Manuals+ — User Manuals Simplified.

Rayrun P20 Tunable White LED Controller User Manual

Contents

Rayrun P20 Tunable White LED Controller

Model: P20(-S)

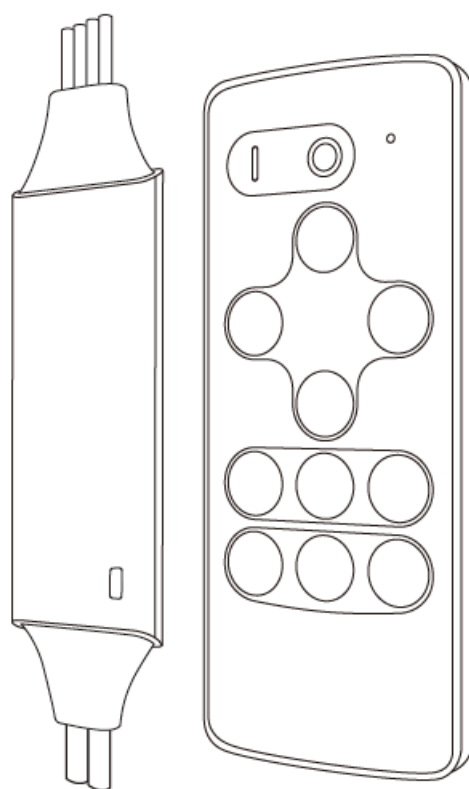Full Protection

High Power

Waterproof

Compact Size

Wireless Remote

Wide Voltage Range

LED output

Connect constant voltage LED loads. Please make sure the LED-rated voltage is the same as the power supply and each channel maximum load current is in range of the controller-rated current. The black cable should be connected to LED positive, the white cable should be connected to cool white LED negative and the yellow cable connected to warm white LED negative.

Work status indicator

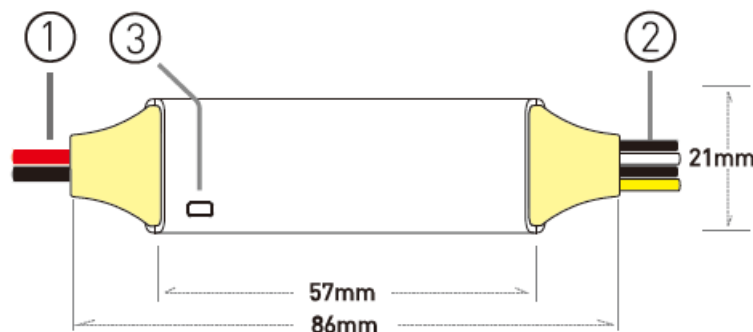This indicator shows the working status of the controller. It displays different events as follows:

- **Steady blue**: Normal working.
- **Short white blink:** Command received. Long single white blink: Mode cycle edge. Single yellow flash : Edge of the content. Red flash: Overload protection.
- **Yellow flash:** Overheat protection.
- **White blink for 3 times:** New remote paired.

