

## Datasheet

## Multi Control Device

DALI-2 switch input modules can be added to convert normal 'push-to-make' switches to DALI-2 switches

factory default setting: **input device activated**

# DALI-2 SWITCH4T Control Device

## Overview

- DALI-2 switch input modules can be added to convert normal 'push-to-make' switches to DALI-2 switches.
- Suitable for push-buttons, as well as switches
- Can work in 'input device' or 'application controller' mode.
- Multi-master capable: Several modules can be installed within a DALI circuit
- Different DALI commands can be assigned to each input
- In addition to the standard DALI commands, the application controller also supports DALI DT8 TC control
- short button press, long button press (with repetition for dimming) and «toggle» are supported.
- Offering an easy solution to the partition wall problem.
- Easy installation: the device can be installed in a flush-mounted installation box and is supplied via the DALI bus
- The DALI-interface can handle mains voltage, protecting the device in case of wrong wiring.
- easy configuration via CORSL DALI USB interface and DALI-Config Software Tool.



## Specification, Characteristics

Model No	SWITCH4T
article number	8980040321120
factory default setting	input device

**DALI interface, power supply: DA, DA**

output type	DALI, DALI-2, Multimaster
terminal markings	DA, DA
input voltage range	9,5V ... 22,5Vdc according to IEC62386
typ. current consumption DALI (at 16.5V)	2 mA
Max. current consumption DALI (Inrush current at 22.5 V)	8 mA
DALI addresses	none
DALI-2 addresses	1

**input**

Input type	Potential free button/switch
number of inputs	4
marking input terminals	T1, T2, T3, T4, COM
minimum length of control pulse	200ms
control pulse length for long press	configurable: 200-5100ms
max wire length	50cm

**environmental conditions**

storing and transportation temperature	-20°C ... +75°C
operational ambient temperature	-20°C ... +75°C
rel. humidity, not condensing	15% ... 90%

**general data**

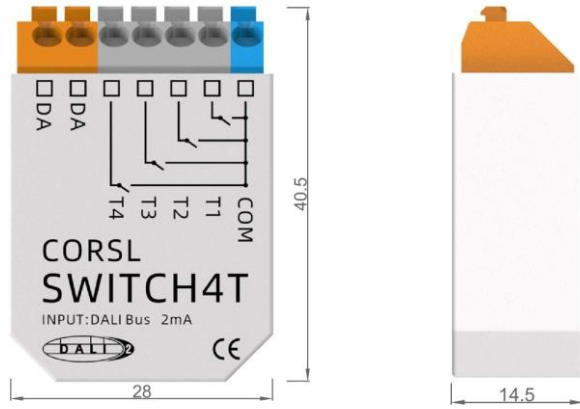
dimensions (l x w x h)	40.5mm*28mm*14.5mm
mounting	back box installation, installation in protection class II devices
rated maximum temperature tc	75°C
protection class	II in intended use
protection degree housing	IP40
protection degree terminals	IP20

**terminals**

connection type	spring terminal connectors
wire size: solid core	0,25 ... 0,65 mm <sup>2</sup> (23 ... 19AWG)
wire size: fine core	0,25 ... 0,65 mm <sup>2</sup> (23 ... 19AWG)
wire size: using wire end ferrule	0,2 ... 0,5 mm <sup>2</sup>
stripping length	8~9 mm
tightening/ release of wire	push mechanism

