

DieseRC 1CH-TY / TY1201W

DieseRC Tuya Smart WiFi 1-Channel Relay Module

MODEL: 1CH-TY / TY1201W

User Manual

1. Introduction

Thank you for choosing the DieseRC Tuya Smart WiFi 1-Channel Relay Module. This device combines WiFi and RF (Radio Frequency) capabilities, allowing you to control various electrical appliances remotely via the Tuya or Smart Life mobile applications, RF remote controls, or voice commands through smart assistants like Amazon Alexa and Google Home. This manual provides detailed instructions for setup, operation, and troubleshooting to ensure optimal performance and safety.

2. Safety Information

Please read and understand all safety instructions before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- Ensure the power supply is disconnected before performing any wiring or maintenance.
- This device should be installed by a qualified electrician or a person with sufficient knowledge of electrical systems.
- Do not expose the device to moisture, extreme temperatures, or corrosive environments.
- Do not attempt to disassemble or modify the device.
- Use only the specified power supply voltages (DC 5V, DC 7-48V, or AC 7-32V).
- Keep out of reach of children.

3. Product Overview

The DieseRC Smart WiFi Relay Module is a versatile device designed for remote control applications. It features a single channel relay with both normally open (NO) and normally closed (NC) contacts, providing flexibility for various wiring configurations.



Figure 3.1: DieseRC Smart WiFi 1-Channel Relay Module and included RF remote controls.



Figure 3.2: Product detail showing the relay indicator, WiFi indicator, RF indicator, input terminals (NO, COM, NC, VIN, GND), pairing button, and antenna.

4. Specifications

Feature	Specification
Brand	DieseRC
Model Number	TY1201W (1CH-TY)
Dimensions (L x W x H)	6.5 x 5 x 2.4 cm (2.6 x 2.0 x 1.0 inches)
Weight	130 grams
Input Voltage (DC)	DC 5V (USB Type-C) or DC 7V ~ 48V

Feature	Specification
Input Voltage (AC)	AC 7V ~ 32V
Max Load Current	10 A
Contact Material	Copper
Contact Type	Normally Open (NO), Common (COM), Normally Closed (NC)
Wireless Connectivity	WiFi 2.4 GHz, RF 433 MHz
Operating Mode	Manual, Automatic (Toggle/Inching)
App Compatibility	Tuya Smart, Smart Life
Voice Assistant Compatibility	Amazon Alexa, Google Home
Included Batteries	1 CR2032 (for RF remotes)
Certifications	CE

5. Setup

5.1 Power Supply and Wiring

The module supports multiple power input options and provides dry contact output. Choose the appropriate wiring based on your application.



Figure 5.1: Wiring diagrams illustrating connections for USB Type-C (5V), DC 7-48V, AC 7-32V, and passive output (dry contact) for various applications like lighting and garage doors.

- **DC 5V Input:** Connect a 5V DC power source via the USB Type-C port.
- **DC 7-48V Input:** Connect a DC power source within the 7V to 48V range to the VIN and GND terminals.
- **AC 7-32V Input:** Connect an AC power source within the 7V to 32V range to the VIN and GND terminals.
- **Relay Output:** The module provides a dry contact output (NO, COM, NC). Connect your device to be controlled to these terminals. For example, for a garage door opener, connect the module's NO and COM terminals to the garage door's control input.

5.2 RF Remote Control Pairing

The module can store up to 20 RF 433MHz remote controls.

1. **Clear Existing Codes (Optional):** Press the pairing button on the module 8 times quickly. The RF indicator will flash, then turn off, indicating all stored remotes are cleared.
2. **Pairing (Toggle Mode):** Press the pairing button on the module once. The RF indicator will light up. Then, press the button on your RF remote control that you wish to pair. The RF indicator will flash a few times and turn off, indicating successful

pairing in toggle mode (press once to turn on, press again to turn off).

