⚫Lunatone

DALI
1Ch LED Dimmer CV

Datasheet
Control Gear

1-channel LED Dimmer (CV, DT6)

Art. Nr. 89453826 (4A)

Art. Nr. 86459556 (8A)

Art. Nr. 86459572 (10A)

Art. Nr. 89453829 (16A)

Art. Nr. 89453829-HS (16A DIN Rail)

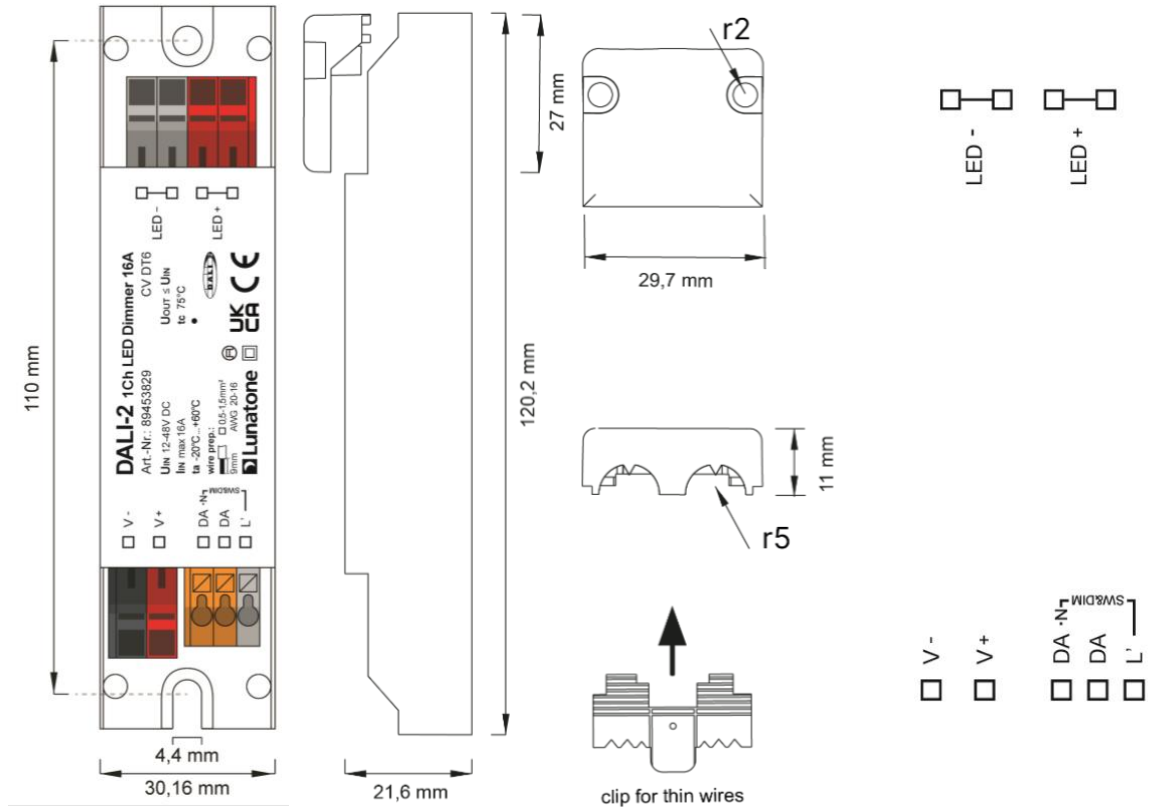# DALI 1Ch LED Dimmer CV Control Gear

Overview

- 1 channel DALI LED-Dimmer
- suitable for constant voltage LED-modules with operating voltages from 12V to 48V
- **Sw&Dim or SwitchDim2**: 1 or 2 switch inputs offer control of light level control without DALI, up from FW 4.0 device can be alternatively controlled directly by a motion sensor (corridor function)
- dimming range 0.1%-100%
- adjustable PWM-frequency (122Hz/ 244Hz/ 488Hz/ 976Hz from FW version 4.6 onward changed PWM frequencies: 250Hz / 500Hz / 1kHz)
- compact types for integration in luminaires or remote ceiling
- supply voltage type dependent of 12V to 28V DC or from 12V to 48V DC