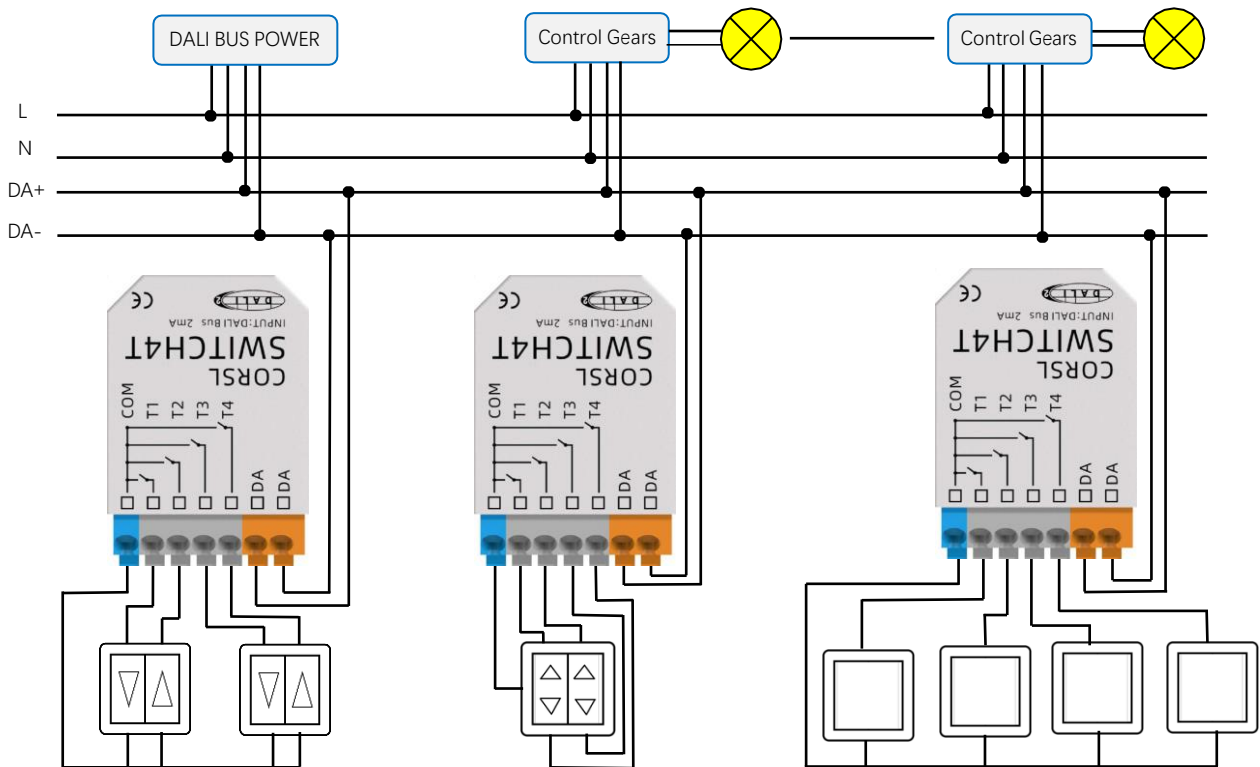
**standards**

DALI	IEC62386-101, IEC62386-102, IEC62386-103, IEC62386-301
EMC	EN IEC 61547, EN IEC 55015
ROHS	IEC 62321
markings	DALI-2, CE



Dimensions

## Typical application



## Installation

- SWITCH4T can be installed in a flush-mounted installation box
- The device is directly connected and supplied by the DALI bus, A DALI bus power supply (e.g. DALI PS) is required
- The connection to the DALI terminals can be made regardless of polarity. The bus input is protected against overvoltage(mains voltage).
- The DALI wiring can be realised with standard low-voltage installation material, No special cables are required.
- The maximum cable length of the button connections is 50cm.
- Only 1 wire may be connected to each terminal. When using double wire end ferrules, the connection capacity of the terminal must be considered.
- The wiring should be carried out as a permanent installation in a dry and clean environment.
- Installation may only be carried out in a voltage-free state of the system and by qualified specialists.
- National regulations for setting up electrical systems must be followed.

**Attention :** The DALI-signal is not classified as SELV circuit (Safety Extra Low Voltage). Therefore, the installation regulations for low voltage apply.

**Attention :** The voltage drop on the DALI line must not exceed 2V at maximum length (300m) and maximum bus load (250mA).

## Addressing and Configuration

- After installation, the device can already be used with DALI-2 'input device'(default factory settings), the device can be operated by higher-level central control units (support IEC62386-103). you can use the central control units(support IEC62386-103) to address and set the function of the device.
- If no higher-level central control units or central control unit doesn't support IEC62386-103 on the DALI Bus, with the help of DALI-Config software and DMUmini, you can address the device first and activate to 'application controller' mode, then configuration or location.

