

JUMITECH

DALI RGB LED Dimmer CC

Datasheet Control Gear



RGB LED Dimmer (CC, DT8)

common plus connector:

Art. Nr. 86458913-350 (350mA)

Art. Nr. 86458913-500 (500mA)

Art. Nr. 86458913-700 (700mA)

common minus connector:

Art. Nr. 86458913-350GM (350mA)

Art. Nr. 86458913-500GM (500mA)

Art. Nr. 86458913-700GM (700mA)

DALI RGB LED Dimmer CC Control Gear

Overview

- DALI LED-Dimmer for RGB colour control
- Suitable for constant current LED-modules
- **Operating Mode DT8:** one DALI-address for the independent control of level and colour (DALI DT8, Type RGBWAF)
- **Operating Mode Colour&Dim:** control by 2 DALI-addresses, one for adjusting the level and one for adjusting the colour
- **SwitchDim2:** 2 switch-inputs offer control of level and colour without DALI
- dimming range 0.1%-100%
- adjustable PWM-frequency (122Hz/244Hz/488Hz/976Hz)
- types for constant currents of 350mA, 500mA and 700mA
- types with common plus and common minus connector available
- suitable for integration in luminaires or remote ceiling
- supply voltage 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:

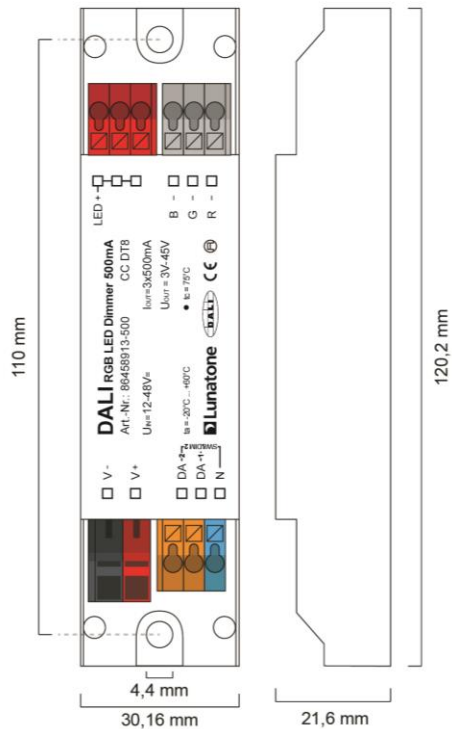
| type | DALI RGB 350mA GP | DALI RGB 500mA GP | DALI RGB 700mA GP |
|----------------|-------------------|-------------------|-------------------|
| article number | 86458913-350 | 86458913-500 | 86458913-700 |

| electrical data: | | | |
|---------------------------------|-------------------------------------------------------|-------|-------|
| supply voltage V_{in} | 12VDC-48VDC | | |
| max. input current I_{inmax} | 350mA | 500mA | 700mA |
| max. output current I_{led} | 350mA | 500mA | 700mA |
| output voltage range V_{led} | 3V-45V (at 48V supply) | | |
| control input | DALI SwitchDim2 (mains voltage) | | |
| current consumption DALI | 2mA | | |
| number of DALI-addresses | operating mode DT8: 1 operating mode Colour&Dim: 2 | | |
| standby power consumption (12V) | ~ 180mW | | |

| technical data: | |
|---------------------|----------------------------------------------|
| power on behaviour | configurable via DALI: 0%-100% or last value |
| ambient temperature | -20°C to +60°C |
| expected lifetime | >100000h (at $T_c \leq 75^\circ C$) |

| | |
|------------------------------------|------------------------------------------------------------------------|
| 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) | 120mmx30mmx22mm |
| housing/mounting | remote ceiling |

on request: output currents from 100mA to 700mA available



dimensions common plus connector type



connection plan common plus connector type

common minus connector:

