

LF-SVR001-D

Constant Voltage RGBW LED Controller



Product family features

- 1 controller can be paired up with 10 remotes
- One remote can control multiple controllers synchronously
- Reset switch for ON/OFF and 0-100% dimming
- Matches the remote for ON/OFF and 0-100% dimming
- All-round protections: short circuit, overcurrent, and over-temperature (self-recovery)

Product family benefits

- Can be combined with a non-dimmable ON/OFF LED driver to achieve dimming & CCT adjustment functions
- Works with 2.4G single-zone and multi-zone single color DIM/CCT/RGB/RGBW remote
- Built-in default 10 dynamic modes (gradient/jump) for RGB/RGBW lighting
- Automatic signal forwarding (the controller automatically forwards the remote signal to another controller to extend the control distance)

Typical applications

- For hall lobby lighting
 - For meeting room lighting
 - For advertising light box or light protection film
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Electrical data

Input data

Input voltage	12... 48Vdc
Input current	20.5A Max
Input signal	RF2.4G/ Reset switch ¹⁾

Output data

Nominal output voltage	12... 48Vdc
Nominal output current	5A*4CH (input voltage 24V)
Maximum output power/CH	120W
Maximum output power	480W
Output type	Constant voltage
PWM frequency	3.2KHz
Flicker	According to IEEE Std 1789-2015

Safety

Guarantee	5 years ²⁾
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1) PUSH terminal is externally connected to a reset switch, with no external signal input.

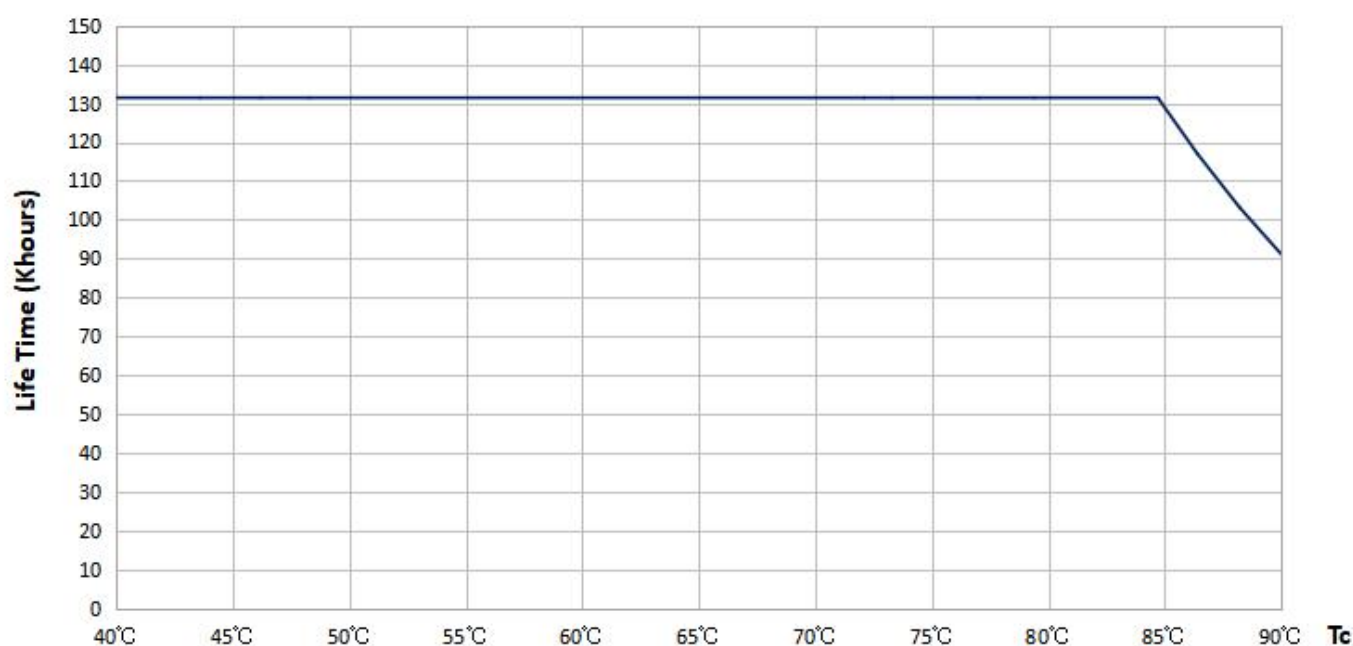
2) 5 years@Tc≤85°C

Note:

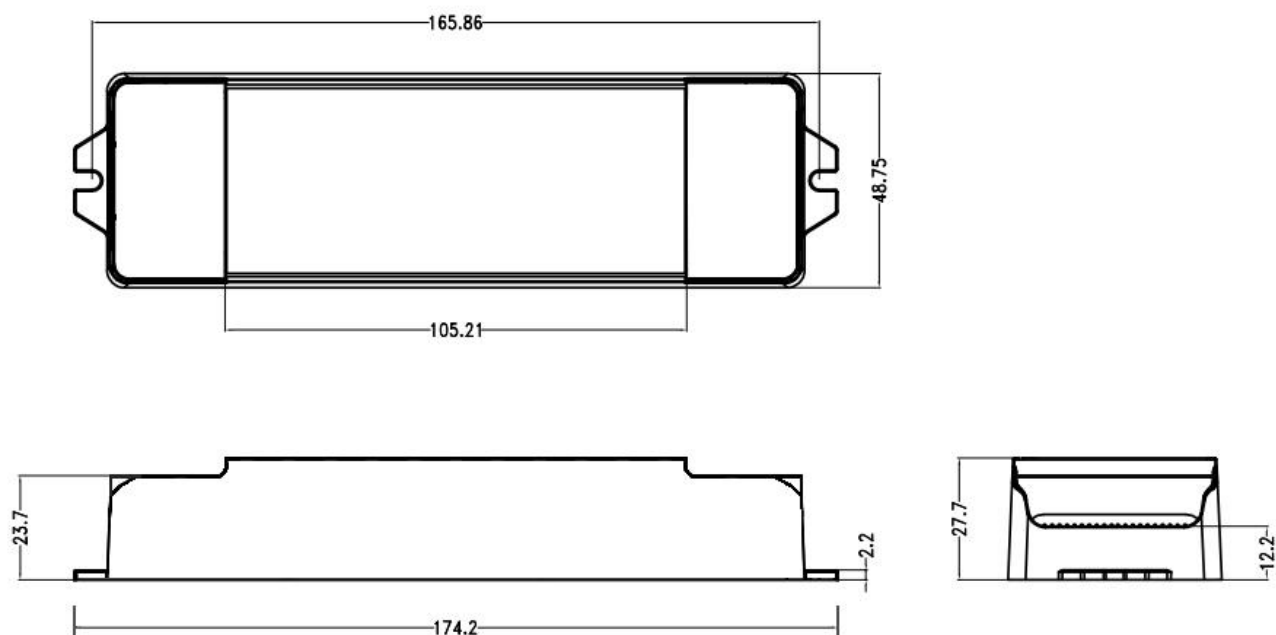
1. Input voltage 48V, max. output current 2.5A/CH, max. output power 480W/CH;
2. Input voltage 36V, max. output current 3.3A/CH, max. output power 475.2W/CH;
3. Input voltage 24V, max. output current 5A/CH, max. output power 480W/CH;
4. Input voltage 12V, max. output current 5A/CH, max. output power 240W/CH;

Please use it within the rated range.

