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- › [QIACHIP](#) /
- › [QIACHIP KR2401F Mini Wireless Remote Control Switch User Manual](#)

QIACHIP KR2401F_KT05

QIACHIP KR2401F Mini Wireless Remote Control Switch User Manual

Model: KR2401F_KT05

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the QIACHIP Mini Wireless Remote Control Switch. This device is designed to provide wireless control for various DC applications, including LED lights, car batteries, and door locks, operating within a voltage range of DC 6V to 60V.



Figure 1: QIACHIP Mini Wireless Remote Control Switch (1 Receiver + 1 Transmitter)

2. PRODUCT OVERVIEW

Key Features:

- **Wide Voltage Range:** Input voltage DC 5V-60V, supporting various DC applications.

- **High Current Capacity:** Maximum relay contact current of 20 Amps.
- **RF Frequency:** Operates on 433 MHz for reliable wireless communication.
- **Extended Transmission Distance:** Approximately 50-100m in open spaces. The antenna can be extended for improved reception.
- **Multiple Operating Modes:** Supports Momentary, Toggle, Latched, and Delay modes.
- **Remote Control Compatibility:** Supports EV1527 learning code remote controllers, allowing pairing with up to 20 remotes.
- **Compact Design:** PCB size of 47 x 26 x 18 mm (L, W, H).
- **Versatile Applications:** Suitable for car battery power control, garage doors, electronic doors, appliances, motorcycle alarms, car sunroofs, and heating systems.

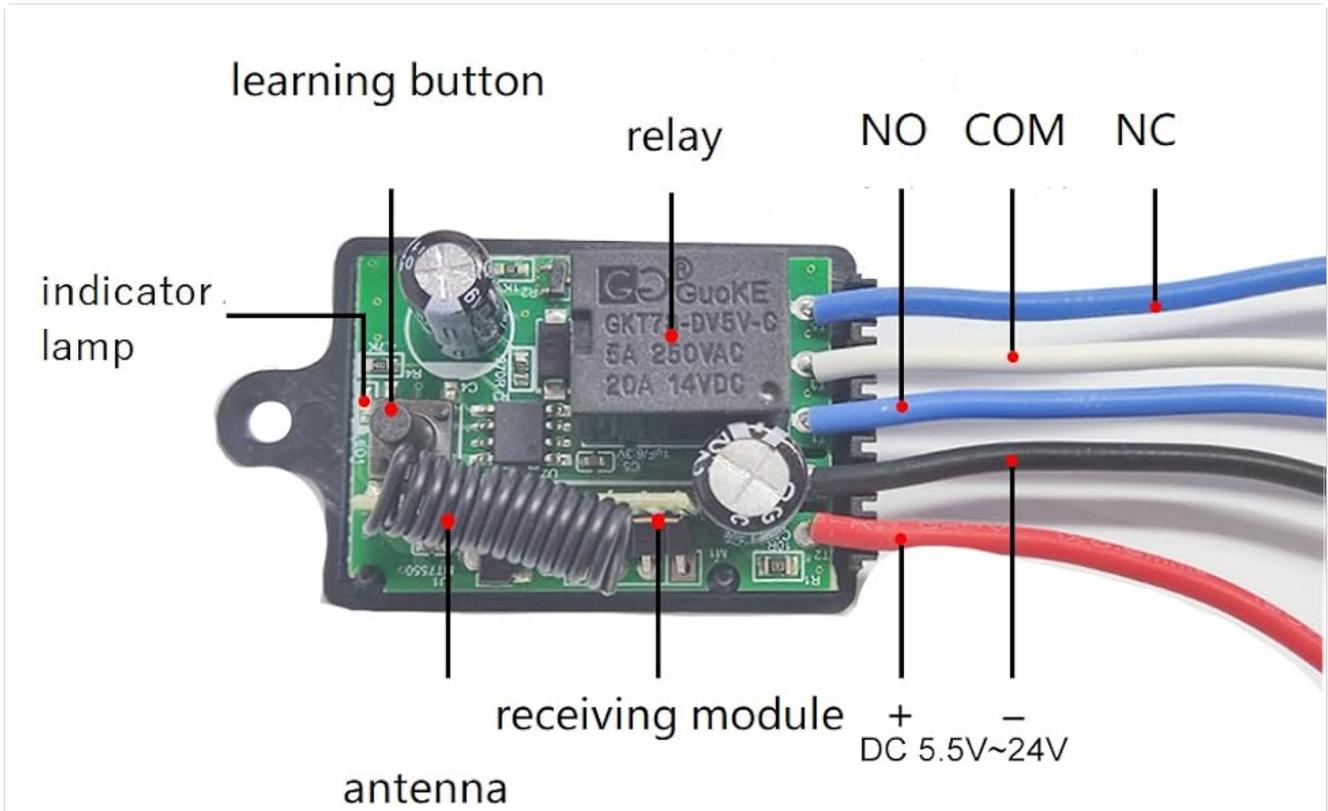


Figure 2: Product application examples for lighting control.

