LDT-RF-3CV-10A

Three-Channel RF RGB Controller

A 3-channel constant-voltage LED controller for DIM / DUO / RGB 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
Input / output voltage	12-36 VDC
LED output channels	3
Maximum output current	10 A/channel
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	107 x 75 x 24.5 mm
Protection	Reverse polarity

Use within 12-36 VDC; a 48 V supply is not supported. Recheck loading and thermal conditions at higher PWM frequencies.

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 | RGB

RGB/DUO/Dimming 3 Channel LED RF Controller

Features

- 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 light, built in 10 dynamic mode, include jump or gradual change style.
- Auto-transmitting function: Controller automatically transmit signal to another controller with 15m control distance.
- Synchronize on multiple number of controllers.
- Light on/off fade time 3s selectable.
- PWM frequency 1KHz, 2KHz, 4KHz or 8KHz selectable.

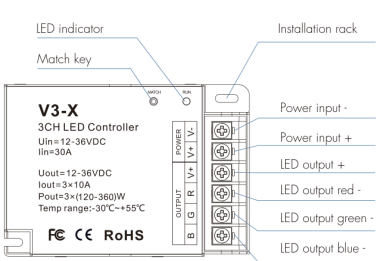


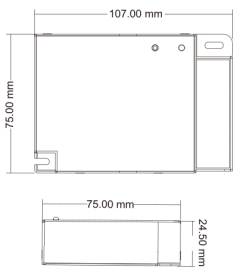
FC CE RoHS

Technical Parameters

Input and Output		Dimming data		Safety and EMC	
Input voltage	12-36VDC	Input signal	RF 2.4GHz	EMC standard	EN IEC 55015/ EN IEC 61547 ETSI EN 301 489-1/-3
Input current	30.5A	Control distance	15m(Barrier-free space)		
Output voltage	3 x (12-36)VDC	Dimming gray scale	4096 (2^12) levels	Safety standard	EN 61347-1/-2
Output current	3CH,10A/CH	Dimming range	0-100%	Radio equipment	ETSI EN 300 440
Output power	360-1080W(12-36V)	Dimming curve	Logarithmic	Certification	CE RoHS FCC
Output type	Constant voltage	PWM frequency	1000Hz (default)	**Environment**	
Warranty and Protection		**Package**		Operation temperature	Ta: -30℃ ~ +55℃
Warranty	5 years	Size	L120 x W80 x H30mm	Case temperature(Max.)	Tc: +85℃
Protection	Reverse polarity	Gross weight	0.259kg	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) of 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.

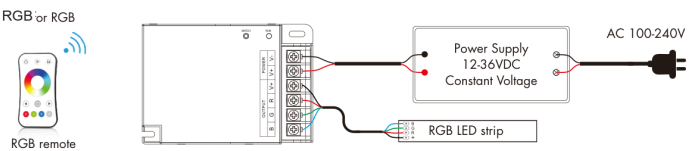
Use Power Restart

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.

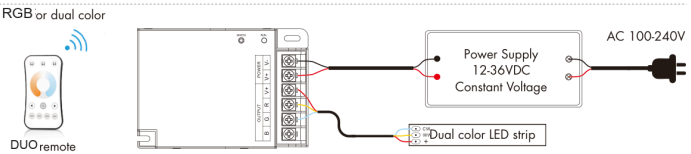
Delete:
Switch off the power, then switch on power, repeat again.
Immediately short press on/off key (single zone remote)
or zone key (multiple zone remote) 5 times on the remote.
The light blinks 5 times means all matched remotes were deleted.

Wiring Diagram

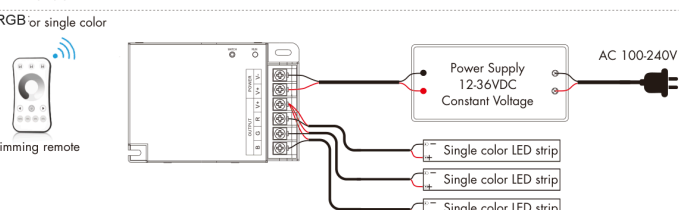
- RGB or RGB



- RGB or dual color



- RGB or 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: 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.

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.

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 / PWM / Uin	1KHz	2KHz	4KHz	8KHz
12-36V	10A	10A	8A	5A

RGB Dynamic Mode List

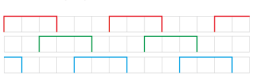
1: RGB jump



2: RGB smooth



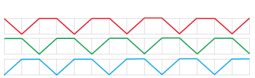
3: 6 color jump



4: 6 color smooth



5: Yellow cyan purple smooth



6: RGB fade in and out



7: Red fade in and out



8: Green fade in and out



9: Blue fade in and out



10: White fade in and out



Malfunctions Analysis & Troubleshooting

Malfunctions	Causes	Troubleshooting
No light	1. No power. 2. Wrong connection or insecure.	1. Check the power. 2. Check the connection.
Wrong color	1. Wrong connection of R/G/B wires.	1. Reconnect R/G/B wires.
Uneven intensity between front and rear,with voltage drop	1. Output cable is too long. 2. Wire diameter is too small. 3. Overload beyond power supply capability. 4. Overload beyond controller capability.	1. Reduce cable or loop supply. 2. Change wider wire. 3. Replace higher power supply. 4. Add power repeater.
No response from the remote	1. The battery has no power. 2. Beyond controllable distance. 3. The controller did not match the remote.	1. Replace battery. 2. Reduce remote distance. 3. Re-match the remote.

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 wth 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).