JUMITECH

DALI
2Ch LED Dimmer CC

Datasheet
Control Gear

2-channel LED Dimmer (CC, DT6)

common plus connector:
Art. Nr. 89453845-350 (350mA)
Art.Nr. 89453845-350DE (350mA)
Art. Nr. 89453845-500 (500mA)
Art. Nr. 89453845-500DE (500mA)
Art. Nr. 89453845-700 (700mA)
Art. Nr. 89453845-1000 (1000mA)

common minus connector:
Art.Nr. 89453845-350GMDE (350mA)
Art.Nr. 89453845-500GMDE (500mA)
Art. Nr. 89453845-700GM (700mA)
Art. Nr. 89453845-1000GM (1000mA)

DALI 2Ch LED-Dimmer CC Control Gear

Overview

- 2 channel DALI LED-Dimmer

- suitable for constant current LED-modules

- **Operating Mode DT6**: individual channel control via 2 DALI addresses

- **Operating Mode Balance&Dim:** control by 2 DALI-addresses, one for adjusting the light level and one for adjusting the channel balance (e.g. colour temperature)

- **Operating Mode Dim2Warm:** one DALI-address for simultaneous adjustment of light level and colour temperature

- **SwitchDim2**: 2 switch-inputs offer control of light level and colour without DALI

- dimming range 0.1%-100%

- adjustable PWM-frequency (122Hz/244Hz/488Hz/976Hz)

- types for constant currents of 350mA, 500mA, 700mA and 1000mA

- types with common plus and common minus connector available

- compact types for integration in luminaires or remote ceiling

- supply voltage from 12V to 48V DC

- output voltage up to 45VDC

- integrated short circuit protection

- low standby power consumption

- high efficiency

- configuration via PC-software DALI-Cockpit and DALI USB-interface

- user-friendly factory default settings

Specification, Characteristics

common plus connector:

type	DALI 2Ch CC 350/500mA	DALI 2Ch CC 350/500mA DE	DALI 2CH CC 700mA	DALI 2Ch CC 1000mA
article number	89453845-350/ 89453845-500	89453845-350DE/500DE	89453845-700	89453845-1000

electrical data:

supply voltage V_{in}	12VDC-48VDC			
max. input current I_{inmax}	700/1000 mA	700/1000mA	1400mA	2000mA
max. output current per channel I_{led}	350/500 mA	350/500mA	700mA	1000mA
output voltage range V_{led}	3V-45V (at 48V supply)			
control input	DALI	DALI SwitchDim2		
current consumption DALI	2mA			
number of DALI-addresses	operating mode DT6, Balance&Dim: 2 operating mode Dim2Warm: 1			
standby power consumption (12V)	~ 180 mW			

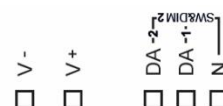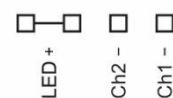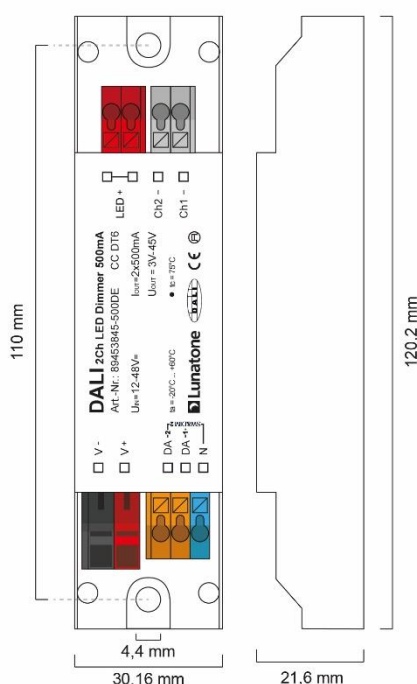| type	DALI 2Ch CC 350/500mA	DALI 2Ch CC 350/500mA DE	DALI 2CH CC 700mA	DALI 2Ch CC 1000mA
technical data:				
power on behaviour	configurable via DALI: 0%-100% or last value			
storage and transportation temperature	-20°C to +75°C			
operational ambient temperature	-20°C to +60°C			
expected lifetime	>100000h at Tc<75°C			
protection class	IP20			
max. connecting wire cross section	up to 1.5 mm^2	up to 1.5 mm^2, supply (V+, V-): up to 2.5 mm^2		
dimensions (LxWxH)	59mmx33mmx15mm	120mmx30mmx22mm	120mmx41mmx22mm	
housing/mounting	back box	remote ceiling		

