Sensors and Controls

DALI XC
At a glance

TRIDONIC

Table of Contents

About the device

1.1. What is the DALI XC
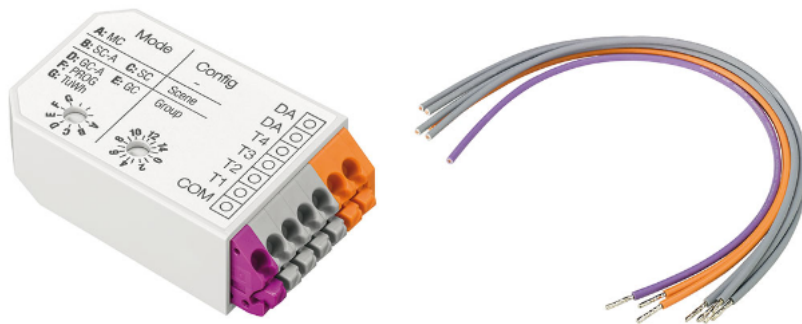
The DALI XC is a device with four inputs for controlling lighting with single momentary-action switches, double momentary-action switches and standard switches, which can be combined in some operating modes.

The DALI XC is supplied by the DALI control line. For this reason, a device that provides the voltage is required for use in a lighting system (e.g. DALI PS3). The DALI XC combines all the functions of the previous models "DALI MC", "DALI GC/-A" & "DALI SC/-A" and therefore creates a higher flexibility with the configuration and control of a DALI line.

1.2. Technical data

| Input	
Switch inputs	4
Output	DALI
Power supply	over DALI
Current draw on DALI bus	6 mA
Addresses per device	1 eD address
Starting time	<= 6 s

Settings

2.1. Mode selection
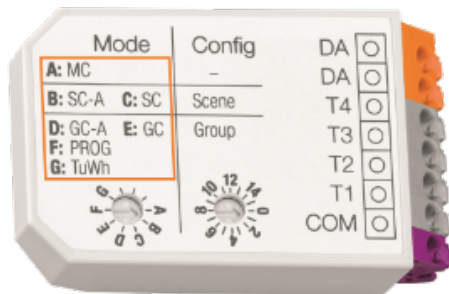
The device has seven operating modes. These are indicated by the letters A to G.
The operating mode is configured via the **rotary selector switch "Mode"**. If the rotary selector switch is set to a non-marked position, the DALI XC has no function.

2.2. Configuration of scenes and groups
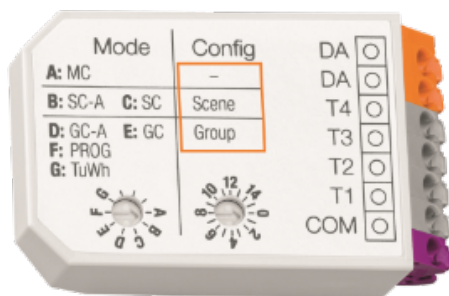
Depending on the selected operating mode, the connected switches can be assigned to different groups or scenes.
The configuration of scenes and groups is done via the **rotary selector switch "Config"**. The selector has 15 positions.

> ℹ️ NOTICE
>
> An overview of the configuration settings for the different operating modes is provided in the Configuration tables, S. 9.

Settings

2.3. Acoustic feedback

Some actions on the DALI XC produce a different number of high beep sounds. During the configuration, these beep sounds indicate that partial steps have been reached.

Number of beeps	Description
1x	_ Rotary selector switch was set into a new position _ Button press in programming mode _ After different configuration steps in programming mode
2x	_ After different configuration steps in programming mode
3x	_ Power-supply is established _ After different configuration steps in programming mode

Operating modes

> **ℹ NOTICE**
>
> An overview of the configuration settings for the different operating modes is provided in the Configuration tables, S. 9.

3.1. "Mode A: MC"

In "Mode A: MC" previously programmed functions can be called up via single momentary-action switches and/or double momentary-action switches and/or standard switches.

By default, the device has no functions in "MC" operating mode. But functions can be programmed via the masterCONFIGURATOR software (with version V2.10 or newer).
The rotary selector switch "Config" has no function in "Mode A: MC".