(according to the operating voltage of the led modules)

- type dependent max. input currents of 4A, 8A, 10A or 16A
- low standby power consumption
- high efficiency
- configuration via PC-software DALI-Cockpit and DALI USB-interface
- user-friendly factory default settings

From FW Version 4.6 onward:

- DALI-2 compatible
- LED calibration for light adjustment
- Configurable RESET behaviour
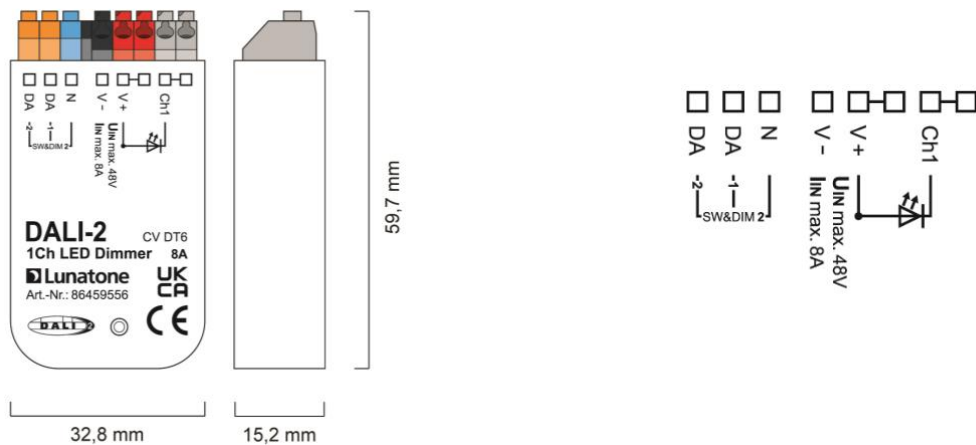
Specification, Characteristics

type	DALI 1Ch LED Dimmer CV				
article number	89453826	86459556	86459572	89453829	89453829-HS

electrical data:

supply voltage Vin	12V-28VDC	12VDC-48VDC			
maximum input current I_in_max	4A	8A	10A	16A	
control input	DALI SW&DIM 48V	DALI SW&DIM **2** (mains voltage)	DALI SW&DIM (mains voltage)	DALI SW&DIM **2** (mains voltage)	
current consumption DALI	2mA				
number of DALI-addresses	1				
standby power consumption (12V)	120 mW				

technical data:

power on behaviour	configurable via DALI: 0%-100% or last value
storing- and transportation temperature	-20°C … +75°C

article number	89453826	86459556	86459572	89453829	89453829-HS
ambient temperature	-20°C … +60°C				-20°C … +55°C
expected lifetime (at Tc<=75°C)	>100000h				
protection code	IP20				
max. connecting wire cross section	1.5 mm²		2.5 mm², DALI/Sw&Dim: 1.5 mm²		2.5mm²
dimensions (LxWxH)	40x28x14 mm	59x33x15 mm	120x30x22 mm		98x18x56 mm
housing/mounting	back box		remote ceiling		DIN Rail

dimensions remote ceiling
Version 10A - Art.Nr.: 86459572
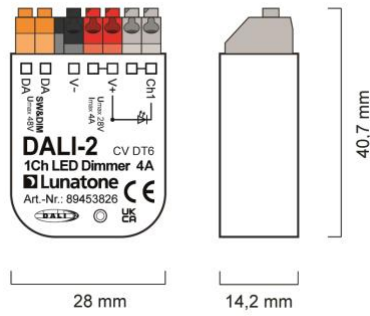Version 16A - Art.Nr.: 89453829

connection plan remote ceiling
Version 10A - Art.Nr.: 86459572
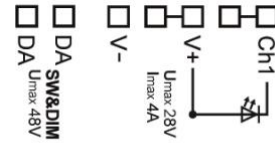Version 16A - Art.Nr.: 89453829

