

RGBW Color Code Controller



Introduction

Welcome to use this RGBW controller, a versatile and high-performance power controller designed for comprehensive color-changing applications. This controller employs advanced PWM (Pulse-Width Modulation) technology for precise control. It is compatible with a wide range of common-anode constant voltage RGBW LED lighting, including RGB/RGBW full-color LED modules, LED strips, LED SMD tapes, and more. A compatible RF remote control (Table 1) associated with the controller can conveniently control the lights within a specified distance.

Product Data

Changing Color (RGB)

Input Voltage	Output Current	Output Power	Remarks	Size (LxWxH)
12VDC	3x5A	240W	Constant voltage	6 ⁵⁹ / ₆₄ "x1 ¹³ / ₁₆ "x1 ³ / ₁₆ "
24VDC	3x5A	480W		

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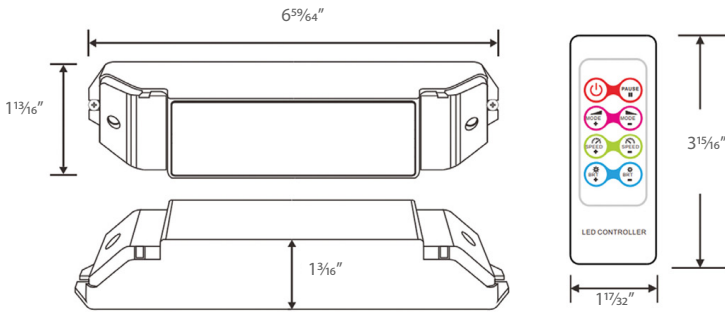
Functions and Features

1. Automatically adapted input voltage DC12V-24V.
2. Offers 37 dynamic modes, including skip, smooth, etc., with 4096 grayscale levels for both RGB and RGBW.
3. The LED digital display clearly presents the current mode, speed (1-16 levels), and brightness (1-16 levels) settings.
4. The four adjustable knobs are designed with consideration for the human eye's characteristics, enabling preferred colors with accuracy.
5. Remote control distance: 50ft with obstacle, 100ft without obstacle.
6. Over-current protection and short circuit protection.
7. Can be paired with a power repeaters to amplify the power unlimitedly.

Safety Warnings

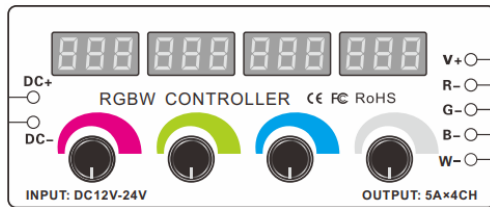
1. To ensure your safety and proper product usage, please read the manual carefully.
2. DO NOT install the product in minefields, strong magnetic fields, or high-voltage areas.
3. To avoid short-circuit damage to components, ensure correct wiring and secure connections.
4. Please install the product in a well-ventilated area to ensure an appropriate environmental temperature for the product to work properly.
5. The product must be operated with a compatible DC constant-voltage power supply. Please check the power supply to make sure the output voltage is consistent with the input voltage of the product to avoid overvoltage damage.
6. DO NOT power on the product prior to correct wiring and connections.
7. Please contact the product supplier for repairs in case the product is not working properly.

Dimension



Operating Instruction

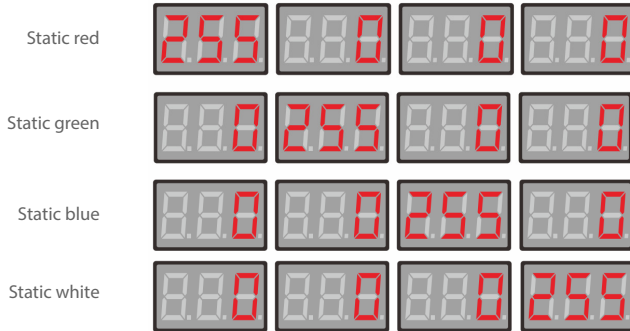
1. Operating instruction



(1) Mode 1 - Manual control

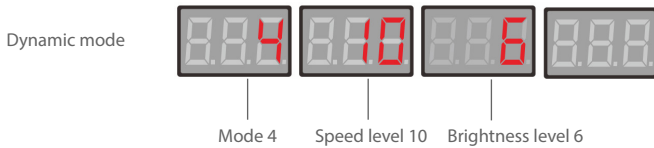
Mode 1 is specifically for making static color digitally. The four rotary knobs are to control the gray level (0 to 255) of RED, GREEN, BLUE, and WHITE colors separately. A desired color mixed from the four colors can be achieved digitally by rotating the knobs.

