LDT-WIFI-RF-3CV-3A-MINI

Compact Wi-Fi & RF Three-in-One Controller

App, RF and wired push-button control for compatible constant-voltage LEDs. Select the lighting mode before network commissioning and pair an RF remote with the same mode. A multi-mode controller supports one selected lighting configuration at a time.

Model specifications

Supply voltage	12-24 VDC
LED output	3-channel constant-voltage PWM
Lighting modes	DIM / DUO / RGB
Maximum current	3 x 3 A
Maximum output power	3 x (36-72) W
Control inputs	Wi-Fi + 2.4 GHz RF + Push-Dim
Dimming	0-100%; 4096 levels
PWM frequency	2 kHz
RF distance	Up to 30 m, unobstructed
Output channels	3
Dynamic effects	10 built-in RGB modes
Operating temperature	-20 to +55 °C
Maximum case temperature	+80 °C
IP rating	IP20
Dimensions	56 x 56 x 18 (including mounting ears) mm
Protection	Reverse polarity and overheat; see reference for model-specific protection

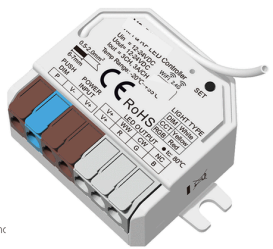
Voltage and PWM frequency affect permitted load. The published peak current is not available at every setting.

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.

Wi-Fi + RF

WiFi & RF 3 CH Constant Voltage LED Controller

- 3-in-1 function, for RGB, color temperature or single color LED strips.
- **Control app cloud control, support on/off, brightness adjust,** delay turn on/off light, timer run and scene edit function.
- Voice control, support for Amazon Alexa, Google Assistant, Tmall Genie and Xiaodu smart speakers.
- Match with RF 2.4G remote controller optional.
- **User need set light type before Control app network connection** and match RF remote of the same light type.
- **Each 3CH controller can also work as WiFi-RF converter, then use Control app to control one or more RF LED controller** or RF LED dimming driver synchronously.
- Connect with external push switch to achieve on/off, and brightness, color temperature, RGB color adjustment function.
- Built-in 10 dynamic modes when controlling RGB light, including jump and
- Light on/off fade time 3s selectable.
- Reverse/Over-heat protection.

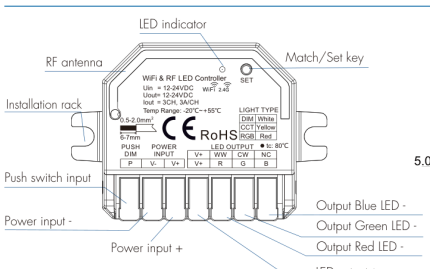


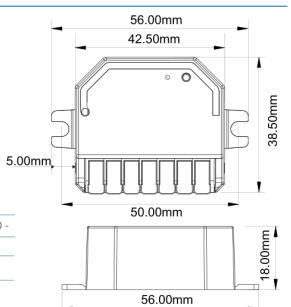
CE RoHS

Technical Parameters

Input and Output		Dimming data		Safety and EMC	
Input voltage	12-24VDC	Input signal	WiFi+RF 2.4GHz+Push-DIM	EMC standard	EN IEC 55015/ EN IEC 61547-1/-2 ETSI EN 301 489-1/-17
Input current	9.5A	Control distance	30m (Barrier-free space)		
Output voltage	3 x (12-24)VDC	Dimming gray scale	4096 (2^12) levels	Safety standard	EN 61347-1/-2
Output current	3CH, 3A/CH	Dimming range	0 -100%	Radio equipment	ETSI EN 300 328 ETSI EN 300 440
Output power	3 x (36-72)W	PWM frequency	2KHz		
Environment				Certification	CE RoHs
Operation temperature	Ta: -20˚C ~ +55˚C	**Warranty and Protection**		**Package**	
Case temperature (Max.)	Tc: +80˚C	Warranty	5 years	Size	L60 x W60 x H40mm
IP rating	IP20	Protection	Reverse polarity, Over heat	Gross weight	0.043kg