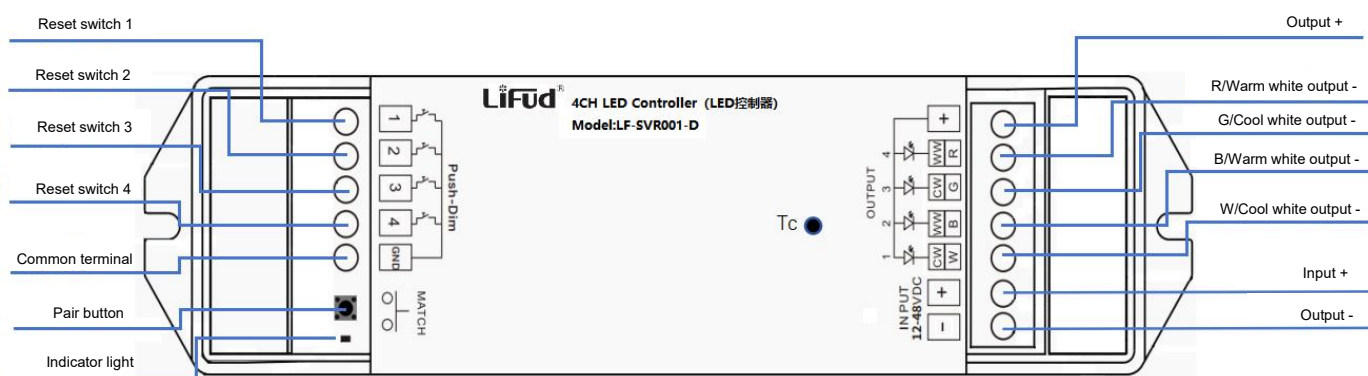
Lifespan



Dimensions (unit: mm; tolerance: $\pm 0.5\text{mm}$)



Terminal description



Mounting hole spacing, length	165.9mm
Product weight	100g
Cable cross-section, input side	0.5 ... 2.0 mm ²
Cable cross-section, output side	0.5 ... 2.0 mm ²
Wire preparation length, input side	5 ... 7mm
Wire preparation length, output side	5 ... 7mm
Length	174.2mm
Width	48.8mm
Height	27.7mm

Colors & materials

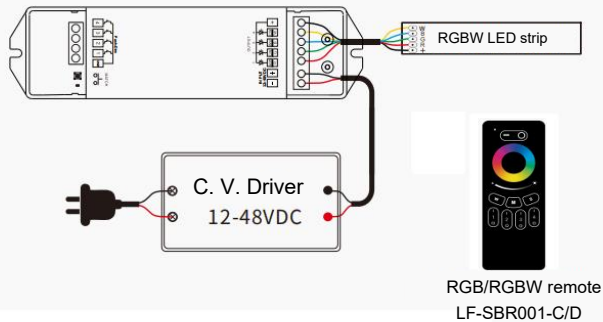
Casing material	PC
Casing color	White

Temperature & operating conditions

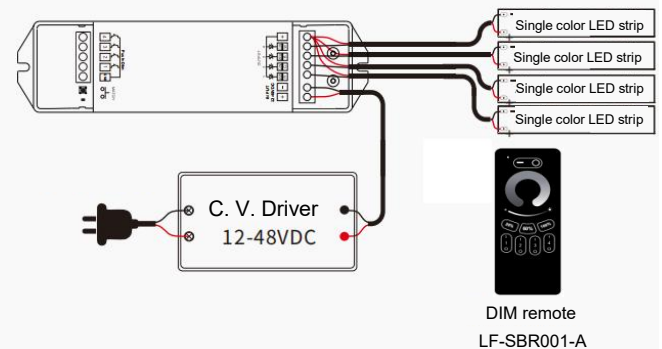
Ambient temperature range	-30°C - +55°C
Maximum temperature at tc test point	85°C
Temperature range at storage	-40°C - +85°C (6 months in Class I environment)
Humidity range at storage	10-90%RH (no condensation)
Humidity during operation	20-90%RH (no condensation)
Atmospheric pressure	86-106KPa
RoHS	RoHS 2.0 (EU) 2015/863

Wiring diagrams

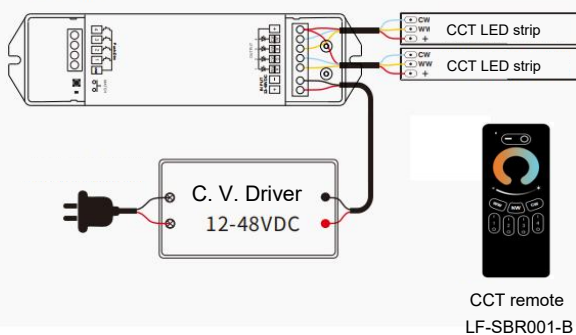
• RGB/RGBW mode



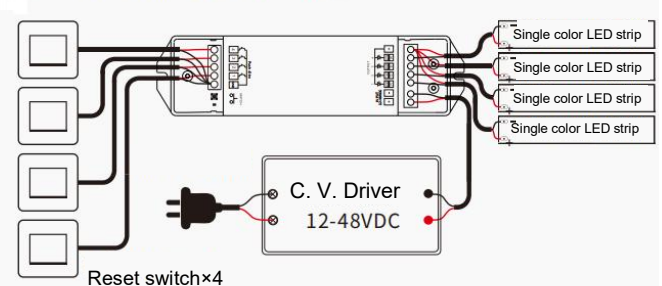
• Single color DIM mode



• CCT mode



• Connect 4 reset switches and these 4 channels dim respectively



Note: One controller should be powered by one constant voltage LED driver only.