3. **Pairing (Inching/Momentary Mode):** Press the pairing button on the module twice. The RF indicator will light up. Then, press the button on your RF remote control. The RF indicator will flash a few times and turn off, indicating successful pairing in inching mode (press and hold to turn on, release to turn off, or a short pulse). The inching time can usually be set in the app.

5.3 App Connection (Tuya Smart / Smart Life)

To control the module via your smartphone, you need to connect it to the Tuya Smart or Smart Life app.

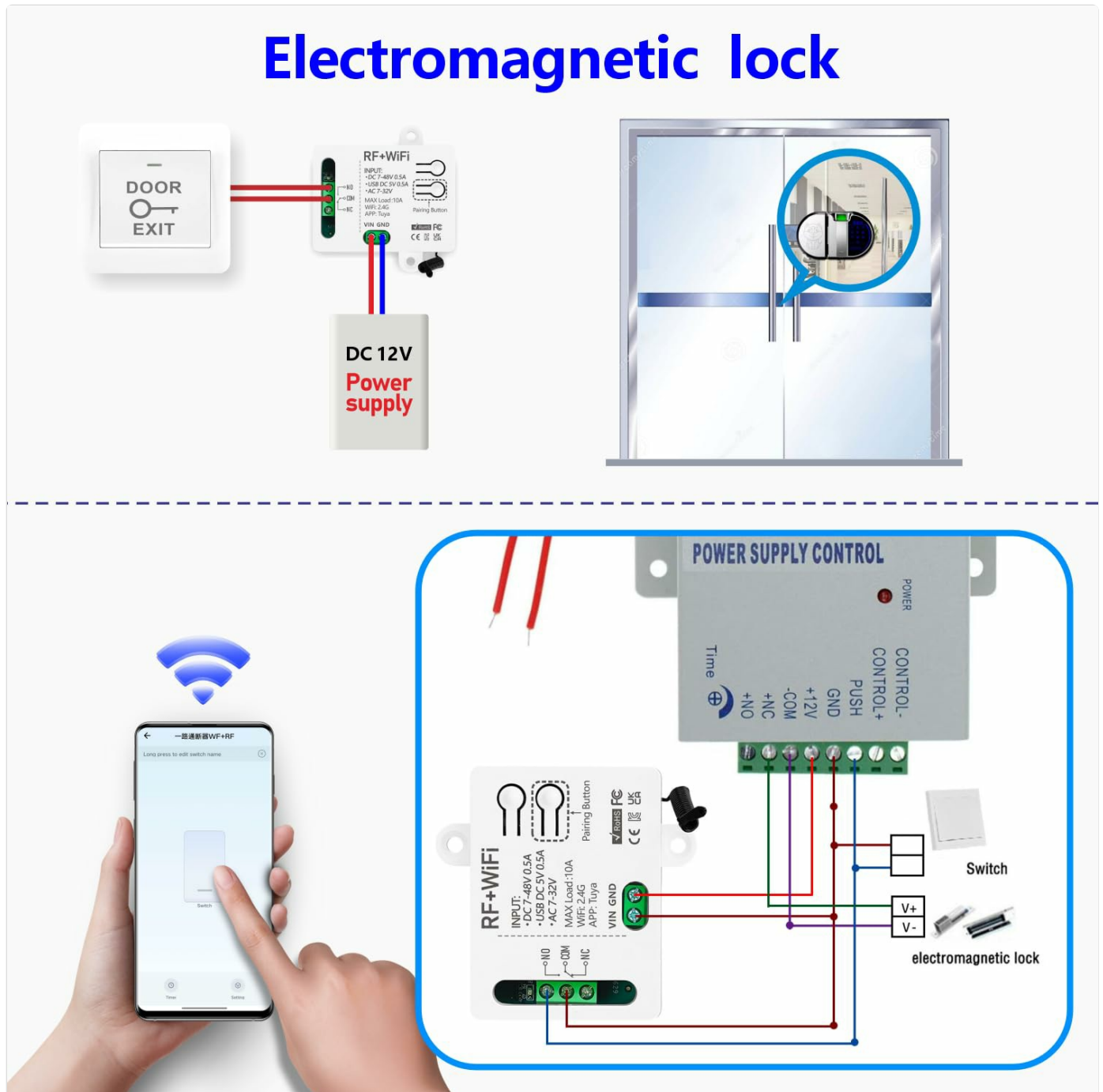


Figure 5.2: Scan the QR codes to download the Tuya Smart or Smart Life app from your device's app store.