To activate Mode 1, you can either rotate any of the knobs, which will display four numbers above them, indicating that the controller is now in Mode 1. Alternatively, you can press either the "MODE+" or "MODE-" buttons on the remote control to enter Mode 1.



(2) Mode 2-37 - Remote control

From Mode 2 to Mode 37, different preset lighting patterns are presented (Table 2). Under any of the modes, the current mode number (2-37), speed (1-16), and brightness (1-16) are shown at the displays above the RED, GREEN, and BLUE knobs, respectively. Those parameters can be easily changed by using the remote control with the MODE+, MODE-, SPEED+, SPEED-, BRT+, and BRT- buttons. Please note, when the controller is in a mode between 2 and 36, it will automatically switch to Mode 1 when any of the knobs are rotated, and the digital displays will show the gray levels of each color.

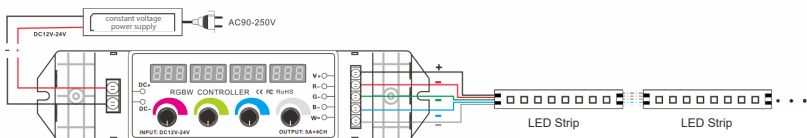


When the controller is overloaded or there are short-circuits, it will automatically stop outputs, and the digital displays twinkle and show "ERR" as below:

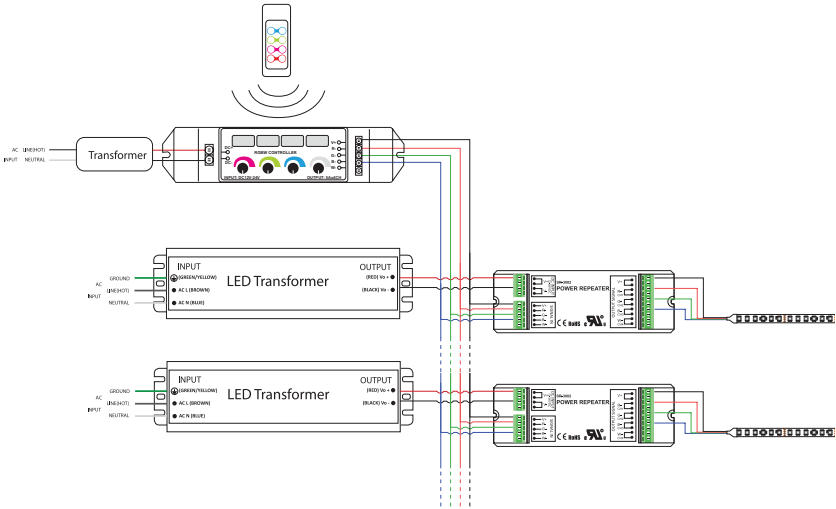


2. Wiring diagram

(1) Connect to RGBW constant voltage strip lights



(2) Connect to power repeaters



3. The 8 buttons on the remote control are: ON/OFF, PAUSE, MODE+, MODE-, SPEED+, SPEED-, BRT+, and BRT-.



Table 1 Remote Control Buttons

Sign	Button	Description
	ON/OFF	ON/OFF: Turn on/off the controller, any button can start the controller at off status.
	PAUSE	PAUSE: Press this button will rest at current color, press it again, will continue to change.
	MODE+	Mode+: Press this button to select the next mode; hold the button for 3 seconds, when the led flashes three times, the controller enters into a cycle mode.
	MODE-	Mode-: Press this button to go back to a previous mode; hold the button for 3 seconds, when the led flashes three times, the controller enters a cycle mode.
	SPEED+	Speed+: Press this button to increase speed changing levels. Hold the button for 3 seconds, when the LED flashes 3 times, it indicates the speed of all modes has been reset to default.
	SPEED-	Speed-: Press this button to decrease speed changing levels. Hold the button for 3 seconds, when the LED flashes 3 times, it indicates the speed of all modes have been reset to default.
	BRT+	BRT+: Press this button to increase brightness levels. Hold the button for 3 seconds, when the LED flashes 3 times, it indicates the brightness of all modes have been reset to default.
	BRT-	BRT-: Press this button to decrease brightness levels. Hold the button for 3 seconds, when the LED flashes 3 times, it indicates the brightness of all modes have been reset to default.