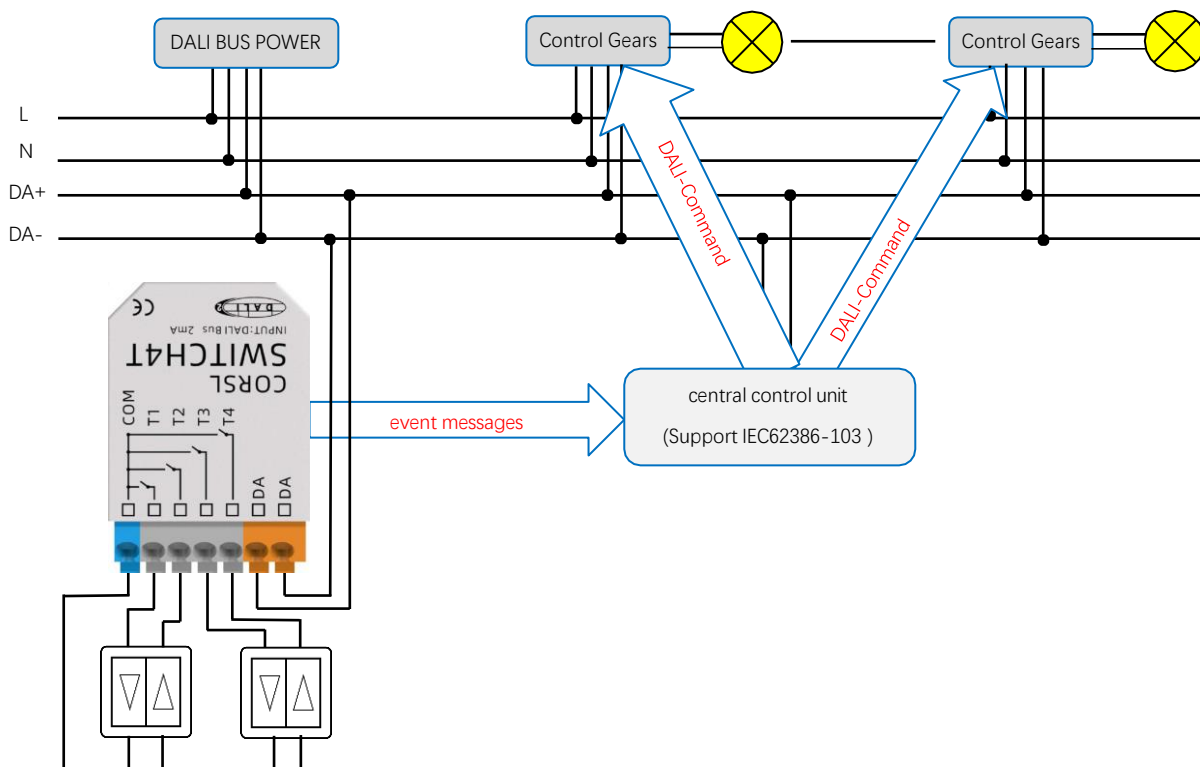
## Operation and function

SWITCH4T can work in 'input device' or 'application controller'. It is necessary to distinguish between 'input device' and 'application controller':

- **Input device:** generates input notifications (event messages) that are interpreted and processed by control units(support IEC62386-103),the control units gives direct DALI control commands that are immediately executed by the DALI drivers.
- **application controller:** gives direct DALI control commands that are immediately executed by the DALI drivers.

### Mode 1: input device(factory default setting)

In this mode, the function of each push button input can be set individually. luminaires are not controlled directly by the device. The device serves as such an input device, push buttons results in input notifications (event messages) that are interpreted and processed by central control units (support IEC62386-103). Addressing and device configurations can be made with the central control units(support IEC62386-103).



In this operating mode, no DALI control commands are sent on the DALI bus by SWITCH4T but DALI-2 input notifications (event messages) for DALI-2 compatible central control systems.

