U LIGHT

- 4-channel constant voltage LED dimmer with OLED screen display, supports DALI, DMX signal control.
- Auto switching by signal input or switching by key operation for three dimming modes: DALI, DMX, and manual mode.
- DALI mode:
  1-4 DALI addresses, support DT6 dimming, DT8-TC color temperature and DT8-RGB, DT8-RGBW light types.
  Support DALI dimming parameter setting, including fade time, fade rate, power on level,
  system fail level and so on.
  DALI address can be assigned manually or autonomously by DALI host.
  Comply with DALI standard protocol IEC 62386-101, 102, 207, 209, etc.
  Compatible with other DALI products.
- DMX mode:
  1/2/3/4 channel decoding mode selectable.
  8-bit (256 levels)/16-bit (65536 levels) grayscale selectable.
  Output dimming curve gamma 0.1-9.9 selectable.
  Comply with DMX512 standard protocol.
  Support RDM function, can realize the communication between DMX master and DMX decoder.
- Manual mode:
  Support manual control each channel by 4 buttons, short press on/off, long press dimming.
- 250/500/1000/2000/4000/8000/16000/32000Hz output PWM frequency selectable.
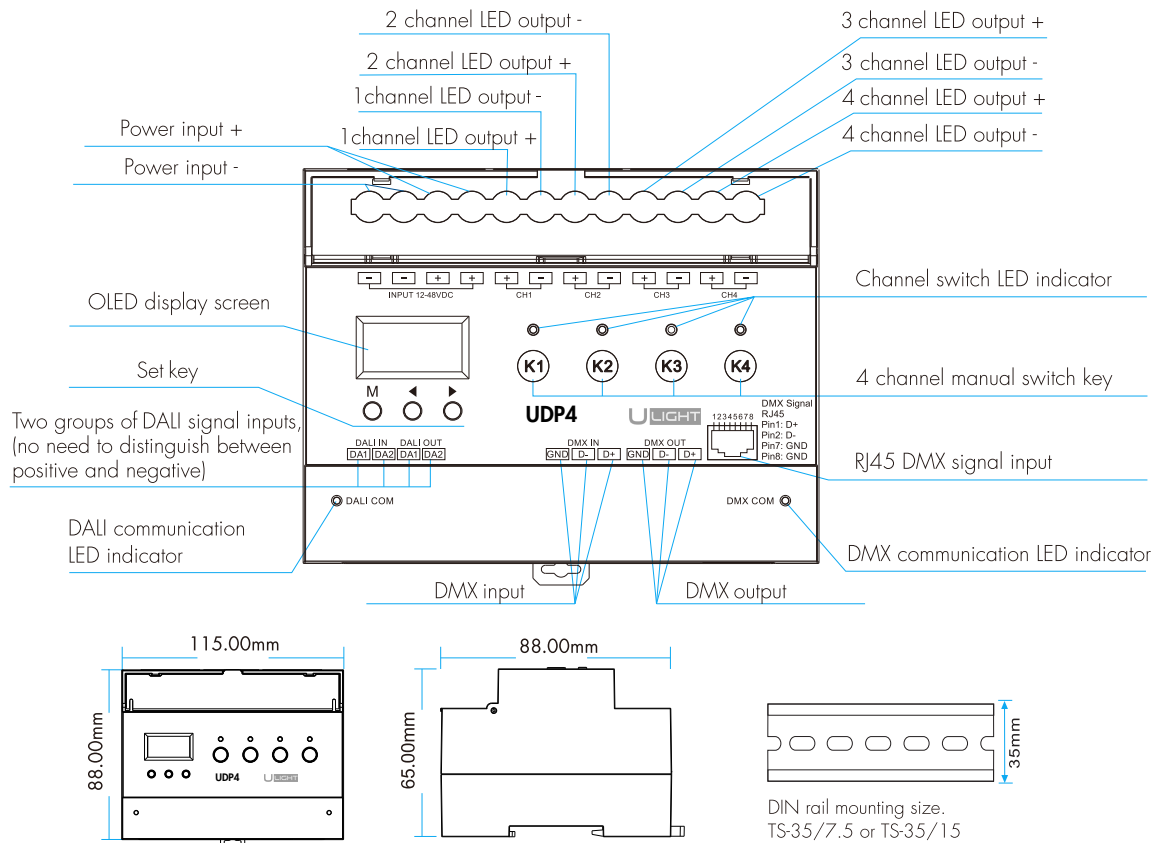- Anti-reverse/over-heat/short circuit protection.
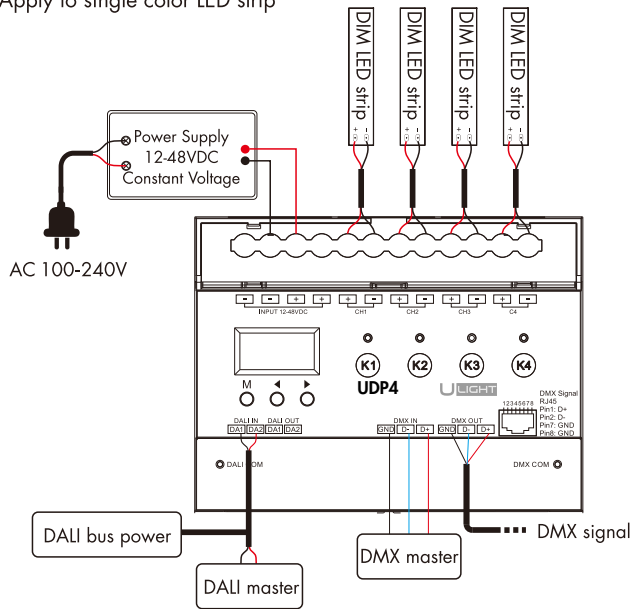
CE RoHS

