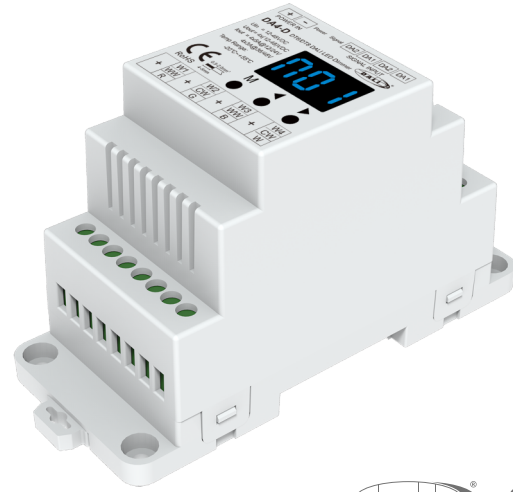# DA4-D

DALI

4 Channel Constant Voltage DALI LED Dimmer
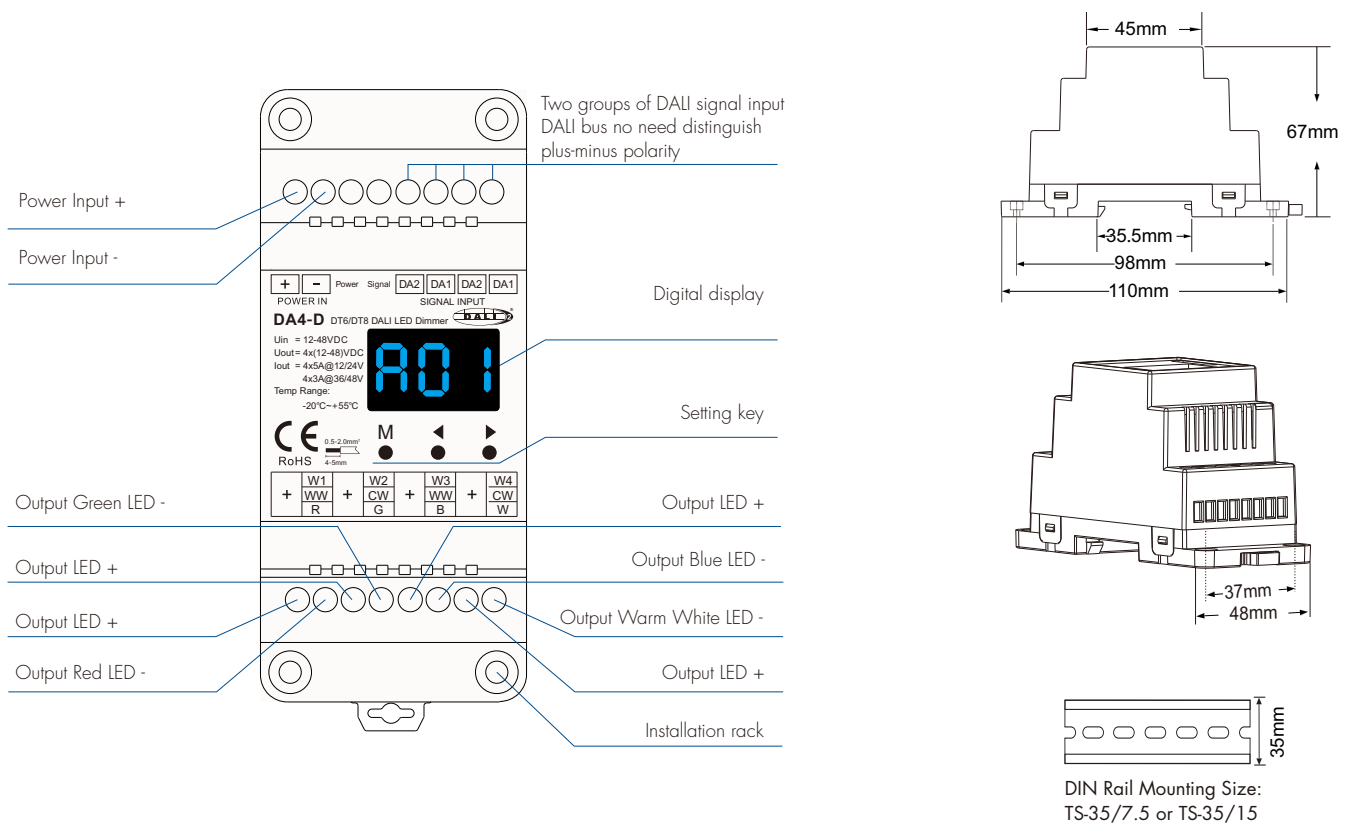
- 4 channel constant voltage DALI LED Dimmer with digital display, 5A per channel.
- DT6 dimming or DT8-TC color temperature or DT8-RGB or DT8-RGBW light type selectable.
- For DT6 dimming, support 1-4 DALI address, 4 channel work separately.
- In accordance with DALI standard protocol IEC 62386-102, IEC 62386-207, IEC 62386-209 and in compliance with DALI products from other international incorporation.
- DALI address can be manually assigned and shown in digital display or automatically assigned by DALI master.
- Connect with external AC push switch to achieve on/off, brightness, color temperature and RGB color adjustment.
- PWM digital dimming, standard DALI logarithmic dimming curve.
- PWM frequency 1000/2000/4000/8000/16000Hz selectable.
- Over-heat / Over-load / Short circuit protection, recover automatically.
- With fast self-testing function.
- White & Black available.