The device supports 4 instances of type 1 (IEC62386-301, Input Devices - Push Button), which are assigned to the 4 button inputs.

As defined in the standard, the following events are supported and sent on the DALI bus as INPUT NOTIFICATIONS:

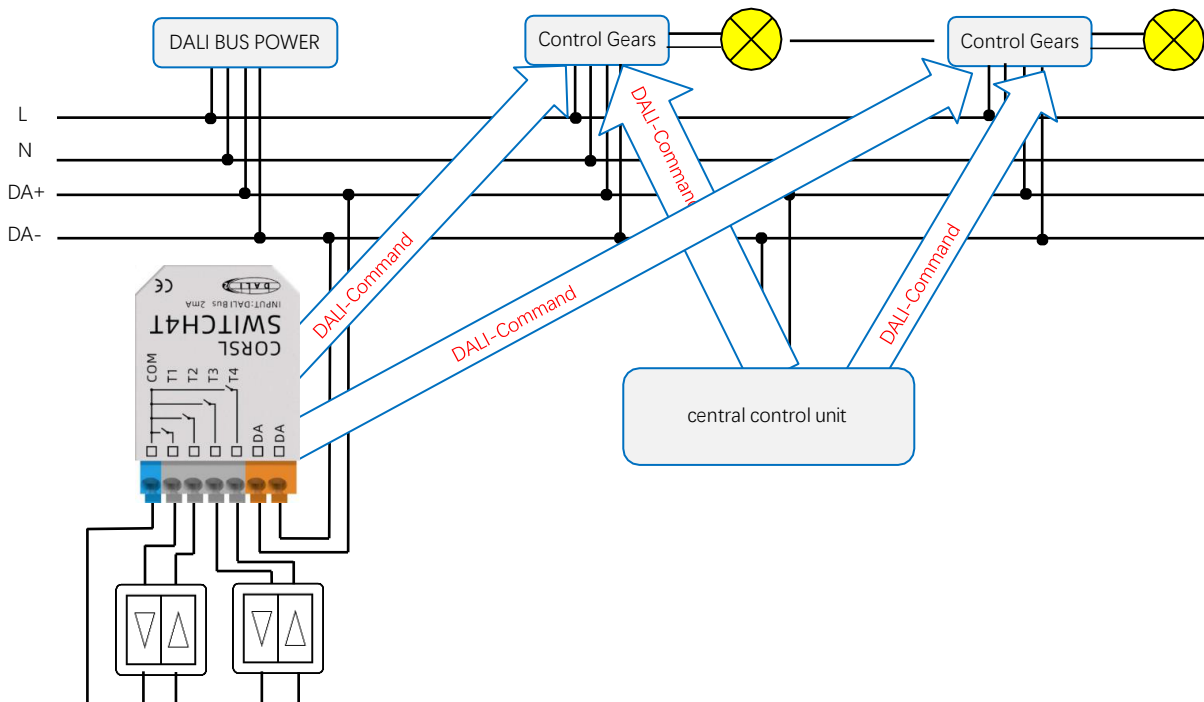
Event name	Event Information	Description
Button released	00 0000 0000b	The button is released
Button pressed	00 0000 0001b	The button is pressed
Short press	00 0000 0010b	The button is pressed and released, without being pressed quickly again (in case of double press enabled), or the button is pressed and quickly released (in case double press is disabled)
Double press	00 0000 0101b	The button is pressed and released, quickly followed by another button press
Long press start	00 0000 1001b	The button is pressed without releasing it
Long press repeat	00 0000 1011b	Following a long press start condition the button is still pressed, the event occurs at regular intervals as long as the condition holds
Long press stop	00 0000 1100b	Following a long press start condition, the button is released
Button free	00 0000 1110b	The button has been stuck and is now released
Button stuck	00 0000 1111b	The button has been pressed for a very long time and is assumed stuck.

type 1

## Mode 2: application controller

If the central control unit on the DALI Bus doesn't support IEC62386-103 or no central control unit on the DALI BUS, with the help of DMUmini and DALI-Config software, you can address the control device first, with the selection of the device in the component tree, the device settings page is split in two tabs: one for 'General' settings and one for 'Application' settings. then activate 'application controller' in 'General' tab first and configuration it in the 'Application' tab. Different DALI commands can be assigned to each input.