- Download the **Tuya Smart** app (smartapp.tuya.com/tuyasmart) or **Smart Life** app (smartapp.smart321.com/smartlife) from your smartphone's app store (Android or iOS).
- Register or log in to your account.
- Ensure your smartphone is connected to a 2.4 GHz WiFi network.
- Power on the DieseRC module. The WiFi indicator should be blinking rapidly (EZ mode) or slowly (AP mode). If not, press

and hold the pairing button for 5-10 seconds until it blinks rapidly.

- In the app, tap the "+" icon in the top right corner to add a device.
- Select "Electrical" -> "Switch (Wi-Fi)" or "Relay Module".
- Follow the on-screen instructions to connect the module to your WiFi network. This usually involves confirming the indicator is blinking and entering your WiFi password.
- Once connected, you can rename the device and access its settings.

6. Operating Instructions

6.1 App Control (Tuya Smart / Smart Life)

The app provides comprehensive control over the relay module from anywhere with an internet connection.

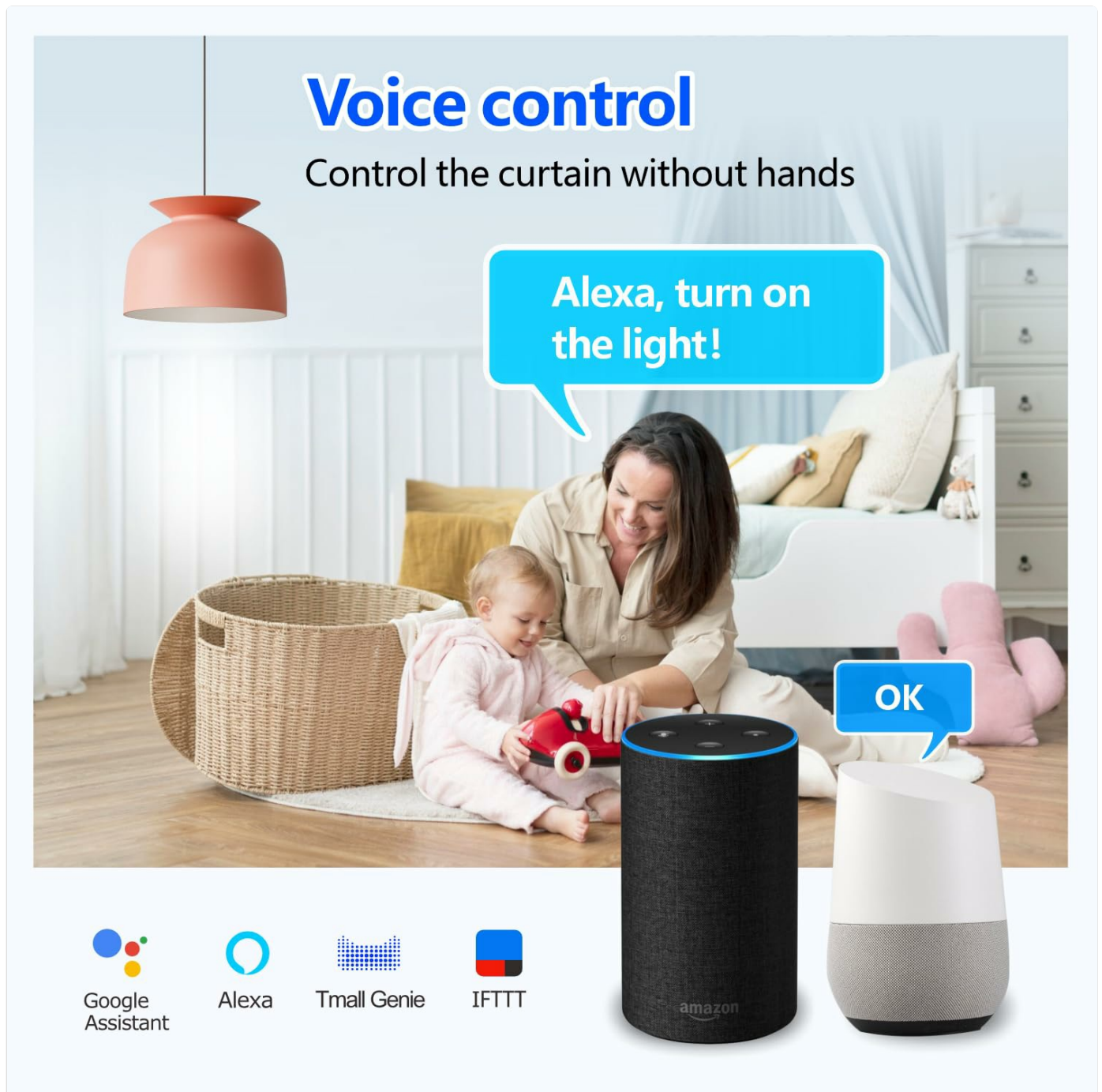


Figure 6.1: App interface for controlling the module and integration with voice assistants.

- **On/Off Control:** Tap the switch icon in the app to turn the connected device on or off.

- **Timing Function:** Set one-time timers for the device to turn on or off at specific times.
- **Schedule Function:** Create recurring schedules for the device to operate automatically on specific days and times.
- **Countdown Function:** Set a countdown timer for the device to turn off after a specified duration.
- **Inching Mode:** Configure the relay to operate in momentary mode, where it activates for a set duration (e.g., 0.5 seconds, 2 seconds) after being triggered. This is ideal for garage door openers or pulse-triggered devices.
- **Device Sharing:** Share control of the module with family members through the app.

