

RGB LED Amplifier

R203 / R203-W / R203-S

User's Manual

- Compact Design
- 3-Color Indicator
- Waterproof Option
- Overload Protection
- Overheat Protection
- Short Circuit Protection
- Wrong wiring Protection
- 5-24V Voltage Range



SPECTRO.STORE

2. LED Input

Connect to the LED signal need to be amplified. The black cable should be connected to the common node and the green, red, blue cable connect to relevant color LED signal. The input signal should be in common anode connection.

3. LED Output

Connect to LED load. The amplifier supports constant voltage LED products with common anode connection. The black cable on the output side is the common node, it also directly connects to the power supply positive inside the controller. The green, red and blue cable runs the driving signal of relevant LED color, please connect the color cables to the cathode of relevant color LED loads and the black cable to the common node.

The controller unit has output overload and short circuit protection function, please check whether the output is short circuit or over loaded if the controller stop working.

4. Status Indicator

This is a multi color status indicator. It displays all working status of the amplifier. It indicates different events as following:

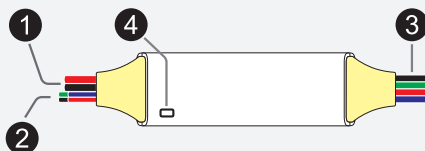
Blue: normal working.

Red flash: overload or output short circuit protected.

Yellow flash: overheat protected.

Introduction

Thank you for purchasing our product. R-203 series RGB LED amplifier is designed to drive constant voltage LED products with common anode connection in voltage range of DC5V-24V. It regenerates PWM driving signal and can expand the LED driving range at synchronous mode.



Functions

1. Power Supply

The R203 amplifier can work from DC 5V to 24V. The red power cable should be connected to power supply positive and black to negative. Please make sure the power supply voltage is same as the LED load and the LED input voltage, the power need to be capable for the load wattage.

Installing

1. Wiring

Connect the power, LED input and LED output cable to power supply, LED input signal and LED loads. Please make sure the cable is correctly connected without short circuit before power on.

2. Voltage Range

This amplifier can work in DC5-24V range. But please make sure the input signal, power supply and LED load is at same voltage. The amplifier can not work with different voltage input and output, also wrong voltage may damage the LED output loads.

3. Waterproof

The waterproof version is designed with IP-68 standard and can be used under water for less than 30 meters depth. When installing under water, please make sure the cable connection is also waterproof.

4. Protection

This series amplifiers have full protection function for output short circuit, overload, and overheat. The indicator will flash red at overload or short circuit protection and flash yellow at over heat. Amplifier will automatically recover from protection when working status is good.

Please ensure the LED loads are in rated range, not shorted and the amplifier is in a good heat dissipation environment to avoid protection.

Specification

Model	R203	R203-W	R203-S
Working Voltage	5-24V		
Rated Output Current	3x3.5A		3x5A
Efficiency	>97%		
Input Voltage Swing	Power Voltage $\pm 3V$		
Rising Edge Time Shift	<3uS		
Falling Edge Time Shift	<2uS		
Protection Function	Wrong wiring / Overload / Short circuit / Over heat		
Working Temperature	-30~80℃		
IP Grade	IP-63	IP-68	