NEW VERSION

Exposed antenna for longer reception distance

Wider voltage, from 5.5~24V to 5V~60V.

This version is now available and on sale

Figure 3: Enhanced features of the remote switch, including an exposed antenna for better reception and a wider voltage range.

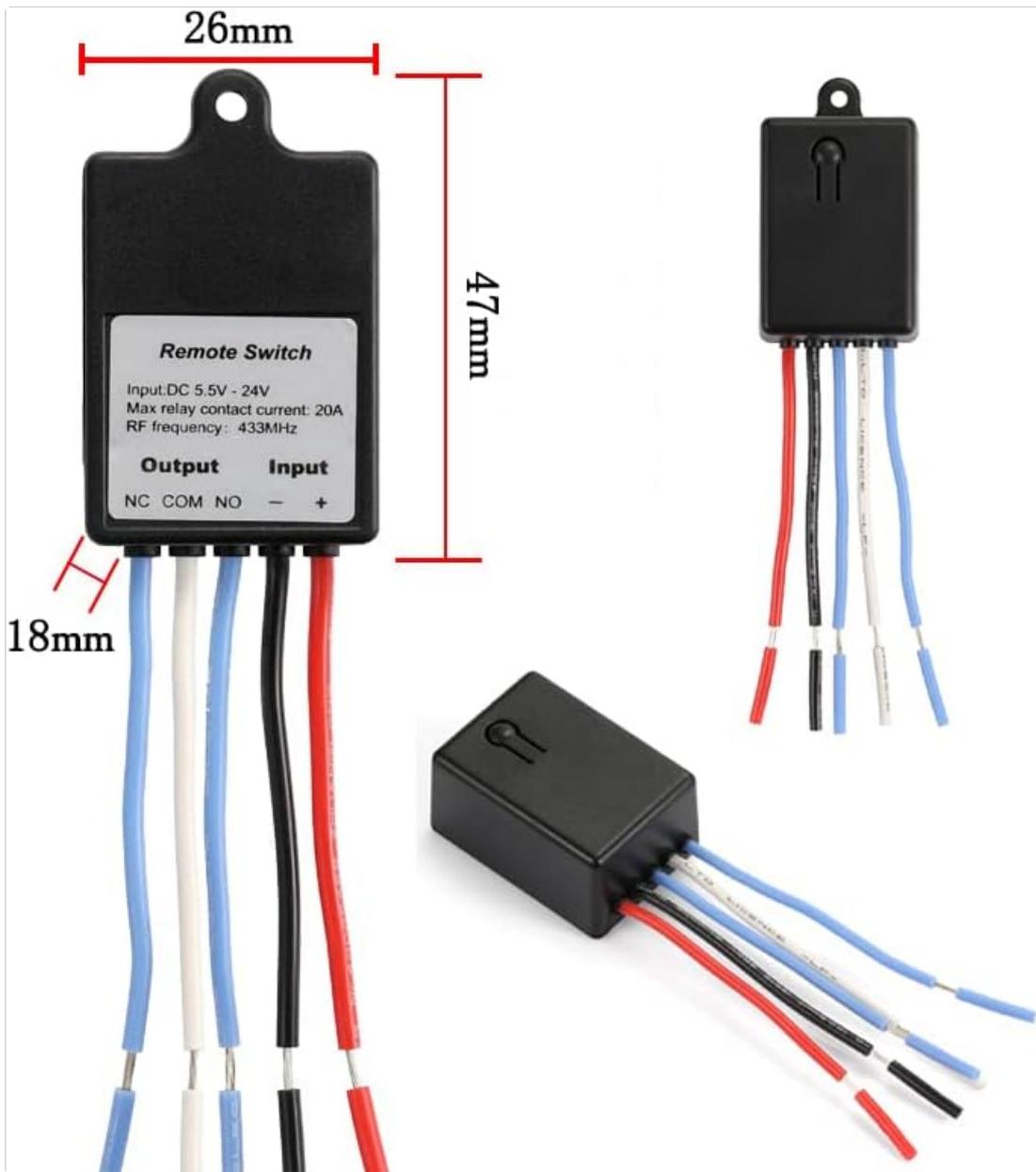


Figure 4: Physical dimensions of the remote control switch.