3.2. "Mode B: SC-A"

In "Mode B: SC-A" different scenes can be called via momentary-action switches.
Which scene is called by which switch can be set via the rotary selector switch "Config".

Also see table Assignment of switches to scenes, S. 9.

3.3. "Mode C: SC"

In "Mode C: SC" different scenes can be called and saved via momentary-action switches.
Which scene is called by which switch can be set via the rotary selector switch "Config". Steps for saving scenes in "Mode C: SC" are explained in the user manual of the DALI XC.

Also see table Assignment of switches to scenes, S. 9.

> **ℹ NOTICE**
>
> After the configuration, it is recommended to set the mode to "SC-A". Otherwise, saved scenes could be overwritten by other users.

3.4. "Mode D: GC-A"

In "Mode D: GC-A" luminaire groups can be switched ON/OFF or dimmed up and down via single momentary-action switches and/or double momentary-action switches.
The programming mode cannot be enabled. If the lighting system is switched to programming mode using another DALI XC device, the momentary-action switches connected to the DALI XC in "GC-A" operating mode can be used to group luminaires.

Also see table Assignment of switch groups to groups, S. 10 and Function assignment of buttons, S. 10.

TRIDONIC

Operating modes

3.5. "Mode E: GC"

In "Mode E: GC" luminaire groups can be switched ON/OFF or dimmed up and down via single momentary-action switches and/or double momentary-action switches.

A system extension is typically done in this operating mode. If the lighting system is in programming mode, the momentary-action switches connected to the DALI XC in "GC" operating mode can be used to group luminaires. A description how to enable the programming mode and group luminaires can be found in the user manual of the DALI XC.

Also see table Assignment of switch groups to groups, S. 10 and Function assignment of buttons, S. 10.

> **ℹ NOTICE**
>
> After the configuration, it is recommended to set the mode to "GC-A". Otherwise, saved scenes could be overwritten by other users.

3.6. "Mode F: PROG"

In "Mode F: PROG" the programming mode, which is used for commissioning or a system extension, can be started.

After the Start of the programming mode with "PROG", the operating mode is set to "GC" or "GC-A" to assign groups to luminaires in an installation. The operating mode "PROG" is used on an additionally connected DALI XC which is connected to an already existing DALI line. Therefore, it is possible to configure a DALI line, even if the installed DALI XCs in the DALI line are not accessible and the operating mode cannot be changed.

A detailed description for commissioning is available in the user manual of the DALI XC.

3.7. "Mode G: TuWh"

In "Mode E: TuWh" the intensity and colour temperature of Tunable White luminaires can be set via double momentary-action switches.

Also see table Assignment of groups to inputs, S. 11 and Function assignment of buttons, S. 12.

Wiring example
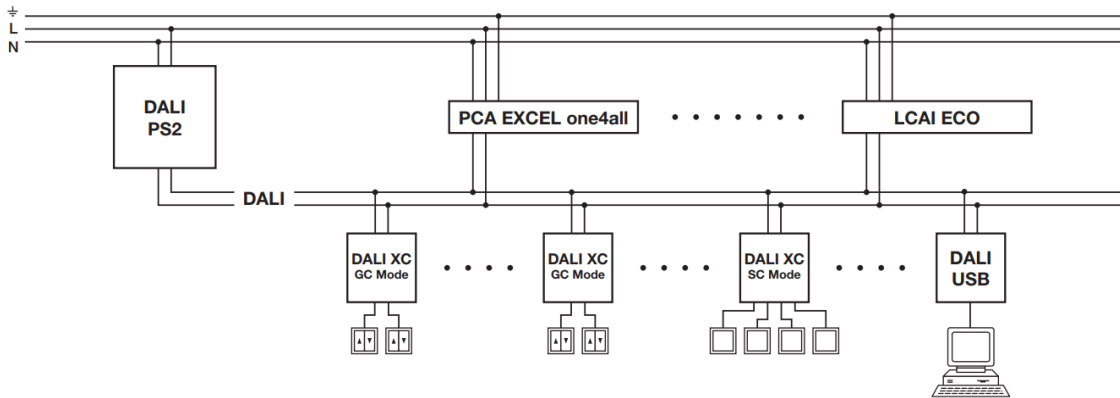
Further informations to the wiring are available in the installation instructions of the DALI XC.