DALI 2   CE   RoHS

Technical Parameters

Input and Output

Input voltage	12-48VDC
Input current	20.5A
Output voltage	4x(12-48)VDC
Output current	4x5A@12/24V 4x3A@36/48V
Output power	240W@12V 480W@24V 432W@36V 576W@48V
Output type	Constant voltage

Package

Size	L120 x W78 x H55mm
Gross weight	0.164kg

Dimming data

Input signal	DALI, AC push
Dimming range	0-100%
Dimming curve	Logarithmic
PWM Frequency	1000/2000/4000/8000/16000Hz

Warranty and Protection

Warranty	5 years
Protection	Over-load Over-heat Short circuit

Safety and EMC

EMC standard	EN IEC 55015:2019+A11:2020 EN 61547:2009 EN IEC 61000-3-2:2019+A1:2021 EN 61000-3-3:2013+A1:2019
Safety standard	EN 61347-1:2015+A1:2021 EN 61347-2-13:2014+A1:2017
Certification	CE,DALI-2

Environment

Operation temperature	Ta: -20℃ ~ +55℃
Case temperature (Max.)	Tc: +85℃
IP rating	IP 20

Mechanical Structures and Installations

Two groups of DALI signal input
DALI bus no need distinguish plus-minus polarity

Power Input +
Power Input -

| + | − | Power Signal | DA2 | DA1 | DA2 | DA1 |
| POWER IN | | | SIGNAL INPUT | | | |

DA4-D DT6/DT8 DALI LED Dimmer

Uin = 12-48VDC
Uout = 4x(12-48)VDC
Iout = 4x5A@12/24V
4x3A@36/48V
Temp Range:
-20℃~+55℃

Digital display

Setting key

M ◄ ►

| W1
WW
R | + | W2
CW
G | + | W3
WW
B | + | W4
CW
W |

Output Green LED -
Output LED +
Output LED +
Output Red LED -

Output LED +
Output Blue LED -
Output Warm White LED -
Output LED +
Installation rack

