LDT-WIFI-RF-4CV-8A-SYNC

Wi-Fi & RF Four-Channel Synchronous Controller

A high-load four-channel LED controller with wired DMX512 synchronisation between master and slave installations. DIP switches select the role, lighting type and PWM frequency.

Model specifications

Supply voltage	12-48 VDC
LED output	4-channel constant-voltage PWM
Lighting modes	DIM / DUO / RGB / RGBW
Maximum current	4 x 8 A at 12/24 V; 4 x 6 A at 36/48 V
Maximum output power	4 x 96 / 192 / 216 / 288 W at 12 / 24 / 36 / 48 V
Control inputs	Wi-Fi + 2.4 GHz RF
DMX sync interface	RJ45; 4-channel, 16-bit DMX512
Resolution	65536 levels
PWM frequency	500 Hz / 2 / 8 / 16 kHz
RF distance	Up to 15 m, unobstructed
Operating temperature	-20 to +50 °C
Maximum case temperature	+80 °C
IP rating	IP20
Dimensions	153 x 69 x 30 mm
Protection	Overheat, overload and short circuit

RJ45 is a DMX synchronisation connection, not Ethernet, LAN or PoE. Current is reduced at higher voltage and PWM frequency; use the source derating table.

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.

WiFi & RF Synchronous 4 CH LED Controller



- 4-in-1function, suitable for RGB, RGBW, color temperature or single color LED strips.
- 4-channel constant voltage PWM output, maximum 8A output current per channel.
- DIP switch set master or slave mode,
  4 light types (DIM/DUO/RGB/RGBW),
  4 output PWM frequency (500Hz/2000Hz/8000Hz/16000Hz).
- **Control app cloud control, support on/off, RGB color, color temperature**
  and brightness adjust, delay turn on/off light, timer run, scene edit and music play function.
- Voice control, support for Amazon Alexa, Google Assistant, Tmall Genie
  and Xiaodu smart speakers.
- Match with RF 2.4G remote controller optional.
- When used as an RGB/RGBW LED controller, built in10 RGB dynamic mode,
  including jump or gradual change style.
- The master and slave communication adopts RJ45 interface and complies with DMX512 standard protocol.
- The slave can also use a 4-channel DMX512 decoder with 16-bit decoding.
- Over-heat / Over-load / Short circuit protection, recover automatically.

CE RoHS

Technical Parameters

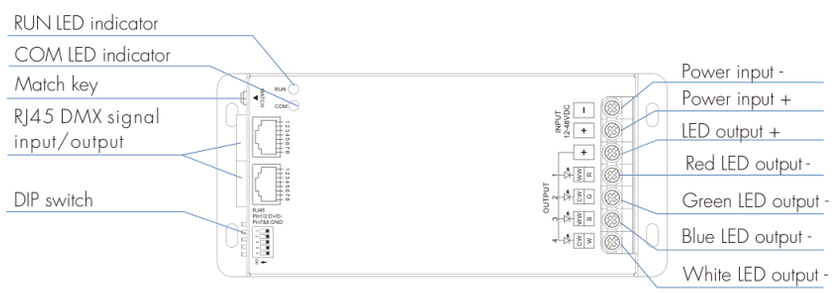
Input and Output	
Input voltage	12-48VDC
Input current	Max 32.5A
Output voltage	4 x (12-48)VDC
Output current	4x8A@12/24V 4x6A@36/48V
Output power	4x96W@12V 4x192W@24V 4x216W@36V 4x288W@48V
Output type	Constant voltage

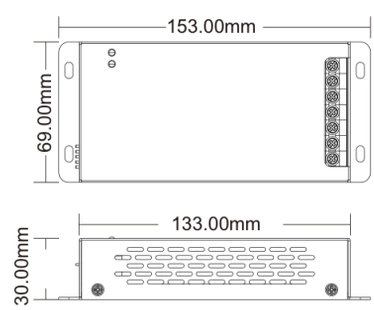
Dimming data	
Input signal	WiFi + RF 2.4GHz
Output signal	DMX512 (4 CH, 16 Bit)
Control distance	15m(Barrier-free space)
Dimming gray scale	65536 levels
Dimming range	0-100%
PWM Frequency	500Hz/2000Hz/8000Hz/16000Hz

