

ERC21 Series Rail Dual Controller Product Specification

Modify Record

Serial no.	Version	Date	Modify Content
1	V1.0	2021-09-15	Initial Version

1 Product Description

1.1 Product Introduction

Rail Dual Controller supports WiFi and RF, which can be controlled by Tuya App and wireless kinetic switch. It reserves the input terminals for traditional switches, and can control the light by the original traditional switches. It is mounted in the rail of distribution box. It supports dual channels, maximum current for each channel can reach 10A. Through the smart speaker, it can achieve ON/OFF by voice control. (Smart speakers like Google Assistant, Amazon Alex).

1.2 Product Image

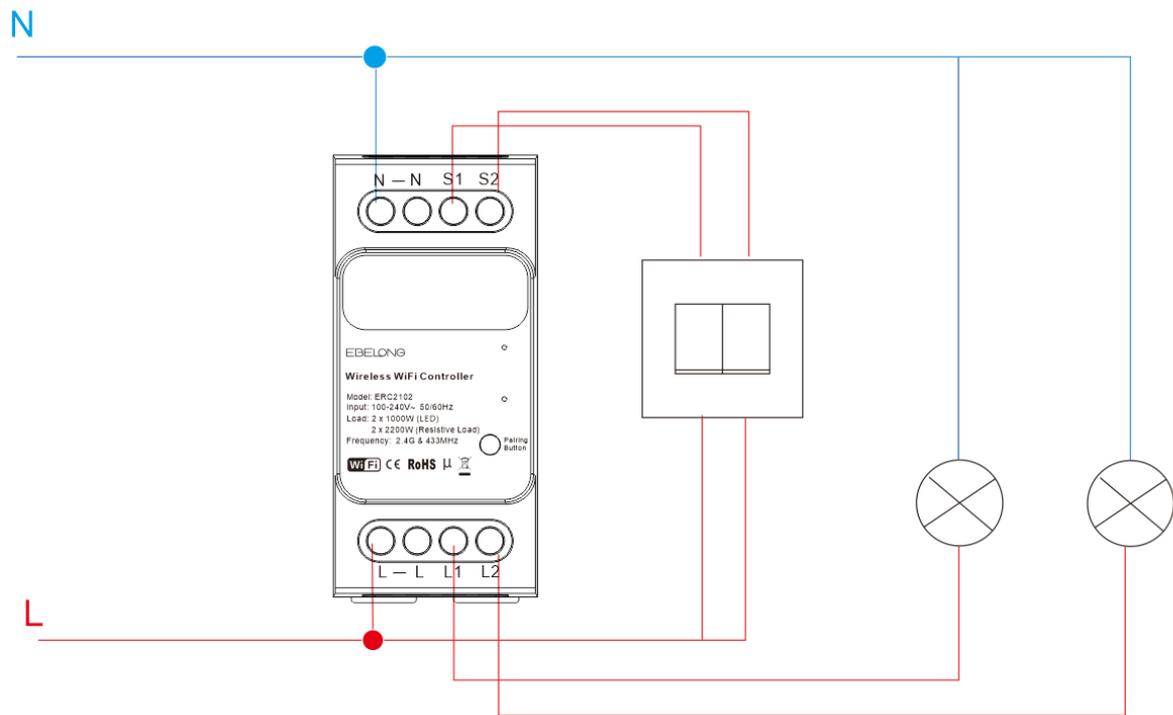


2 Technical Parameters

Project	Parameters
Product Model	RF Version : ERC2102 WiFi Version : ERC2102-W
Power supply	AC100V -240V 50/60Hz
Output Channel	2 Channels
Operational current	2*10A
Maximum Output Power	LED: 1000W/each channel (220V~ input) Resistive: 2200W/each channel (220V~ input)
Radio frequency	ERC2102: RF 433MHz ERC2102-W: WiFi IEEE 802.11 b/g/n 2.4G & RF 433MHz
Operate range	80m (Outdoors) 25m (Indoors) (depending on building materials)
Consumption	< 1W