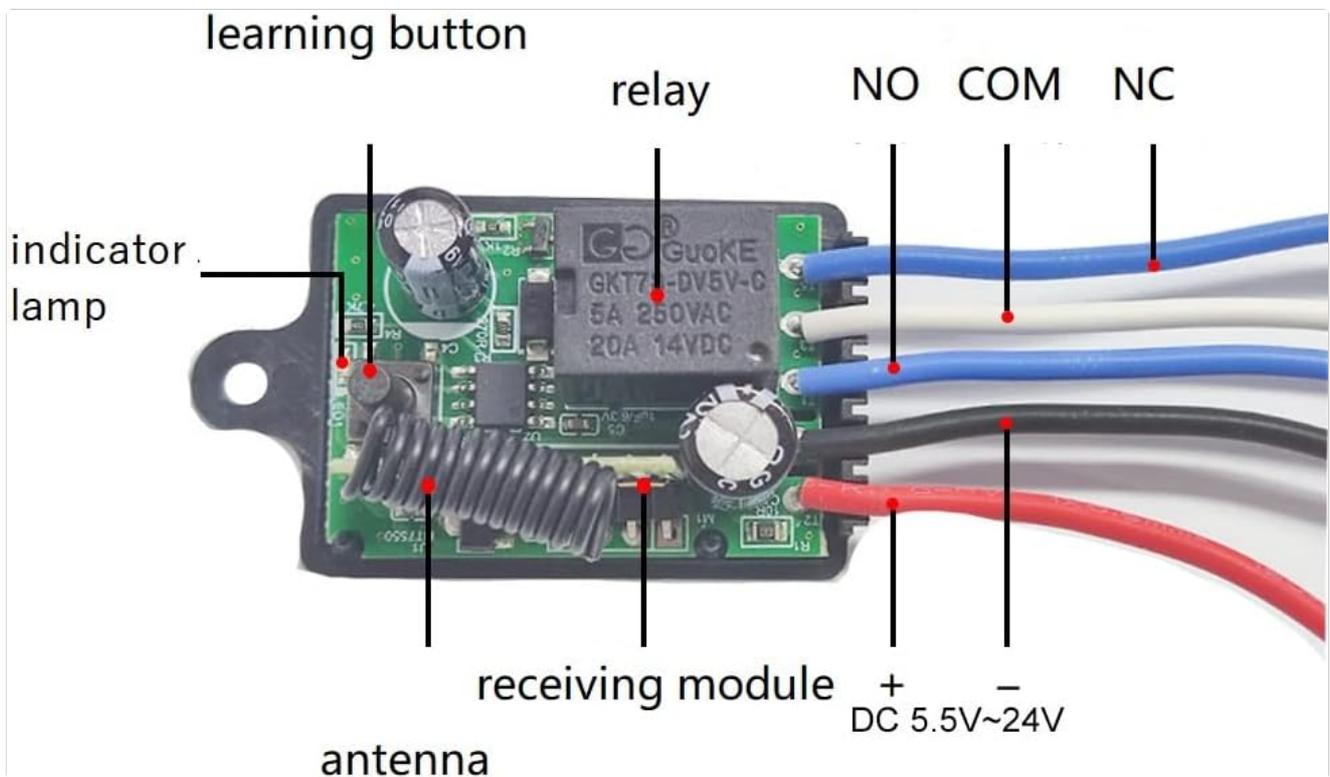


Figure 5: Internal components and terminal labels of the remote switch.

3. SPECIFICATIONS

Specification	Value
Operation Mode	ON-OFF
Current Rating	20 Amps
Operating Voltage	DC 5V-60V
Contact Type	Normally Open (NO), Normally Closed (NC), Common (COM)
Connector Type	Wireless
Terminal	Solder
Item Dimensions (L x W x H)	1.85 x 1.02 x 0.71 inches (47 x 26 x 18 mm)
Circuit Type	1-way
Contact Material	Plastic
International Protection Rating	IP54
Number of Positions	2
Control Method	Remote
Connectivity Protocol	433 MHz
Wattage	480 watts
Item Weight	1.76 ounces

Batteries (Transmitter)	1 CR2032 battery required (included)
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4. INSTALLATION AND WIRING

The QIACHIP remote control switch features three output terminals: **NC (Normally Closed)**, **COM (Common)**, and **NO (Normally Open)**. These terminals function like a Single-Pole Double-Throw (SPDT) switch. The input terminals are labeled + and - for DC power connection.