on request: output currents from 100mA to 1000mA available

for constant currents up to 500mA:

dimensions (common plus, back box)
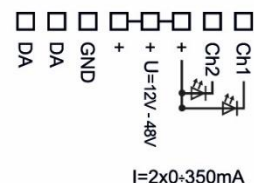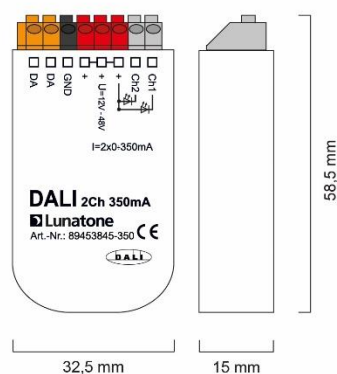
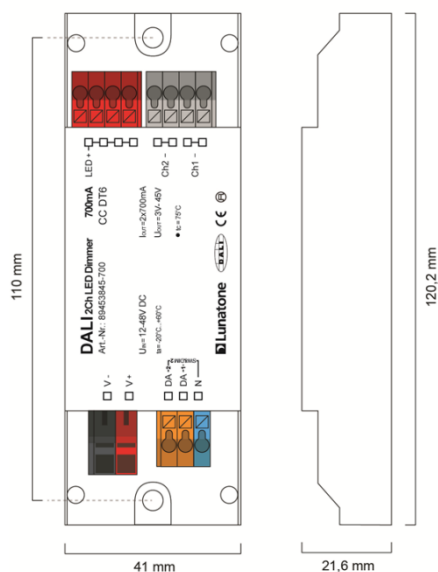connection plan (common plus, back box)

dimensions (common plus, remote ceiling)

connection plan (common plus, remote ceiling)

for constant currents >500mA

dimensions (common plus, remote ceiling)

connection plan (common plus, remote ceiling)

common minus connector:

type	DALI 2CH CC 350/500mA GMDE	DALI 2CH CC 700mA GM	DALI 2Ch CC 1000mA GM
article number	89453845-350GMDE/500GMDE	89453845-700GM	89453845-1000GM

electrical data:

supply voltage V_{in}	12VDC-48VDC		
max. input current I_{inmax}	700/1000mA	1400mA	2000mA
max. output current /channel I_{led}	350/500mA	700mA	1000mA
output voltage range V_{led}	3V-45V (at 48V supply)		
control input	DALI SwitchDim2		
current consumption DALI	2mA		
number of DALI-addresses	operating mode DT6, Balance&Dim: 2 operating mode Dim2Warm: 1		
standby power consumption (12V)	~ 180 mW		

technical data:

power on behaviour	configurable via DALI: 0%-100% or last value
storage and transportation temperature	-20°C to +75°C
operational ambient temperature	-20°C to +60°C
expected lifetime	>100000h (at Tc<75°C)
protection class	IP20
max. connecting wire cross section	up to 1.5 mm^2, supply (V+, V-): up to 2.5 mm^2
dimensions (LxWxH)	120mm x30mmx22mm / 120mm x 41mm x 22mm
housing/mounting	remote ceiling

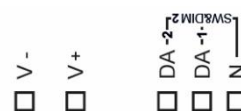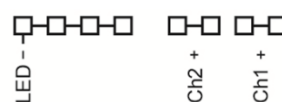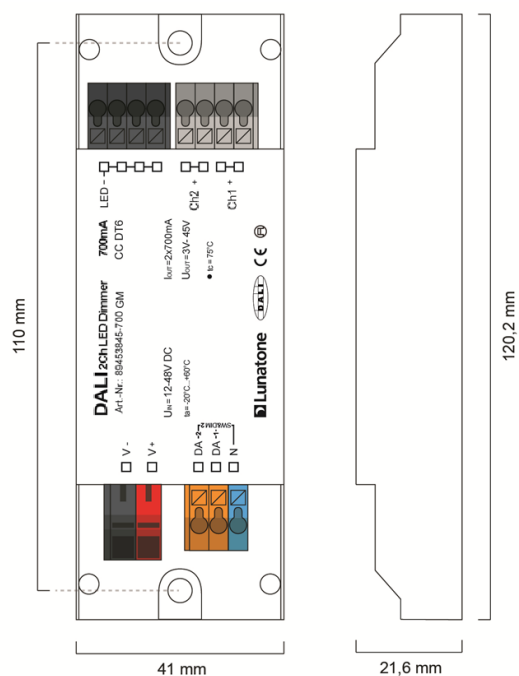on request: output currents from 100mA to 1400mA available

