![Lunatone logo]
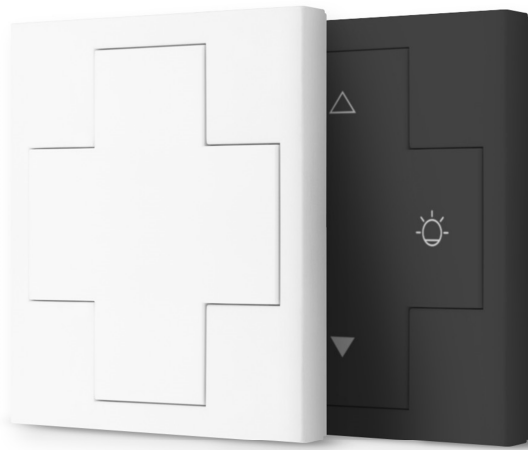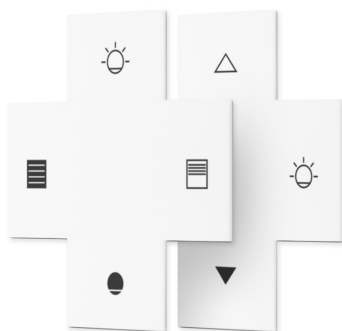
DALI Switch Cross

Datasheet
Multifunctional Switch Module

DALI control unit with four
programmable pushbuttons

Art. Nr. 86459793-W
Art. Nr. 86459793-W16
Art. Nr. 86459793-B

Accessory:
cross plates with symbols
Art. Nr. 86459793-Z00
Art. Nr. 86459793-Z01
Art. Nr. 86459793-Z02

# DALI Switch Cross Multifunctional Switch Module

Overview

- 4 configurable pushbuttons
- freely assignable functions (DALI-commands)
- The DALI Switch can control DALI systems without any configuration effort by using the factory settings.
- Individual addresses (0-63), group addresses (0-15) or broadcast
- Different switching modes can be assigned to each pushbutton (short, long press; toggle; etc.)
- 4 effective areas with individual functions can be assigned to each pushbutton

- DALI DT8 support for adjustable white luminaires
- Configurable „power-up"-function.
- Memory function for brightness
- Easy configuration via DALI USB and DALI Cockpit Software tool
- Multiple DALI Switches can be used on the same DALI signal line
- Mounting on cavity walls or conduit boxes
- supplied via DALI signal line

Specification, Characteristics

type	DALI Switch Cross		
article number	86459793-W	86459793-W16	86459793-B

electric data:			
supply	via DALI signal line		
typ. current consumption	1.5mA		
output	DALI		
control input	4 programmable push buttons		

techical data:			
behaviour after power failure	configurable		
storing and transportation temperature	-20°C…+75°C		
operational ambient temperature	-20°C…+75°C		
protection class	IP20		
connecting wire cross section	up to 2.5 mm^2		
dimensions	82mm x 82mm x 8,5mm		
mounting	wall mounting		
colour	pure white (RAL9010)	traffic white (RAL9016)	black

dimensions:

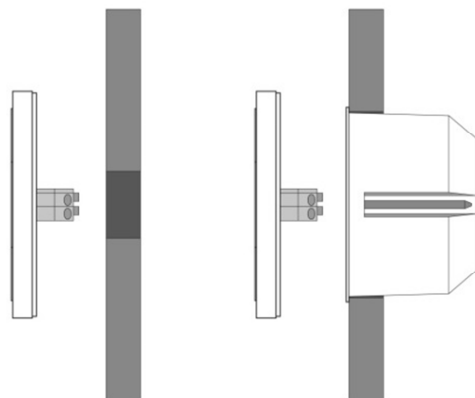DALI Switch Cross

82,5 mm

82,5 mm

8,5 mm

60 mm
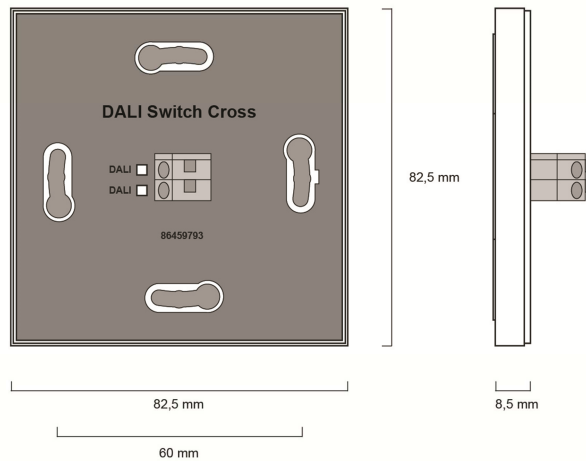
typical installation:
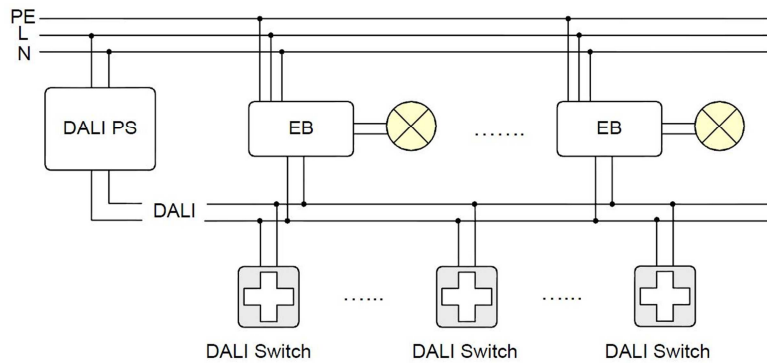
Installation