Package	
Size	L156.5 x W72 x H34mm
Gross weight	0.34kg

Safety and EMC	
Safety standard	EN 60669-1/-2
EMC standard	EN IEC 55015/EN IEC 61547 ETSI EN 301 489-1/-3/-17
Radio Equipment	ETSI EN 300 440 ETSI EN 300 328
Certification	CE
Warranty	5 years
Environment	
Operation temperature	Ta: -20 °C ~ +50 °C
Case temperature (Max.)	Tc: +80 °C
IP rating	IP 20

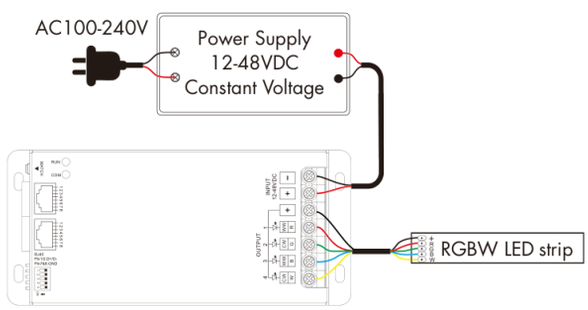
Mechanical Structures and Installations



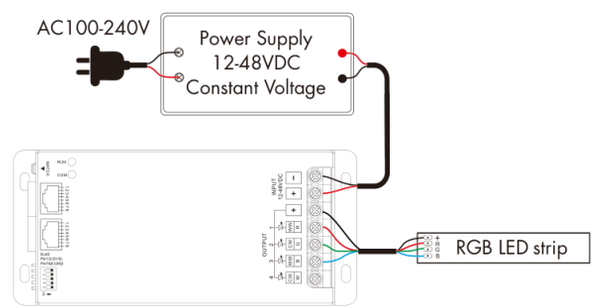


Wiring Diagram

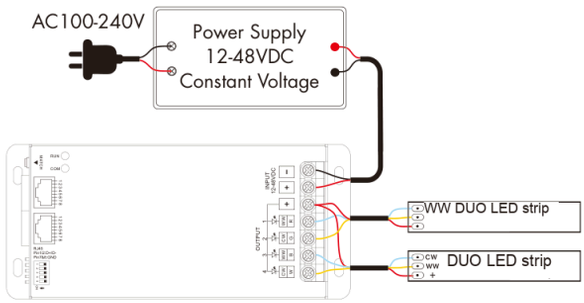
- 4CH connected to RGBW LED strip



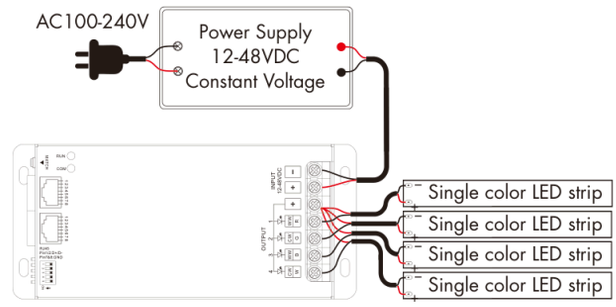
- 4CH connected to RGB LED strip



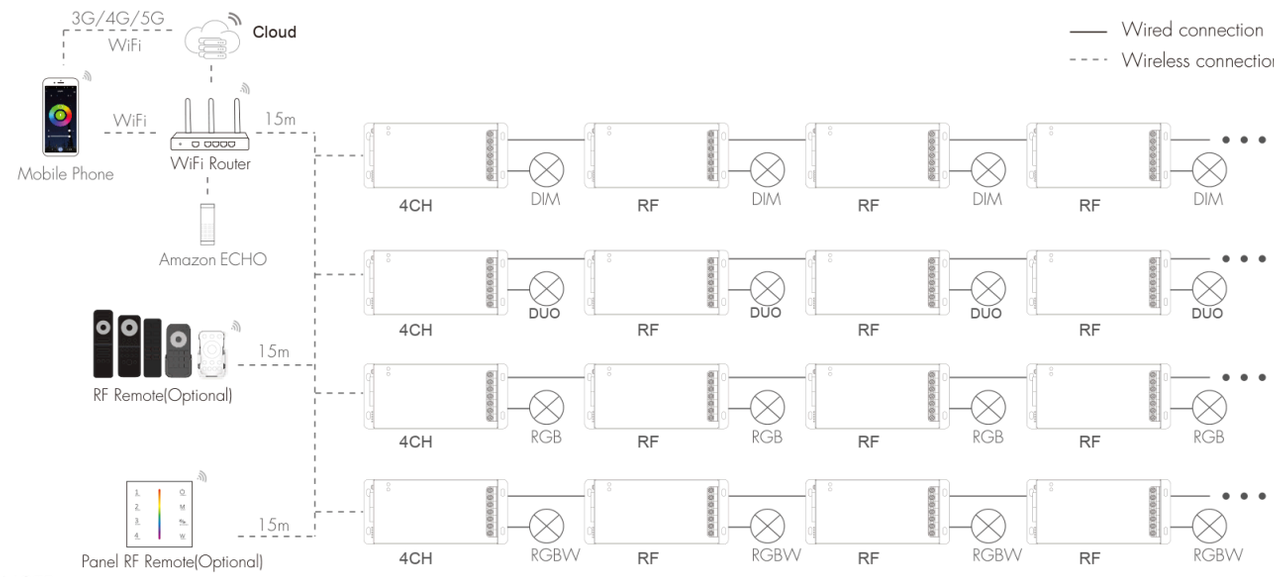
●4CH connected to DUO LED strip



●4CH connected to single color LED strip



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 4CH devices and router close, and check the WiFi signals.**
4. WiFi signal strength detection: open the main interface of social security, click enter the device interface, click "check device network" for testing.

