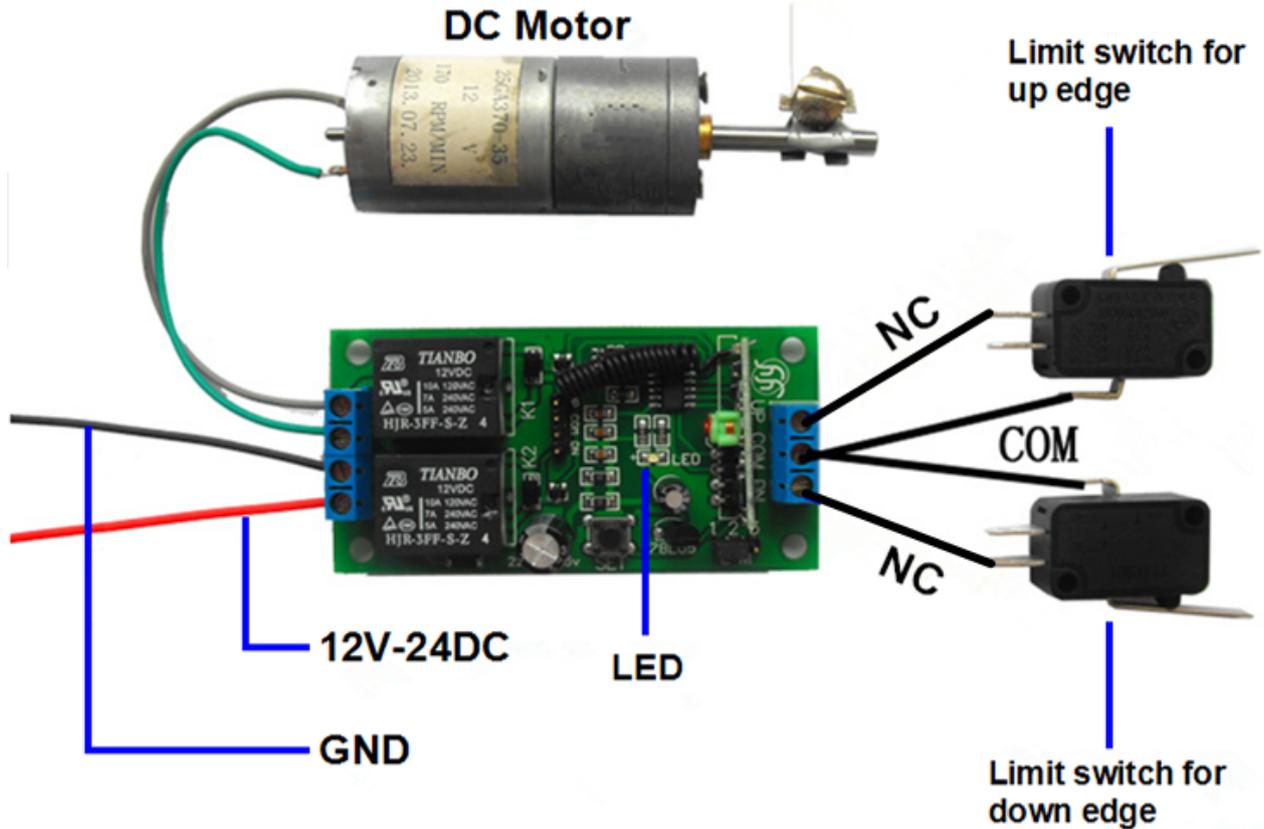


# QK-R021 Rolling Door Opener, Remote Control switch

## ---12V/24V DC Motor Remote Control application notes

Features	Applications
<ul style="list-style-type: none"> <li>• Control DC motors (bi-directional) via buttons on remote controller</li> <li>• Licence free frequency on 433 Mhz</li> <li>• Self-learning coding</li> <li>• Two working modes, self lock and latching</li> <li>• Easy to install and configure</li> <li>• Up to 80W output power rate</li> <li>• Up to 200 metres control range</li> <li>• Low power consumption</li> </ul>	<ul style="list-style-type: none"> <li>• Electric doors,</li> <li>• Shutters, garages</li> <li>• Electronic curtains/blinds</li> <li>• DC motors, actuators</li> <li>• Plant maintenance</li> <li>• Valve control</li> <li>• Pumping stations</li> <li>• Oil/gas pipeline control</li> </ul>





## 1 Introduction

QK-R021 series remote controller is an easily installed device which can be used to control electric doors, curtains/blinds and other DC motor driven devices in smart houses, industrial control, security industry area. Just press the buttons on the remote controller then the barriers and doors will be opened or closed, or the DC motor driven device will turn on or off.

