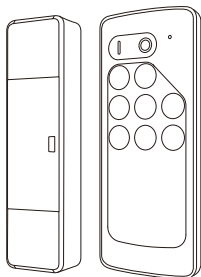
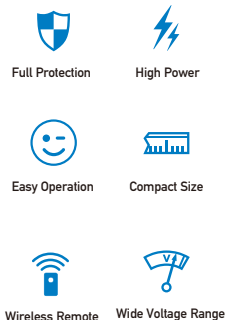


Wireless Remote Control

Single Color LED Dimmer

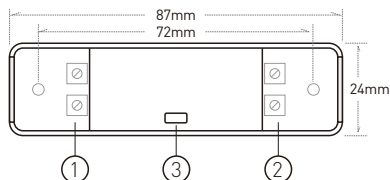
Model: N11



Introduction

N11 single color LED dimmer 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 adjust LED brightness on the remote controller. The main unit is powered by DC power supply and receives remote controller commands to drive LED fixtures.

Dimension



Wiring & Indicator

1. Power supply input

Install positive power cable into the terminal marked with '+' and negative power cable into the terminal marked with '-'. The controller can accept DC power from 5V to 24V, the output voltage is the same as the power supply, so please make sure the LED rated voltage is same as the power supply.

Do not power on the controller until all connection is firmly finished.

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2. LED output

Connect LED fixtures to this terminal. Install positive LED load cable into the terminal marked with '+' and negative cable into the terminal marked with '-'. Please make sure the LED rated voltage is same as the power supply and the maximum load current is lower than controller's rated current.

The controller will run into protection if the output is overloaded or short circuited. The indicator will flash red color and stop working in this case, Please check the wiring and load current to remove the fault.

3. Work status indicator

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

Steady green: Normal working.

Single green blink: Command received.

Long single green blink: Mode or color cycle edge.

Long single yellow blink: Brightness or speed limit.

Red flash: Overload protection.

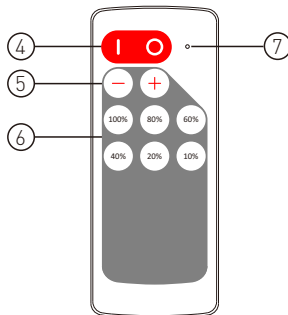
Yellow flash: Over heat protection.

Green flash 3 times: New remote controller paired.

5. Brightness control

Press '+' key to increase brightness and press '-' key to decrease. The brightness will change smoothly when hold pressing these two keys.

The controller applies brightness gamma correction on dimming control, makes the brightness tuning more smooth to human sense.



6. Brightness shortcut keys

These keys are shortcuts to fixed brightness. Press each key to jump to the relevant brightness level.

The controller applies brightness gamma correction on dimming, the brightness level is valued to human sense, and not proportional to the LED output power.

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7. Remote indicator

This indicator blinks when remote controller is working. If the indicator flash 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.

■ Operation

8. 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.

9. Pair 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 '100%' and '60%' key simultaneously for about 3 seconds, within time of 10 seconds after the main unit powered on.

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■ Specification

Model	N11
Brightness grade	100 levels
Brightness shortcut	6 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	1x10A
Controller dimension	87x24x15mm

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10. 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.

11. Protection

The main unit has full protection function for wrong wiring, output short circuit, overload and overheat. The controller will protect itself from damage at these extreme conditions and could automatically recover when working condition is good.

To avoid the protection, please ensure the LED fixtures are capable for constant voltage driving and in rated range, the cables are well connected and insulated. Also please install the controller with good ventilation and heat dissipation condition.

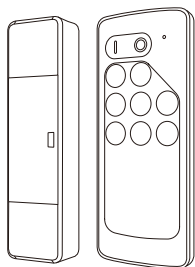
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RF无线遥控器

单色LED控制器

型号: N11



2. LED输出

将LED灯具连接到端子。将LED正极电缆安装到标有“+”的端子中，将负极电缆安装到标有“-”的端子中。请确保LED额定电压与电源相同，并且最大负载电流低于控制器额定电流。

如果输出出现过载或短路的情况，控制器会自动进入保护功能。此时指示灯会闪烁红色并停止工作，请及时检查接线和负载电流以排除故障。

3. 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的对应关系如下：

- 绿色常亮：正常工作。
- 绿色单烁：收到命令。
- 绿色慢闪：模式或颜色循环边缘。
- 黄色慢闪：亮度或速度极限。
- 红色闪烁：过载保护。
- 黄色闪烁：过热保护。
- 绿色闪烁3次：新遥控器配对成功。

■ 功能

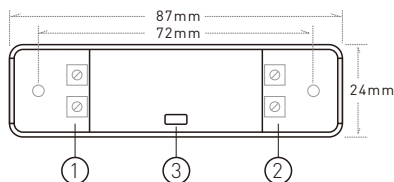
4. 开/关

按“I”键开启灯光，按“O”键关闭。控制器会记忆断电前的开关状态，如果在断电前为关机状态，下次通电后请使用遥控器开灯。

■ 简介

N11单色LED控制器用于驱动电压范围为5V到24V的恒压LED产品，用户可以通过卡片式射频遥控器来调节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，实现亮度调节功能。

■ 尺寸



■ 接线及指示灯

1. 电源输入

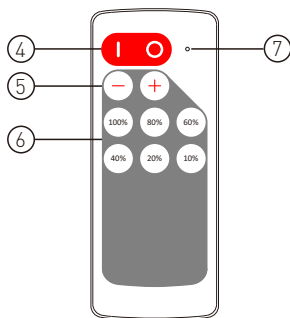
控制器可接受电压为5V到24V的直流电源供电，请将正极电源线安装到标有“+”的端子，将负极电源线安装到标有“-”的端子。控制器的输出电平与电源输入电压相同，请确保LED灯具额定电压与电源相同，且电源的功率满足控制器和灯具的需求。

为确保安全，请在断电的情况下连接电缆。

5. 亮度调节

调节灯光亮度。按“+”键增加亮度，按“-”键降低亮度。

本机的调光控制应用了伽玛校正原理，可以使亮度调节更加顺滑，更符合人眼的视觉体验。



6. 亮度快捷键

按下相应键时跳转到相对的亮度级别。本机的调光控制应用了伽玛校正原理，快捷键的亮度等级为人眼感受的级别，与实际输出功率并不成比例。

7. 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）。

■ 操作方法

8. 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，请勿将控制器安装有大面积金属遮挡的位置。

9. 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秒后重新通电。
- 2) 在控制器通电后10秒内，同时按下新遥控器

‘100%’和‘60%’键约3秒钟。

配对成功后，控制器指示灯将闪烁3次提示配对成功。

10. 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遥控器。

11. 保护功能

本控制器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，同时指示灯会闪烁黄色或者红色。当工作状态良好时，控制器会尝试恢复正常工作。

当控制器进入保护状态时，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，并请确保灯具为恒压类型且兼容PWM调光方式。

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。

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■ 规格

型号	N11
亮度级数	100级
亮度快捷键	6个
PWM分辨率	4000级
过载保护	有
过热保护	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	1x10A
控制器尺寸	87x24x15mm

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