45mm
67mm
35.5mm
98mm
110mm

37mm
48mm

35mm

DIN Rail Mounting Size:
TS-35/7.5 or TS-35/15
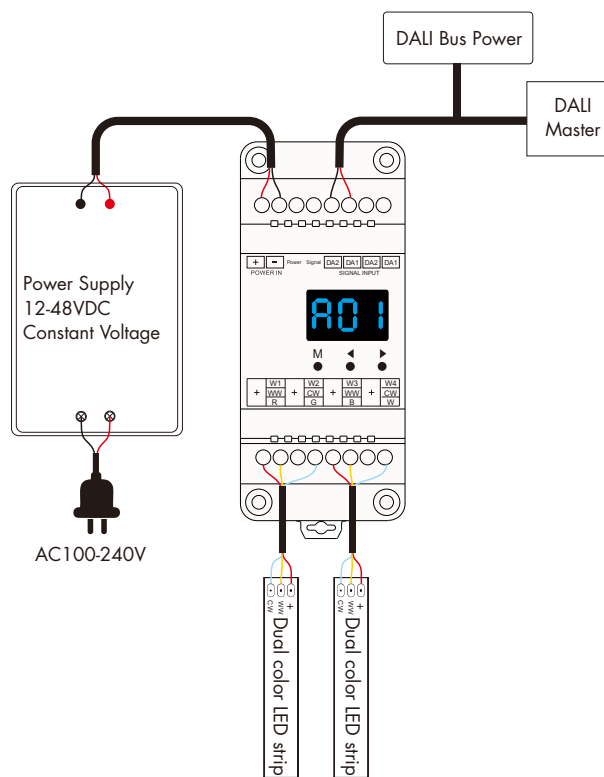
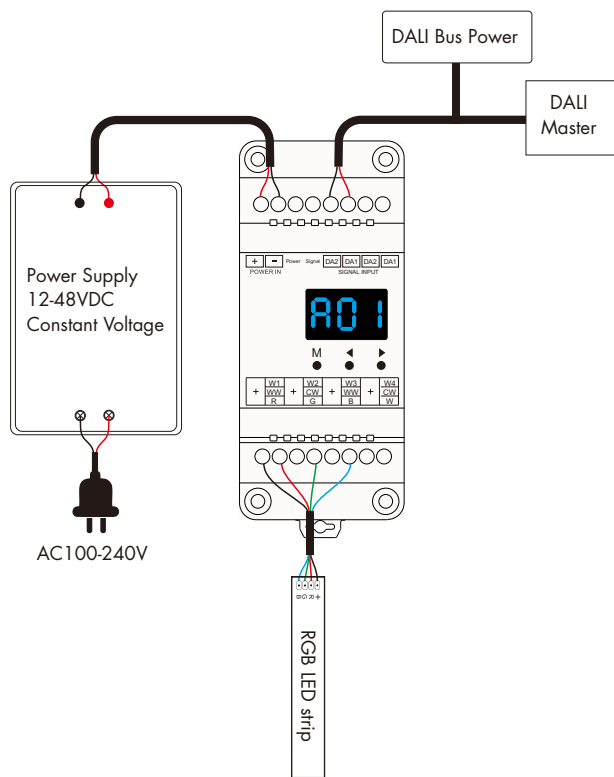# Wiring Diagram