Wiring diagram

Please connect the controller output to LED loads and power supply to the controller power input. The power supply voltage must be same as the LED load's rated voltage. Check all cables to be well connected and insulated before power on.
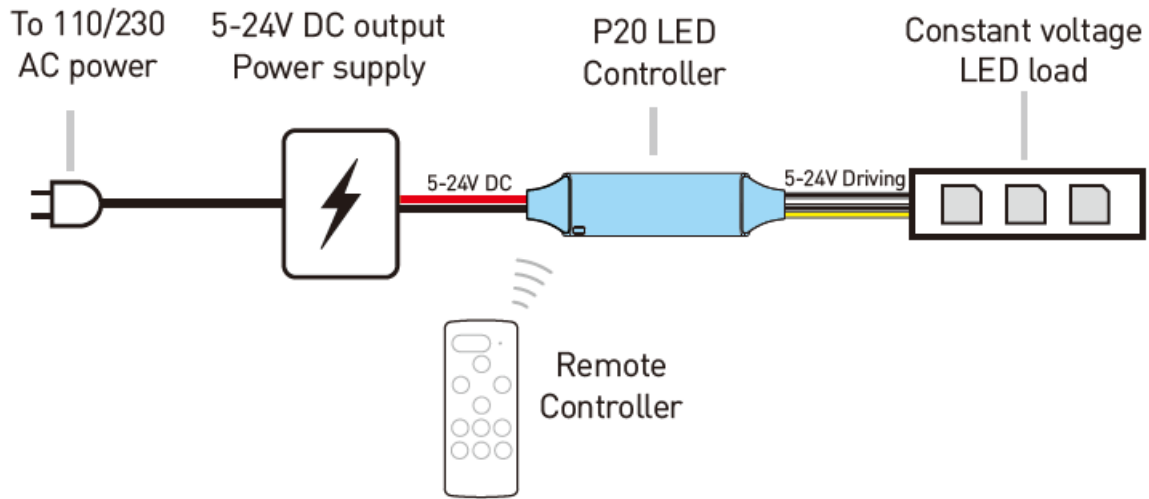
Introduction

P20 tunable white LED controller is designed to drive constant voltage LED products in voltage range of DC5-24V. The main unit works with a RF remote controller, user can setup LED brightness and color temperature from the remote controller. The main unit is powered by DC power supply and receives remote controller commands to drive LED fixtures.

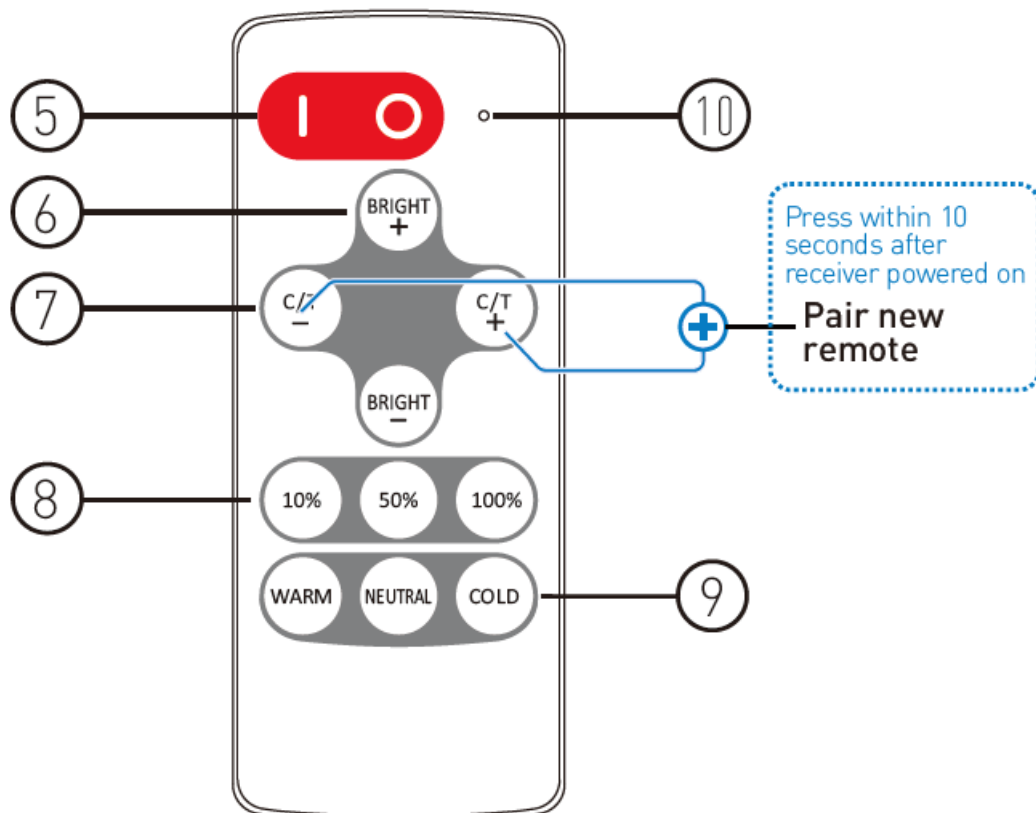## Wiring & Indicator

Power supply input

The controller supply voltage range is from DC 5V to 24V. The red power cable should be connected to power positive and black to negative. (For other cable colors, please refer to the labels). The LED output voltage is at same level as the power voltage, please make sure the power supply voltage is correct and the power rating is capable for the load.

