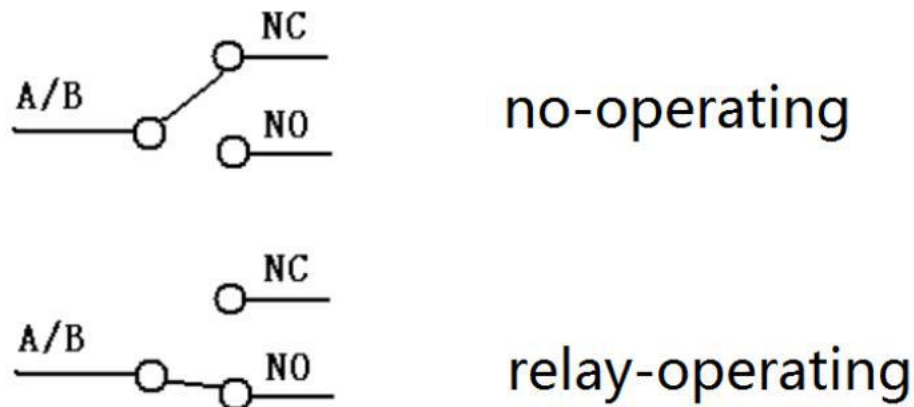


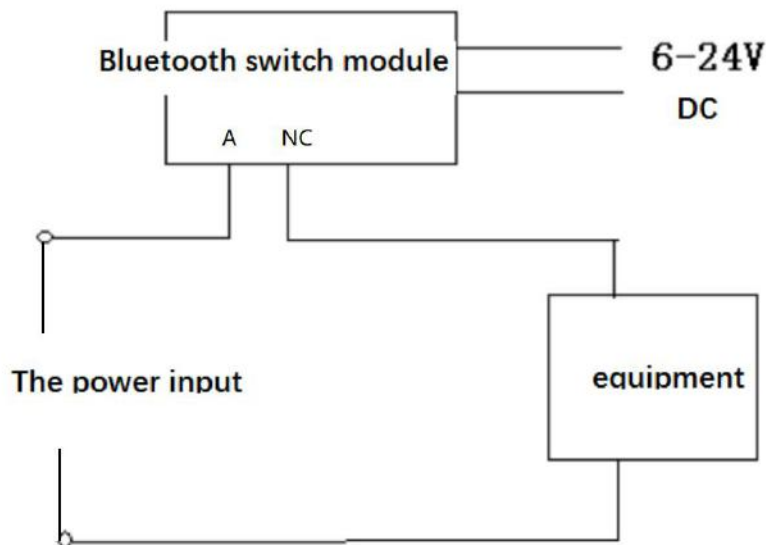
Bluetooth Relay

1. Product Overview

RC02 is the bluetooth relay module (such as computer and mobile phone) and then conduct wireless switch action. Each relay switch is an independent module, and each relay interface is defined as NO, A / B, NC. When the relay is disconnected, A / B is connected with NO, and A / B is connected with NC after the relay is closed. Here relay interface is mechanically connected and has no electrical output. Following chart



Here a simple control equipment of the power supply connection application example:



Simple speaking, relay module is a product which can replace the traditional mechanical switch. If you don't

know how to wiring, you can imagine how to wiring the mechanical switch.

1.1 Product Characteristics

Parameter	
Bluetooth version	4.0BLE
Application	Android&iOS system
Input voltage	5V/6-24V
Channel	2
Control way	Jog, self-locking, mutual exclusion, time delay
Switch electrical parameters	10A/ DC and AC can be controlled
Encryption features	4.0BLE
Encryption feature	8-digit software password
Quiescent Current	15mA
Size	60*51*17mm

2. Product Details

2.1 Description

After getting the product normally, the default state of the module is self-locking without delay. At present, our relays support the following actions:

- (1) Relay self-locking mode: each relay opening and closing is a two-step operation, which requires two instructions to control. The display on the software page is to press the button to turn on and then press the button to turn off.
- (2) Relay inching mode: this mode has no change for the module, but it can be switched in app, which is shown as pressing the button to open the relay, releasing the button to close the relay.
- (3) Relay delay mode: after each relay sends an open command, the relay opens and automatically closes after a specified time delay.
- (4) Relay timing action: it can set relay timing on, off, jog and other operations.
- (5) Relay mutual exclusion action: two relay mutual exclusion actions, one channel open and the others close.
- (4) Auto disconnect function after long time bluetooth occupation : this function is used to prevent the module from being occupied by the mobile app for a long time. When it is enabled, the Bluetooth is linked and disconnected automatically after a period of no operation. Smart community access version is applicable.
- (5) Automatic disconnection function after one action: this function is set to match the fact that some Android phones cannot disconnect actively. After connecting the module and sending an action command, the module will

disconnect automatically after the action. Smart community access version is applicable.