Technical Parameters

Input and Output

Input voltage	12-48VDC
Output voltage	4×(12-48)VDC
Output current	4×12A@12/24V 4×10A@36/48V
Output power	576W@12V 1152W@24V 1440W@12V 1920W@24V
Input signal	DALI or DMX512

Safety and EMC

EMC standard	EN IEC 55015/ EN IEC 61547 ETSI EN 301 489-1/-3
Safety standard	EN 61347-1/-2
Radio equipment	ETSI EN 300 440
Certification	CE RoHs

Warranty

Warranty	5 years

Environment

Operation temperature	Ta: -20 °C ~ +50°C
Case temperature (Max.)	Tc: +80°C
IP rating	IP20

Package

Size	L118 x W102 x H71mm
Gross weight	0.306kg

Mechanical Structures and Installations

- 2 channel LED output -
- 2 channel LED output +
- 1channel LED output -
- 1channel LED output +
- Power input +
- Power input -
- 3 channel LED output +
- 3 channel LED output -
- 4 channel LED output +
- 4 channel LED output -
- OLED display screen
- Set key
- Two groups of DALI signal inputs, (no need to distinguish between positive and negative)
- DALI communication LED indicator
- Channel switch LED indicator
- 4 channel manual switch key
- RJ45 DMX signal input
- DMX communication LED indicator
- DMX input
- DMX output