## 2 Working mode

QK-R021 series remote controller supports two control modes, namely self lock mode and latching mode.

### 2.1 Self lock mode

Press the 'up' button once and the motor will keep rotating clockwise until the stop button has been pressed. Similarly, press the 'down' button once and the motor will run anti-clockwise until the stop button has been pressed.

### 2.2 Latching mode

Press and hold the 'up' button and the motor will keep running clockwise until the button is released. The 'down' button functions in the same way.

### 2.3 Switching between two modes

Please note that the remote controller is set in self lock mode by default. However, it can always be re-set by adjusting the mode jumper and the details of the switching function can be found in the following image. When terminals 1 and 2 are connected, the DC motor control operates in self lock mode and in latching mode when terminals 2 and 3 are connected. Please note the module should be powered off before configuration.

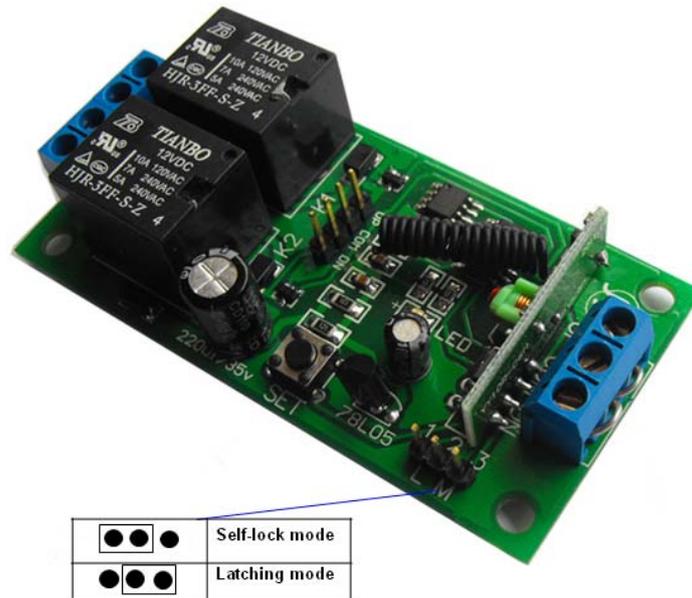


Figure 1 Working modes

### 3 Safety edge/limit switch

Short connecting the up/down edge terminal with the common terminal will stop the clockwise/anti-clockwise relay output. If there is no requirement for this function, the three terminals should be short connected together.

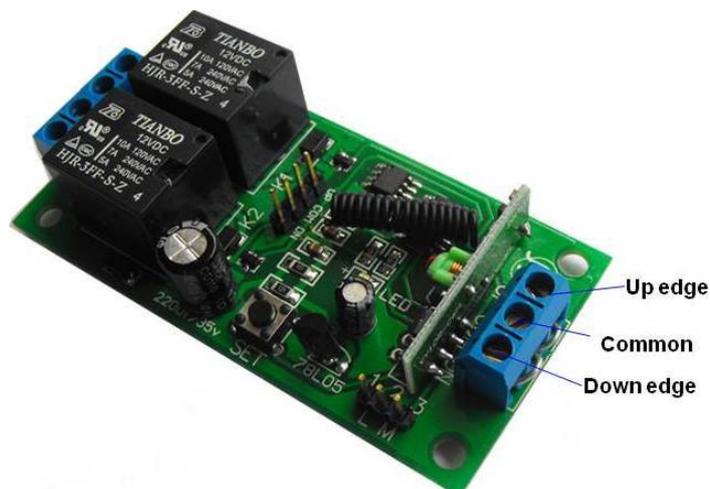


Figure 2 Safety edge/limit switch

## 4 RF transmitter pairing

QK-R021 is an intelligent, self learning remote control receiver. It allows the operator to pair the remote controller with QK-R021 by learning the communication code. Up to 30 remote controllers can be paired with one QK-R021.

QK-R021 can always release the paired remote controller by clearing the communication code. After this releasing process, all of the remote controllers will lose communication with the paired QK-R021 until a new learning process is performed again.