3. Instructions

3.1 Wiring

First, power on the module through 5V or 12V input interface, and the indicator light will flash after power on. Pay attention to the positive and negative poles of the power supply. If the light hasn't flickered within 3s after connecting the power supply, please unplug the power supply immediately and check whether connect reversely to prevent burning.

3.2 APP menu

1. Mobile phone software instructions

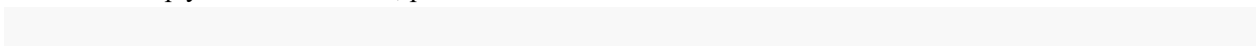
The android mobile operating: installation of mobile software, android software interface, as shown in the main interface, click the scan button, the scanning to the device, click on the device name and then connected, into the control interface. Software is our company general software, suitable for a variety of products of the company, contains 4 relay control and 3 channel LED PWM dimming control, RC02 only two channel relay is available, no LED lights control operation.

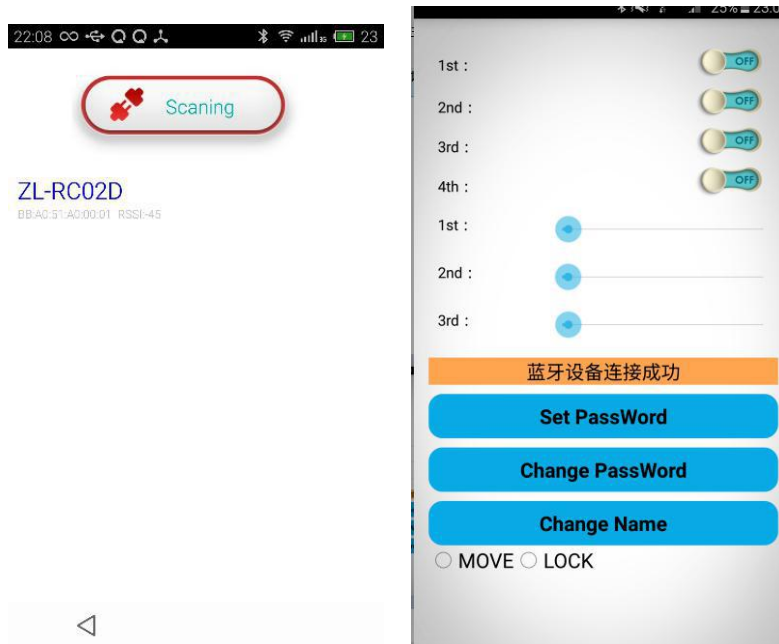
Setting device password, click on set password button and equipment of the initial password is 12345678.

Set the password and then click the switch 1 and switch 2 button to operate relay on-off.

If need to change the software password, click Change password button, set up a new password and then click the confirmation.

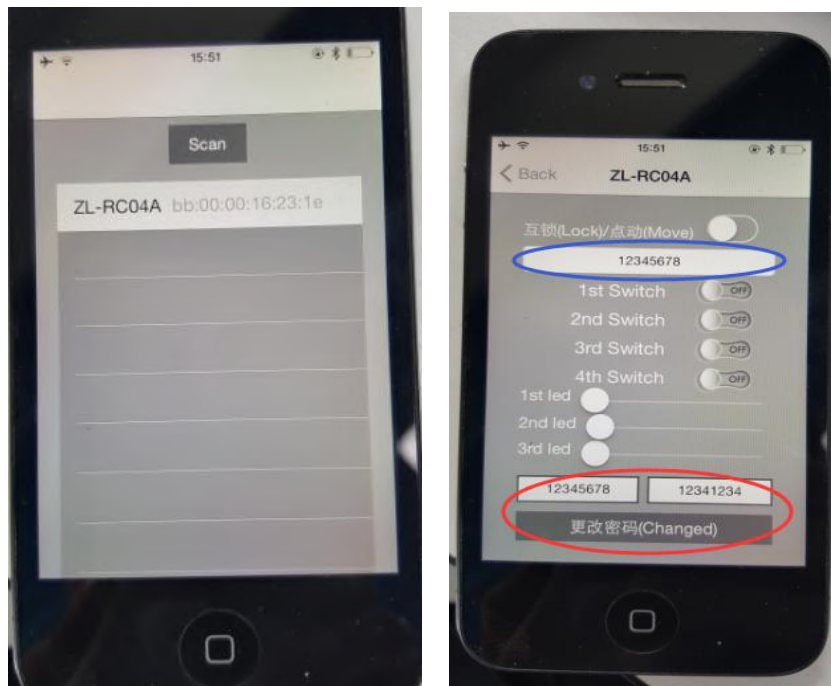
If you need develop your own software, please follow the command file.





