board. That is why you will find the product database for ETS under the name 'Lingg & Janke'. For the programmation of the CJC push-buttons, you can use the same familiar database for all of the 5 different collections.

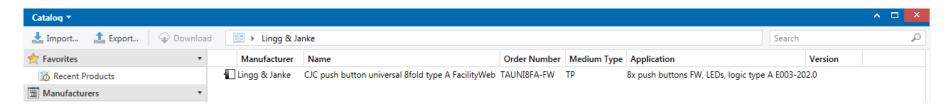




You will find 2 programming buttons on every PCB. 1 on the front side and 1 on the back side. So once the PCB is already installed in the wall, you do not have to take it out again, should it be necessary to change certain things.

The database can be downloaded from our website http://cjcsystems.com/index.php?r=switches/downloads

Please find underneath the database you will need.







#### 3. Functionalities

- Night & Day LED-indicators brightness adaptability
- Pressing button, 1 object: ON, OFF, TOGGLE, 1 Byte values, 2 Byte values, 4 Byte values
- Pressing button, 3 objects: ON, OFF, TOGGLE, 1 Byte values
- Pressing and releasing button, 2 objects: ON, OFF, TOGGLE, 1 Byte values, 2 Byte values
- Short and long keystroke, 2 objects: ON, OFF, TOGGLE, 1 Byte values, 2 Byte values
- Dimming and blind / shutter processing
- Scenarios run and save ability
- LED Staircase function, on/off delay, scenarios attribution
- Basic logical functions (AND, OR, XOR, NOT) based on 2 entries
- RGB lights programming functionality
- Blinking of leds
- Optional: Integrated Temperature and Humidity sensor

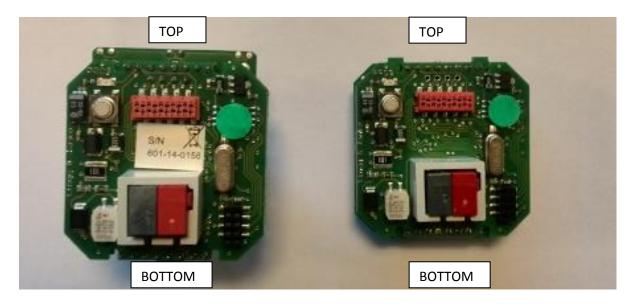
#### 4. Technical data

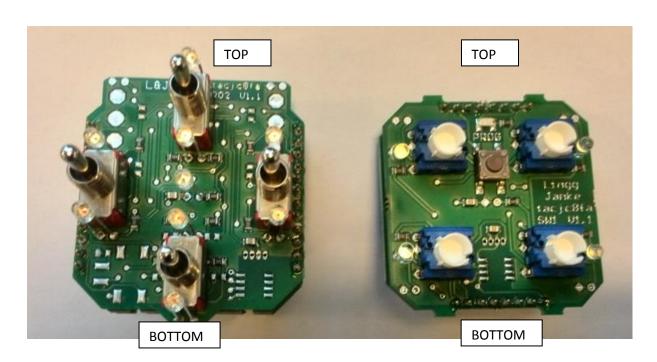
- Main power supply 24V 29V via KNX Bus
- Current consumption:
  - 4 buttons, all LEDS 100% = 10mA (29V)
  - 4 buttons, all LEDS 10% = 4mA (29V)
- Connection = standard WAGO KNX connector
- Operating temperature: -5°C ... 45°C
- KNX programming button and LED = on front and rear side
- Max. group addresses = 86
- Max. associations = 86
- Number of communication objects = 71
- Application download time = approx. 30 sec.





When programming buttons in advance, please pay good attention on the top en bottom sides. If you can read the text on the PCB, it means that it is correctly placed. These will be installed as following:







# 5.1 ANNA collection

CJC1023 / CJC1323



### ANNA collection

$\bigcirc$	$\circ$	$\circ$	
		Ô	C
	E F	в	D
Г	CJC1021 / CJC1321	CJC1022 /	CJC1322

CJC1024 / CJC1324







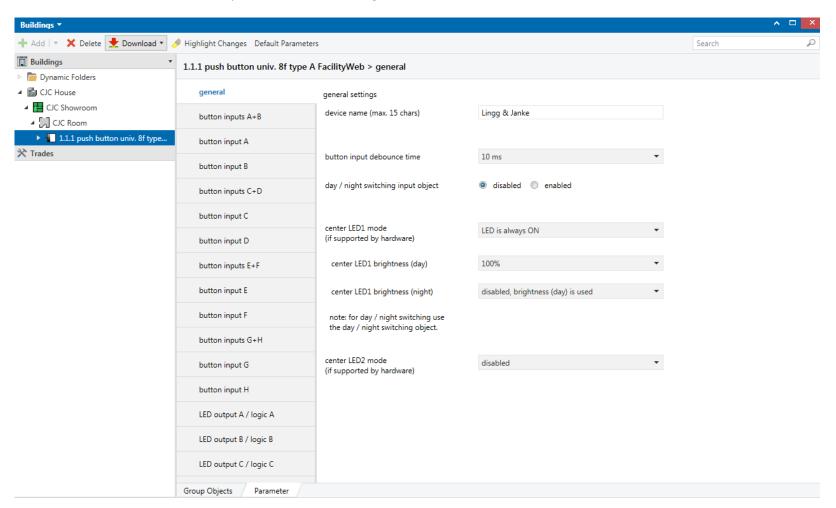
SW1	rectangular butto	n arrangemen
	АВ	
	C	
SW2	cross like button	arrangement
	С	
	A	В
	D	
SW3	triangle button arr	angement
	A	
	С	



# systems

#### 6. ETS PARAMETERISATION

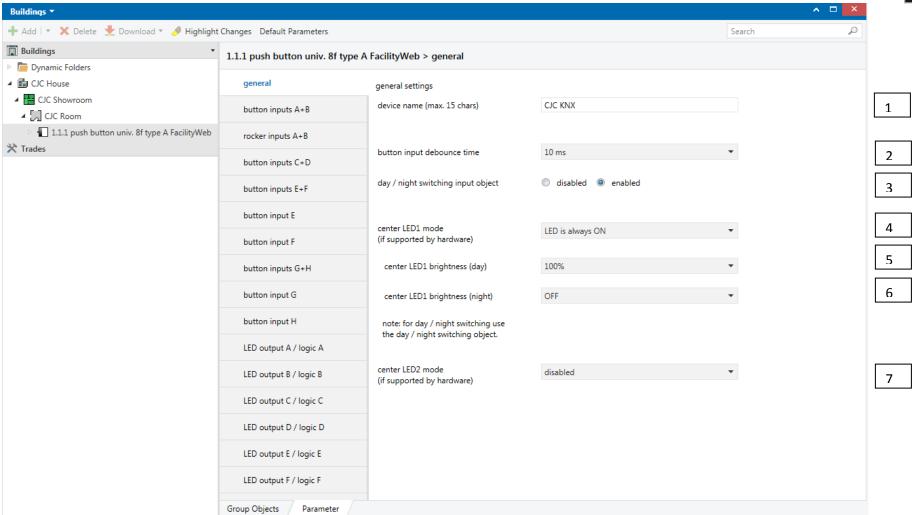
- 1) Import the product database of CJC Systems (Lingg & Janke)
- 2) Add the device to a certain place in your project (Building)
- 3) Select Parameter to see the parameterisation settings







#### **6.1 GENERAL parameter settings**



Step 1: go to the device in the building structure and then go to the parameter settings

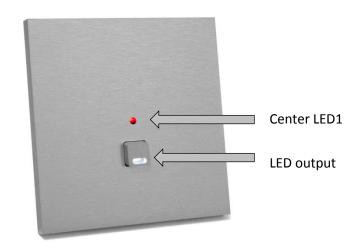


#### General parameter settings:

- 1. Adapt device name
- 2. Change button input debounce time

  Change the debounce time by 10ms 25ms 50ms 100ms
- 3. Day/night switching input object

  Possibility to change commands for day / night time





4. Center LED1 mode (available on ANNA, MONA, ZITA & LARA collections)

Every collection is available with or without leds. We distinguish the central leds (by the general parameter settings) and the LED outputs by the buttons. The central leds are orientationleds whereas the led outpus are feedback leds. When you have a product with central led, the leds can have the following settings:

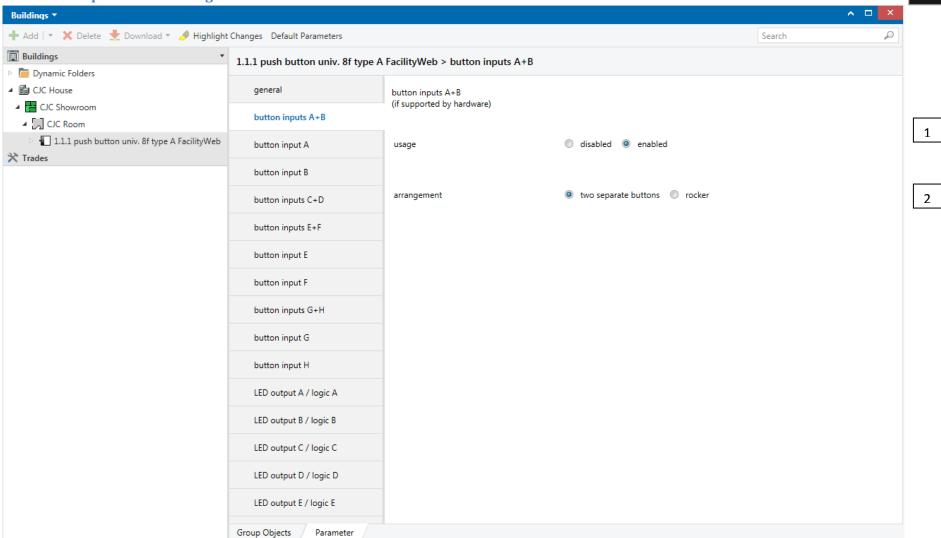
- Disabled
- LED is always ON
  - Center LED1 brightness day from 10% to 100% (10% 20% 40% 60% 80% 90% 100%)
  - o Center LED1 brightness **night**: disabled but use day function, OFF to 10% to 100% (OFF 10%- 20% 40% 60% 80% 90% 100%)
- LED is activated by external input object (e.g. alarm goes off and all the leds are flashing)
  - Set object center LED1 to "0" OR "1" at buspower recovery
  - o Center LED1 brightness **day** from 10% to 100% (10% 20% 40% 60% 80% 90% 100%)
  - Center LED1 brightness night: disabled but use day function, OFF to 10% to 100% (OFF 10%- 20% 40% 60% 80% 90% 100%)
  - Center LED1 set as normal or inverted (e.g. LED is on when light is off)

Center LED2 mode: for double cover plates with up to 8 functions (available on MONA, LARA & LOLA collections + custom made). (→ The Center LED2 has the same LED settings as the Center LED1.)





#### **6. 2 BUTTON parameter settings**

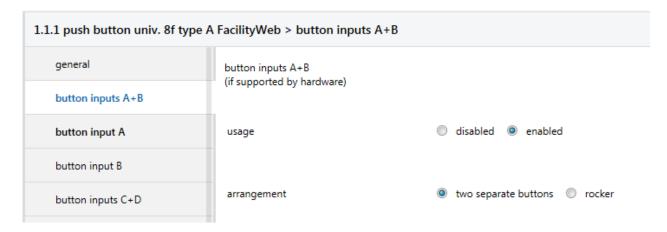






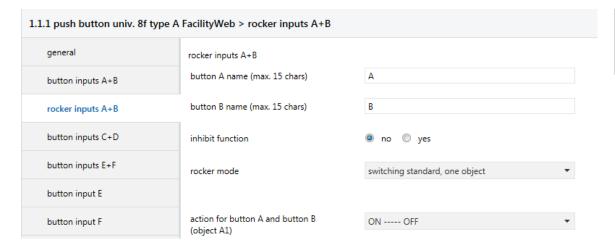
#### BUTTON / ROCKER parameter settings:

After the general settings, you can then do the separate button settings. First a general setting A+B / C+D / ... to program the function of the button settings and then in more detail the function of the button itself.



- 1. Usage
  Disable separate buttons or enable them
- 2. Arrangement ROCKER functions

  Set the buttons, in this case A+B, as a rocker function. Obviously, rocker function is only available for products with > 1 button.



Possible options when you have chosen the rocker function.

