

# DALI 4 Channel Constant Voltage LED Controller

## Features

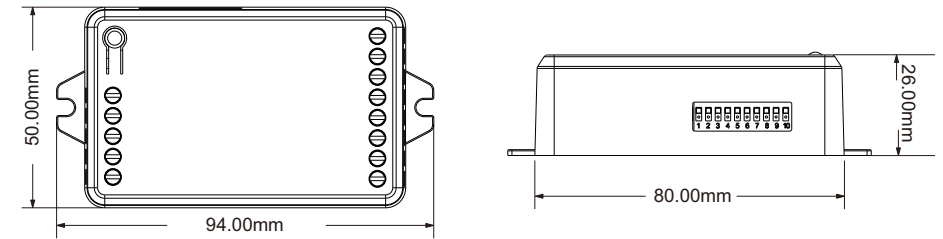
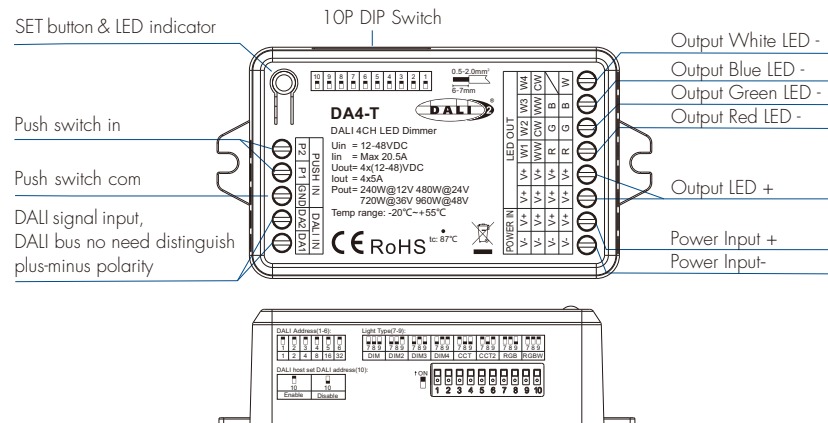
- DALI 4 Channel Constant Voltage LED Controller, 4-channel output, maximum 5A per channel.
- DALI-2 certified, in accordance with DALI standard protocol IEC 62386-101, 102, 207, 209 and in compliance with DALI products from other international incorporation.
- DT6 dimming or DT8-TC color temperature or DT8-RGB or DT8-RGBW light type selectable.
- DALI addresses can be manually assigned via DIP switches or automatically assigned by the DALI master.
- PWM frequency 500Hz, 2KHz, 8KHz or 16KHz selectable.
- Standard DALI logarithmic dimming curve.
- Connect with external push switch to achieve on/off, brightness, color temperature and RGBW color adjustment.
- Over-heat / Overload / Short circuit protection, recover automatically.



## Technical Parameters

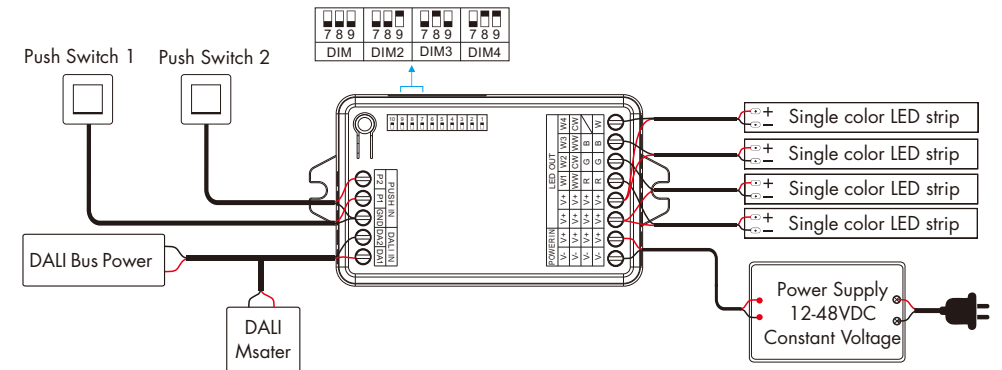
| Input and Output |                  | Dimming data            |                                            | Safety and EMC  |                               |
|------------------|------------------|-------------------------|--------------------------------------------|-----------------|-------------------------------|
| Input voltage    | 12-48VDC         | Input signal            | DALI + Push Dim                            | EMC standard    | EN IEC 55015/<br>EN IEC 61547 |
| Input current    | Max 20.5A        | Dimming range           | 0-100%                                     | Safety standard | EN 61347-1/-2                 |
| Output voltage   | 4x(12-48)VDC     | Dimming curve           | logarithmic                                | Certification   | CE RoHS DALI-2                |
| Output current   | 4x5A             | PWM frequency           | 500Hz, 2KHz(default),<br>8KHz, 16KHz       | Package         |                               |
| Output power     | 240W @12V        | Environment             | Operation temperature<br>Ta: -20°C ~ +55°C | Size            | L110xW57xH35mm                |
|                  | 480W @24V        |                         |                                            | Gross weight    | 0.097kg                       |
|                  | 720W @36V        |                         |                                            | Warranty        | 5 years                       |
|                  | 960W @48V        |                         |                                            |                 |                               |
| Output type      | Constant voltage | Case temperature (Max.) | Tc: +87°C                                  |                 |                               |