INPUT 12-48VDC   CH1   CH2   CH3   CH4

K1 K2 K3 K4

M

UDP4   U LIGHT

DALI IN   DALI OUT
DA1 DA2   DA1 DA2

DMX IN   DMX OUT
GND D- D+   GND D- D+

12345678
DMX Signal RJ45
Pin1: D+
Pin2: D-
Pin7: GND
Pin8: GND

DALI COM   DMX COM

115.00mm

88.00mm

88.00mm

65.00mm

35mm

DIN rail mounting size.
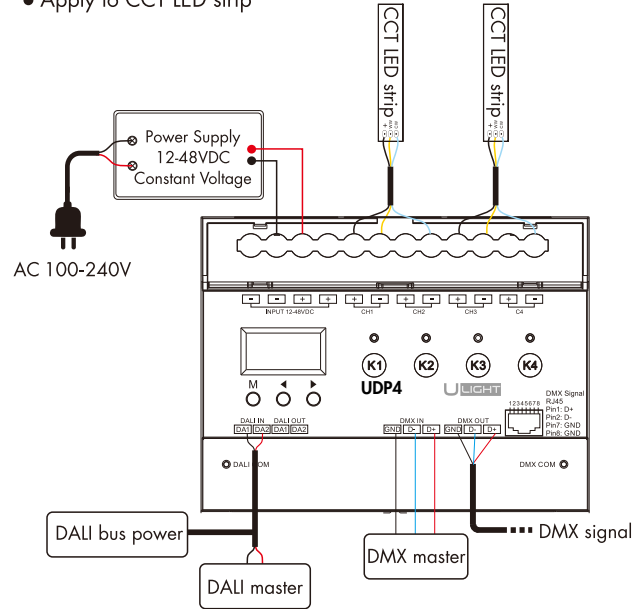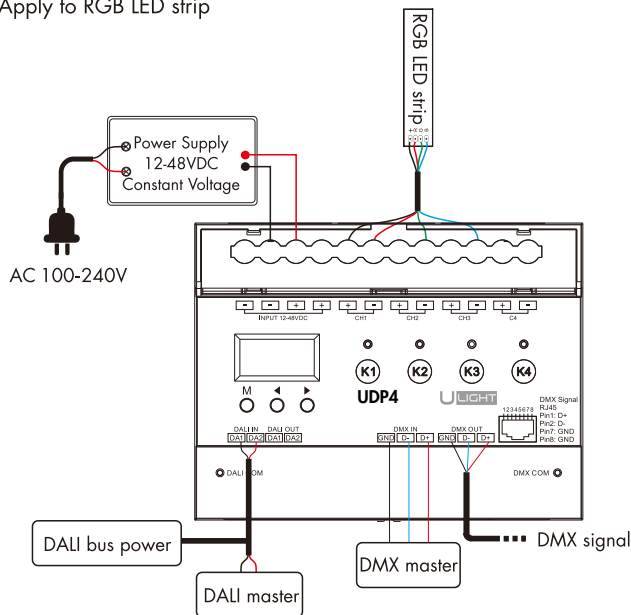TS-35/7.5 or TS-35/15

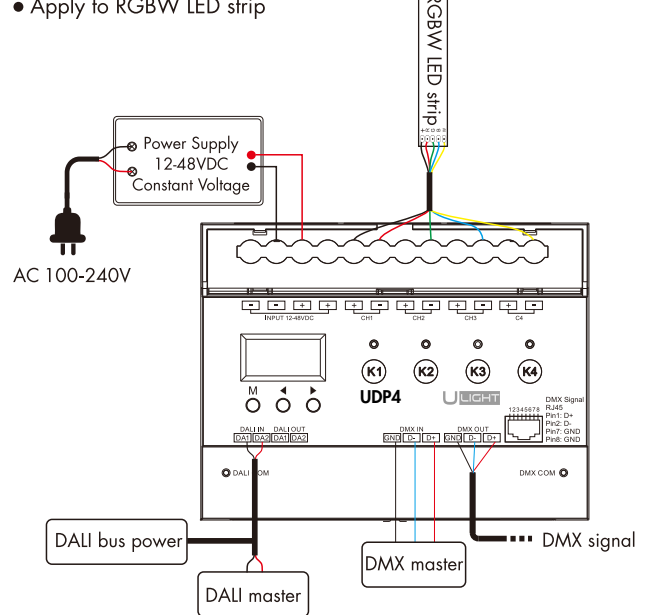# Wiring Diagram

● Apply to single color LED strip

● Apply to CCT LED strip

● Apply to RGB LED strip

● Apply to RGBW LED strip

Note: The dimmer can't input DALI signal and DMX signal at the same time, you can only select one of the control methods.