1. DA4-D connect DALI master

● Apply to single color dimming (1CH, 2CH, 3CH, 4CH)
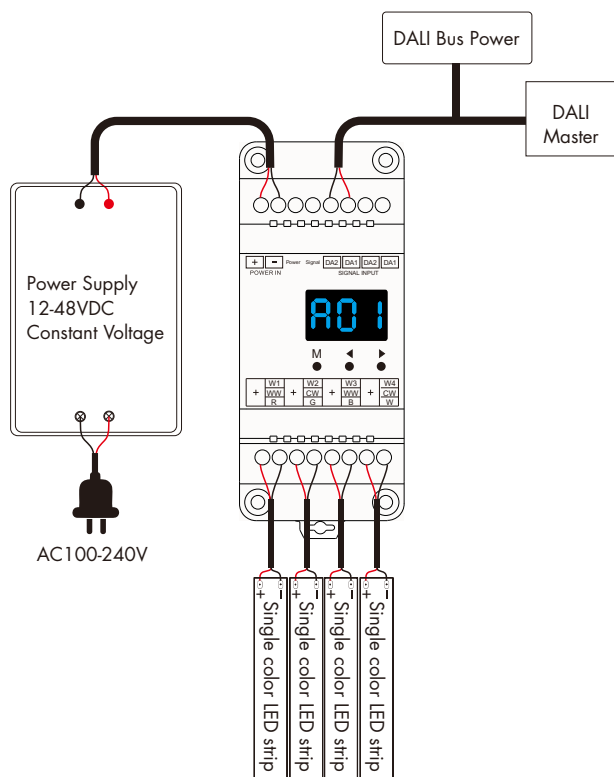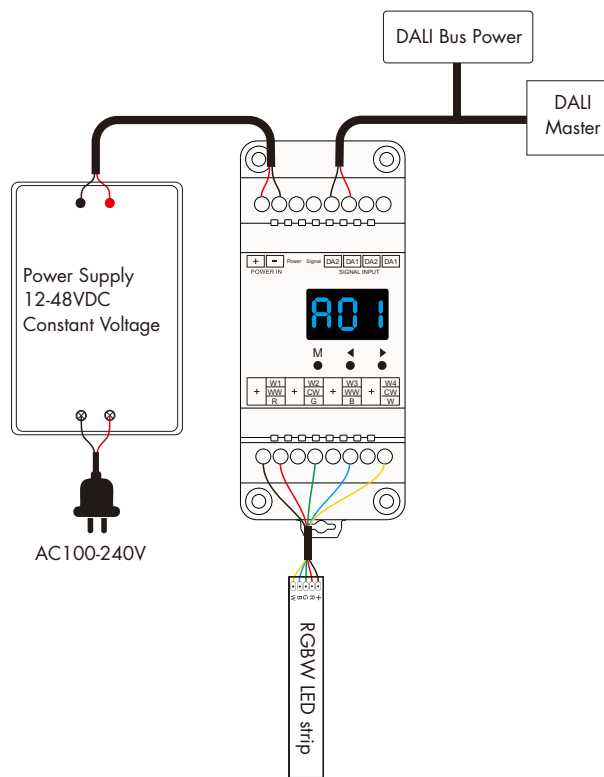

● Apply to color temperature dimming (C-2)
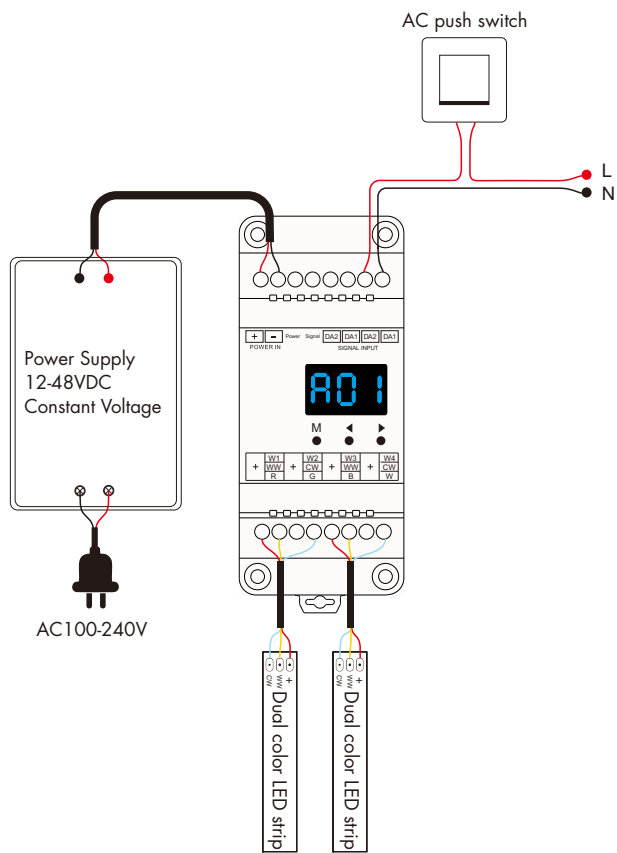