### 4.1 Clear communication code

Power up the module then press and hold the 'set' button for about 5 seconds. The LED will flash three times, indicating that the communication code is cleared. All transmitter codes which had been stored will be cleared and all paired remote controllers are released.

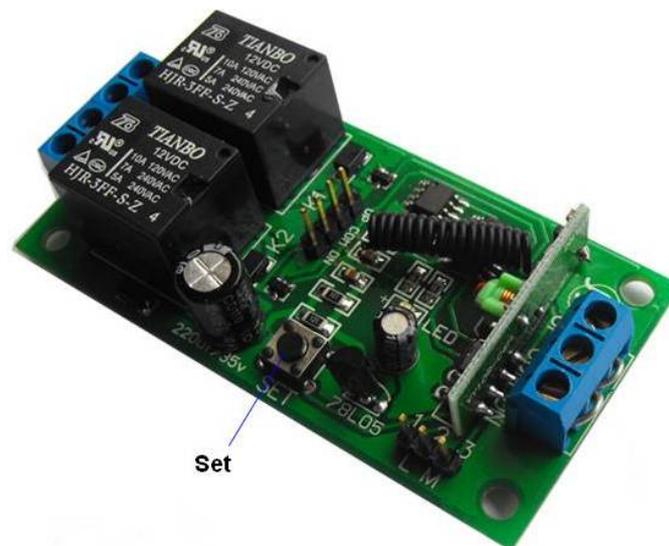


Figure 3 Release and learning code

### 4.2 Learn communication code

1 - press the 'set' button on QK-R021 and the LED light will turn on. Then press the 'up' button on the remote controller and the LED will quickly flash for a few seconds. Once the LED stays on, the transmitter code has been stored in QK-R021 and the 'up' button has been paired with QK-R021.

2 - repeat step1 to pair the 'down' button with QK-R021

3 - repeat step1 to pair the 'stop' button with QK-R021

4 - press the 'stop' button again, the LED will flash and then turn off

By now, QK-R021 will be ready for control by the remote controller.

## 5 Remote controller types

Two remote controller types are available for QK-R021, namely wall hung and portable. Please see the picture below for details:

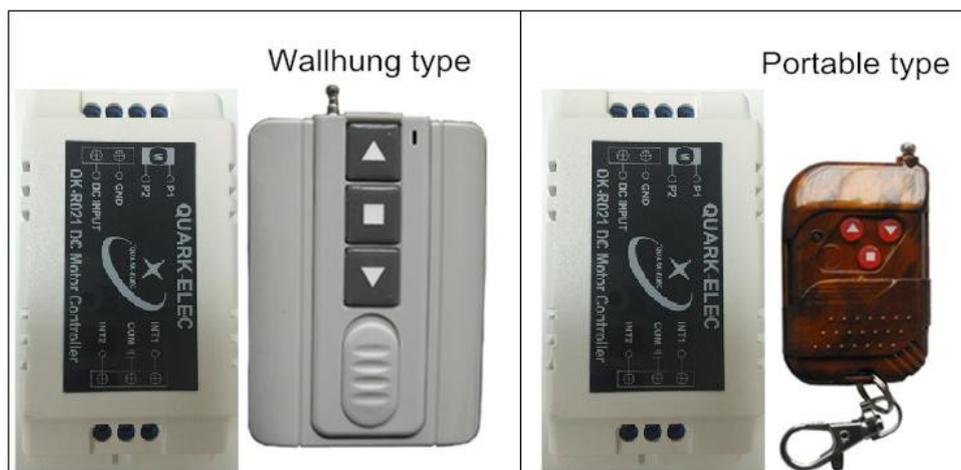


Figure 4 Remote controller types

## 6 Operating specifications

Item	Specification
Frequency bands	Quad-band: 433MHz
433 Mhz modulation mode	ASK (AM)
Typical transmitting range	35 metres (indoor), 200 metres (open air)
Operating temperature	-25°C to +80°C
Storage temperature	-40°C to +85°C
DC supply	12.0V (+/-10%) or 24.0V (+/-5%)
Average supply current (typical quiescent)	10mA
Rated current on relay	10A12VDC or 10A 24VDC
Rated voltage on relay	12 to 24VDC
Power rate on relay	≤80W
Remote controller battery voltage	DC12V
Remote controller working current	12mA

For more technical information and enquiries please go to the Quark-elec forum at:



<http://quark-elec.com/forum/>

For sales and purchasing information, please email us at: [info@quark-elec.com](mailto:info@quark-elec.com)



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