dimensions back box 8A

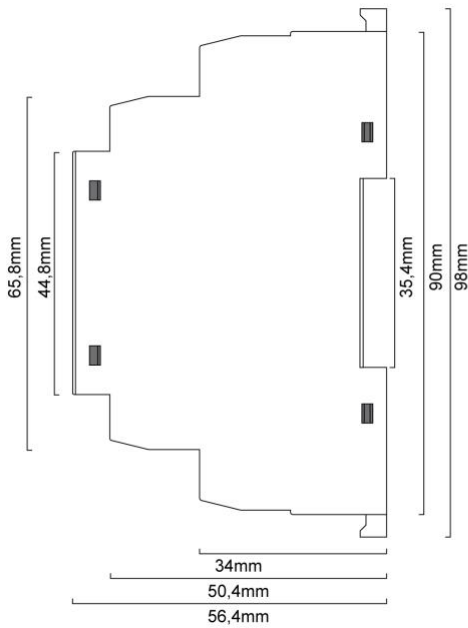connection plan back box 8A

Version 8A - Art.Nr.: 86459556
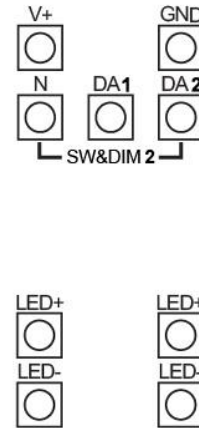
Version 8A - Art.Nr.: 86459556
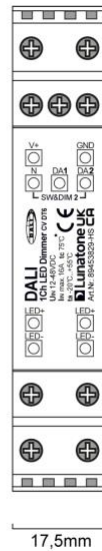
dimensions back box4
Version 4A - Art.Nr.: 89453826

connection plan back box 4A
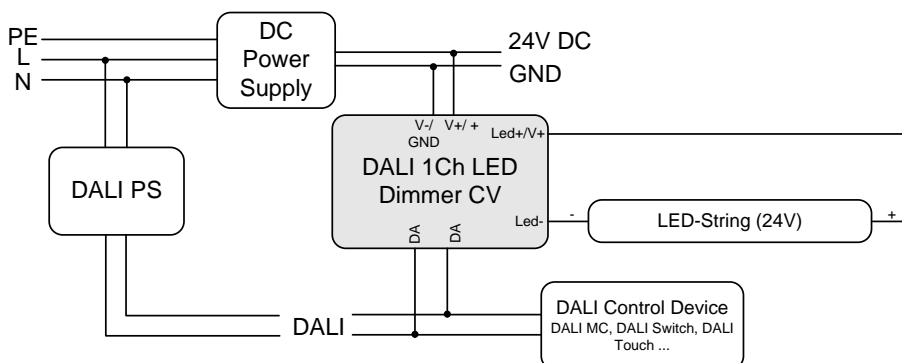Version 4A - Art.Nr.: 89453826

dimensions DIN rail housing
Version 16A - Art.Nr.: 89453829-HS

connection DIN rail housing
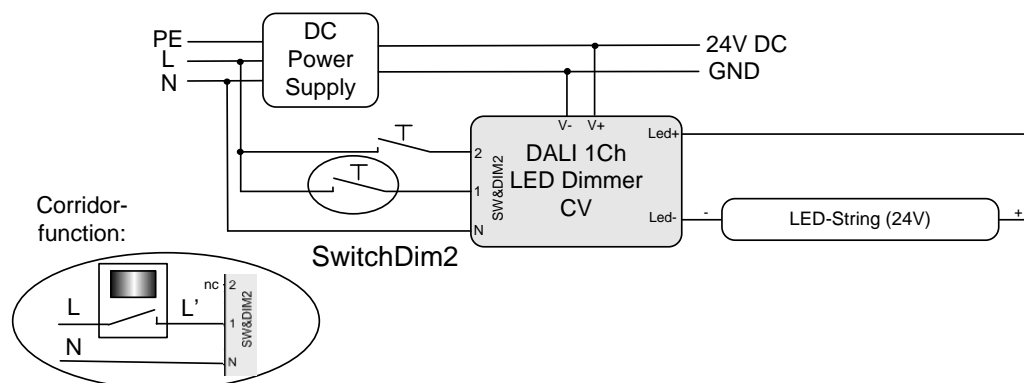Version 16A - Art.Nr.: 89453829-HS

RECOMMENDATION: Care should be taken on keeping cable lengths between DC power supply and dimmer, as well as between dimmer and luminaires (Led-Strings), as short as possible. This kind of installation will minimize the influence of voltage drops.

