LDT-RF-4CV-8A

High-Load Four-Channel RF LED Controller

A 4-channel constant-voltage LED controller for DIM / DUO / RGB / RGBW lighting. Configure the lighting type, connect the corresponding LED load and pair a compatible RF control interface in the same mode.

Model specifications

Product function	Constant-voltage PWM LED controller
Lighting modes	DIM / DUO / RGB / RGBW
Input / output voltage	12-48 VDC
LED output channels	4
Maximum output current	8 A/channel at 12/24 V; 5 A/channel at 36/48 V (1 / 2 kHz)
Control inputs	RF 2.4 GHz
Dimming	0-100%; 4096 levels
PWM frequency	1 / 2 / 4 / 8 kHz; default 1 kHz
RF distance	Up to 15 m in unobstructed space
Paired remotes	Up to 10
Operating temperature	-30 to +55 °C
Maximum case temperature	+85 °C
IP rating	IP20
Body dimensions	117 x 85 x 24.5 mm
Protection	Overload and short circuit
PWM / current at 12/24 V	1 / 2 kHz: 8 A/channel; 4 / 8 kHz: 5 A/channel
PWM / current at 36/48 V	1 / 2 / 4 kHz: 5 A/channel; 8 kHz: 3 A/channel

Use the voltage/PWM current limits; 8 A/channel is not available at every voltage and frequency.

The following technical-reference pages retain the complete diagrams, dimensions, settings and installation instructions. Select the lighting variant stated on this cover; family diagrams may also illustrate other variants.

RF | RGBW / RGB

RGBW/RGB/DUO/Dimming 4 Ch

Features

- 4 channel PWM constant voltage output, Max 8A per channel
- Match with RF 2.4G single zone or multiple zone single color, dual color and RGB/RGBW remote control.
- One RF controller accept up to 10 remote control.
- 4096 levels 0-100% dimming smoothly without any flash.
- When using with RGB/RGBW light, built in 10 dynamic mode include jump or gradual change style.
- Auto-transmitting function: Controller automatically transmit signa to another controller with 15m control distance.
- Synchronize on multiple number of controllers.
- Fade in and out effect selectable.
- PWM frequency 1KHz, 2KHz, 4KHz or 8KHz selectable.
- Over-load / Short circuit protection, recover automatically.



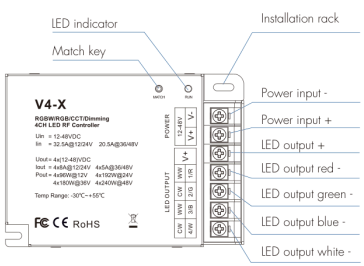
Technical Parameters

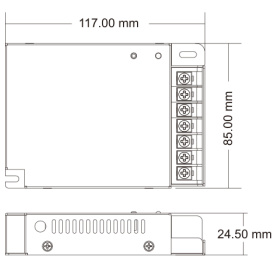
Input and Output	
Input voltage	12-48VDC
Input current	32.5A@12/24V 20.5A@36/48V
Output voltage	4 x (12-48)VDC
Output current	4x8A@12/24V 4x5A@36/48V
Output power	4x96W@12V 4x192W@24V 4x180W@36V 4x240W@48V
Output type	Constant voltage

Dimming data	
Input signal	RF 2.4GHz
Control distance	15m(Barrier-free space)
Dimming gray scale	4096 (2^12) levels
Dimming range	0 -100%
Dimming curve	Logarithmic
PWM frequency	1000Hz (default)
Package	
Size	L120 x W80 x H30mm
Gross weight	0.304kg

Safety and EMC	
EMC standard	EN IEC 55015/ EN IEC 61547 ETSI EN 301 489-1/-3
Safety standard	EN 61347-1/-2 EN 62493
Radio equipment	ETSI EN 300 440
Certification	CE RoHS FCC
Environment	
Operation temperature	Ta: -30˚C ~ +55˚C
Case temperature(Max.)	Tc: +85˚C
IP rating	IP20

Mechanical Structures and Installations





Match Remote Control (Two Match Ways)

End user can choose the suitable match/delete ways. Two options are offered for selection:

Use the controller's Match key

Match:
Short press match key,
immediately press on/off key (single zone remote)
or zone key (multiple zone remote) on the remote.
The LED indicator fast flash a few times
means match is successful.

Delete:
Press and hold match key for 5s to delete all match,
The LED indicator fast flash a few times
means all matched remotes were deleted.

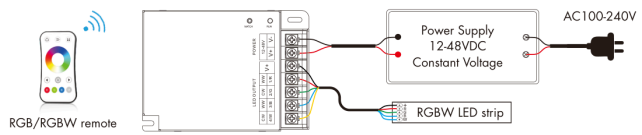
Use Power Restart

Match:
Switch off the power, then switch on power, repeat again.
Immediately short press on/off key (single zone remote)
or zone key (multiple zone remote) 3 times on the remote.
The light blinks 3 times means match is successful.

