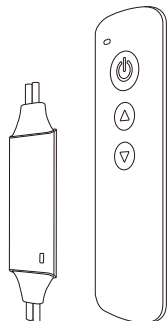
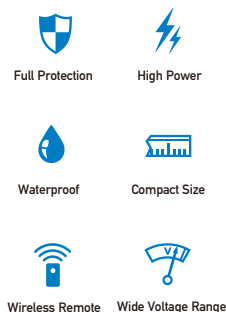


## Wireless Remote Control

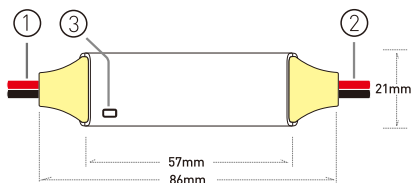
## Single Color LED Controller

Model: P12(-S)



## Introduction

P12 single color 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 from the remote controller. The main unit is powered by DC power supply and receives remote controller commands to drive LED fixtures.



## Wiring &amp; Indicator

## 1. 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 color, 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.

## 2. LED output

Connect constant voltage LED loads. Please connect red cable to LED+ and black cable to LED-. Please make sure the LED rated voltage is same as the power supply and each channel's maximum load current is in range of the controller rated current.

## 3. Work status indicator

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

**Steady blue:** Normal working.

**Short white blink:** Command received.

**White blink for 3 times:** New remote paired.

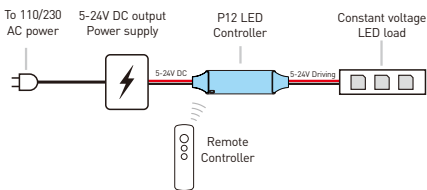
**Single yellow flash:** Edge of the content.

**Red flash:** Overload protection.

**Yellow flash:** Overheat protection.

## 4. 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.

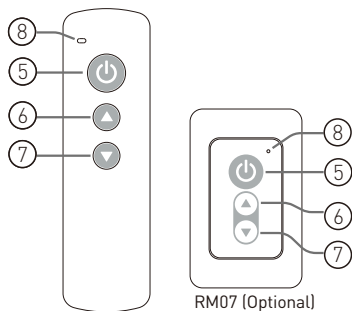


## Functions

## 5. Turn ON / OFF

Press this key to turn on or turn off the light. Controller 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 previous power cut.



## 6/7. Brightness adjust

Press  $\triangle$  key to increase brightness and press  $\nabla$  key to decrease. Hold press to adjust brightness smoothly.

When controller is at 'OFF' status, user can also hold press  $\nabla$  key to turn on the light to minimum brightness.

## 8. Remote indicator

This indicator blinks when remote controller works. The indicator will flash slowly if the battery is empty, please change the remote controller battery in this case. The battery model is CR2032 lithium cell.

## ■ Operation

### 9. Using the remote

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.

### 10. Pairing a new remote controller

The remote controller and main unit is 1 to 1 paired for factory default. It's possible to pair maximum 5 remote controllers to one main unit and each remote controller could be paired to any main unit.

You could pair a new remote controller to main unit by following steps:

- 1). Plug off the power of main unit and plug in again after more than 5 seconds.
- 2). Press (⏻) and (⏮) key simultaneously for about 3 seconds, within time of 10 seconds after the main unit powered on.

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## 13. 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.

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## 11. Recognize 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.

## ■ Advanced features

### 12. 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.

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## ■ Specification

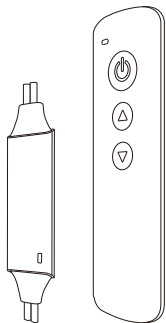
Model	P12	P12-S
Brightness grade	7 levels	
PWM grade	4000 steps	
Overload protection	Yes	
Overheat protection	Yes	
Working voltage	DC 5-24V	
Remote frequency	433.92MHz	
Remote control distance	>15m at open area	
Rated output current	1x15A	
IP Grade	IP63	IP68

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RF无线遥控

## 单色LED控制器

型号: P12(-S)



## 2. LED输出

连接到LED灯具。LED灯具必须为恒压型且适用于PWM驱动。请将红色电缆线连接到LED灯具的正极，黑色电缆线连接到LED灯具的负极，请确保LED的额定电压与电源相同，并且最大负载电流在控制器的额定电流范围内。

## 3. 工作状态指示灯

该指示灯显示控制器的工作状态，指示灯与控制器工作状态和对应关系如下：

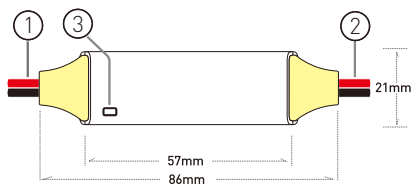
- 蓝色常亮：正常工作
- 白色单闪：收到命令
- 黄色慢闪：达到亮度极限
- 红色闪烁：过载保护
- 黄色闪烁：过热保护
- 白色闪烁3次：新遥控器配对成功