Wiring Principles:

- **COM:** This is the common terminal where the power source or load is typically connected.
- **NC:** Normally Closed. This terminal is connected to COM by default when the relay is inactive.
- **NO:** Normally Open. This terminal is disconnected from COM by default when the relay is inactive. It connects to COM when the relay is activated.
- **Input Power (+ and -):** Connect your DC power supply (5V-60V) to these terminals to power the receiver module.

Typical Wiring Diagrams:



Figure 6: Wiring for a DC load (e.g., LED light). The load is connected to NO and COM, and the receiver is powered by the DC source.

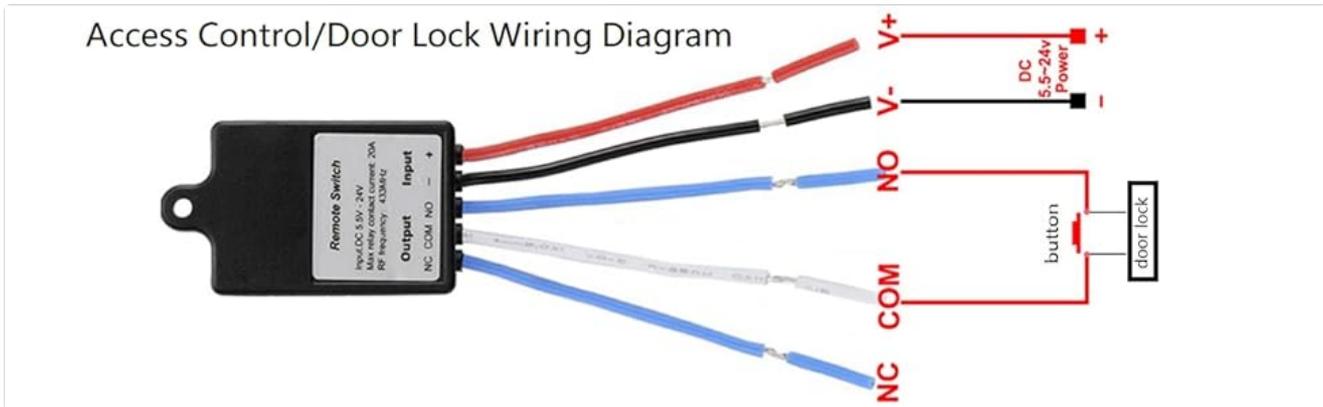


Figure 7: Wiring for an access control or door lock system. The lock is connected to NO and COM, and the receiver is powered by the DC source.

External Power Supply Load Wiring Diagram

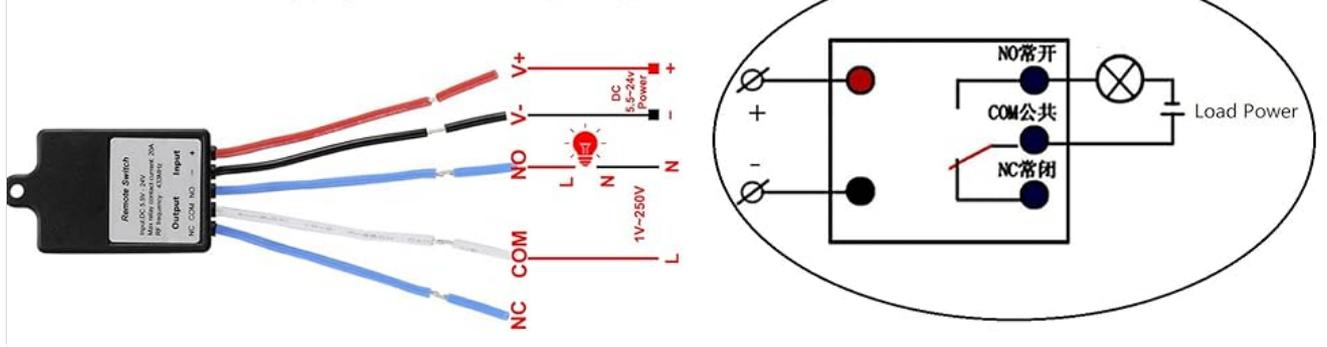


Figure 8: Wiring for an external power supply load. The remote switch controls the load's circuit via NO and COM, while the load has its own power source.