● Apply to RGB dimming (C-3)
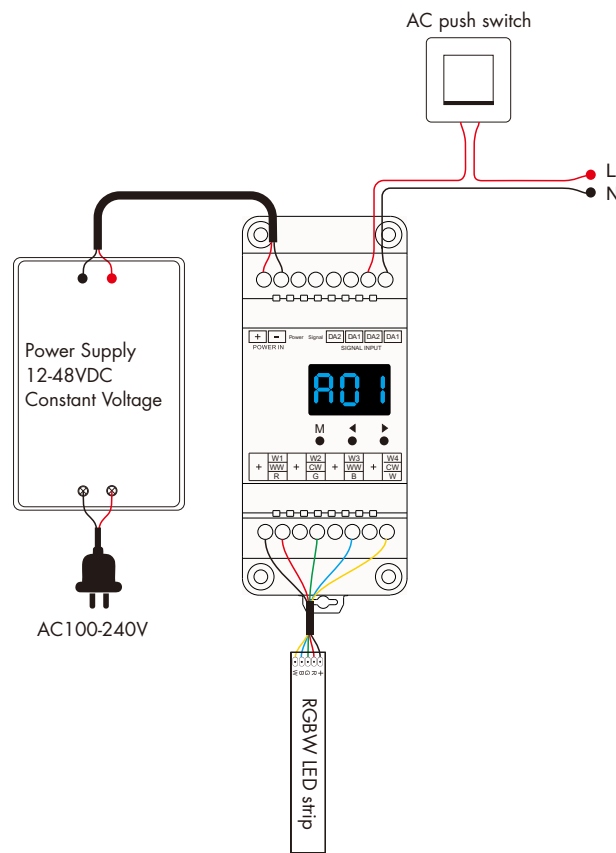

● Apply to RGBW dimming (C-4)

2. DA4-D connect with AC push switch

● Apply to color temperature dimming

● Apply to RGBW dimming

AC push switch

Power Supply
12-48VDC
Constant Voltage

AC100-240V

A01

POWER IN   SIGNAL INPUT

W1 + W2 + W3 + W4
WW   CW   WW   CW
R   G   B   W

Dual color LED strip

Dual color LED strip

AC push switch

Power Supply
12-48VDC
Constant Voltage

AC100-240V

A01

POWER IN   SIGNAL INPUT

W1 + W2 + W3 + W4
WW   CW   WW   CW
R   G   B   W

RGBW LED strip

Note:

1. When display OLA, overload alarm. When display OHA, overwarm alarm.
2. DALI interface and AC push interface are compatible, DALI and AC push can only be connected to one, not at the same time.
   When connecting to the AC push switch, note that the fire wire (L) and zero wire (N) are connected to DA1 and DA2 respectively,
   and can not be connected to DA1 or DA2 at the same time.

AC push switch function

1. Single color dimming

● **Short press:** Turn on/off the light.

● **Long press (1-6s):** Step-less dimming, with every other long press, the light level goes to the opposite direction, dimming range 1%-100%.

● **Double click:** Switch between 10% and 100% brightness.

2. Color temperature dimming

● **Short press:** Turn on/off the light.

● **Long press (1-6s):** Step-less dimming, with every other long press, the light level goes to the opposite direction, dimming range 1%-100%.

● **Double click:** Switch between three levels color temperature (warm white, neutral white, cool white) in sequence,
   at the same time, enter the state of long-press to adjust color temperature.
   After 5s of no operation, it will automatically exit color temperature adjustment state.

3. RGB dimming

● **Short press:** Turn on/off the light.

● **Long press (1-6s):** Step-less dimming, with every other long press, the light level goes to the opposite direction, dimming range 1%-100%.

● **Double click:** Switch between color light (RGB) and mixed white light (current color light + 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 exit color light or saturation adjustment state.

4. RGBW dimming

● **Short press:** Turn on/off the light.

● **Long press (1-6s):** Step-less dimming, with every other long press, the light level goes to the opposite direction, dimming range 1%-100%.

● **Double click:** Switch between color light (RGB) and white light (W),
   at the same time, enter the state of long press to adjust color light or white light brightness.
   After 5s of no operation, it will automatically exit color light or white light brightness adjustment state.