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for constant currents up to 500mA (700mA on request):

dimensions (common minus, remote ceiling)

connection plan

for constant currents > 500mA:

dimensions (common minus, remote ceiling)
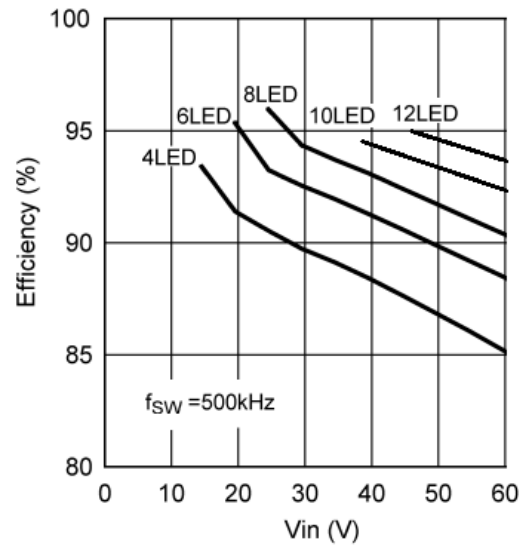

connection plan GM

Hint:
For highest efficiency the input voltage should range between 3V and 10V above the LED-voltage:
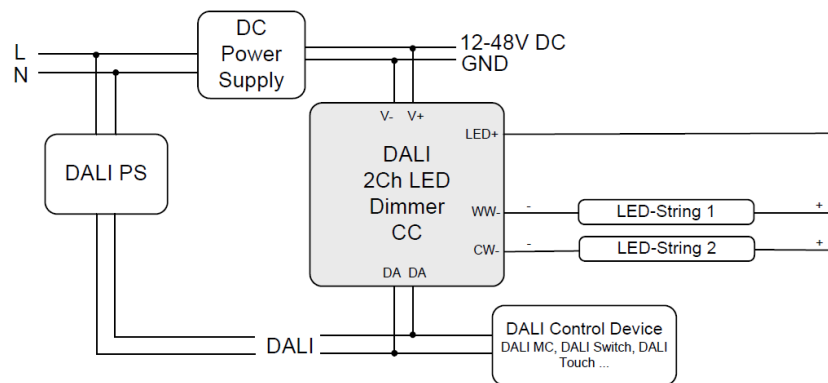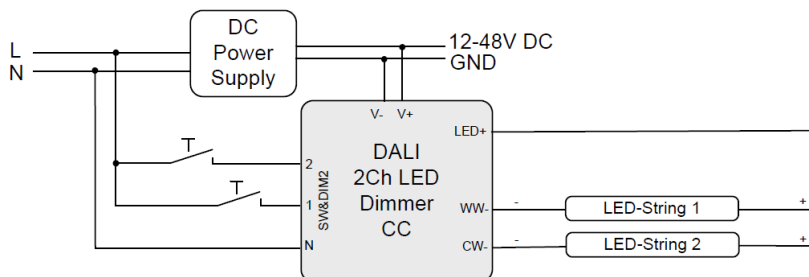
4-6 LEDs: 24V
6-9LEDs: 36V
10-12 LEDS: 48V

DALI (common plus connector type):

SwitchDim2 (common plus connector type):

Operating Modes

The device offers several operating modes:

DT6 (factory default)

In this operating mode each channel can be controlled by its own DALI address (Device Type 6).

Alternatively the device can be controlled using 2 switch-inputs for mains voltage (SwitchDim2):

SwD1: light level
      short press: On/Off
      long press: dimming
SwD2: scene selector (short press)

Balance&Dim

This operating mode is also suitable for operating tunable white luminaires using two DALI-addresses. The first controls the light level and the second is used for changing the distribution on the output channels (e.g. for tunable white applications or balancing direct/indirect lighting).

The Balance&Dim mode allows colour temperature adjustments without affecting the light level and vice versa. For each channel only DALI-standard commands like dim up/down but also DAP are used. Thus the device can be used with all common controls and gateways (e.g. KNX). The Balance&Dim mode provides an alternative to the DT8-Tc mode.