Mechanical Structures and Installations

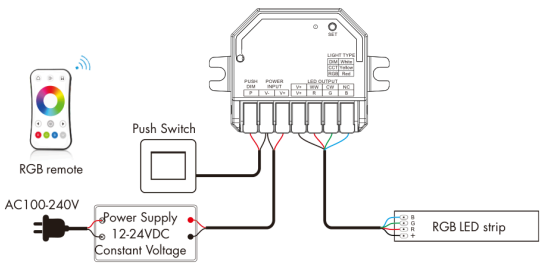




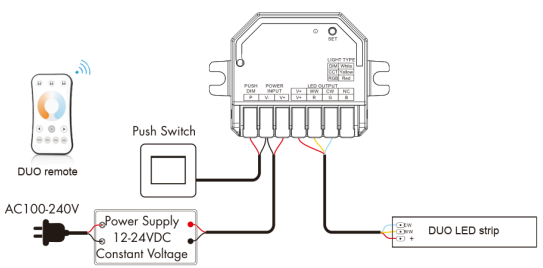
Note: The mounting ear on both sides can be broken along the indentation, to suit different mounting needs.

Wiring Diagram

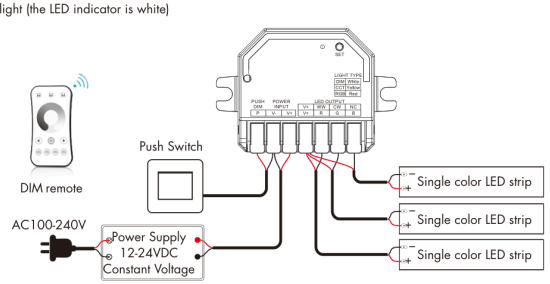
- For RGB light (the LED indicator is red)



- For DUO light (the LED indicator is yellow)



- For DIM light (the LED indicator is white)



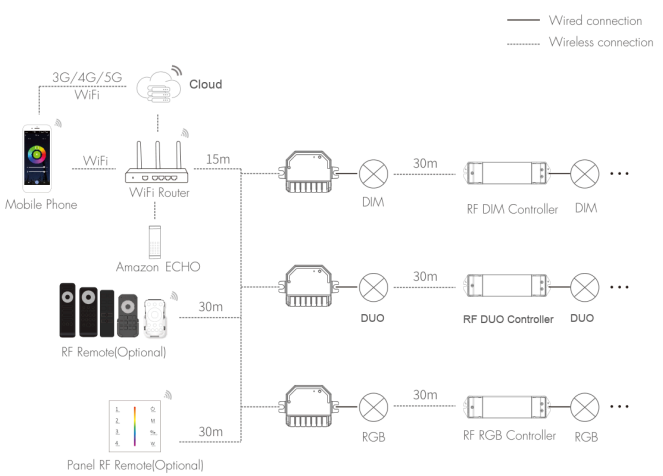
Wire preparation:

1. The wiring can be solid or stranded with a cross-sectional area of 0.5 to 2.0 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.

System Wiring



Note:
1. The above distance is measured in spacious (no obstacle) environment, please refer to the actual test distance before installation.
2. Please check if the WiFi router net in 2.4G band, the 5G band is not available, and do not hide your router network.
3. **Please keep the distance between 3CH devices and router close, and check the WiFi signals.**

Light Type Setting

User need to set the correct light type via the SET key before APP pairing and matching the RF remote control.
Long press the SET key to switch 3 light types sequentially, every long press 2s to switch one,
the LED indicator turns to the corresponding color.

Light type	DIM	DUO	RGB
LED indicator color	white	yellow	red

Push Switch Dimming

The push switch interface can be connected to push panel switch or push button for dimming.
It is recommended that the number of controllers connected to the same push switch does not exceed 25, and the length of the connecting wire does not exceed 20m.

1. DIM light:
- **Short press:** Turn the light on or off.
- **Long press (1-6s):** Continuously increase or decrease the brightness, long press again after each release, the brightness changes in the opposite direction, dimming range 1%-100%.
- **Double-click:** Switch between 10% and 100% brightness.

2. DUO light:
- **Short press:** Turn the light on or off.
- **Long press (1-6s):** Adjust the brightness by default, long press again after each release, the brightness changes in the opposite direction, dimming range 1%-100%.
- **Double-click:** Switch three color temperatures in sequence (warm white - neutral white - cool white). At the same time, it enters the state of adjusting color temperature by long press, and automatically exits the state of adjusting color temperature after 5s of no operation.