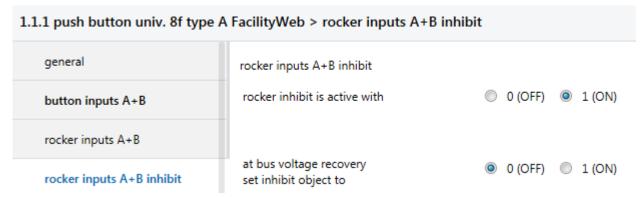


# systems

#### 2. 1 Button name ROCKER functions

Give a specific name / function to each rocker

#### 2.2 Inhibit function ROCKER FUNCTIONS



When you have selected "yes" at the inhibit function, the following extra options will appear: "Rocker inputs A+B inhibit" where you can select the functionality of the inhibit function. E.g. make sure that screens can not work when you are cleaning windows.

#### 2.3 Rocker mode

When in Rocker mode, button A and button B work together for functions (e.g. button A = ON & button B = OFF).

rocker mode	switching standard, one object	•	The 3 different rocker modes
	switching standard, one object	<b>✓</b>	
	dimming		
action for button A and button B (object A1)	blind / shutter		



systems

Switching standard, one object

action for button A and button B (object A1)



#### Dimming

action for button A and button B (s / I)
(object A1, object A2)

OFF / darker ----- ON / lighter

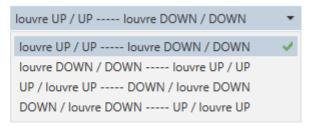
ON / lighter ----- OFF / darker

TOGGLE / darker ----- TOGGLE / lighter

TOGGLE / lighter ----- TOGGLE / darker

- o Time for long keystroke: set the time to detect a long keystroke from 200...60000ms
- Blind / shutter

action for button A and button B (s / l) (object A1, object A2) time for long keystroke (200 .. 60000 ms)



See example underneath.

Possibilities for long & short press functions for blinds / shutters.

*Time for long keystroke: set the time to detect a long keystroke from 200...60000ms* 

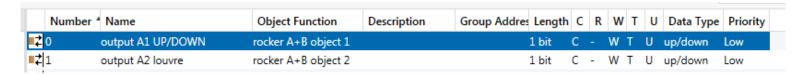




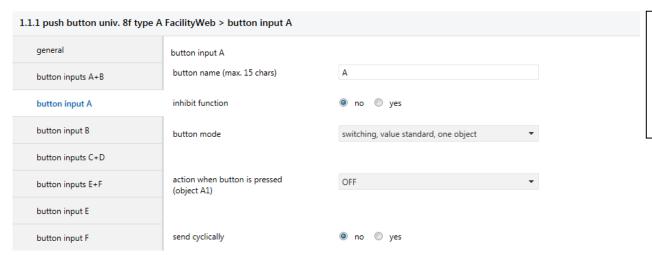
→ f.e. a short press moves the louvre, a long press moves the shutter / blind up or down. A separate group address for these 2 different movements is necessary (object A1 & A2).

Louvre = turning the louvre with a short press, a long press moves up / down the blinds

Please note that in the group objects, you have 2 different objects for these 2 different movements:



3. Arrangement separate button
Set the buttons, in this case A+B, as 2 separate buttons. You will then be able to set the functionality for each button separately.



Possible options when you have chosen the separate button function. After setting the functionality (button inputs A+B) to separate buttons, go to button input A & button input B to set the functions.

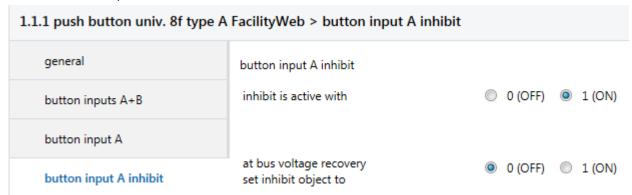
#### 3.1 Button name

Give a specific name / function to each button.





### 3.2 Inhibit function separate button function



When you have selected "yes" at the inhibit function, the following extra options appear: "Button input A" where you can select the functionality of the inhibit function. E.g. make sure that screens can not work when you are cleaning windows.

