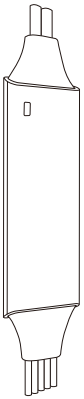
Zigbee

LED Controller

ZA20 / ZA40 (-S)



Tunable White

RGB+White

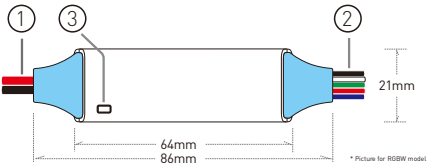
Zigbee 3.0 ready

Rayrun

Introduction

This series LED controllers are designed to drive constant voltage LED products in voltage range of DC6-24V. With Zigbee 3.0 protocol support, controllers can be controlled by most Zigbee gateways or smart hosts. With compact housing and lead wire design, the controller can be installed at limited space. The IP68 waterproof feature is supported on -S version for various applications.

Function



1. Power supply input

The controller supply voltage range is from DC 6V to 24V. The red power cable should be connected to power positive and black to negative. The output voltage is at same level as the power voltage, please make sure the power supply voltage is correct and the power wattage is capable for the load wattage. Please be noted the positive power cable is directly connected to the output ⊕ cable inside the controller.

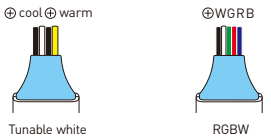
2. LED output

Connect LED loads to these cables. Please make sure the LED rated voltage is same as the power supply and each channel's maximum load current is below the controller rated current.

Please refer to following output wiring diagram for different models:

Tunable white: black cable to LED ⊕, white to cool white LED ⊖ and yellow to warm white ⊖. The two black cables are connected inside the controller.

RGBW: black cable to LED ⊕, R, G, B and W cable to the same color LED ⊖.



3. Work status indicator

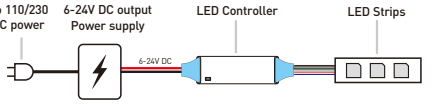
This indicator shows all working status of the controller. It displays different events as following:

Steady blue: Normal working.

Red flash: Overload protection.

Yellow flash: Overheat protection.

4. Wiring diagram



Operation

5. Pair to gateway

The controller needs to be paired with compatible Zigbee gateways or other smart hosts for operation. Based on Zigbee 3.0 technology, the controller can be paired to most gateways and smart hosts. User can use the supported app to find and manage the controller.

6. Restore to factory default

Only factory default controller can be discovered by the gateway or host to pair. For paired controllers, user can restore the controller to factory default by flicking the power on/off. Please operate with following steps to restore the controller to factory default:

1. Power on the controller for more than 30 seconds.
2. Disconnect the controller's power for more than 10 seconds.
3. Connect power to the controller for less than 5 seconds and then disconnect for more than 10 seconds. Repeat this step for total 4 times (ZA20) or 9 times (ZA40).
4. Steadily power on the controller for the 5th time (ZA20) or the 10th time (ZA40), the LED loads connected to the controller will flash and the controller is restored to factory default mode.

Advanced features

7. Waterproof (-S version)

The -S version controller has IP-68 waterproof feature with glue injection finish. For overall waterproof performance, the cables must be waterproof treated separately.

Wireless weakening: The wireless communication ability could be weaken when using at wet environment, please be aware that the control distance between remote and controllers will be shortened in this case.

8. Protection function

The controller has full protection function against wrong wiring, output short circuit, overload and overheat. It will stop working and the indicator will flash red at overload or short circuit situation, the indicator will flash yellow at overheat situation. The controller will try to recover from protection every 10 seconds after protection occurred, and will automatically recover working when the condition is good.

To avoid the protection situation, please make sure the output cables are well insulated, ensure the LED loads are in the rated range and capable for constant voltage driving. Also the controller needs to be installed at a place with good ventilation or heat dissipation condition.

Specification

Model	ZA20	ZA40
Function	Tunable white	RGB+White
Working voltage	DC 6-24V	
Rated output current	2x7A	4x3A
Standby power	<0.5W	
Wireless connection	Zigbee 3.0 protocol	
Communication distance	>15 meters at open area	
Output mode	PWM constant voltage	
Output adjust range	0-100% with gamma correction	
Physical PWM level	4000 steps	
Overload protection	Yes	
Overheat protection	Yes	
Working temperature (Ta)	-20°C~+55°C	
Waterproof	IP63 for standard version, IP68 for -S version	
Dimension	86x21x8.5mm	