Can be operated via DALI or SwitchDim2:

DALI-address 1, SwD1: light level
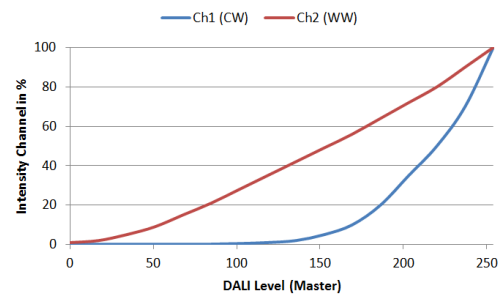
DALI-address 2, SwD2: balance
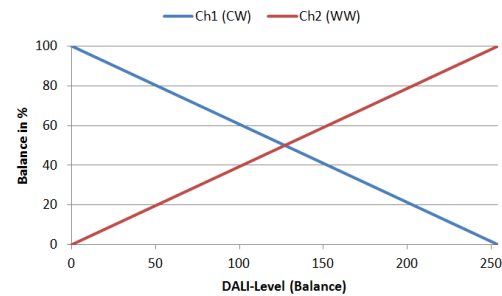
Dim2Warm

Both output channels are controlled by one DALI-address or SwD-input. The balance is coupled directly to the DALI dim level – the smaller the dim level the warmer the light.

DALI-address 1, SwD1: Dim2Warm (Master)
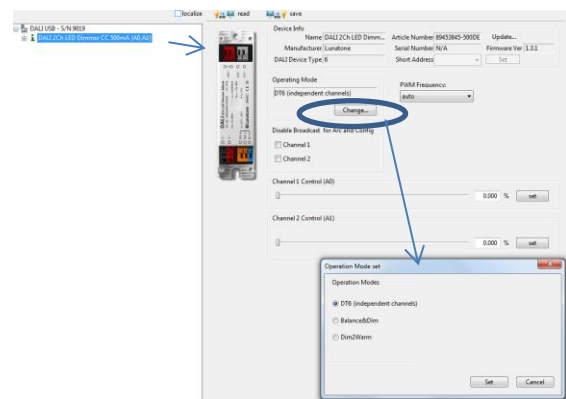   short press: On/Off
      long press: dimming

SwD2: scene selector

Selection of operating mode

With the help of the PC-software tool DALI-Cockpit the operating mode can be easily set on the general settings page.
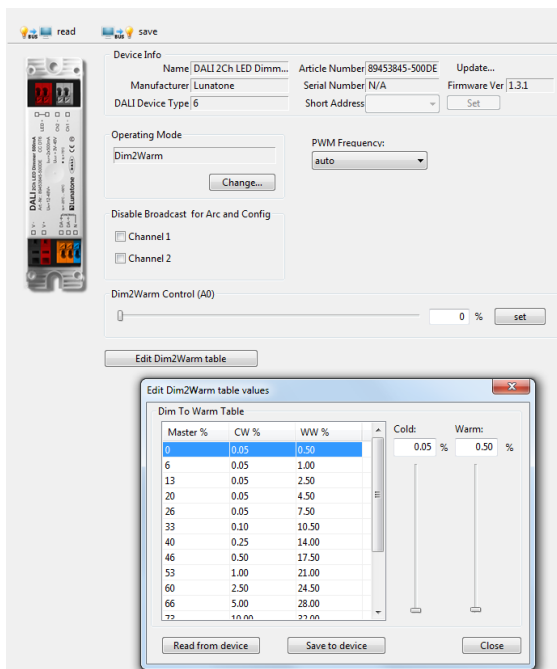
Operating mode DT6:

In addition, on the same page the PWM-frequency can be selected and basic control elements for testing each operating modes are available (2 sliders for the level of each channel in operating mode DT6; Balance&Dim: slider for level and balance, Dim2Warm: slider for input value adaption and Edit-Function for the Dim2Warm-table). Furthermore the broadcast control can be deactivated for each channel individually.

Operating Mode Balance&Dim:
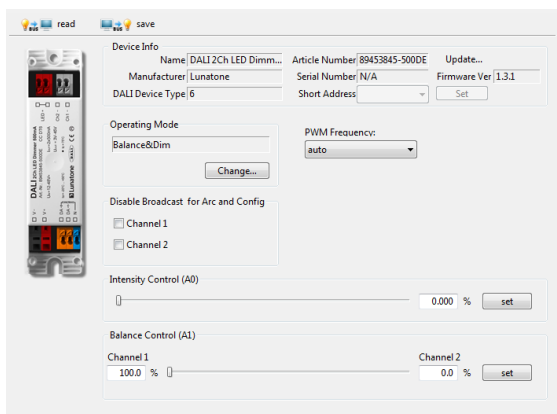
Operating Mode Dim2Warm:

Switching between operating modes can also be done with the help of the DALI-command SET OPERATING MODE (IEC 62386-102 Ed.2). When changing the operating mode the number of used DALI-addresses can change as well and this requires a new addressing procedure. In the DALI-Cockpit this address assignment is performed automatically.