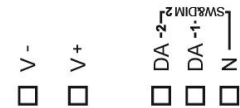
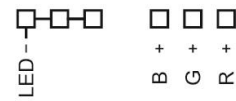
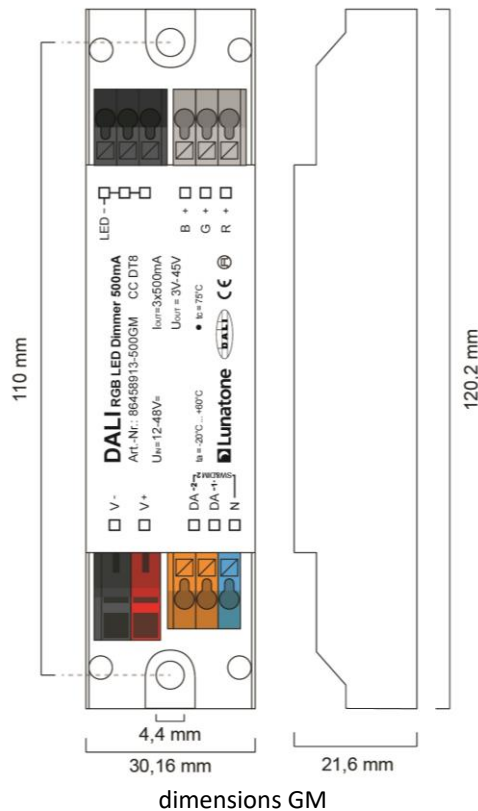
| type | DALI RGB 350mA GM | DALI RGB 500mA GM | DALI RGB 700mA GM |
|----------------|-------------------|-------------------|-------------------|
| article number | 86458913-350GM | 86458913-500GM | 86458913-700GM |

| electrical data: | | | |
|---------------------------------|-------------------------------------------------------|-------|-------|
| supply voltage V_{in} | 12VDC-48VDC | | |
| max. input current I_{inmax} | 350mA | 500mA | 700mA |
| max. output current I_{led} | 350mA | 500mA | 700mA |
| output voltage range V_{led} | 3V-45V (at 48V supply) | | |
| control input | DALI SwitchDim2 (mains voltage) | | |
| current consumption DALI | 2mA | | |
| number of DALI-addresses | operating mode DT8: 1 operating mode Colour&Dim: 2 | | |
| standby power consumption (12V) | ~ 180mW | | |

| technical data: | |
|---------------------|----------------------------------------------|
| power on behaviour | configurable via DALI: 0%-100% or last value |
| ambient temperature | -20°C to +60°C |

| | |
|------------------------------------|------------------------------------------------------------------------|
| expected lifetime | >100000h (at $T_c \leq 75^\circ\text{C}$) |
| 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) | 120mmx30mmx22mm |
| housing/mounting | remote ceiling |

on request: output currents from 100mA to 700mA available



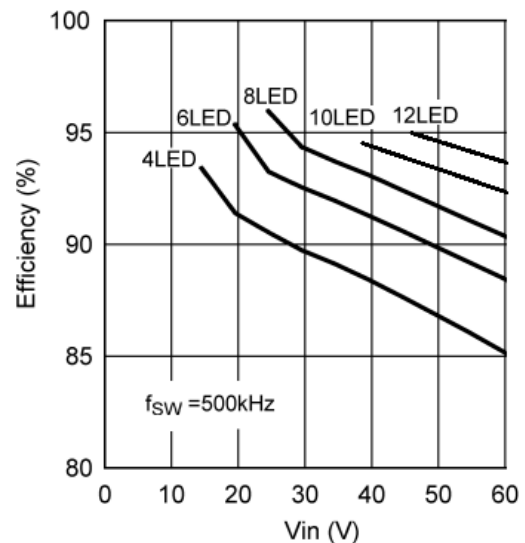
connection plan GM



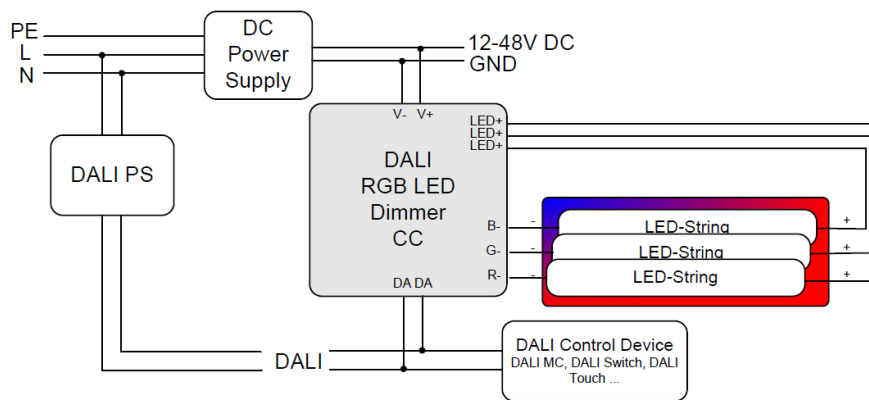
Hint:

For highest efficiency the input voltage should range between 3V and 10V above the LED-voltage:

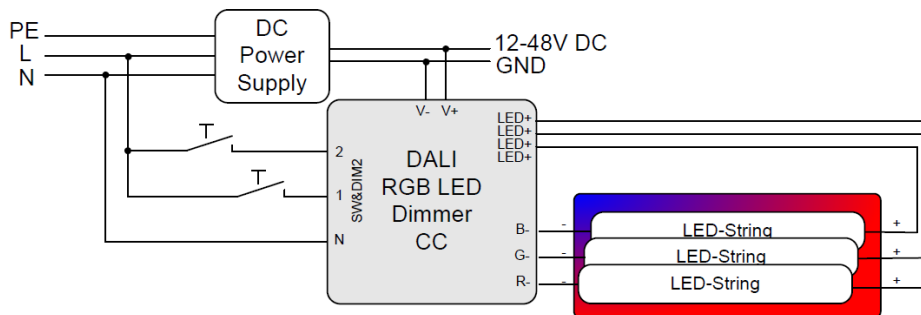
- 4-6 LEDs: 24V
- 6-9LEDs: 36V
- 10-12 LEDs: 48V



DALI (common plus connector type):



SwitchDim2 (common plus connector type):



Operating Modes

The device offers several operating modes:

DT8 (factory default)

In this operating mode one DALI-address for the independent control of light level and colour is used (Device Type 8 RGBWAF).

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: colour

long press: change colour

Colour&Dim

This operating mode is suitable for operating RGB—luminaires. Two DALI-addresses are

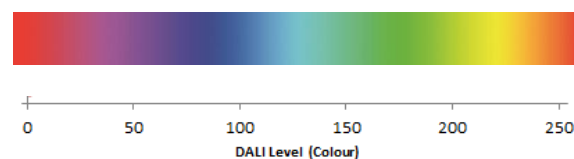
used, the first to control the light level and the second for changing the distribution on the output channels (e.g. for colour adjustments).

The Colour&Dim mode allows colour adjustments without affecting the 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 Colour&Dim mode provides an alternative to the DT8-RGBWAF mode.

Can be operated via DALI or SwitchDim2:

DALI-address 1, SwD1: light level

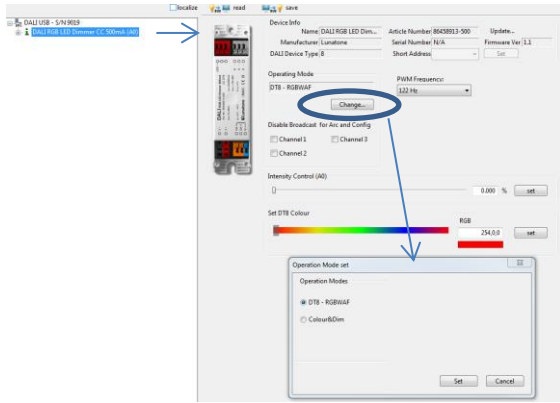
DALI-address 2, SwD2: colour



Selection of operating mode

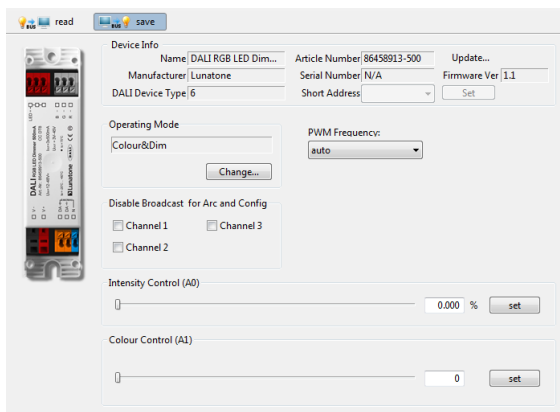
With the help of the PC-software tool DALI-Cockpit the operating mode can be easily set on the general settings page.

Operating mode DT8-RGBWAF:



In addition, on the same page the PWM-frequency can be selected and basic control elements for testing each operating modes are available (slider for level and colour in the operating modes DT8 and Colour&Dim). Furthermore the broadcast control can be deactivated for each channel individually.

Operating mode Colour&Dim:



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.