- The DALI Switch is directly powered by the DALI line (typical current consumption 1.5mA.)
- The connection to the DALI-line is polarity free
- The input is overvoltage protected (up to 270Vac)
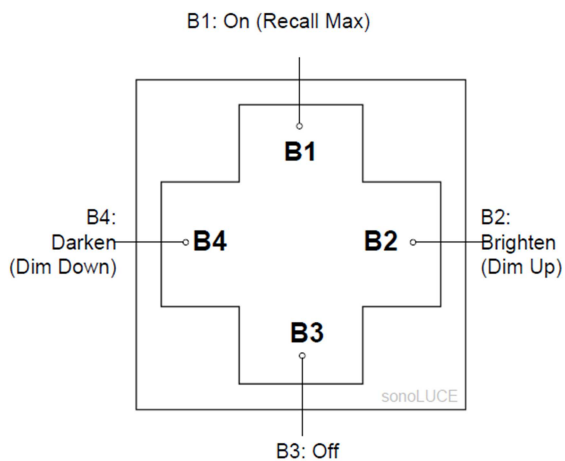- Mounting on cavity walls or conduit boxes

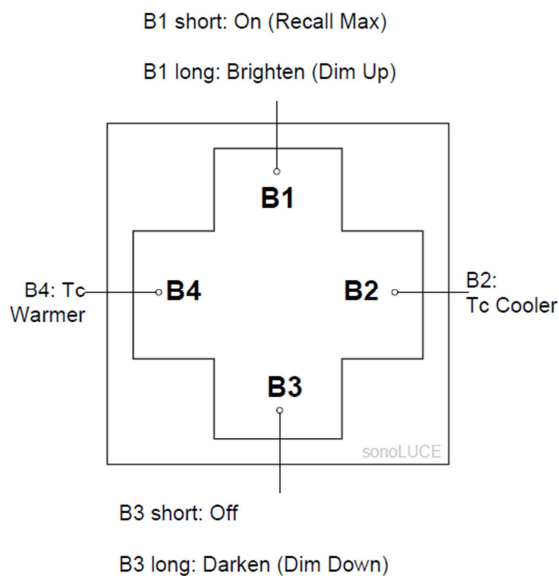mounting with/without flush-mounted box

Function

- Easy addressing with DALI USB and DALI Cockpit Software tool
- Factory settings (Preset1) can be restored with DALI Cockpit
- Preset2 for colour temperature settings can be configured via DALI Cockpit
- individual configuration via DALI-Cockpit Software tool
- selection of DALI commands, predefined and customisable macros
- predefined macros for dynamic and sequential scene recall, colour temperature control and memory function.
- settings for behaviour and delay after power failure can be defined (no change, OFF, Scene 0-15)
- additional operating modes to include the switch in a central control system.

Preset1: switch & dim (factory settings)

Preset2: switch & dim, colour temperature control

B1: On (Recall Max)

B4: Darken (Dim Down) — B4   B2 — B2: Brighten (Dim Up)

B1

B3

B3: Off

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B1 short: On (Recall Max)

B1 long: Brighten (Dim Up)

B4: Tc Warmer — B4   B2 — B2: Tc Cooler

B1

B3

B3 short: Off

B3 long: Darken (Dim Down)