Operating Mode:

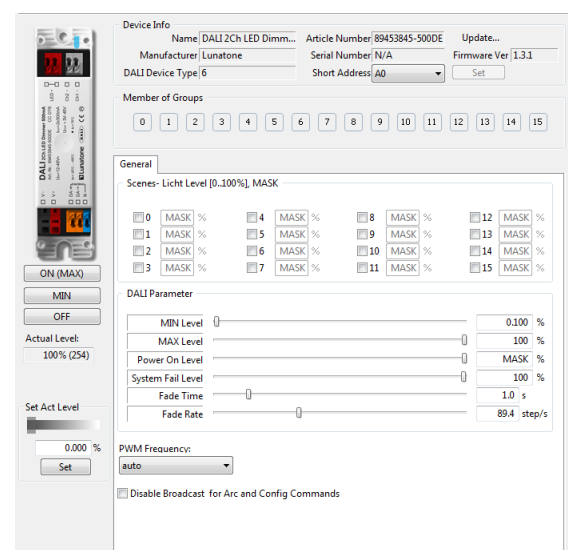| Number	Operating Mode
0x0	DT6 (factory default)
0x90	DT6
0x94	Balance&Dim
0x95	Dim2Warm

Additional Settings

Besides the settings on the general page each channel can be selected separately in the component tree for individual configuration.

Component Tree:
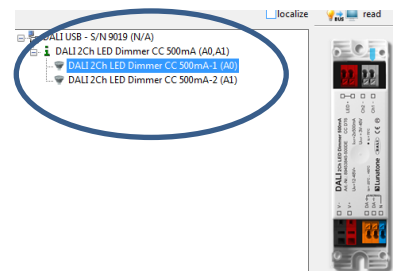
Settings for each channel (similar for all operating modes), the displayed parameters are the factory default values:

For each address the group membership can be set as well as scene values and DALI-parameters. In Balance&Dim operating mode all values assigned to channel 2 are representing the balance.

Factory Default Settings

Before the initial addressing is performed, the device can already be controlled by group addresses G0 and G1. 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.

Summary of the factory default settings (delivery state):

operating mode	DT6		
SwitchDim2	SwD1: light level SwD2: scene selector		
Min Level	0.1%		
PowerOn Level	MASK (last value)		
Fade Time	2 (1s)		
Fade Rate	5 (89.4 steps/s)		
PWM-frequency	122Hz		
Groups before intial addressing	G0 – channel 0 G1 – channel 1		
predefined scene values	**Scene**	**Ch1**	**Ch2**
	0, 4, 8, 12	100%	0%
	1, 5, 9, 13	0%	100%
	2, 6, 10, 14	100%	100%
	3, 7, 11, 15	0%	0%

Purchase Order Information

Art.Nr. 89453845-xxx: DALI 2Ch LED Dimmer, CC – constant current xxxmA, **common plus connector**, supply 12V-48V DC, output voltage range 3V-45V, 100mA -500mA, back box

Art.Nr. 89453845-xxxDE: DALI 2Ch LED Dimmer, CC – constant current xxxmA, **common plus connector**, supply 12V-48V DC, output voltage range 3V-45V, **SwitchDim2**, 100mA-500mA, remote ceiling & integration in luminaires

Art.Nr. 89453845-xxx: DALI 2Ch LED Dimmer, CC – constant current xxxmA, **common plus connector**, supply 12V-48V DC, output voltage range 3V-45V, **SwitchDim2**, 500mA -1000mA, , remote ceiling & integration in luminaires

Art.Nr. 89453845-xxxGMDE: DALI 2Ch LED Dimmer, CC – constant current xxxmA, **common minus connector**, supply 12V-48V DC, output voltage range 3V-45V, **SwitchDim2**, 100mA-500mA, , remote ceiling & integration in luminaires

Art.Nr. 89453845-xxxGM: DALI 2Ch LED Dimmer, CC – constant current xxxmA, **common minus connector**, supply 12V-48V DC, output voltage range 3V-45V, **SwitchDim2**, 500mA -1400mA, , remote ceiling & integration in luminaires

Additional Information

Datasheets and manuals
https://jumitech/produkter

DALI-Cockpit – free configuration tool from
Lunatone for DALI systems
http://lunatone.at/en/downloads/Lunatone_
DALI-Cockpit.zip

Contact

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www.jumitech.dk

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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.

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