Dimming via reset switch

The 4 reset switches are 4-channel dimming by default.

- Short press: Turn on or off each channel.
- Long press (1-6s): Enables stepless dimming for each channel. Releasing and re-initiating the long press will adjust the brightness in the opposite direction.
- Memory function: When turned off and then on again, it will restore to the previous brightness.

Long press the reset switch button 1-4 and the pair button for 2s simultaneously to set 4 lighting modes:

Long press the reset switch button 1 and the pair button for 2s to set it as 4-channel single color DIM mode (default).

Long press the reset switch button 2 and the pair button for 2s to set it as CCT mode.

Long press the reset switch button 3 and the pair button for 2s to set it as RGB mode.

Long press the reset switch button 4 and the pair button for 2s to set it as RGBW mode.

If it is set to CCT, RGB or RGBW mode, the paired remote does not change the lighting mode.

Note: 1. Memory function is effective only when the power is kept on for at least 1s.

2. Long press any two or more reset switch buttons + pair button for 2s to restore single color DIM mode;

Functions of the buttons in different modes:

Single color (4 channels)	Button 1	Short press to turn on/off channel 1. Long press for 1 to 6s to adjust the brightness.
	Button 2	Short press to turn on/off the channel 2. Long press for 1 to 6s to adjust the brightness.
	Button 3	Short press to turn on/off the channel 3. Long press for 1 to 6s to adjust the brightness.
	Button 4	Short press to turn on/off the channel 4. Long press for 1 to 6s to adjust the brightness.
CCT	Button 1	Short press to turn on/off, and long press for 1 to 6s to adjust the brightness.
	Button 2	Short press for 3 CCT levels (WW, NW and CW). Long press for 1 to 6s to adjust the CCT.
	Button 3	Invalid
	Button 4	Invalid
RGB	Button 1	Short press to turn on/off, and long press for 1 to 6s to adjust the brightness.
	Button 2	Short press to switch dynamic modes in sequence. Long press for 2s to adjust speed (1-5 levels).
	Button 3	Short press to change static RGB color (24 colors). Long press 1 to 6s to loop changing color.
	Button 4	Invalid
RGBW	Button 1	Short press to turn on/off, and long press for 1 to 6s to adjust the brightness.
	Button 2	Short press to switch dynamic modes in sequence. Long press for 2s to adjust speed (1-5 levels).
	Button 3	Short press to change static RGB color (24 colors). Long press 1 to 6s to loop changing color.
	Button 4	Short press to turn on/off channel 4. Long press for 1 to 6s to adjust the brightness. (RGB OFF)

 ① When multiple controllers are connected to the same reset switch, it is recommended that all the PUSH 1 terminals be connected together and all the GND terminals be connected together.

- ② When multiple controllers are connected to the same reset switch, long pressing for 10s will synchronize all lights to 100% brightness.
- ③ It is recommended that no more than 20 controllers be connected to the same reset switch, and the connection line of the reset switch should not exceed 20 meters.
- ④ If the pressing time is less than 0.1s, the controller will not have any action.
- ⑤ Memory function is effective only when the power is kept on for at least 1s.
- ⑥ Using it beyond the rated range, incorrect wiring, or wrong operation may cause damage to the device.
- ⑦ If you have any questions about the wiring and operation, please confirm with Lifud FAE.