## Mechanical Structures and Installations

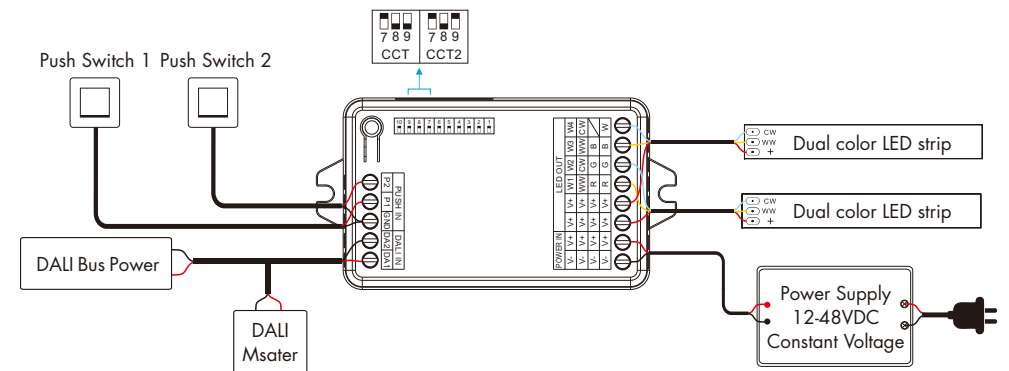


## Wiring Diagram

- Apply to single color dimming



- Apply to color temperature dimming



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- Push Switch 1 Push Switch 2
- DALI Bus Power
- DALI Msater
- 789 RGBW
- RGBW LED strip
- Power Supply 12-48VDC Constant Voltage

- DIM1: The dimmer occupy 1 DALI address, CH1, CH2, CH3, CH4 will be the same DALI address, 4-channel output is the same.
- DIM2: The dimmer occupy 2 DALI address, CH1, CH2 will be same DALI address A, CH3, CH4 will be same DALI address A+1.
- DIM3: The dimmer occupy 3 DALI address, CH1 will be DALI address A, CH2 will be DALI address A+1, CH3 will be DALI address A+2, CH4 no DALI address and no output.
- DIM4: The dimmer occupy 4 DALI address, CH1 will be DALI address A, CH2 will be DALI address A+1, CH3 will be DALI address A+2, CH4 will be DALI address A+3.
- CCT: The dimmer occupy 1 DALI address, CH1 and CH3 output WW (warm white), CH2 and CH4 output CW (cool white).
- CCT2: The dimmer occupy 2 DALI address, CH1(WW), CH2(CW) will be same DALI address A, CH3(WW), CH4(CW) will be same DALI address A+1.
- RGB: The dimmer occupy 1 DALI address, CH1 output R (red), CH2 output G (green), CH3 output B (blue), CH4 has no output.
- RGBW: The dimmer occupy 1 DALI address, CH1 output R (red), CH2 output G (green), CH3 output B (blue), CH4 output W (white).