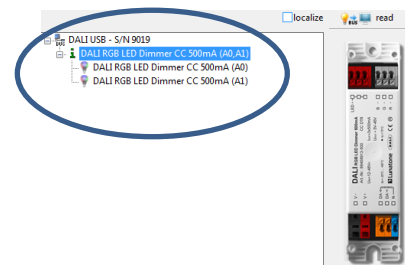
Operating Mode:

| number | operating mode |
|--------|-----------------------|
| 0x0 | DT8 (factory default) |
| 0x92 | DT8 |
| 0x93 | Colour&Dim |

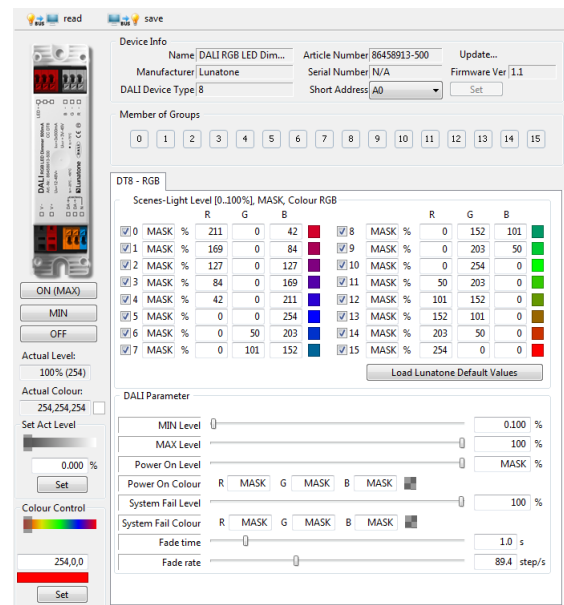
Additional Settings

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

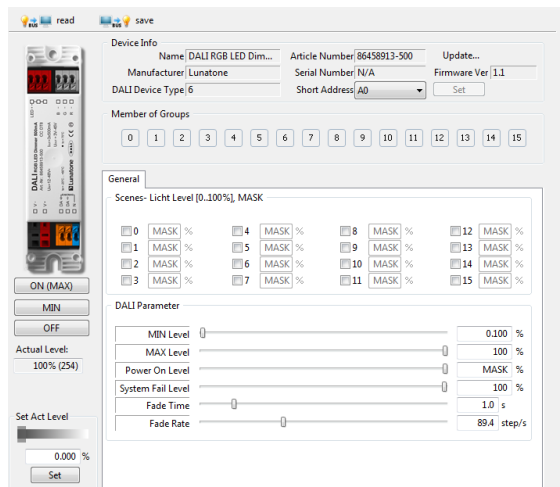
Component Tree:



Settings in the operating mode DT8-RGBWAF (displayed parameters are the factory default values):



Settings for each channel in the operating mode Colour&Dim:



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

Factory Default Settings

Before the initial addressing is performed, the device can already be controlled by a group address. 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 the DALI default values as defined in the standard.

Summary of the factory default settings (delivery state):

| | |
|----------------|-----------------------------|
| Operating mode | DT8 |
| SwitchDim2 | SwD1: level SwD2: colour |
| Min Level | 0.1% |
| PowerOn Level | MASK (letzter Wert) |
| Fade Time | 2 (1s) |
| Fade Rate | 5 (89.4 steps/s) |
| PWM- | 122Hz |