Important: Always ensure the power supply voltage matches the requirements of your load and the remote switch. Incorrect wiring can damage the device or connected components.

5. OPERATING MODES AND PAIRING INSTRUCTIONS

The QIACHIP remote control switch supports four operating modes: Momentary, Toggle, Latched, and Delay. Each mode offers different control behaviors. To change modes, you must first perform a reset. After the reset, all previously paired remote controls are temporarily deactivated.

Video: Wiring and Pairing Demonstration

Video 1: This video demonstrates the wiring process and how to pair the remote control switch in different operating modes (Momentary, Toggle, Latched, and Delay Off).

5.1. Momentary Mode

In Momentary mode, the output is active only while the remote button is pressed. Releasing the button deactivates the output.

- **Pairing:** Press the learning button on the receiver **once**. The indicator light will turn on. Then, press any button on your remote control. The indicator light will flash and turn off, indicating successful pairing.



Figure 9: Momentary Mode operation.

5.2. Toggle Mode

In Toggle mode, pressing the remote button once activates the output, and pressing it again deactivates the output.

- **Pairing:** Press the learning button on the receiver **twice**. The indicator light will turn on. Then, press any button on your remote control. The indicator light will flash and turn off, indicating successful pairing.



Figure 10: Toggle Mode operation.

5.3. Latched Mode

In Latched mode, one remote button activates the output, and another remote button deactivates it. This mode requires a multi-button remote.

- **Pairing:** Press the learning button on the receiver **three times**. The indicator light will turn on. Then, press the first button (e.g., 'A') on your remote, followed by the second button (e.g., 'B'). The indicator light will flash and turn off, indicating successful pairing.



Figure 11: Latched Mode operation.

5.4. Delay Off Mode

In Delay Off mode, the output activates when the remote button is pressed and remains active for a set duration (e.g., 5, 10, 15, or 20 seconds) before automatically deactivating.

- **Pairing for 5-second delay:** Press the learning button on the receiver **four times**. The indicator light will turn on. Then, press any button on your remote control. The indicator light will flash and turn off, indicating successful pairing.
- **Pairing for 10-second delay:** Press the learning button on the receiver **five times**.
- **Pairing for 15-second delay:** Press the learning button on the receiver **six times**.
- **Pairing for 20-second delay:** Press the learning button on the receiver **seven times**.



Figure 12: Delay Off Mode operation.

5.5. Resetting All Paired Remotes

To clear all previously paired remote controls and reset the receiver to its default state, follow these steps:

- Press the learning button on the receiver **eight times**. The indicator light will flash rapidly and then turn off. This indicates that all stored remote control data has been erased.

6. MAINTENANCE

The QIACHIP Mini Wireless Remote Control Switch is designed for durability and requires minimal maintenance. Keep the device clean and free from dust and moisture. Ensure all wiring connections are secure to prevent intermittent operation. Replace the CR2032 battery in the transmitter when its range decreases or it stops responding.

7. TROUBLESHOOTING

- **Device not responding to remote:**

- Check if the remote control battery is depleted. Replace if necessary.
- Ensure the receiver is powered correctly (DC 5V-60V).
- Verify that the remote is paired correctly to the receiver in the desired mode. If unsure, perform a reset and repair.
- Check for strong RF interference in the environment.

- **Reduced remote control range:**

- Replace the remote control battery.
- Ensure the receiver's antenna is not obstructed and is extended if possible.
- Minimize physical obstructions (walls, metal objects) between the remote and receiver.

- **Output not activating/deactivating correctly:**

- Verify wiring connections to NC, COM, and NO terminals are correct for your application.
- Ensure the load's power requirements do not exceed the relay's maximum contact current (20A) or wattage (480W).
- Confirm the operating mode is set as intended (Momentary, Toggle, Latched, Delay).

- **Indicator light not functioning:**

- Check the power supply to the receiver.
- If the device is otherwise functional, the indicator light may be faulty, but this does not affect core operation.

8. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the product packaging or contact QIACHIP customer service through the retailer where the product was purchased. Keep your purchase receipt for warranty claims.