DALI Dimming Mode

1. DALI main interface and setting interface

DALI main interface:

DALI setting interface:

| Single color dimming, 1CH (1 address) | Single color dimming, 4CH (4 address) | Color temperature dimming (2 address) | RGB dimming (1 address) | RGBW dimming (1 address) |

● Short press M key to enter DALI main interface.
● Short press ◀ or ▶ key to enter DALI setting interface, prepare for setting light type, DALI address and PWM frequency.
● In DALI setting interface, short press M key to switch each parameter item; short press ◀ or ▶ key to change each parameter value.
● Light type: 7 light types can be set (DT6-1CH, DT6-2CH, DT6-3CH, DT6-4CH, DT8-CCT, DT8-RGB, DT8-RGBW).

- DALI Address (Addr): Setting range "00-63-no "(no means unassigned address), supports long press for fast adjustment.
  When using multiple DALI addresses, you need to set each DALI address, and we recommend setting the DALI addresses in increasing order.
  DALI addresses can also be assigned by DALI master, please refer to the DALI master user manual for details.
- Output PWM frequency (PwmFreq): 8 types of frequency can be set (250/500/1000/2000/4000/8000/16000/32000Hz).
- Long press M key for 2s or wait for 15s, exit setting interface and return to main interface.

Light type setting notes:
Set "DT6-1CH", 1CH monochrome dimming, dimmer use 1 DALI address, CH1, CH2, CH3, CH4 are the same DALI address, and all 4 outputs are the same.
Set "DT6-2CH", 2CH monochrome dimming, dimmer use 2 DALI address, CH1-2 are the 1st DALI address and CH3-4 are the 2nd DALI address.
Set "DT6-3CH", 3CH monochrome dimming, dimmer use 3 DALI address, CH1 is the 1st DALI address, CH2 is the 2nd DALI address, CH3 is the 3rd DALI address, CH4 has no DALI address and no output.
Set "DT6-4CH", 4CH monochrome dimming, dimmer use 4 DALI address, CH1 is the 1st DALI address, CH2 is the 2nd DALI address, CH3 is the 3rd DALI, CH4 is the 4th DALI address.
Set "DT8-CCT", color temperature dimming, dimmer use 2 DALI address, CH1 (WW) and CH2 (CW) are the 1st DALI address, CH3 (WW) and CH4 (CW) are the 2nd DALI address.
Set "DT8-RGB", RGB dimming, dimmer use 1 DALI address, CH1 output R (red), CH2 output G (green), CH3 output B (blue), and CH4 has no output.
Set "DT8-RGBW", RGBW dimming, dimmer use 1 DALI address, CH1 output R (red), CH2 output G (green), CH3 output B (blue), and CH4 output W (white).

2. DALI parameter setting sub-interface
- When in DALI main interface, long press M key 2s to enter DALI parameter setting sub-interface,
  prepare for setup parameters: dimming curves, max/min level, light fade time and fade rate, power on level, system fail level.
- When in DALI parameter setting sub-interface, short press M key to switch each parameter setting item. It will turn the page automatically,
  short press ◀ or ▶ key to change each parameter value.
- Long press M key for 2s or wait for 15s to exit parameter setting sub-interface and return to main interface.