3. RGB light:
- **Short press:** Turn the light on or off.
- **Long press (1-6s):** Adjust the brightness by default, long press again after each release, the brightness changes in the opposite direction, dimming range 1%-100%.
- **Double-click:** Switch between color light (RGB) and mixed white light (50% saturation). At the same time, it enters the state of adjusting color or saturation by long-press, and automatically exits the state of adjusting color or saturation after 5s of no operation.

Control app Network Connection

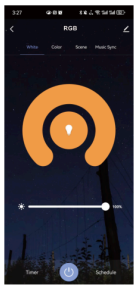
- Download and open APP
Search for "Smart Life app" in the APP store,
or scan the QR code on the right to download the APP.
Register and login after installation.

- APP Pairing Network
Push twice SET key fastly, or press and hold SET key for 5s,
or repeat power off and on for 5 consecutive times fastly,
enter WiFi config mode, RUN LED indicator flash fastly, the output LED strip blinks 10 times.
Press and hold SET key for 2s, to switch 3 light types in sequence
(Note: This operation will not clear the previous network).
If Control app network connection succeed, RUN LED indicator will stop Hash and change to the corresponding light type color(white: DIM, yellow: DUO, red: RGB).
You can find RGB device (or other DIM, DUO device) in Control app.

Smart Life

When controlling the light with Smart Life app, if the network connection is poor, you can control the light with Bluetooth connection within the Bluetooth control range. But the light can not be directly controlled by Bluetooth without WiFi configuration.

Control app Interface



DIM interface

For DIM type:
Touch brightness slide,
to adjust the brightness.

For RGB type:
Touch brightness slide,
get RGB mixed white firstly,
then to adjust white brightness.



Color temperature interface

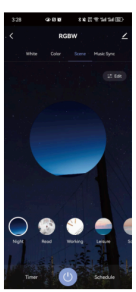
For DUO type:

Touch color wheel to
adjust color temperature.
Touch brightness slide to
adjust brightness.



Color interface

For RGB type:
Touch color wheel to adjust static
RGB color.
Touch brightness slide to adjust
color brightness.
Touch saturation slide to adjust
color saturation,
namely gradient from the current
color to white (RGB mixed).



Scene interface

The 1-4 scene is static color for all light type.
the inner color of these scene can be editable.
The 5-8 scene is dynamic mode for RGB type,
such as green fade in and fade out, RGB jump,
6 color jump, 6 color smooth.



Music, Timer, Schedule

The music play can use smart phone music player
or micro-phone as music signal input.

The Timer key can turn on or turn off light in the next 24 hours.

The Schedule key can add multiple timers to turn on or turn off light
according to different time periods.

Match with RF Remote Control

There are two ways to match/delete:

Use 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 means match is successful.

Delete:
Press and hold match key for 10s to delete all match,
The LED indicator fast flash 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 output light flashes 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 output light flashes 5 times means all matched remotes
were deleted.

Work as WiFi-RF Converter

3CH can work as WiFi-RF converter, matched with RF LED controller or RF dimmable LED driver,

There are two ways to match/delete:

Use Controller's key

Match:
Short press controller's match key,
immediately press the on/off button on the Control app.
The LED indicator fast flash means match is successful.

Delete:
Long press controller's match key for 5s to delete all match.
The LED indicator fast flash means all matched remotes
were deleted.

Use Power Restart(optional)

Match:
Switch off the power of the controller, then switch on power,
repeat again.
Immediately press the on/off button on the Control app 3 times.
The light flashes 3 times means match is successful.

Delete:
Switch off the power of the controller, then switch on power,
repeat again.
Immediately press the on/off button on the Control app 5 times.
The light flashes 5 times means all matched remotes were deleted.

RGB Dynamic Change Mode (Recalled by RF remote control)

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

On/Off Fade Time Setting

Press and hold the SET key for 15s to restore the default parameters, factory default parameters: light on/off fade time is 0.5s.
Press and hold the SET key for 20s, the light on/off fade time is set to 3s.

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 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.