DIP Switch Setting

● DIP switch 1 set the master or slave mode.

		
Work mode	Master	Slave

● DIP switch 2-3 set the light type.

				
Light type	DIM	DUO	RGB	RGBW

● DIP switch 4-5 set the PWM frequency.

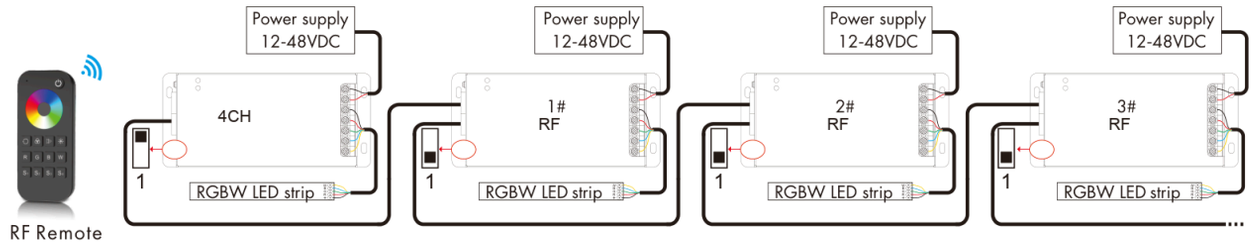
				
PWM frequency	500Hz	2KHz	8KHz	16KHz
Iout (12-24V)	4×8A	4×8A	4×5A	4×5A
Iout (36-48V)	4×6A	4×6A	4×4A	4×4A

NOTE:

1. When using multiple controllers at the same time, only one controller can be set to the master, and the other controllers should be set to the slave mode.
2. The Master controller sets the lighting type, controls 4 channels of constant voltage output, and outputs 4 channels of 16-bit DMX data.
3. The slave controller doesn't need to set the lighting type and receives 4 channels of 16-bit DMX data from master controller for controlling the 4 channels of constant voltage output.
4. The master and slave controllers can select the same or different PWM frequency.
5. **Generally, set the RF (WT) controller as the master and the other RF controllers as slaves.**