#### 3.3 Button modes separate buttons

button mode	switching, value standard, one object	•
	switching, value standard, one object	~
	switching, value standard, three objects	
action when button is pressed	switching, value press / release, two objects	
(object A1)	switching, value short / long, two objects	
	dimming	
datatype	blind / shutter	
	scene	





- Switching, value standard, one object
   Possible actions when button is pressed = OFF / ON / TOGGLE / send value (1Byte / 2Byte / 4 Byte)
   e.g. command 1 light / circuit with 1 button
- Switching, value standard, three objects
   Possible actions when button is pressed for each object (A1, A2 & A3) = OFF / ON / TOGGLE / send value (1Byte)
   e.g. give 3 different commands with the press of 1 button, command RGB lights, ...
- Switching, value press / release, two objects
   Possible actions when button is pressed for each object (A1 & A2) = OFF / ON / TOGGLE / send value (1Byte, 2Byte)
   e.g. opening of a door by distance
- Switching, value short / long, two objects

  Possible actions when button is pressed for each object (A1 & A2) = OFF / ON / TOGGLE / send value (1Byte, 2Byte)

  e.g. command circuit A by a short press and circuit B by a long press on the same button.
- Dimming
  - Action fur button A object A1 = ON / OFF / TOGGLE
  - Action for button A object A2 = DARKER / LIGHTER / DARKER LIGHTER
  - o Time for long keystroke: set the time to detect a long keystroke from 200...60000ms





- Blind / shutter
  - Action for button A short keystroke (object A1 or object A2)
    - Louvre UP
    - Louvre DOWN
    - Louvre UP / DOWN
    - UI
    - DOWN
    - UP/DOWN
  - Action for button A long keystroke (object A1 or object A2)
    - Louvre UP
    - Louvre DOWN
    - Louvre UP / DOWN
    - UP
    - DOWN
    - UP/DOWN
  - Time for long keystroke: set the time to detect a long keystroke from 200...60000ms
     A separate group address for these 2 different movements is necessary.

→E.g. a short press (or long press) moves the louvre, a long press (or short press) moves the shutter / blind up or down. A separate group address for these 2 different movements is necessary (object A1 & A2).

Louvre = turning the louvre with a short press, a long press moves up / down the blinds (or the other way around)

button mode

action of button for short keystroke

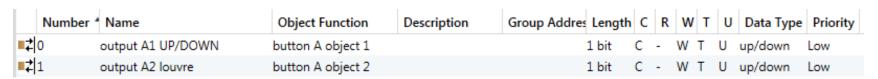
action of button for long keystroke

(object A1 or object A2)

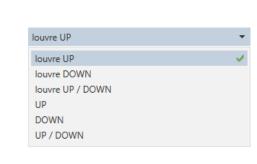
(object A1 or object A2)

time for long keystroke

(200 .. 60000 ms)



→ Please note that in the group objects, you have 2 different objects for these 2 different movements:

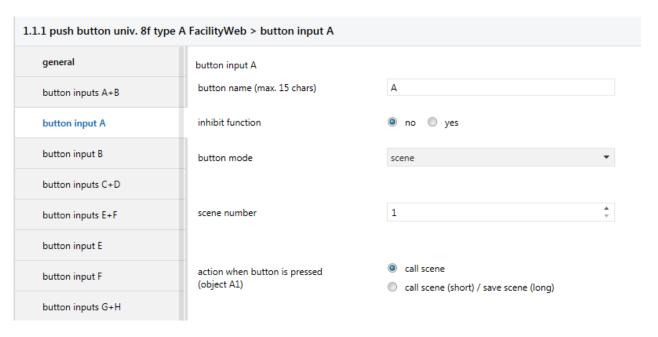


blind / shutter





- Scene mode (only available in 2 separate button mode)
  - Set scene number (scenes themselves need to be set up on the actuator parameter settings)
  - Action when button is pressed (object A1)
    - Call scene
    - Call scene (short) / save scene (long)
      - Set time for long keystroke (200 60000ms)







## **6.3 LED OUTPUT parameter settings**

LED outputs are available on ANNA, ZITA, MONA, LARA and LOLA collection.