| frequency | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Groups before initial addressing: | G0 (or G0 and G1 in operating mode Colour&Dim) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Predefined Scene Values: | <table border="1"> <thead> <tr> <th></th> <th></th> <th>R</th> <th>G</th> <th>B</th> </tr> </thead> <tbody> <tr><td><input checked="" type="checkbox"/> 0</td><td>MASK %</td><td>211</td><td>0</td><td>42</td></tr> <tr><td><input checked="" type="checkbox"/> 1</td><td>MASK %</td><td>169</td><td>0</td><td>84</td></tr> <tr><td><input checked="" type="checkbox"/> 2</td><td>MASK %</td><td>127</td><td>0</td><td>127</td></tr> <tr><td><input checked="" type="checkbox"/> 3</td><td>MASK %</td><td>84</td><td>0</td><td>169</td></tr> <tr><td><input checked="" type="checkbox"/> 4</td><td>MASK %</td><td>42</td><td>0</td><td>211</td></tr> <tr><td><input checked="" type="checkbox"/> 5</td><td>MASK %</td><td>0</td><td>0</td><td>254</td></tr> <tr><td><input checked="" type="checkbox"/> 6</td><td>MASK %</td><td>0</td><td>50</td><td>203</td></tr> <tr><td><input checked="" type="checkbox"/> 7</td><td>MASK %</td><td>0</td><td>101</td><td>152</td></tr> <tr><td><input checked="" type="checkbox"/> 8</td><td>MASK %</td><td>0</td><td>152</td><td>101</td></tr> <tr><td><input checked="" type="checkbox"/> 9</td><td>MASK %</td><td>0</td><td>203</td><td>50</td></tr> <tr><td><input checked="" type="checkbox"/> 10</td><td>MASK %</td><td>0</td><td>254</td><td>0</td></tr> <tr><td><input checked="" type="checkbox"/> 11</td><td>MASK %</td><td>50</td><td>203</td><td>0</td></tr> <tr><td><input checked="" type="checkbox"/> 12</td><td>MASK %</td><td>101</td><td>152</td><td>0</td></tr> <tr><td><input checked="" type="checkbox"/> 13</td><td>MASK %</td><td>152</td><td>101</td><td>0</td></tr> <tr><td><input checked="" type="checkbox"/> 14</td><td>MASK %</td><td>203</td><td>50</td><td>0</td></tr> <tr><td><input checked="" type="checkbox"/> 15</td><td>MASK %</td><td>254</td><td>0</td><td>0</td></tr> </tbody> </table> | | | R | G | B | <input checked="" type="checkbox"/> 0 | MASK % | 211 | 0 | 42 | <input checked="" type="checkbox"/> 1 | MASK % | 169 | 0 | 84 | <input checked="" type="checkbox"/> 2 | MASK % | 127 | 0 | 127 | <input checked="" type="checkbox"/> 3 | MASK % | 84 | 0 | 169 | <input checked="" type="checkbox"/> 4 | MASK % | 42 | 0 | 211 | <input checked="" type="checkbox"/> 5 | MASK % | 0 | 0 | 254 | <input checked="" type="checkbox"/> 6 | MASK % | 0 | 50 | 203 | <input checked="" type="checkbox"/> 7 | MASK % | 0 | 101 | 152 | <input checked="" type="checkbox"/> 8 | MASK % | 0 | 152 | 101 | <input checked="" type="checkbox"/> 9 | MASK % | 0 | 203 | 50 | <input checked="" type="checkbox"/> 10 | MASK % | 0 | 254 | 0 | <input checked="" type="checkbox"/> 11 | MASK % | 50 | 203 | 0 | <input checked="" type="checkbox"/> 12 | MASK % | 101 | 152 | 0 | <input checked="" type="checkbox"/> 13 | MASK % | 152 | 101 | 0 | <input checked="" type="checkbox"/> 14 | MASK % | 203 | 50 | 0 | <input checked="" type="checkbox"/> 15 | MASK % | 254 | 0 | 0 |
| | | R | G | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 0 | MASK % | 211 | 0 | 42 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 1 | MASK % | 169 | 0 | 84 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 2 | MASK % | 127 | 0 | 127 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 3 | MASK % | 84 | 0 | 169 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 4 | MASK % | 42 | 0 | 211 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 5 | MASK % | 0 | 0 | 254 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 6 | MASK % | 0 | 50 | 203 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 7 | MASK % | 0 | 101 | 152 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 8 | MASK % | 0 | 152 | 101 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 9 | MASK % | 0 | 203 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 10 | MASK % | 0 | 254 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 11 | MASK % | 50 | 203 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 12 | MASK % | 101 | 152 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 13 | MASK % | 152 | 101 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 14 | MASK % | 203 | 50 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> 15 | MASK % | 254 | 0 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Purchase Order Information

Art.Nr. 86458913-xxx: DALI RGB LED Dimmer, CC constant current xxx mA (100mA-700mA), **common plus connector**, supply 12V-48V DC, output voltage 3V-45V DC, **SwitchDim2**, remote ceiling & integration in luminaires

Art.Nr. 86458913-xxxGM: DALI RGB LED Dimmer, CC – constant current xxx mA (100mA-700mA), **common minus connector**, supply 12V-48V DC, output voltage 3V-45V DC, **SwitchDim2**, 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

Technical Support: support@jumitech.dk

Requests: salg@jumitech.dk

www.jumitech.dk

JUMITECH



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.