Table 2 Controller Modes

Mode No.	Model	Remark	Mode No.	Model	Remark
1	DIY static color		20	Cyan fading	Brightness, speed adjustable
2	Static red	Brightness adjustable	21	White fading	Brightness, speed adjustable
3	Static green	Brightness adjustable	22	RGB fading	Brightness, speed adjustable
4	Static blue	Brightness adjustable	23	Red green smooth	Brightness, speed adjustable
5	Static yellow	Brightness adjustable	24	Red blue smooth	Brightness, speed adjustable
6	Static purple	Brightness adjustable	25	Green blue smooth	Brightness, speed adjustable
7	Static cyan	Brightness adjustable	26	Red yellow smooth	Brightness, speed adjustable
8	Static white	Brightness adjustable	27	Green cyan smooth	Brightness, speed adjustable
9	3 color skipping	Brightness, speed adjustable	28	Blue purple smooth	Brightness, speed adjustable
10	7 color skipping	Brightness, speed adjustable	29	Red purple smooth	Brightness, speed adjustable
11	White strobe	Brightness, speed adjustable	30	Green yellow smooth	Brightness, speed adjustable
12	RGB/RGBW strobe	Brightness, speed adjustable	31	Blue cyan smooth	Brightness, speed adjustable
13	7 color strobe	Brightness, speed adjustable	32	Red white smooth	Brightness, speed adjustable
14	White speed-up strobe	White strobe increasingly	33	Green white smooth	Brightness, speed adjustable
15	Red fading	Brightness, speed adjustable	34	Blue white smooth	Brightness, speed adjustable
16	Green fading	Brightness, speed adjustable	35	Yellow purple cyan smooth	Brightness, speed adjustable
17	Blue fading	Brightness, speed adjustable	36	Full color smooth	Brightness, speed adjustable
18	Yellow fading	Brightness, speed adjustable	37	Cycle mode	All recycling
19	Purple fading	Brightness, speed adjustable			

Troubleshooting

Malfunction	Causation	Solution
No Light	1. No power from the socket	1. Check the socket
	2. Reverse connection of power +/-	2. Modify the connection
	3. Wrong or loose connection	3. Check connection
Wrong color	4. RGB/RGBW wrong wiring	4. Re-wire RGB/RGBW
Brightness of the LED is not even	5. Output wire too long, voltage drops	5.Reduce cable or use loop connection
	6. Wire diameter too slim, voltage drops	6. Calculate the current and change to a wider wire
	7. Power supplier overloads	7. Change to another large power supplier
	8. Controller overload	8. Add a power repeater
Mode not change	9. The setting of speed is too low	9. Press the button to increase speed
Can't be remote controlled	10. The battery has run down	10. Change battery
	11. Out of the controlling distance	11. Shorten the controlling distance

Warranty

Our product comes with a 3-year limited warranty. However, there are certain exceptions that are not covered by the warranty.

1. Defects caused by improper usage or incorrect operations.
2. Damages caused by an unsuitable power supply or abnormal voltage conditions.
3. Damages caused by unauthorized removal, maintenance, circuit alterations, incorrect connections, and chip replacements.
4. Damages incurred during transportation or as a result of exposure to water or other fluids after purchase.
5. Damages caused by force majeure events or natural disasters (earthquake, fire, flood, lightning strike, etc.).
6. Damages caused by negligence or inappropriate storage conditions, such as exposure to high temperatures, high humidity, or proximity to harmful chemicals, etc.

Kindly Reminder

The chosen power source should be a DC constant voltage type power supply. Keep in mind that certain power supplies exhibit an efficiency output of only 80% of the total capacity. Therefore, it is recommended to select a power supply with an output capacity at least 20% higher than the power consumption of the LED lights.