Configuration setting tables

Table 1: Assignment of switches to scenes via "Config" rotary selector in "Mode B: SC-A" and "Mode C: SC"

Selected position of "Config" rotary selector	Assignment of switches (T1-4) to scenes (0-15)			
	T1	**T2**	**T3**	**T4**
0	0	1	2	3
1	1	2	3	4
2	2	3	4	5
3	3	4	5	6
4	4	5	6	7
5	5	6	7	8
6	6	7	8	9
7	7	8	9	10
8	8	9	10	11
9	9	10	11	12
10	10	11	12	13
11	11	12	13	14
12	12	13	14	15
13	13	14	15	0
14	14	15	0	1
15	15	0	1	2

TRIDONIC

Configuration setting tables

Table 2: Assignment of switch groups to groups via "Config" rotary selector in "Mode D: GC-A" and "Mode E: GC"

Selected position of "Config" rotary selector	Assignment of switch groups (T1-4) to groups (0-15)	
	T1 & T2	**T3 & T4**
0	Broadcast	0
1	0	1
2	1	2
3	2	3
4	3	4
5	4	5
6	5	6
7	6	7
8	7	8
9	8	9
10	9	10
11	10	11
12	11	12
13	12	13
14	13	14
15	14	15

Table 3: Function assignment of buttons in "Mode D: GC-A" and "Mode E: GC"

Input	Effective range	Action	Reaction	DALI command
T1		Short button press	OFF	OFF
		Long button press	Dim down	DOWN
T2	Group x*	Short button press	ON (100 %)	RECALL MAX LEVEL
		Long button press	Dim up	UP
T3		Short button press	OFF	OFF
		Long button press	Dim down	DOWN
T4	Group y**	Short button press	ON (100 %)	RECALL MAX LEVEL
		Long button press	Dim up	UP

* If "Config" rotary selector switch in example on position 0, button presses will be sent as broadcast.

** If "Config" rotary selector switch in example on position 0, button presses will be sent as group 0.

TRIDONIC

Configuration setting tables

Table 4: Assignment of groups to inputs via "Config" rotary selector in "Mode G: TuWh"

Selected position of "Config" rotary selector	Assignment of switches (T1-4) to inputs (0-14)
	T1 - T4
0	Broadcast
1	0
2	1
3	2
4	3
5	4
6	5
7	6
8	7
9	8
10	9
11	10
12	11
13	12
14	13
15	14

TRIDONIC

Configuration setting tables

Table 5: Function assignment of buttons in "Mode G: TuWh"

Input	Effitive range	Action	Reaction	DALI command
T1		Short button press	OFF	OFF
		Long button press	Dim down	DOWN
T2		Short button press	ON (100%)	RECALL MAX LEVEL
		Long button press	Dim up	UP
T3	Group x*	Short button press	Colour temperature step warmer	COLOUR TEMPERATURE Tc STEP WARMER
		Long button press	Colour temperature constantly warmer	COLOUR TEMPERATURE Tc STEP WARMER
T4		Short button press	Colour temperature step cooler	COLOUR TEMPERATURE Tc STEP COOLER
		Long button press	Colour temperature constantly cooler	COLOUR TEMPERATURE Tc STEP COOLER

* If "Config" rotary switch in example on position 7, button presses will be sent as group 6.

Reference list

- masterCONFIGURATOR software (ab Version V2.10): https://www.tridonic.com/com/en/software-masterconfigurator.asp
- DALI XC Manual: https://www.tridonic.com/com/en/download/technical/Manual_DALI_XC_en.pdf
- DALI XC Installation: https://www.tridonic.com/com/en/download/technical/Installation_DALI_XC.pdf
- DALI PS3 Overview: https://www.tridonic.com/com/en/products/dali-ps3.asp

TRIDONIC