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Setting options for the pushbuttons of DALI Switch Cross:
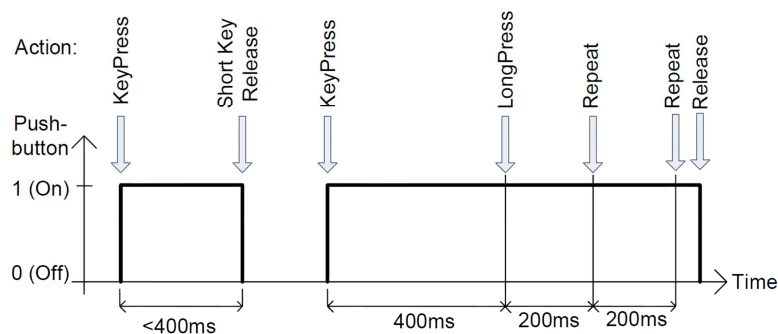
Definition:

pushbutton	duration	
Definiton	**min**	**max**
short	40 ms	400 ms
long	>400 ms	

button-function	key press	release after short press	long press	repeat	remarks
0	-	-	-	-	-
1	CmdX	-	-	-	sends CmdX on key press
2	CmdX	-	CmdY	-	sends CmdX on key press sends CmdY after long press delay
3	CmdX	-	CmdY	CmdY	sends CmdX on key press sends CmdY with 200ms repetition after long press delay
4	CmdX / CmdY toggle	-	-	-	sends CmdX and CmdY alternating on key press
5	CmdX / CmdY toggle	-	-	-	CmdX/Y **depending on bus status**
6	-	CmdX / CmdY toggle	ON and STEPUP	UP / DOWN	CmdX/Y **depending on bus status**, UP/DOWN alternating, ON AND STEPUP, if bus state is OFF before UP
7	-	-	-	-	-
8	-	-	-	-	-
9	CmdX	-	-	-	Staircase control. CmdY is sent after a programmable delay.
10	-	CmdX	CmdY	CmdY	CmdX after short press, CmdY for repeat
11	CmdX	-	-	CmdY	CmdX with repeat; repeats CmdY without long press delay
12	CmdX	CmdY	-	CmdX	CmdX with repeat; if button is released within short press time, CmdY is finally sent

Note: When using overlapping effective areas a correct evaluation of the lighting state (bus status) is no longer guaranteed.

Note: All effective areas assigned to one specific push button will receive the same DALI commands.

Settings for CmdX/CmdY

CmdX and CmdY refer to commands and command sequences which are triggered by the switching actions. Following options:

- DALI commands
- predefined macros (sequence of commands)
- user defined macros

DALI-commands:

command number	command name	function
-	DIRECT ARC POWER	direct arc power Level in %
0	OFF	off
1	UP	dim up (using fade rate)
2	DOWN	dim down (using fade rate)
3	STEP UP	increases light level by one increment
4	STEP DOWN	decreases light level by one increment
5	RECALL MAX	recalls MAX value
6	RECALL MIN	recalls MIN value
7	STEP DOWN AND OFF	decreases light level by one increment, if value at MIN switch off
8	ON AND STEP UP	increases light level by one increment, if OFF switch on
10	GOTO LAST ACTIVE LEVEL (DALI 2)	command for DALI2 ballasts: turns on to the last active value (firmware 2.0 and up)
16-31	GO TO SCENE	go to scene 0-15

Macros:

macro number	macro (required memory)	function
M1	Go Home (2 Byte)	light dims down to 0 with a predefined fade-time, after completion next fade-time can be transferred
M2	Sequential Scenes (3Byte)	with each key push the scene will be switched, the list of scenes can be customized
M3	Dynamic Scenes (33 Byte)	dynamic sequence up to 16 scenes, fade-time and delay (0-254s) can be defined, stops with next button press
M4	DALI-Reset (1 Byte)	send command DALI reset (optional: delete addressing)
M5	User Defined Cmd-List (5 Byte je Befehl, 19 Befehle max.)	Loading of user defined macro-file
M6	3x Cooler (DT8) (0 Byte)	activates DT8 and recalls 3x the command STEP COOLER (Firmware 1.4 and up)
M7	3x Warmer (DT8) (0 Byte)	activates DT8 and recalls 3x the command STEP WARMER (Firmware 1.4 and up)
M8	Memory Switch On (4 Byte)	MEMORY FUNCTION Turns on to the last active value, use only in combination with 'Memory Switch Off' (Firmware version 1.8 and up)
M9	Memory Switch Off (3 Byte)	MEMORY FUNCTION saves the current value and turns off (Firmware version 1.8 and up)
M10	Memory Dim Up (after Switch Off)	MEMORY FUNCTION enables dimming from turned off state up to MAXLEVEL, after having

	(3 Byte)	turning off with with 'Memory Switch Off' (Firmware version 1.8 and up)
M11	Tc Cooler abs (DT8) (1 Byte)	reduces colour temperature for a preset value (2-10Mirek), the absolute value is saved in the device (default=250 Mirek =4000K), (Firmware version 1.14 and up)
M12	Tc Warmer abs (DT8) (1 Byte)	increases colour temperature for a preset value (2-10Mirek), the absolute value is saved in the device (default=250 Mirek =4000K), (Firmware version 1.14 and up)

☞ **Note:** For each push button a macro memory of max 96 bytes is available. Those can be devided on commands X and Y. The sum of CmdX and CmdY must not exceed 96 bytes. (the necessary memory is listed in the table above in the second column)

Memory function

DALI Switch Cross support several memory functions.