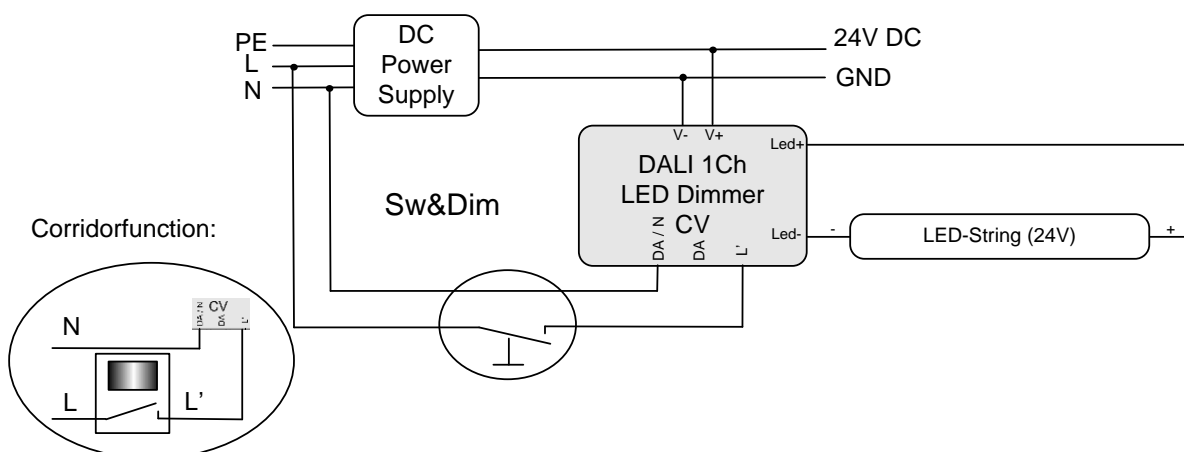Control via DALI (all device versions):

Control via SwitchDim2 (8A Version art. nr.: 86459556 and 16A HS Version art nr.: 89453829-HS)

- control via 2 pushbuttons SwD1 – dimming and switching – SwD2 – scene selector or
- alternatively, by a motion sensor with relay output (on input SwD1)
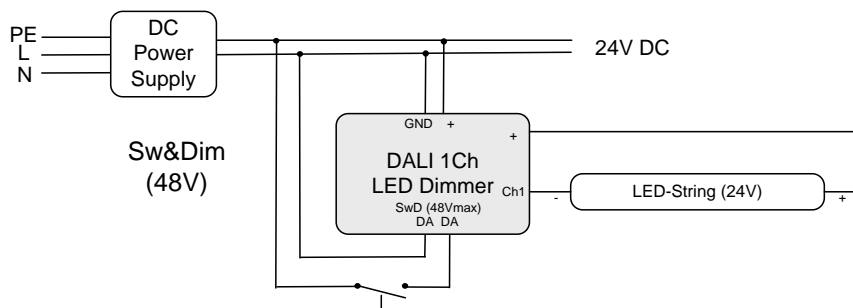

Control via Sw&Dim (Version for 10A/16A, art. nr.: 86459572 and art. nr.: 89453829 respectively)

- control via pushbuttons: switch and dim or
- alternatively, by a motion sensor with relay output

Control via Sw&Dim 48V (4A Version, art.nr.: 89453826): – Switch and Dim

Operating Modes

The output is controlled by its DALI address (Device Type 6).

Alternatively, the device can be controlled by one (Sw&Dim) or two switch inputs (SwitchDim2):

SwD1, Sw&Dim: light level
　　　　　　　short press: On/Off
　　　　　　　long press: dimming
SwD2: scene selector (short press)
　　　scene pre-set see table 1, page 9.

If the SwD1-input is pressed for 2 minutes the device changes the operating mode to „corridor function". This mode stays active until the device is power cycled (on power up the standard switchdim operating mode is active). With a long press > 30s several devices can be synchronized in Sw&Dim mode.