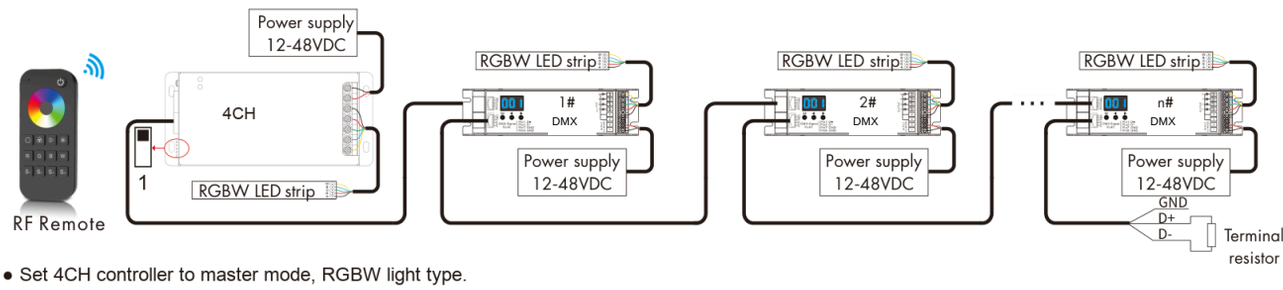
Application Examples

1. One RF (WT) controller as a master and multiple RF controllers as slaves for synchronized control.



- Set 4CH controller to master mode, RGBW light type.
  Set other RF controllers (1#,2#,3#...) to slave mode.
- Master controller: RUN indicator and COM indicator are always on.
  RUN indicator flash when master controller receives the RF signal.
- Slave controller: RUN indicator is always on, COM indicator is always off.
  COM indicator flash when the RJ45 port receives the DMX data.

2. One 4CH controller as master and multiple 4-channel DMX512 decoders as slaves for synchronized control.



- Set 4CH controller to master mode, RGBW light type.
- For all 4-channel DMX512 decoders, set the start decoding address to 001 and 16 bit decoding.
- Master controller: RUN indicator and COM indicator are always on. RUN indicator flash When master controller receives the RF signal.
- Slave decoder: When the RJ45 port receives the DMX data, the digital display 001 is always on;
  When the RJ45 port doesn't receive the DMX data, the digital display 001 is flashing.

NOTE:

1. If more than 32 slaves are connected, or if extra-long signal wires are used, a DMX signal amplifier needs to be connected, and the signal should not be amplified more than five times.
2. If overshoot effect happens due to long signal wires or poor wire quality, please connect a 0.25W 90-120Ω terminal resistor at the end of each DMX signal wire.

Master Controller Match With RF Remote

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 RUN indicator blinks means match is successful.

Delete:
Press and hold match key for 10s to delete all match, The RUN indicator blinks 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.

RGB/RGBW lighting dynamic mode (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

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
Press and hold Match key for 5s, push twice Match key fastly, or change the 4 light types by DIP switch:
Clear previous network connection by these three ways, enter WiFi config mode, the RUN LED indicator flash fastly.

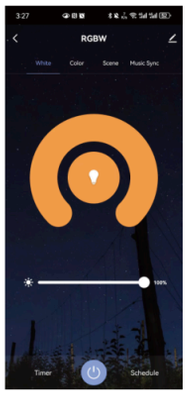
Repeat power off and on for 5 consecutive times fastly, also clear previous network connection,
enter WiFi config mode.

If Control app network connection succeed, the RUN LED indicator will stop flash, and in Control app,
you can find RGBW device(or other DIM, DUO RGB device).

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.
Note: The light can not be directly controlled by Bluetooth without WiFi configuration.

Smart Life

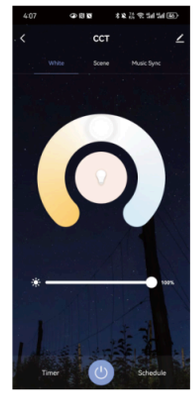
Control app Interface



White interface

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

For RGBW type:
Touch brightness slide, adjust white channel brightness.



Color temperature interface

For DUO type:
Touch color wheel to adjust color temperature.
Touch brightness slide to adjust brightness.



Color interface

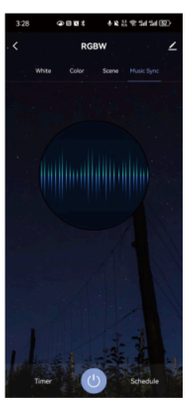
For RGB or RGBW type:
Touch color wheel to adjust static RGB color.
Touch brightness slide to adjust color brightness.
Touch saturation slide to adjust color saturation,
namely gradient from the current color to white
(RGB mixed).

Note: For RGBW type, when touching the color wheel
to adjust the static RGB color, the “ W ”channel
will be turned off automatically.



Scene interface

The 1-8 scene can be edited.
3 ways of color change can be set: static, jump,
gradual change.
The color change speed can be set for the jump
and gradual change.



Music Sync, Timer, Schedule

The music sync 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.