The IOS software instructions:

- 1) In the apple store search TwoSwitchBle (app store). You can download the software.
- 2) Open the software, click scan, search our equipment. After clicking, found equipment into operation interface.
- 3) Enter the interface, you can start operation. Here under special instructions, The input box below the interlocking electric selection button is used to display your current password and cannot set a password (blue circle). If you want to modify the default password of software, modify the input box in the red circle, enter 12345678 in the first input box, and enter your current password in the second input box. At this time, the default display on the first line shows that the password modification is complete. If you want to modify the device password, you need to enter the current device password in the first input box in the red circle, and enter the password you want to modify in the second input box, and the motor password change is complete.



3.3 Instructions for operation

This protocol is used to develop mobile app or wechat app to communicate with Bluetooth module of relay directly, and it can also be used to configure the working mode of Bluetooth module of relay.

Note: all instructions are hexadecimal values

(1) Connect the first relay

Control the pull in action of the first relay. If the delay function is set, the command controls the pull in delay of the relay for N seconds, and then the relay will automatically disconnect.

The brought in parameter is 8-byte ASC code digital password, for example, the default password is "12345678"

Data format: C504 XX XX XX XX XX XX XX AA.

There are 11 bytes in total, where XX indicates the hexadecimal ASC code of the password number.

Example: C504 31 32 33 34 35 36 38 39 AA password is 12345678, connecting the first relay.

Reply content:

C5 XX AA

XX is the status code, 0 is the execution success, 1 is the password error, 2 is the instruction exception, 3 is the execution failure.

(2) Close the first relay

The brought in parameter is 8-byte ASC code digital password, for example, the default password is "12345678"

Data format: C506 XX XX XX XX XX XX XX AA.

A total of 11 bytes, where XX indicates the ASC code of the password number

Example: Reference 1

Reply content:

C5 XX AA

XX is the status code, 0 is the execution success, 1 is the password error, 2 is the instruction exception, 3 is the execution failure.

(3) Connect the second relay

The brought in parameter is 8-byte ASC code digital password, for example, the default password is "12345678"

Data format: c505 XX XX XX XX XX XX XX AA.

A total of 11 bytes, where XX indicates the ASC code of the number

Example: Reference 1

Reply content:

C5 XX AA

XX is the status code, 0 is the execution success, 1 is the password error, 2 is the instruction exception, 3 is the execution failure.

(4) Close the second relay

The brought in parameter is 8-byte ASC code digital password, for example, the default password is "12345678"

Data format: c507 XX XX XX XX XX XX XX AA.

A total of 11 bytes, where XX indicates the ASC code of the number

Example: Reference 1

Reply content:

C5 XX AA

XX is the status code, 0 is the execution success, 1 is the password error, 2 is the instruction exception, 3 is the execution failure.

(5) Change password

The parameter brought in is the original password of 8 bytes and the password to be modified of 8 bytes, for example, the default password is "12345678"

Data format:

C5 XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX AA

There are 18 bytes in total, in which blue XX indicates the original password and red XX indicates the new password.

Reply content:

C5 XX AA

XX is the status code, 0 is the execution success, 1 is the password error, 2 is the instruction exception, 3 is the execution failure.

Example: C5 31 32 33 34 35 36 37 38 31 31 31 31 31 31 31 31 AA changes the default password 12345678 to 11111111

(6) Change equipment name

(no password is required, numbers and letters are supported, and digits are customized, within 10 characters)

The data format is:

C5 10 XX XX XX AA

Where red XX is the character name, hexadecimal number and letter

Example: c510 31 32 33 AA changed the name to 123

(7)After the configuration relay is connected, no command is received for a period of time, and the Bluetooth connection time is timeout: (to prevent the Bluetooth device from being occupied by a mobile phone for a long time)

The data format is:

C5 01 XX XX XX XX XX XX XX XX AA

XX XX XX XX XX XX XX password

Where XX represents hexadecimal time, the value can be 1-100, and the unit is 10 seconds. If you want to turn off the timeout disconnection function so that the relay can be occupied for a long time, you can write 0 to XX.