Functions

Turn ON / OFF

Press 'I' key to turn on unit or press 'O' key to turn off. Main unit will memorize the on/off status and will restore to the previous status on next power on. Please use remote controller to turn on the unit if it was switched to off status before power cut.

Brightness control
Adjust overall brightness. Press **BRIGHT+** to **BRIGHT –** increase brightness and press decrease. The color temperature will keep unchanged when adjust brightness. The controller applies brightness gamma correction on dimming control, makes the brightness tuning more smooth to human sense.

Color temperature control
Adjust LED color temperature. Press **C/T +** to increase the color temperature and press **C /T –** to decrease. The overall brightness will keep unchanged when adjusting color temperature.

Color temperature shortcut keys
Set the color temperature to full cool white, full warm white or neutral white which is 50% warm and 50% cool white.

Remote indicator
This indicator blinks when the remote controller is working. If the indicator flashes slowly when pressing keys, it means the remote battery is nearly empty and please change the battery in this case. The battery model is CR2032.

Advanced features

Waterproof (-S version)
The IP-68 waterproof feature with glue injection finish is available on -S version controllers. For overall waterproof performance, the cables must be waterproof treated separately. Wireless signal degrade : The wireless communication ability could degrade when using at wet environment, please be aware that the wireless control distance will be shortened in such case.

Protection function

The controller has full protection function against wrong wiring, load short circuit, overload and overheat. The controller will stop working and the indicator will flash with red / yellow color to indicate the malfunction. The controller will try to recover from protection status in a short time when the working condition is good. For protection issues, please check the situation with different indicator information:

Red flash: Check the output cables and load, make sure no short circuit and the load current is in rated range. Also the load must be constant voltage type.

Yellow flash: Check the installation environment, make sure in a rated temperature range and with good ventilation or heat dissipation condition.

Operation

Using the remote controller

Please pull out the battery insulate tape before using. The RF wireless remote signal can pass through some nonmetal barrier. For proper receiving remote signal, please do not install the controller in closed metal parts.

Pair a new remote controller
The remote controller and main unit is 1 to 1 paired as factory default. It possible to pair maximum 5 remote controllers to one main unit and each remote controller could be paired to any main unit. User could pair a new remote controller to main unit by following two steps:

1. Plug off the power of main unit and plug in again after more than 5 seconds.
2. Press **C/T +** and **C /T –** key simultaneously for about 3 seconds, within time of 10 seconds after the main unit powered on.
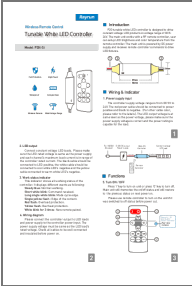
Keep current remote only
In some cases, one main unit might be paired with several remote controllers but extra remote controllers are no longer needed. User could simply pair the current using remote to main unit again, then the main unit will dis-pair all other remote controllers and recognize current one only.

Specification

Model	P20	P20-S
Brightness grade	7 levels	
Color temperature grade	7 levels	
Color temp. shortcut	3 shortcuts	
Brightness shortcut	3 shortcuts	
PWM grade	4000 steps	
Overload protection	Yes	
Overheat protection	Yes	
Working voltage	DC 5-24V	
Remote frequency	433.92MHz	
Remote control distance	>15m at open area	
Rated output current	2x7A	
IP Grade	IP63	IP68

Documents / Resources

Rayrun P20 Tunable White LED Controller [pdf] User Manual
P20 Tunable White LED Controller, P20, Tunable White LED Controller, LED Controller, Controller