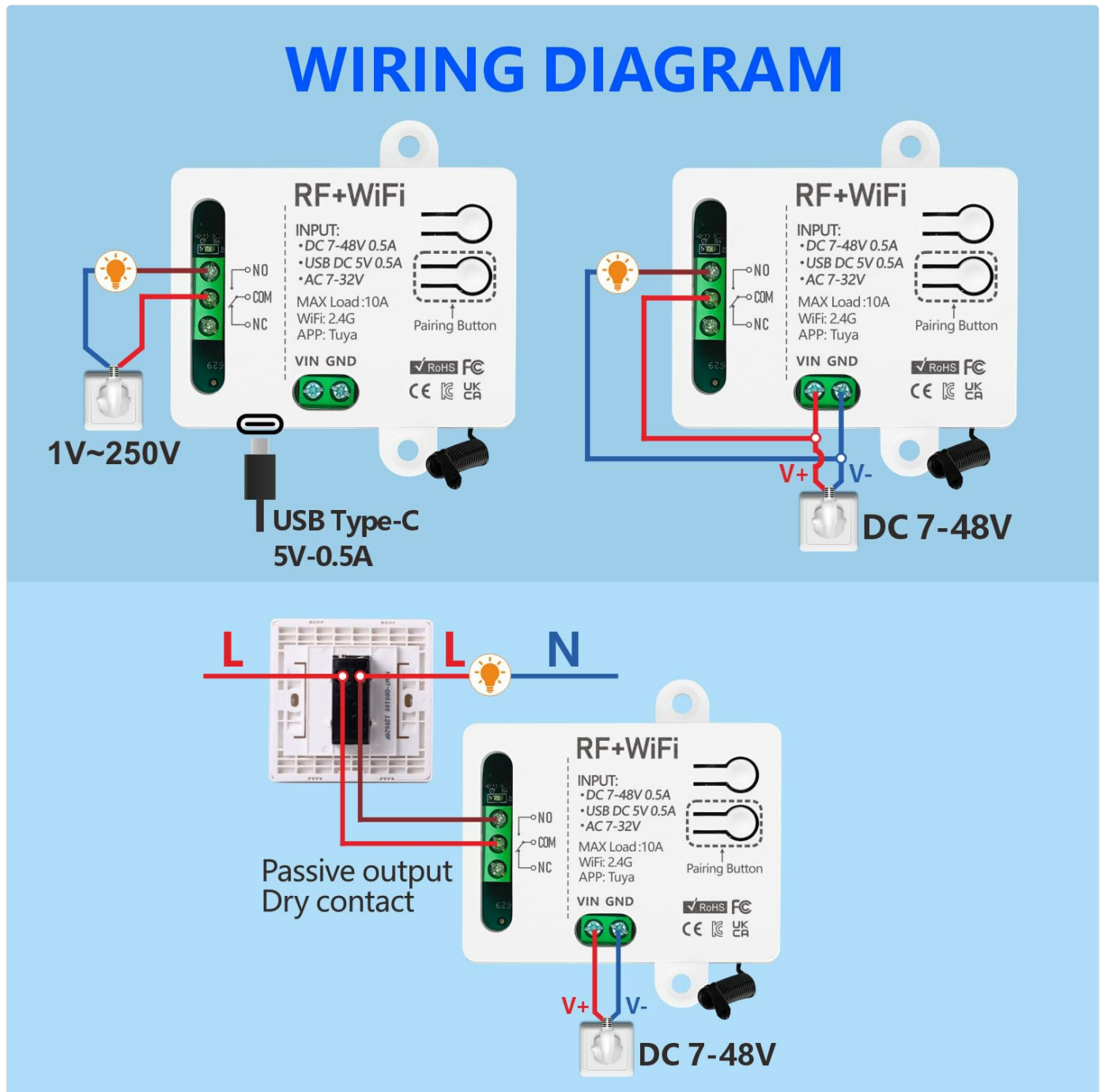


Figure 6.2: Examples of timing, scheduling, and countdown settings within the app.

6.2 Voice Control (Amazon Alexa / Google Home)

Integrate the module with Amazon Alexa or Google Home for convenient voice control.

- Ensure your DieseRC module is successfully connected to the Tuya Smart or Smart Life app.
- Open the Amazon Alexa or Google Home app.
- Enable the "Tuya Smart" or "Smart Life" skill/service.

- Link your Tuya/Smart Life account with your Alexa/Google Home account.
- Discover devices. Your DieseRC module should appear.
- You can now use voice commands such as:
 - "Alexa, turn on [Device Name]"
 - "Hey Google, turn off [Device Name]"
 - "Alexa, set [Device Name] to 50%" (if dimming is supported by connected device and configured)

6.3 RF Remote Control

Use the paired RF remote controls for direct, local control of the module without needing WiFi.

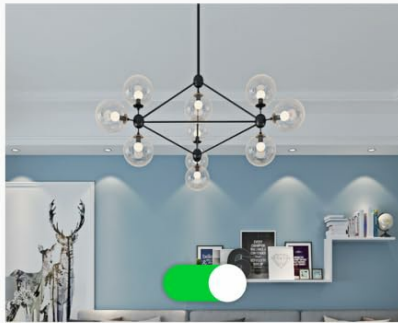
- Press the paired button on the RF remote to activate the relay.
- Depending on the pairing mode (toggle or inching), the relay will either switch on/off or provide a momentary pulse.