Sw&Dim:
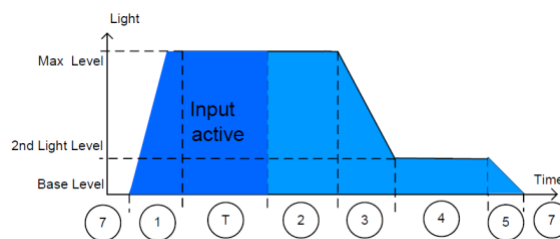　　Art. Nr.: 89453826
　　Art. Nr.: 86459572
　　Art. Nr.: 89453829
SwichDim2:
　　Art. Nr.: 86459556
　　Art. Nr.: 89453829-HS

Corridor Function (from FW 4.0 up)

This mode provides a staircase function (e.g. to control the device directly with the relay output of one or more motion sensors). On input action the LED-output is switched to max level. After the hold-time elapsed the output switches to a second light value for a defined time period (2nd hold-time) before switching to the base level. If the input is activated again, the sequence is restarted.

sequence of corridor function

States and Default values of the corridor function:

1 – Fade-In Time:	immidiate
2 – Holdtime Max Level:	10 minutes
3 – Fade Time:	5 seconds
4 – HoldTime 2nd Level:	10 minutes
5 – Fade Out Time:	5 seconds
Max Level (P,2):	100%
2nd Light Level (4):	50%
Base Level (7):	0%

Hint: predecessors of the 10A/16A, which do not have inputs marked with L' and N, do not support Sw&Dim with mains voltage and only 48V DC may be used for SwD operation!

DALI-2 compatible (from FW 4.6 up)

From FW version 4.6 on, the Lunatone LED dimmers are DALI-2 compatible and support DALI-2 commands.

DALI-Cockpit Settings:

With the help of the DALI-Cockpit software the device can be configured. The device can be assigned to groups, scene values can be set, and parameters can be defined, see Figure 1.

The **PWM frequency** can be selected: 122Hz / 244Hz / 488Hz / 976Hz.
From FW version 4.6 changed PWM frequencies: 250Hz / 500Hz / 1kHz.

Adjustable RESET behaviour (from FW 4.6 up)

From FW 4.6. on the response to a DALI reset command is configurable. The following options are available:

- *Ignore command***:** the DALI reset command does not trigger any changes to the device settings

- *DALI standard*: the selected device settings are reset to the values defined in the DALI standard (see table 1 below - second column: DALI standard values)

When activated the device does not react to Broadcast Arc (DAP) or configuration commands.
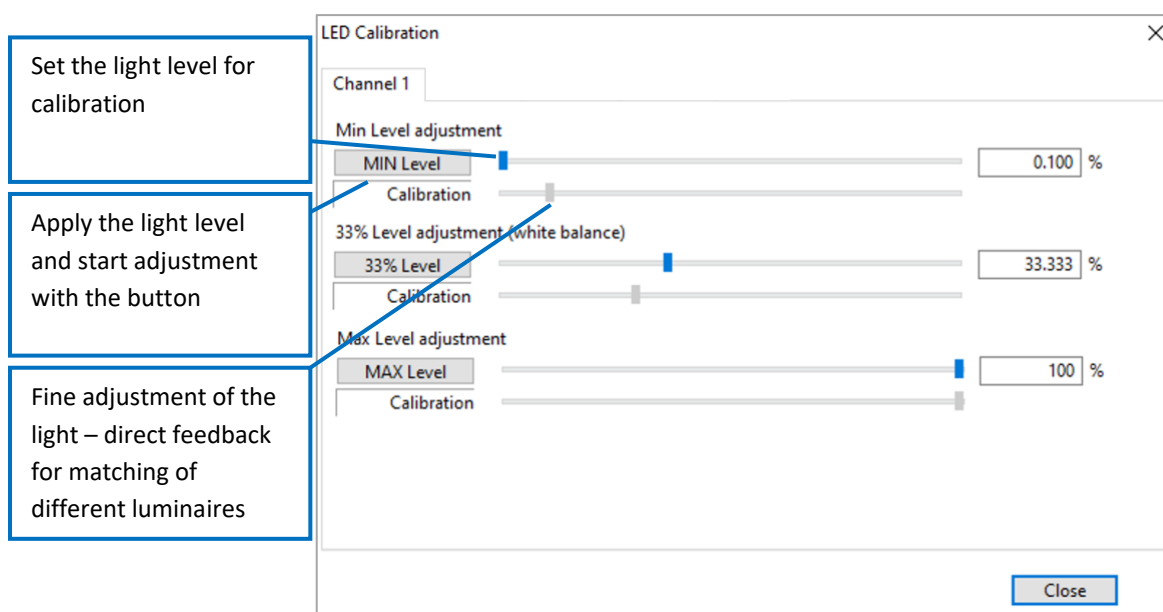
Figure 1 Cockpit: General Settings