DT6-monochrome type:

```
Channel:      CH1
DimCurve:     Log
MaxLevel:     254
MinLevel:       1
```

```
FadeTime:    0.1s
FadeRate: 44.7/s
PowerOnLevel:255
SysFailLevel:255
```

DT8-color temperature type:

```
Channel:    CH1-2
DimCurve:     Log
MaxLevel:     254
MinLevel:       1
```

```
FadeTime:    0.1s
FadeRate: 44.7/s
MaxTc:      1000K
MinTc:      6250K
```

```
PowerOnLevel:254
PowerOnTc: 2500K
SysFailLevel:254
SysFailTc: 2500K
```

DT8-RGB/RGBW type:

```
Channel:    CH1-4
DimCurve:     Log
MaxLevel:     254
MinLevel:       1
```

```
FadeTime:    0.1s
PowerOnLevel:254
     R:254  G:254
     B:254  W:254
```

```
FadeRate: 44.7/s
SysFailLevel:254
     R:254  G:254
     B:254  W:254
```

Current setting channel (Channel): When DT6 multi-channel dimming type, select the current setting channel (CH1, CH2, CH3, CH4);
When DT8-CCT light type, select the current setting channel (CH1-2, CH3-4);
When DT6 single channel dimming and DT8-RGB, DT8-RGBW light types, there is no need to select a channel and display CH1-4.
Output dimming curve (DimCurve): Logarithmic curve (Log) or Linear curve (Linear) optional.
Maximum dimming level (MaxLevel): Setting range 60-254.
Minimum dimming level (MinLevel): Setting range 1-60.
Warmest color temperature (MaxTc): Setting range 1000K-4000K.
Coldest color temperature (MinTc): Setting range 5000K-8000K.
Light fade time (FadeTime): Set the fade time for lighting or scene changes,
16 levels optional (0s, 0.7s, 1s, 1.4s, 2s, 2.8s, 4s, 5.7s, 8s, 11.3s, 16s, 22.6s, 32s, 45.3s, 64s, 90.5s).
Light fade rate (FadeRate): Set the fade rate for lighting or scene changes,
15 levels optional (358/s, 253/s, 179/s, 127/s, 89.4/s, 63.3/s, 44.7/s, 31.6/s, 22.4/s, 15.8/s, 11.2/s, 7.9/s, 5.6/s, 4/s, 2.8/s).
Power on level (PowerOnLevel): Set the brightness or color of the DALI dimmer at power-up, setting range 0-254(0-100%).
When in DT8-RGBW lighting type, you can set the brightness of R/G/B/W channels.
Power on color temperature level (PowerOnTc): Set the color temperature of the DALI dimmer at power-up, setting range 1000K-8000K, MASK.
When set to 255 (DT8 color temperature type: MASK), when powering up, it will maintain previous brightness or color as it was before the last power down.
System fail level (SysFailLevel): Set the brightness or color during bus failure, setting range 0-254(0-100%).
When in DT8-RGBW light type, you can set the brightness of R/G/B/W channels.
System fail color temperature level (SysFailTc): Set color temperature during bus failure, setting range 1000K-8000K, MASK.
When set to 255 (DT8 color temperature type: MASK), brightness or color unchanged when the bus fails.

DMX Dimming Mode

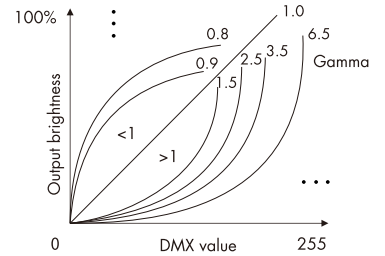## 1. DMX main interface and setting interface

DMX main interface:

```
DMX      DIM-4CH
Addr:00     8bit
CH1:100%CH2:100%
CH3:100%CH4:100%
```

- Short press M key to enter DMX main interface.
- Short press ◀ or ▶ key to enter DMX setting interface, prepare to set light type, DMX decode first address, gray level, PWM frequency and dimming curve.
- In DMX setting interface, short press M key to switch each parameter item; short press ◀ or ▶ key to change the value of each parameter item.