When the light type is set to "DIM", the dimmer occupy 1 DALI address and address is 32.  
 When the light type is set to "DIM2", the dimmer occupy 2 DALI addresses and address is 32,33.  
 When the light type is set to "DIM3", the dimmer occupy 3 DALI addresses and address is 32,33,34.  
 When the light type is set to "DIM4", the dimmer occupy 4 DALI addresses and address is 32,33,34,35.  
 When the light type is set to "CCT", the dimmer occupy 1 DALI address and address is 32.  
 When the light type is set to "CCT2", the dimmer occupy 2 DALI addresses and address is 32,33.  
 When the light type is set to "RGB", the dimmer occupy 1 DALI address and address is 32.  
 When the light type is set to "RGBW", the dimmer occupy 1 DALI address and address is 32.

ON

DALI Address:

|   |   |   |   |    |    |
|---|---|---|---|----|----|
|   |   |   |   |    |    |
| 1 | 2 | 3 | 4 | 5  | 6  |
| 1 | 2 | 4 | 8 | 16 | 31 |

| DALI Address | DIP switch | DALI Address | DIP switch | DALI Address | DIP switch | DALI Address | DIP switch |
|--------------|------------|--------------|------------|--------------|------------|--------------|------------|
| 0            |            | 16           |            | 32           |            | 48           |            |
| 1            |            | 17           |            | 33           |            | 49           |            |
| 2            |            | 18           |            | 34           |            | 50           |            |
| 3            |            | 19           |            | 35           |            | 51           |            |
| 4            |            | 20           |            | 36           |            | 52           |            |
| 5            |            | 21           |            | 37           |            | 53           |            |
| 6            |            | 22           |            | 38           |            | 54           |            |
| 7            |            | 23           |            | 39           |            | 55           |            |
| 8            |            | 24           |            | 40           |            | 56           |            |
| 9            |            | 25           |            | 41           |            | 57           |            |
| 10           |            | 26           |            | 42           |            | 58           |            |
| 11           |            | 27           |            | 43           |            | 59           |            |
| 12           |            | 28           |            | 44           |            | 60           |            |
| 13           |            | 29           |            | 45           |            | 61           |            |
| 14           |            | 30           |            | 46           |            | 62           |            |
| 15           |            | 31           |            | 47           |            | 63           |            |

- DALI addresses can also be automatically assigned by the DALI master.  
First, set switch 10 to the "ON" position.  
Please refer to the DALI master user manual.

## Push Switch Dimming

The push switch interface can be connected to a self-reset panel switch or a self-reset button to dim the light.

### 1. DIM Dimming Type



- P1, P2 short press: Turn on or off light.  
P1, P2 double click: Switch between 10% or 100% brightness.  
P1, P2 long press (1-6s): Continuously adjust brightness.

### 2. DIM2 Dimming Type



- P1 short press: Turn on or off the lights for CH1 / CH2 channels.  
P2 short press: Turn on or off the lights for CH3 / CH4 channels.  
P1 double click: CH1 / CH2 channel lights switch between 10% or 100% brightness.  
P2 double click: CH3 / CH4 channel lights switch between 10% or 100% brightness.  
P1 long press (1-6s): Continuously adjust brightness of CH1 / CH2 channels.  
P2 long press (1-6s): Continuously adjust brightness of CH3 / CH4 channels.

### 3. DIM3 Dimming Type



- P1 short press: Turn on or off the lights for CH1 / CH2 channels.  
P2 short press: Turn on or off the light for CH3 channel.  
P1 double click: CH1 / CH2 channel lights switch between 10% or 100% brightness.  
P2 double click: CH3 channel light switch between 10% or 100% brightness.  
P1 long press (1-6s): Continuously adjust brightness of CH1 / CH2 channels.  
P2 long press (1-6s): Continuously adjust brightness of CH3 channel.

### 4. DIM4 Dimming Type



- P1 short press: Turn on or off the lights for CH1 / CH2 channels.  
P2 short press: Turn on or off the lights for CH3 / CH4 channels.  
P1 double click: CH1 / CH2 channel lights switch between 10% or 100% brightness.  
P2 double click: CH3 / CH4 channel lights switch between 10% or 100% brightness.  
P1 long press (1-6s): Continuously adjust brightness of CH1 / CH2 channels.  
P2 long press (1-6s): Continuously adjust brightness of CH3 / CH4 channels.