Storage Capacity	Each channel can store up to 10 wireless kinetic switch info
Wiring Method	Terminals
Installation Method	the rail of distribution box
Product Size	L36*W77*H67mm
RF Receive Sensitivity	-110dBm
Operational Temperature	-20°C ~ +55°C
Work Humidity	0%-95% RH (no condensation)
Storage Temperature	-20°C ~ +85°C
Storage Humidity	0%-95% RH (no condensation)
IP Rating	IP20
Executive Standard	EN60669-1:2018 EN IEC55015:2019

3 Wiring Diagram



L: Input Live Cable

N: Neutral Cable

S1/S2: Input Terminal for Traditional Switch,
compatible with rocker switch and push button
(detect switch type automatically)

L1/L2: Output Live Cable, connect to lights

4 Product Features

4.1 Network Method (Only apply to ERC2102-W)

After the Receiver is powered on, it enters the network configuration (EZ mode) by default, and the LED1 light flashes quickly (2 flashes per second). If LED1 light is not in right state, need to reset the device to enter the network configuration mode, follow the steps below: Press the button for 10 seconds, then release the button after the light is still, and when the LED1 light is flashing quickly, it means that it enter the network configuration state. After entering the network configuration mode, it can add devices through the App of "Tuya Smart" or "Kinetic Switch". After the device is successfully added, it can achieve ON/OFF by App control.

If the controller network cannot be configured successfully in "EZ mode", try "AP mode". Follow the steps to switch to the "AP mode": press the button for 10 seconds in "EZ mode"(When LED1 light flash quickly), then release the button after the light is still, and it can switch to "AP mode". At this time, the light will turn off once every 2 seconds. If need to switch it from "AP mode" back to "EZ mode", press the button for 10 seconds, then release the button after the light is still.

4.2 The pairing method for wireless kinetic switch

There are two pairing methods for pairing with the receiver and the wireless kinetic switch:
Ordinary pairing and Directional pairing.

4.2.1 Ordinary Pairing

4.2.1.1 App Method (Only apply to ERC2102-W)

Enter the App page, click "Pairing" -> "Start Pairing", and select the corresponding channel. After the App page displays "waiting for pairing", press the corresponding button of the wireless kinetic switch that needs to be paired, then it can complete the pairing. (the App will prompt "Pairing succeeded" after the pairing is completed.)

4.2.1.2 Physical button Mode

Press the button for 3 seconds, the light will enter a slow flashing state (1 flash in 1 second is a slow flash. LED1 indicates L1 output, LED2 indicates L2 output, double-click the button to switch the channel), the receiver enters the status of "waiting for pairing". At this time, press the button of the wireless switch that needs to be paired once, and the light is off, it means that the pairing is completed.

4.2.1.3 Through wired switch

Within 2 minutes after the controller is powered on, press the wired switch corresponding to the lamp for 5 times (Within 2 seconds), and the load lamp will start flashing, that is, the controller enters the pairing mode. At this time, press the wireless switch once, and the load lamp will stop flashing, which means that the pairing is completed. After controller is powered on more than 2 minutes, the pair mode cannot be triggered by the wired switch.

4.2.2 Directional Pairing

In order to meet the user's habit of using traditional switches, and to ensure the synchronization of the states of multiple wireless receiver in one control and multiple modes, the directional pairing is defined. This pairing method only supports double-buttons or six-buttons rebound switches. The pairing methods are as follows:

4.2.2.1 App Method (Only apply to ERC2102-W)

Enter App page, click "Pairing" -> "Start Pairing", select the corresponding channel, after the App page displays "waiting for pairing", quickly press any button of the wireless kinetic switch for 4 times within 1 second (the left and right buttons of the rebound switch are a group) to complete the pairing. (App page will prompt "pairing successful" after the pairing is completed).

4.2.2.2 Physical button Mode

Press the button for 3 seconds, the corresponding light will enter a slow flashing state (LED1 indicates L1 output, LED2 indicates L2 output, double-click the button to switch the channel), the receiver enters the status of "waiting for pairing". At this time, press any button of the wireless kinetic switch for 4 times continuously (within 1 second), and the light is off, it means that the pairing is completed.