Light type setting

- When using it for the first time, please set the light type according to the application.
- Long press M button for 2s, to prepare for setting the light type, the digital display flashes.
- Short press the ◀ or ▶ button to switch the single color ("1CH/2CH/3CH/4CH"), dual color ("C-2"), RGB ("C-3") or RGBW ("C-4") light type.
- Short press the M button or timeout for 10 seconds to exit the light type setting.

Light type setting instructions:

- When set "1CH" type, DT6 dimming, the dimmer occupy 1 DALI address,
  CH1, CH2, CH3, CH4 will be the same DALI address, 4-channel output is the same.

<div style="text-align:right">

1CH

DT6, 1CH

</div>

- When set "2CH" type, DT6 dimming, the dimmer occupy 2 DALI address,
  CH1, CH3 will be same DALI address A, CH2,CH4 will be same DALI address A+1.

<div style="text-align:right">

2CH

DT6, 2CH

</div>

- When set "3CH" type, DT6 dimming, 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.

<div style="text-align:right">

3CH

DT6, 3CH

</div>

- When set "4CH" type, DT6 dimming, 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.

<div style="text-align:right">

4CH

DT6, 4CH

</div>

- When set "C-2" type, DT8-TC dimming, the dimmer occupy 1 DALI address,
  CH1 and CH3 synchronized output WW (warm white), CH2 and CH4 synchronized output CW (cool white).

<div style="text-align:right">

C-2

DT8-TC

</div>

- When set "C-3" type, DT8-RGB dimming, the dimmer occupy 1 DALI address,
  the 4th channel does not output.

<div style="text-align:right">

C-3

DT8-RGB

</div>

- When set "C-4" type, DT8-RGBW dimming, the dimmer occupy 1 DALI address,
  4 channels are output independently.

<div style="text-align:right">

C-4

DT8-RGBW

</div>

For example, the start DALI address is 32:
When set "1CH" type, the dimmer occupy 1 DALI address and address is 32.
When set "2CH" type, the dimmer occupy 2 DALI addresses and address is 32,33.
When set "3CH" type, the dimmer occupy 3 DALI addresses and address is 32,33,34.
When set "4CH" type, the dimmer occupy 4 DALI addresses and address is 32,33,34,35.
When set "C-2" type, the dimmer occupy 1 DALI address and address is 32.
When set "C-3" type, the dimmer occupy 1 DALI address and address is 32.
When set "C-4" type, the dimmer occupy 1 DALI address and address is 32.

Set DALI Address via buttons

- Long press ◀ or ▶ button for 2s, prepare for set the start DALI address, then press ◀ or ▶ button to set the start DALI address.
- Short press M button or timeout 10s, quit start DALI address setting.
- The start DALI address can be manually assigned from 00-63-FF.
- By factory defaults, no DALI address is assigned for the dimmer, and digital display shows "AFF".

DALI address assigned by DALI masters

- DALI address can also be assigned by DALI Master controller automatically. Please refer to user manuals of compatible DALI Masters for specific operations.
- The digital display will show "AAU" When the DALI master is assigning address.
- After address is assigned, the digital display will show the DALI address"Axx", xx is from 00 to 63.
- For the DT6 2/3/4 channel dimming type, the dimmer occupies 2/3/4 DALI addresses,
  use the DALI master assigning address may result in discontinuous addresses, then the digital display will show the DALI start address "Uxx".

Set PWM frequency

- Long press M & ◀ button to enter PWM frequency setting.
- Short press ◀ or ▶ button to switch between 1000Hz("F10"), 2000Hz("F20"), 4000Hz("F40"), 8000Hz("F80") or 16000Hz("FA0").
  Higher PWM frequency, will cause lower output current, higher power noise, but more suitable for camera (No flickers for video).
- Short press M button or 10s without operation, exit system parameter setting.

Restore factory default parameter

- Long press ◀ and ▶ button for 2s, restore factory default parameter, display "RES".
- Factory default parameter: no DALI address is assigned, DT6 four channel dimming, PWM frequency is 2000Hz.
- Long press M and ▶ button for 2s, enter fast self-testing, the four output channels will be on orderly then all on.

Safety & Warnings

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