### 5. CCT Dimming Type



- P1, P2 short press: Turn on or off light.  
P1, P2 double click: Switch between three color temperature (warm white, neutral white, cool white), at the same time, enter the state of long-press to adjust color temperature.  
After 5s of no operation, it will automatically return to long-press brightness adjustment state.  
P1, P2 long press (1-6s): Continuously adjust the brightness or color temperature.  
Default brightness adjustment.

### 6. CCT2 Dimming Type



- P1 short press: Turn on or off the lights for CH1 / CH2 channels.  
P2 short press: Turn on or off the lights for CH3 / CH4 channels.  
P1 double click: CH1 / CH2 channels switch between three color temperature (warm white, neutral white, cool white), at the same time, enter the state of long-press to adjust color temperature.  
After 5s of no operation, it will automatically return to long-press brightness adjustment state.  
P2 double click: CH3 / CH4 channels switch between three color temperature (warm white, neutral white, cool white), at the same time, enter the state of long-press to adjust color temperature.  
After 5s of no operation, it will automatically return to long-press brightness adjustment state.  
P1 long press (1-6s): Continuously adjust the brightness or color temperature of CH1 / CH2 channels.  
Default brightness adjustment.  
P2 long press (1-6s): Continuously adjust the brightness or color temperature of CH3 / CH4 channels.  
Default brightness adjustment.

### 7. RGB Dimming Type



- P1, P2 short press: Turn on or off light.  
P1, P2 double click: Switch between color light and mixed white light (current color +50% saturation), at the same time, enter the state of long press to adjust color light or saturation.  
After 5s of no operation, it will automatically return to long-press brightness adjustment state.  
P1, P2 long press (1-6s): Continuously adjust brightness, color, or saturation.  
Default brightness adjustment.

### 8. RGBW Dimming Type



- P1 short press: Turn the RGB lights on or off.  
P2 short press: Turn the W light on or off.  
P1 double click: Switch between color light and mixed white light (current color +50% saturation), at the same time, enter the state of long press to adjust color light or saturation.  
After 5s of no operation, it will automatically return to long-press brightness adjustment state.  
P2 double click: W light switch between 10% or 100% brightness.  
P1 long press (1-6s): Continuously adjust brightness, color, or saturation.  
Default brightness adjustment.  
P2 long press (1-6s): Continuously adjust the brightness of the W light.

## Set Button Function

### • PWM Frequency Setting

Press and hold the SET button for 2 seconds to set 4 PWM frequencies:

When the LED indicator flash once, the output PWM frequency is set to 500Hz.

When the LED indicator flash twice, the output PWM frequency is set to 2KHz.

When the LED indicator flash 3 times, the output PWM frequency is set to 8KHz.

When the LED indicator flash 4 times, the output PWM frequency is set to 16KHz.

PWM frequency and output current mapping:

| $\begin{matrix} \text{PWM} \\ \text{U}_{in} \end{matrix}$ | $\begin{matrix} \text{I}_{out} \end{matrix}$ | 500Hz | 2KHz | 8KHz | 16KHz |
|-----------------------------------------------------------|----------------------------------------------|-------|------|------|-------|
| 12-24V                                                    |                                              | 20A   | 20A  | 12A  | 12A   |
| 36-48V                                                    |                                              | 20A   | 20A  | 12A  | 10A   |

Higher PWM frequency, will cause lower output current, higher power noise, but more suitable for camera (No Eickers for video).

### • Open-circuit detection

When the light is off, press the SET button 5 times in quick succession to enable or disable the open-circuit detection function.

When the LED indicator flash 3 times, the open-circuit detection function is enabled.

When the LED indicator flash 5 times, the open-circuit detection function is disabled.

### • Restore factory settings

Press and hold the SET button for 5 seconds. The LED indicator will fast flash twice, restore the device to factory default settings.

Factory default parameters: PWM frequency set to 2KHz, DALI address not assigned, open-circuit detection disabled.

SET button & LED indicator



## Safety & Warnings

- DO NOT install with power applied to device.
- DO NOT expose the device to moisture.