ANNA collection = yellow leds
ZITA, MONA, LARA, LOLA collection = white leds

1.1.1 push button univ. 8f type A	FacilityWeb > LED output A / logic A		
general	LED output A / logic A		
button inputs A+B	LED mode	LED is activated by external input objects	
rocker inputs A+B	LED brightness (day)	100% ▼	
button inputs C+D	LED brightness (night)	10% ▼	
button inputs E+F	note: for day / night switching use		
button input E	the day / night switching object.		
button input F	at buspower recovery set object LED A1 to	do not initialize $lacksquare$	
button inputs G+H	time delay / blinking	staircase function	
button input G	timebase for staircase function	17 s	
button input H	factor for staircase function		
LED output A / logic A	(2127)	10 ‡	
LED output A scenes	logic combination	none •	
LED output B / logic B	scenes	no	
LED output C / logic C	status is transmitted	at datagram reception ▼	
LED output D / logic D	LED output is	normal INVERTED	
LED output E / logic E			

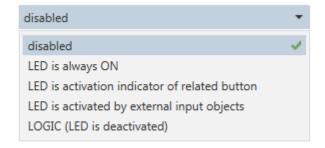


#### 1. LED mode



#### There are 4 LED modes:

LED mode



- Disabled
- LED is always on

LED output A / logic A

LED mode

LED is always ON

▼

LED brightness (day)

LED brightness (night)

disabled, brightness (day) is used

note: for day / night switching use the day / night switching object.

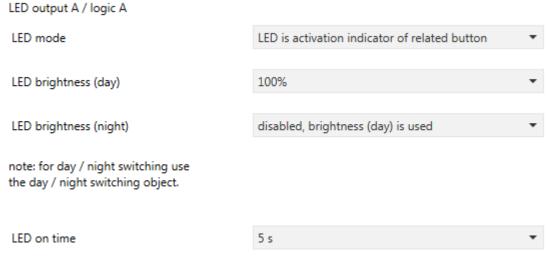
- Set LED brightness DAY from 10 100% (10% 20% 40% 60% 80% 90% 100%)
- Set LED brightness NIGHT from disabled (day led is used), OFF, 10 − 100% (10% 20% 40% 60% 80% 90% 100%)
   → for day / night switching, use the day / night switching object





LED is activation indicator of related button

E.g. The led is on when you press the button or is on for a certain time period (LED on time) after you pressed the button



- Set LED brightness DAY from 10 100% (10% 20% 40% 60% 80% 90% 100%)
- Set LED brightness NIGHT from disabled (day led is used), OFF, 10 − 100% (10% 20% 40% 60% 80% 90% 100%)
   → for day / night switching, use the day / night switching object
- o LED on time
  - When button is pressed
  - 2s / 5s / 10s





• LED is activated by external input objects

E.g. LED is on when the lighting circuit is on (feedback function), all LEDs are blinking when the alarm goes off, ... You can give a separate group address when this mode is on (feedback address f.i.), ...

LED output A / logic A			
LED mode	LED is activated by external input objects		
LED brightness (day)	100%	,	
LED brightness (night)	10%	•	
note: for day / night switching use the day / night switching object.			
at buspower recovery set object LED A1 to	do not initialize	•	
time delay / blinking	on / off delay	•	
timebase for on / off delay	1.0 s	•	
factor for on delay (0127)		<b>A</b>	
factor for off delay (0127)		÷.	
logic combination	none	•	
scenes	no		
status is transmitted	at datagram reception	•	
LED output is	normal		





- Set LED brightness DAY from 10 100% (10% 20% 40% 60% 80% 90% 100%)
- Set LED brightness NIGHT from disabled (day led is used), OFF, 10 − 100% (10% 20% 40% 60% 80% 90% 100%)
   → for day / night switching, use the day / night switching object
- o at buspower recovery, set object LED A1 to:
  - **•** "0"
  - **u**"1"
  - Status before buspower failure

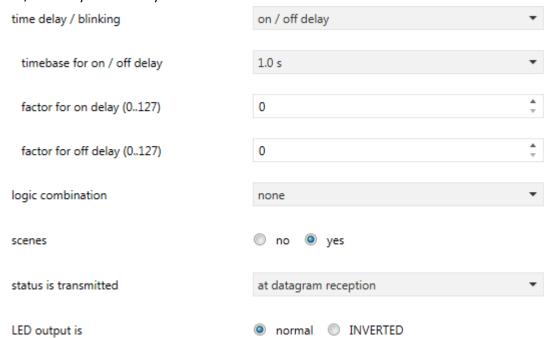




 Time delay / blinking time delay / blinking



• On / off delay  $\rightarrow$  set delay timebase from 1.0s – 1.2h







• LED output scenes

When you have opted "yes" for scenes, you will notice a new LED output possibility in the parameterisation left column.