Delete:
Switch off the power, then switch on power, repeat again.
Immediately short press on/off key (single zone remote)
or zone key (multiple zone remote) 5 times on the remote.
The light blinks 5 times means all matched remotes were deleted.

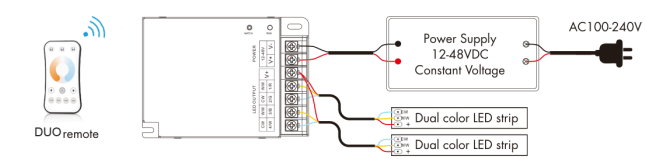
Wiring Diagram

- RGBW RGB/RGBW

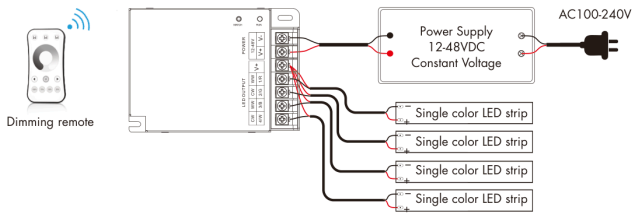


Note:
If connect with RGB LED strip, please long press match key for 1.5s,
the controller will become RGB type, the LED indicator flash 2 times.

- RGBW dual color



• RGBW single color



Wire Preparation:
1. The wiring can be solid or stranded with a cross-sectional area of 0.5 to 2.5 mm².
   Conventional 1mm² can withstand 10A output current.
2. When wiring is installed, the terminals must be tightened.
   If they are not tightened, the contact point resistance will be too high and the terminals will easily burn due to heat when used at full load for a long time.

Note:
1. If connecting a single color LED strip, please press and hold the match key for 20s.
   The controller will then change to the single color type and the LED indicator will flash 3 times.
2. The output power of a constant voltage power supply should be at least 1.2 times that of the output load (light strip), otherwise the full power output of the load can easily cause automatic flickering or shaking of the light.

PWM Frequency Setting

At the moment of power-up:
Long press the match key for 2s, set the output PWM frequency to 1KHz, the LED indicator flash 1 time.
Long press the match Key for 5s, set the output PWM frequency to 2KHz, the LED indicator flash 2 times.
Long press the match Key for 10s, set the output PWM frequency to 4KHz, the LED indicator flash 3 times.
Long press the match Key for 15s, set the output PWM frequency to 8KHz, the LED indicator flash 4 times.
The factory default PWM frequency is 1KHz.

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

PWM frequency and output current mapping:

Iout / Vin \ PWM	1KHz	2KHz	4KHz	8KHz
12/24V	8A	8A	5A	5A
36/48V	5A	5A	5A	3A

Light On/Off Fade Time

Long press match key 5s, then short press match key 3 times, the light on/off time will be set to 3s, the indicator light blink 3 times.
Long press match key 10s, restore factory default parameter, the light on/off time also restore to 0.5s, the LED indicator flash 1 times.

Dual Color Control

CH1,CH3=Warm white LED CH2,CH4=Cool white LED

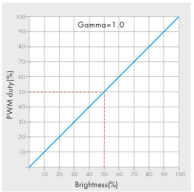
Each channel can supply up to 192W(@24V) and white balance can be controlled as such:

Color temperature	Cool white	Neutral white	Warm white
Power distribution	CH1=0W,CH2=192W CH3=0W,CH4=192W	CH1=96W,CH2=96W CH3=96W,CH4=96W	CH1=192W,CH2=0W CH3=192W,CH4=0W

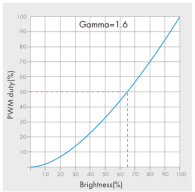
Linear dual color tuning



Dimming curve for DUO



Dimming curve for RGBW/RGB/DIM



RGB/RGBW Dynamic Mode List

No.	Name	No.	Name
1	RGB jump	6	RGB fade in and out
2	RGB smooth	7	Red fade in and out
3	6 color jump	8	Green fade in and out
4	6 color smooth	9	Blue fade in and out
5	Yellow cyan purple smooth	10	White fade in and out

Installation Precautions

1. The products shall not be stacked, the distance should be ≥ 20cm,
   so as not to affect lifespan of the products due to poor heat dissipation.
2. The product shall not be installed close to the switching power supply
   with an interval of ≥ 20cm to avoid radiation interference of the switching power supply.
3. The installation height shall be ≥ 1m from the floor to avoid shortening the remote control distance due to too weak reception signal.
4. The products are not allowed to be close to or covered by metal objects,
   with an interval of ≥ 20cm to avoid signal attenuation and shorten the remote distance.
5. Avoid installation at the corner of the wall or the corner of the beam, with an interval of ≥ 20cm to avoid signal interference.

Statement

FCC Statement:
This device complies with Part 15 of the FCC Rules. operation is subject to the following two conditions:
(1)this device may not cause harmful interference, and
(2)this device must accept any interference received, including interference that may cause undesired operation.
IC Statement: This Class B digital apparatus complies with Canadian ICES-003.
(Cet appareil numérique de la Classe B conforme à la norme NMB-003 du Canada).