DMX setting interface:

```
DMX      DIM-4CH
Addr:00     8bit
PwmFreq:  2000Hz
GammaCurve:  1.6
```

- Light type: Set 4 light types(DIM-1CH, DIM-2CH, DIM-3CH, DIM-4CH).
- DMX decode first address (Addr): Setting range 001-512, support long press fast adjustment.
- Grayscale level: Set 8-bit or 16-bit decode. For 6-bit decode, one output channel uses two DMX addresses.
- Output PWM frequency(PwmFreq): 8 frequencies can be set (250/500/1000/2000/4000/8000/16000/32000Hz).
- Output dimming curve (GammaCurve): Setting range gamma 0.1-9.9, only available for 8-bit grayscale levels.
- Long press M key for 2s or wait for 15s to exit setting interface and return to main interface.

2. DMX parameter setting sub-interface

```
NoDmxOut:HoldDmx
DefOut:
CH1:255   CH2:255
CH3:255   CH4:255
```

- When in DMX main interface, long press M key to enter DMX parameter setting sub-interface. Set the output way when there is no DMX signal in DMX mode, and the default output brightness of each channel.
- In DMX parameter setting sub-interface, short press M key to switch each parameter item; short press ◀ or ▶ key to change each parameter value.
- Output when there is no DMX signal (NoDmxOut): Select to keep the DMX data unchanged (HoldDmx) or restore default output (ResDef).
- Default output brightness of each channel(CH1, CH2, CH3, CH4): Setting range 0-255.
- Long press M key for 2s or wait for 15s to exit parameter setting sub-interface and return to main interface.

DMX address setting table.

8-bit:

Light type		DIM-1CH	DIM-2CH	DIM-3CH	DIM-4CH
Address number		1	2	3	4
Channel	CH1	001	001	001	001
	CH2	001	002	002	002
	CH3	001	001	003	003
	CH4	001	002	003	004

16-bit:

Light type		DIM-1CH	DIM-2CH	DIM-3CH	DIM-4CH
Address number		2	4	6	8
Channel	CH1	001 002	001 002	001 002	001 002
	CH2	001 002	003 004	003 004	003 004
	CH3	001 002	001 002	005 006	005 006
	CH4	001 002	003 004	005 006	007 008

Note: Even numbered channels are used for fine dimming.

Manual Dimming Mode

In manual dimming mode, switch or adjust each channel output by K1~K4 keys.
Short press: turn channel light on or off.
Long press 1-6s: Continuously adjust channel light brightness, dimming range 0.1-100%.

Manual mode main interface:

```
Manual   DIM-4CH

CH1:100%CH2:100%
CH3:100%CH4:100%
```

- Short press M key, or short press any key of K1~K4 to enter manual dimming main interface.
- Short press ◀ or ▶ key to enter manual dimming setting interface, prepare to set PWM frequency and dimming curve.
- In manual dimming setting interface, short press M key to switch each parameter item; short press ◀ or ▶ key to change each parameter value.

Manual mode setting interface:

```
DMX      DIM-4CH

PwmFreq:  2000Hz
GammaCurve:  1.6
```

- Output PWM frequency (PwmFreq): 8 frequencies can be set (250/500/1000/2000/4000/8000/16000/32000Hz).
- Output dimming curve (GammaCurve): Setting range gamma 0.1-9.9, valid only for 8-bit grayscale levels.
- Long press M key for 2s or wait for 15s, exit setting interface and return to main interface.

Note:
1. Three dimming modes support switching by pressing M key and automatic switching by signal input.
2. Under 3 dimming modes, OLED screen instantly displays the brightness output value of each channel (0-100%, min. brightness 0.1%), and channel LED indicator instantly displays the on/off status of each channel.
   When channel output is 0, channel LED is off; when channel output is not 0, channel LED is on.
3. Long press ◀ and ▶ keys at the same time for 2s to recover factory setting: DT6-4CH light type, unassigned DALI address, DMX 4-channel 8-bit decode output, PWM frequency 2000Hz, dimming curve Gamma 1.6.