1.1.1 push button univ. 8f type A FacilityWeb > LED output A scenes				
general	LED output A scenes	LED output A scenes		
button inputs A+B	scene 1	ON	•	
rocker inputs A+B	scene 2	ON	•	
button inputs C+D	scene 3	ON	•	
button inputs E+F	scene 4	ON	•	
button input E	scene 5	no action		
button input F				
button inputs G+H	scene 6	no action	•	
button input G	scene 7	no action	•	
button input H	scene 8	no action	•	
LED output A / logic A				
LED output A scenes	save scenes internally	o no yes		





■ Staircase function → timebase from 130ms – 1.2h

E.g. leds remain on for a certain time period

time delay / blinking	staircase function $ w$		
timebase for staircase function	17 s ▼		
factor for staircase function	10 *		
(2127)			
logic combination	none •		
scenes	no    yes		
status is transmitted	at datagram reception 🔻		
LED output is	normal		





•	Blinking if "1" & Blinking if "0"		
	time delay / blinking	blinking if "1"	•
	timebase for blinking	260 ms	*
	factor for on time (2127)	10	*
	factor for off time (2127)	10	<b></b>
	,		*
	logic combination	none	•
	scenes	no  ves	
	status is transmitted	at datagram reception	*
	LED output is	normal INVERTED	

- o Logic combination
  - AND / OR / EXOR





#### • LED mode LOGIC: LED is deactivated

# LED output A / logic A LOGIC (LED is deactivated) LED mode at buspower recovery "0" set object LOGIC A1 to time delay / blinking none AND logic combination "1" at buspower recovery set logic object LOGIC A2 to scenes at value change status is transmitted





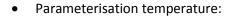
# **6.4 Temperature & humidity settings**

Enable temperature and / or humidity sensor (only applicable for article numbers containing 'TH' in its reference).

1.1.1 push button univ. 8f type	A FacilityWeb > temperature and hum	nidity			
button inputs C+D	temperature and rel. humidity (if supported by hardware)				
button inputs E+F	temperature sensor	odisabled enabled			<u> </u>
button input E	temperature offset in 1/10K	0	<u>*</u>		
button input F	(is added to temp. value: -100100)				
button inputs G+H	send when temperature changes	do not send	•		
button input G	rel. humidity sensor				<u> </u>
button input H			. 1		1
LED output A / logic A	rel. humidity offset in % (is added to humid. value: -1010)	0	* **		
LED output B / logic B	send when rel. humidity changes	do not send	•		
LED output C / logic C					
LED output D / logic D	cyclic sending of temperature and rel. humidity				
LED output E / logic E	time for cyclic sending (01020 s) (0 = cyclic sending disabled)	300	÷		
LED output F / logic F					
LED output G / logic G	external temperature input object (if supported by hardware)	disabled enabled			
LED output H / logic H					
temperature and humidity					
r id 67 output temperatu	ure EIS5 T object 1		2 bytes C - W T U	temperature (°C)	Low
12 68 output rel. humid	•		2 bytes C - W T U		Low

<sup>→</sup> Temperature and humidity can now be found in the Group Objects





temperature and rel. humidity
(if supported by hardware)

temperature sensor

olisabled
enabled

temperature offset in 1/10K
(is added to temp. value: -100...100)

send when temperature changes

do not send

olive temperature offset in 1/10K

is added to temp. value: -100...100)



rel. humidity sensor	odisabled enabled	
rel. humidity offset in % (is added to humid. value: -1010)	0	<b>‡</b>
send when rel. humidity changes	do not send	•
	do not send	~
	2 %	
cyclic sending of temperature	5 %	
and rel. humidity	10 %	







• Cyclic sending of temperature and rel. humidity

cyclic sending of temperature and rel. humidity

time for cyclic sending (0..1020 s) (0 = cyclic sending disabled)



• External temperature input object

external temperature input object (if supported by hardware)