Note: After the pairing is successful, the left and right buttons of the rebound switch are a group, short press the left button is to close, and short press the right button is to open.

4.2.2.3 Through wired switch

Within 2 minutes after the controller is powered on, press the wired switch corresponding to the lamp for 5 times (Within 2 seconds), and the load lamp will start flashing, that is, the controller enters the pairing mode. At this time, press the wireless switch 4 times (within 1 second), and the load lamp will stop flashing, which means that the pairing is completed. After controller is powered on more than 2 minutes, the pair mode cannot be triggered by the wired switch.

4.3 Cancel pairing with wireless kinetic switch

4.3.1 App Method (Only apply to ERC2102-W)

Enter the App page, click "Pairing" -> "Clear Pairing", and select the corresponding channel. After the clearing is completed, the app will prompt "Clearing Successful".

4.3.2 Physical button Mode

Press the corresponding button of receiver for 12 seconds, the light will flash-still-off (LED1 indicates L1 output, LED2 indicates L2 output, double-click the button to switch the channel), and then release the button, all information for the wireless kinetic switch that matched with this channel will be cleared.

4.4 Clear Network

4.4.1 App Method (Only apply to ERC2102-W)

Enter the app device page and select "Remove Device" to clear the device network configuration

4.4.2 Physical button Mode

Press the button for 10 seconds, the light is flashing to still, and then release the button, LED1 will flash quickly, and the devices will be removed from the App.

4.4.3 Through wired switch (Only support push button)

Within 2 minutes after the controller is powered on, long press anyone wired switch for 15 seconds, and lamp state will be reversed, it means network information of controller is cleared (such as: long press the wired switch 15s, lamp will change from opened to closed, clear network is successful), can add controller through the app at this time. After the controller is powered on more than 2 minutes, the network information of controller cannot be cleared through the wired switch.

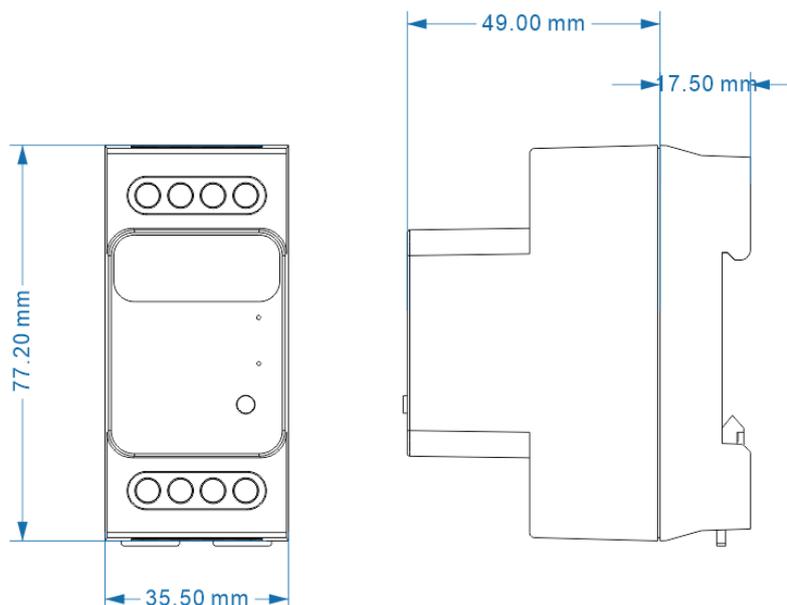
4.5 Bridging Mode

Press the button for 7 seconds, LED1 changes from slow flashing to fast flashing (2 flashes per second), and release the button when it flashes quickly, and the receiver enters the bridging mode. At this time, the light flashes once every 2 seconds. If need to exit the bridging mode, just repeat the above steps.

4.6 Wired switch control.

The controller supports automatic detection of wired switch type (rocker switch or push button) : After the controller is powered on, press the wired switch once to set the current wired switch type (for example, if the rocker switch is pressed after the controller is powered on, set the wired switch type to rocker switch). To reset the wired switch type, power off the controller and then power on it. Repeat the preceding steps.

5 Product Size



6 Application Environment