Calibration - light adjustment (from FW 4.6 up)

The dimming range extends from 0.1% to 100%. From FW version 4.6 on, it is possible to calibrate different light sources, with the option: LED calibration. For each channel, the MIN level (default: 0.1%)
an intermediate value (default: 33%) and

the MAX level (default: 100%) can be adjusted and matched between light sources.

To do this, set the desired level with the upper slider. Apply the value and start the fine adjustment by pressing the button next to it. The appropriate fine adjustments can now be made with the calibration slider below.

Set the light level for calibration

Apply the light level and start adjustment with the button

Fine adjustment of the light – direct feedback for matching of different luminaires

Factory Default Settings

Before the initial addressing is performed, the device can already be controlled by group address G0. This predefined grouping will be deleted during the first addressing procedure.

Afterwards groups can be assigned as usual (e.g. with the help of the DALI Cockpit). By sending a DALI-Reset command the device is set to DALI default values as defined in the standard. Table 1 below shows a summary of the factory default values and the DALI standard values.

Summary of the factory default settings (delivery state):

	Factory default		DALI Standard
Operating mode	DT6		---
SwitchDim/ SwitchDim2	SwD1: brightness SwD2: scene selector		---
Min Level	0.1%		0.1%
Max Level	100%		100%
Power On Level	MASK (last value)		100%
System Failure Level	100%		100%
Fade Time	1s		None
Fade Rate	89.4 steps/s		44.7 steps/s
PWM-Frequency	122Hz or 1kHz for FW 4.6 and up		---
Groups before initial addressing:	G0		None
Scene values:	Scene 0: 254 Scene 1: 237 Scene 2: 220 Scene 3: 203 Scene 4: 186 Scene 5: 169 Scene 6: 152 Scene 7: 135	Scene 8: 118 Scene 9: 101 Scene 10: 84 Scene 11: 67 Scene 12: 50 Scene 13: 33 Scene 14: 16 Scene 15: 0	all scenes: MASK
Behaviour at DALI RESET command	set DALI Standard values, see column 2		---

table 1: factory default settings column1, DALI Standard column 2

Purchase Order Information

Art. Nr. 89453826: 1-channel LED Dimmer, CV, max. input current 4A, 12V-28V DC, Sw&Dim 48V, back box
GTIN 9010342011528

Art. Nr. 86459556: 1-channel LED Dimmer, CV, max. input current 8A, 12V-48V DC, Sw&Dim2, back box
GTIN 9010342011535

Art. Nr. 86459572: 1-channel LED Dimmer, CV, max. input current 10A, 12V-48V DC, Sw&Dim, remote ceiling & integration in luminaires
GTIN 9010342011542

Art. Nr. 89453829: 1-channel LED Dimmer, CV, max. input current 16A, 12V-48V DC, Sw&Dim, DALI-2, remote ceiling & integration in luminaires
GTIN 9010342011559

Art. Nr. 89453829-HS: 1-channel LED Dimmer, CV, max. input current 16A, 12V-48V DC, Sw&Dim2, DIN rail housing
GTIN: 9010342011559

Additional Information and Equipment

Lunatone DALI Cockpit
https://www.lunatone.com/en/product/dali-cockpit/

Lunatone datasheets and manuals
https://www.lunatone.com/en/downloads-a-z/

Lunatone DALI products
https://www.lunatone.com/en/

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 compatibility with other devices must be tested in advance to the installation.