Example: C501 0C AA sets relay $12 * 10 = 120$ seconds, i.e. 2 minute timeout.

(8) configure relay operation mode

C5 02 XX XX XX XX XX XX XX XX XX XX AA

The red XX indicates the hexadecimal time, the value can be 1-60, and the unit is seconds. It is used to set the delay action of the relay, write the 0-off function, and write a number greater than 60, then it is set to the mutually exclusive mode.

The green XX indicates whether the Bluetooth connection needs to be disconnected after the delay action of the relay, the non-zero value enabling function, and the write 0 closing function. It is used for the operation that the control equipment automatically disconnects the Bluetooth, such as the control of the access control in the community. If the delay is set and this bit is set, the mobile app can send a disconnection instruction after connecting the Bluetooth, and the module will automatically delay a few seconds to disconnect the relay and then disconnect the Bluetooth. Note: it needs to be matched with the delay setting. If there is no delay, this value will not work.

The blue XX indicates whether to restart the Bluetooth after it is disconnected (all relays are closed at the same time). It is used to disconnect the relay when the user wants to disconnect the Bluetooth. If the value is not 0, write 0 to close it.

The default values of the three parameters are 0, that is, no delay is required. After the delay of the non enable relay, the Bluetooth connection is disconnected, and the non enable Bluetooth disconnection relay is also disconnected.

Reply content:

C5 XX AA

XX is the status code, 0 is the execution success, 1 is the password error, 2 is the instruction exception, 3 is the execution failure.

Read configuration command: c592 AA

Equipment reply: C5 92 XX XX XX AA

Example: c502 01 00 AA sets the delay of relay for 1 second, and automatically disconnects the Bluetooth connection after the delay action.

(9) Delay action of the first relay

C5 0A XX XX XX XX XX XX XX TT TT TT TT AA

There are 15 bytes in total, of which XX is the hexadecimal ASC code of the password number, TT is four bytes in total, forming 4 bytes of unsigned shaping data, with the high bit in front, which is used to record the delay time, in seconds.

Reply content:

C5 XX AA

XX is the status code, 0 is the execution success, 1 is the password error, 2 is the instruction exception, 3 is the execution failure.

Example: control the first relay module with a delay of 189316 seconds.

C5 0A 31 32 33 34 35 36 37 38 00 02 E3 84 AA

(10) Delay action of the second relay

C5 0B XX XX XX XX XX XX XX TT TT TT TT AA

Reply content:

C5 XX AA

XX is the status code, 0 is the execution success, 1 is the password error, 2 is the instruction exception, 3 is the execution failure.

(11) Time calibration of equipment

C5 70 YY YY MM DD HH MM SS AA

Yy yy is BCD code of year

MM DD is the BCD code of the month and the day

HH mm SS is BCD code of hour and minute second

Reply content:

C5 XX AA

XX is the status code, 0 is the execution success, 1 is the password error, 2 is the instruction exception, 3 is the execution failure.

For example, on October 1, 2019, at 12:13:45, data will be sent:

C5 07 20 19 10 01 12 13 45 AA

Read device time command: c580 AA

Return: C5 80 YY MM DD HH mm SS AA

(12) Set relay timing action

C5 71 XX YY HH mm AA first channel timing action strategy 1

XX 0 --- timed total energy 1 --- inching 2 --- closing 3 --- closing

HHMM time division BCD code

C5 72 XX YY HH mm AA first channel timing action strategy 2

XX 0 --- timed total energy 1 --- inching 2 --- closing 3 --- closing

HHMM time division BCD code

C5 73 XX YY HH mm AA first channel timing action strategy 1

XX 0 --- timed total energy 1 --- inching 2 --- closing 3 --- closing

HHMM time division BCD code

C574 XX YY HH mm AA second channel timing action strategy 2

XX 0 --- timed total energy 1 --- inching 2 --- closing 3 --- closing

HHMM time division BCD code

(13) Read the status of the relay

C5 60 AA

Return:

C5 60 R1 R2 R3 R4 R5 R6 R7 R8 AA

R1 R2 R3 R4 R5 R6 R7 R8 1-8 relay status, 1 represents the pull in status, 0 represents the off status.

If C5 60 00 01 00 00 00 00 00 AA is returned, it means that the second circuit is closed and other circuits are closed.