Method 1: Macros M8-M10, the current level is being saved as MAX-LEVEL before turning 'off', when turned 'on' the MAX-LEVEL (=last active level) is recalled, in addition the 'old' MAX-LEVEL is restored (Firmware version 1.14 and up)

Method 2: Support of DALI 2.0 command Nr. 10 - GOTO LAST ACTIVE LEVEL. Suitable for ballasts that support these commands (Firmware version 2.0 and up)

Method 3: A scene can be used a temporary storage. Before turning 'off' the current level is being saved as SCENE-VALUE, when turned 'on' this SCENE VALUE (=last active level) is being recalled.

DALI-Cockpit

With the use of the DALI Cockpit Software the functionality of each individual push button can be set. The available settings are decided in the following two groups: effective area (destination addresses) and functions (switching options, detail settings of button behaviour).
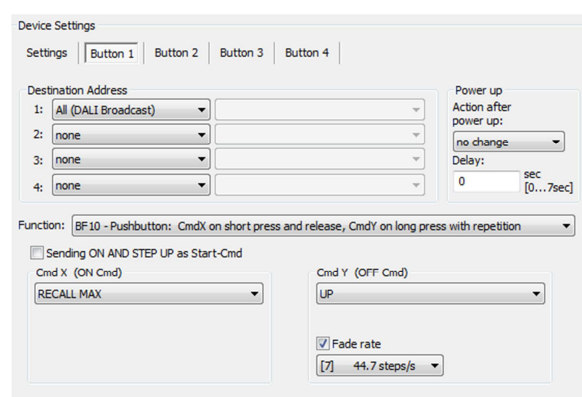
Operating modes

Besides the standard use as an active control device (direct control of ballasts in the DALI line → Master Mode), the DALI Switch Cross can be used in central control systems. Therefore two additional operating modes are offered: Slave Mode und Event Message Mode.

Master Mode (Default)

In this operating mode the DALI Switch functions as DALI control device and sends event triggered DALI commands to DALI addresses, as defined in the setup.

Event Message Mode

This mode enables the recall of predefined event commands within the framework of a proprietary protocol extension. The results
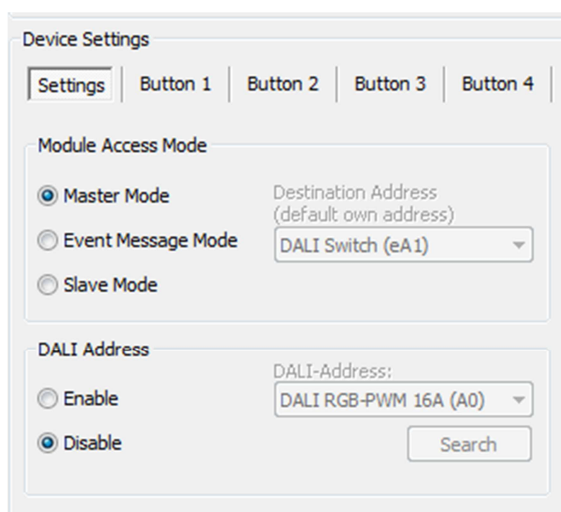
can be analysed by a central control unit. The light is not being controlled directly.

☞ **Note:** every command (DALI or proprietary protocol extension) can be defined in the Master mode by the user in a custom command list (Macro M5)

Slave Mode

The DALI Switch will only answer on queries, it is not active by itself. The change can be set in the DALI Cockpit.

Purchase Order Information

ArtNr. 86459793-W: DALI Switch, DALI Control Device with 4 configurable pushbuttons, RAL9010

ArtNr. 86459793-W16: DALI Switch, DALI Control Device with 4 configurable pushbuttons, RAL9016

ArtNr. 86459793-B: DALI Switch Black, DALI Control Device with 4 configurable pushbuttons, black

ArtNr. 86459793-Z00: cross plate with customized symbols

ArtNr. 86459793-Z01: cross plate with symbols for dimming

ArtNr. 86459793-Z02: cross plate with symbols for dimming and blinds
WAGO-system compatible version available:
ArtNr. 86459793-WA-W (White)
ArtNr. 86459793-WA-B (Black)

Additional Information and Equipment

DALI-Cockpit – free configuration tool from Lunatone for DALI systems
http://lunatone.at/en/dali-systems/software/

DALI-Products from Lunatone
http://www.lunatone.at/en/

Lunatone Datasheets and Manuals
http://lunatone.at/en/downloads/

Contact

Technical Support: support@lunatone.com

Requests: sales@lunatone.com

www.lunatone.com

Disclaimer

Subject to change. Information provided without guarantee. The datasheet refers to the current delivery.

The function in installations with other devices must be tested for compatibility in advance.