**Localisation:** The "Physical Selection List" can be used for the control devices and contains the order in which the inputs/buttons are triggered. This should make locating of control devices after addressing easier. To create a "Physical Selection List", you need to trigger inputs/button on the control devices. The control device' address will show up in the "Physical Selection List" according to the order you physically trigger them. If you left click the address to choose in the "Physical Selection List", then click "Goto->"-button, it will goto the control device's interface then you can configuration the control device. You can click "Clear List"-button in the "Physical Selection List" to clear the list.



## ➤ Configuration by DMUmini

You can select an unoccupied address from the drop-down menu and click the 'SET' button on the right to save.

Assignment of the device to the 32 control device groups (attention: these are not the luminaire/gear groups)

activate 'Application controller Enable' in "General" tab first, then configuration the device in 'Application' tab. After configuration in 'Application' tab, you need to click the save button on the top right side to save.

Activation of the notification after a PowerUp

activate/deactivate the 'Application Controller Enable', it will automatically be saved.

- When activate the 'Application Controller Enable', it will work in 'application controller' mode.
- When deactivate the 'Application Controller Enable', it will work in 'input device' mode.

**Reset:** Reset the device, keep address.  
**Read:** Read the parameters of the device.  
**Save:** After configuration, click 'save'-button to save.

Each button's function can be configured by short press. A short press of the button can trigger the configured DALI commands to the destination address.

Here you can set which devices are affected by the command on the right side, up to 4 different target address can be defined, when the button is pressed or long press the target address 1 to 4 will be processed sequentially. following options are available: None, Broadcast, G00~G15, A00~A63

Button	Destination Addresses	Command
Button T1	1: Broadcast	Short press: A RECALL MAX LEVEL
Button T2	2: None	A=B OFF
Button T3	3: None	C UP
Button T4	4: None	Long press: C=D DOWN

when enable, if the push button is short pressed, it will send the command 'A' or 'B' to the destination address

when enable, if the push button is long pressed, it will send the command 'C' or 'D' to the destination address

Each button's function can be configured by long press. A long press of the button can trigger the configured DALI commands to the destination address.

- None
- OFF
- UP
- DOWN
- STEP UP
- STEP DOWN
- RECALL MAX LEVEL
- RECALL MIN LEVEL
- STEP DOWN AND OFF
- ON AND STEP UP
- GO TO LAST ACTIVE LEVEL
- GO TO SENCE 0
- GO TO SENCE 1
- GO TO SENCE 2
- GO TO SENCE 3
- GO TO SENCE 4
- GO TO SENCE 5
- GO TO SENCE 6
- GO TO SENCE 7
- GO TO SENCE 8
- GO TO SENCE 9
- GO TO SENCE 10
- GO TO SENCE 11
- GO TO SENCE 12
- GO TO SENCE 13
- GO TO SENCE 14
- GO TO SENCE 15
- DAPC
- TC

Command name	action / function
None	no action
OFF	off
UP	dim up (using fade rate)
DOWN	dim down (using fade rate)
STEP UP	increases light level by one increment
STEP DOWN	decreases light level by one increment
RECALL MAX LEVEL	recalls MAX value
RECALL MIN LEVEL	recalls MIN value
STEP DOWN AND OFF	decreases light level by one increment, if value at MIN switch off
ON AND STEP UP	increases light level by one increment, if OFF switch on
GO TO LAST ACTIVE LEVEL	DALI-2-Cmd for switching on to the last active level (Memory- Function)
GO TO SCENE(0-15)	go to scene 0-15
DAPC	direct enter a certain brightness in % (selection from the drop-down menu on the right side)
TC	direct enter a certain color temperature value (selection from the drop-down menu on the right side) <b>HINT:</b> only suitable for short press.

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