RGB/RGBW mode list

No.	Name	No.	Name
1	RGB jump	6	Red fade in and out
2	RGB gradient	7	Green fade in and out
3	Six color jump	8	Blue fade in and out
4	Six color gradient	9	White fade in and out
5	Color wheel gradient		

Pair the remote

(Method 1: Pair the remote by powering on the controller)

1. Power on the controller and its indicator light will remain on (in the 10-second pair mode).
2. Immediately press the ON/OFF button on the single-zone remote or any zone button on the multi-zone remote, and press it 4 times quickly.
3. The controller's indicator light flashes 3 times fast and then stops, indicating successful pairing.

(Method 2: Pair the remote by using the button)

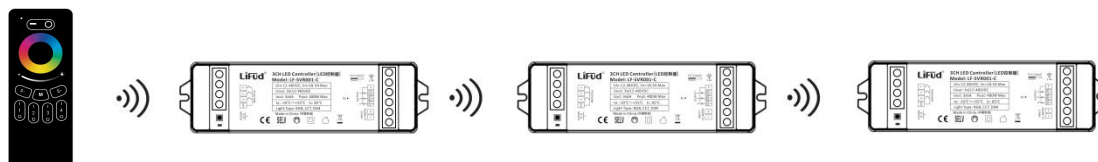
1. Power on the controller and its indicator light remains on. After waiting for 10s (the indicator light has been off), briefly press the pair button of the controller and its indicator light will be on.
2. Immediately press the ON/OFF button on the single-zone remote or any zone button on the multi-zone remote.
3. The controller's indicator light flashes 3 times fast and then stops, indicating successful pairing.



1. Long press the pair button for more than 5s to clear all the paired remote.
2. Long press the pair button for more than 9s to restore factory settings.
3. The remote control distance will be shortened as the battery power of the remote decreases.

Application diagram

- All controllers within the same zone controlled synchronously



① Automatic signal forwarding: The controller is capable of forwarding the remote signal to another controller. In theory, provided there is a controller within 30 meters, the effective remote control distance can be extended indefinitely.

② Automatic synchronization: One remote can simultaneously control multiple controllers within 30 meters.



1. The control distance (under no interference) can be up to 30 meters.

2. The remote control distance will be shortened as the battery power of the remote decreases.

- Each controller (one or more) in a different zone, zone 1/2/3/4



When assigning the controllers to different zones, the operation should follow the “All controllers within the same zone controlled synchronously” as described above.

Certificates & standards

Approval marks – approval	CE
Standards	EN301 489, EN 62479; EN60950; EN300 328; EN 55015
Type of protection	IP20

Logistical data

Product	Packaging unit (Pieces/Unit)	Dimensions (L*W*H)	Volume	Gross weight
LF-SVR001-D	48	385mm*285mm*210mm	23 dm ³	5.94kg±5%

Test equipment & condition

Test equipment	Digital power meter: CHROMA66202, oscilloscope: Tektronix DPO3014, DC electronic load: M9712B, LED board, constant temperature and humidity chamber, flicker tester (flicker-free coefficient test): Everfine LFA-3000, etc.
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If there are no special remarks, the above parameters are tested at the ambient temperature of 25°C, humidity of 50%, maximum output load and input voltage of 24Vdc.

Additional information

1. The controller used in combination with the end device is one of the accessories of the whole light fixture, and the EMC of the whole light fixture is not only susceptible to the controller itself, but to the LED light fixture and the whole light fixture's wiring. Thus, the manufacturer of LED light fixture should re-confirm the EMC of the whole light fixture before the whole light fixture is finished.
2. The final interpretation of the above parameters belongs to Lifud.

Transportation & storage

Suitable transportation means: vehicles, boats and aeroplanes.

In transit, it is necessary to prepare awnings for rain or sun protection. Moreover, please keep civilized loading and unloading to prevent the vibration or impact on LED driver as much as possible.

The storage of LED driver shall conform to the standard of Class I environment. When using LED drivers which have been stored for more than 6 months, please re-test them firstly. Do not use them unless they are tested to be qualified.

Cautions

Please use Lifud LED driver according to its parameters in the specification, otherwise the LED driver may malfunction.

Using any incompatible light fixtures or those that have not been certified may cause fire, explosion or other risks.

Man-made damage is beyond the scope of Lifud warranty service.

Disclaimer

Subject to change without notice. Errors and omissions excepted. Always make sure to use the most recent release.

Lifud Technology Co., Ltd. reserves the right to interpret any content of this specification.