## 4. 接线图解

请将控制器输出连接到LED负载，并将电源连接到控制器电源输入。电源电压必须与LED负载的额定电压相同。上电前检查所有电缆是否连接良好并绝缘。

## ■ 简介

P12单色LED控制器用来驱动电压范围为5V到24V的LED灯带或LED模块等恒压LED灯具。用户可以通过手持或贴墙射频频控制器来调节LED灯具的亮度。控制器需要直流电源供电，并根据接收到的遥控器指令驱动LED灯具，实现亮度的调节功能。

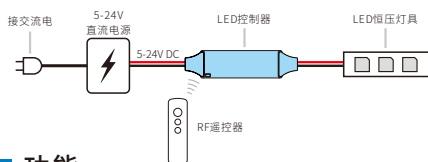


## ■ 安装

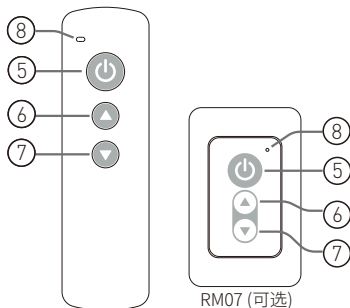
## 1. 电源输入

控制器可接受电压为5V到24V的直流电源供电，请将红色电缆线连接到电源的正极，黑色电缆线连接到电源的负极。请确保LED灯具的额定电压与电源电压相同，且电源的功率满足控制器和灯具的需求。

为保证安全，在通电前请先确保所有电缆均已可靠连接且绝缘良好。



## ■ 功能



## 5. 开关

按开关键打开关闭灯光。控制器会记忆开/关状态，并在下次上电时恢复到之前的状态。如果在断电前处于关机状态，请使用遥控器开机。

## 6/7. 增加亮度

按 $\odot$ 键增加亮度,按 $\ominus$ 键降低亮度。长按亮度调节键时亮度会连续平滑变化。

当控制器处于关闭状态时,按 $\odot$ 键将打开控制器并使LED灯具跳转到最小亮度。

## 8. 遥控器指示灯

按下遥控器按键时,该指示灯会快速闪烁。如果指示灯慢闪,则说明遥控器电池电量已耗尽,请更换遥控器电池(CR2032型纽扣电池)。

## ■ 遥控器操作方法

### 9. 使用遥控器

使用前请拔出遥控器电池绝缘片。RF无线遥控信号可以穿过一定的非金属屏障,为了保证控制器的接收效果,请勿将控制器安装在有大面积金属遮挡的位置。

### 10. 与新遥控器配对

遥控器和控制器出厂默认为1对1的配对状态。1个控制器最多可配对5个遥控器,而遥控器可配对任意的控制器。

如需配对新的遥控器,请按以下两个步骤操作:

1) 断开控制器电源,并在超过5秒以后重新通电。

2) 控制器通电后10秒内,同时按下新遥控器 $\odot$  $\ominus$ 键约3秒钟。

配对成功后,控制器指示灯将闪烁3次提示配对完成。

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当控制器停止工作时,请检查指示灯的状态,在不同的闪烁状态下应检查相应的故障:

**红色闪烁:**请检查输出电缆是否短路、负载电流是否过高,并且请确保所驱动灯具为恒压驱动类型。

**黄色闪烁:**请检查控制器的安装环境以及负载功率,并确保控制器散热条件良好且负载功率在额定范围之内。

## 11. 保留当前遥控器并清除其他遥控器

在控制器已与多个遥控器配对、而仅想保留当前遥控器的情况下,可以将正在使用的遥控器与控制器再进行一次配对操作,此后控制器将清除其他已配对的遥控器而仅保留当前使用的控制器。

## ■ 高级功能

### 12. IP68防水(-S版)

后缀为-S版本的控制器应用了注胶防水工艺,可以达到IP68的防水等级。为了确保整体的防水效果,需要对输入输出电缆做单独的防水处理。

**请注意:**在浸水环境下,控制器的无线接收性能会下降,遥控器的控制距离会缩短甚至无法控制。

### 13. 保护功能

本产品具有完善的保护功能,可以最大程度的防止因接线错误、负载短路、过载或过热而引起的产品损坏。当发生以上异常状态时控制器将停止工作,同时指示灯会闪烁红色或黄色。当工作状态良好时,控制器会尝试恢复正常工作。

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## ■ 规格

型号	P12	P12-S
亮度可调等级		7级
PWM分辨率		4000级
过热保护		有
过载保护		有
工作电压		DC 5-24V
遥控器工作频率		433.92MHz
遥控器工作距离		空旷地带>15米
额定输出电流		15A
防水等级	IP-63	IP-68

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