6.4 Common Applications

This versatile module can be used in a wide range of applications:

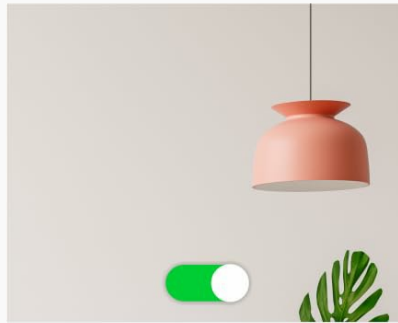
- **Garage Door Openers:** Control your garage door remotely via app, voice, or RF remote.
- **Electric Locks:** Integrate with electromagnetic locks for smart access control.
- **Lighting Control:** Turn lights on/off or schedule their operation.
- **DIY Smart Home Projects:** Convert traditional appliances into smart devices.
- **Motor Control:** Control small DC or AC motors within the specified load limits.

Timing Function



 **Timing**

16:20 on (once)



 **Schedule**

16:20 on (everyday)



 **Countdown**

00:20 Later off

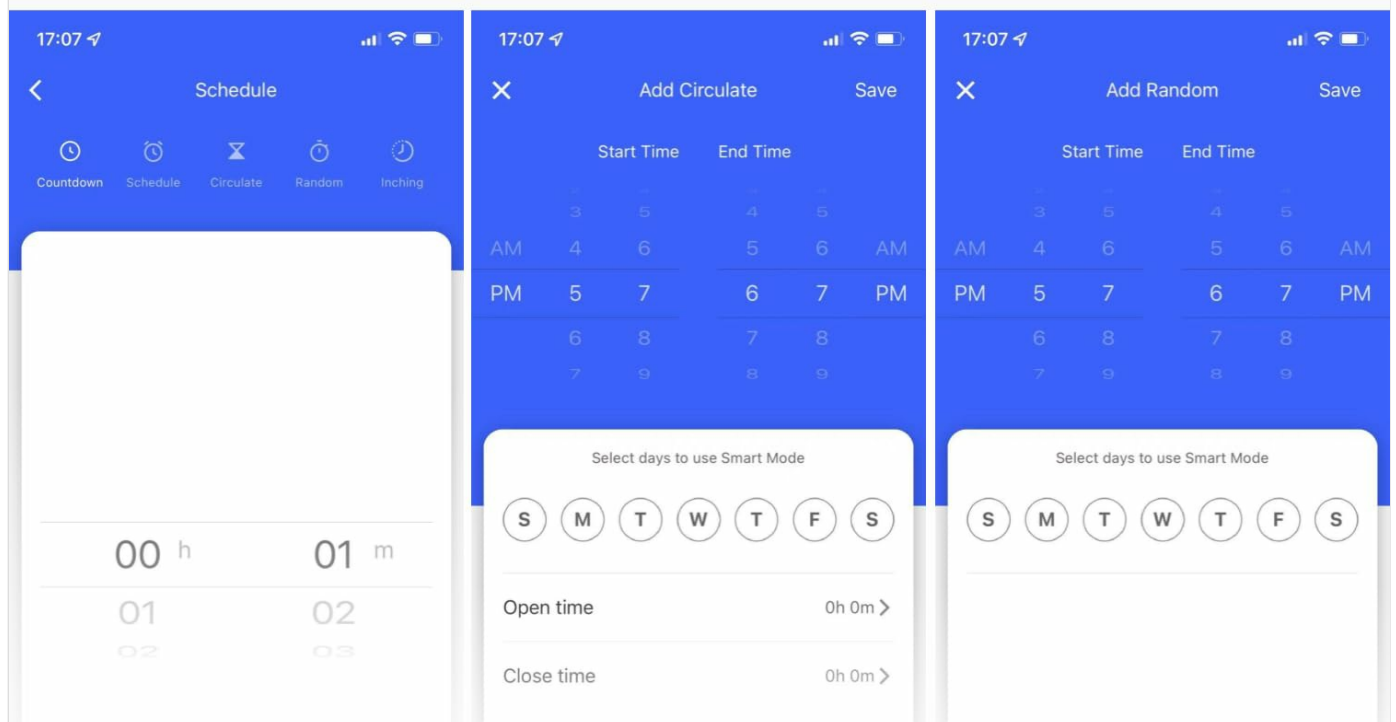


Figure 6.3: Example application: Controlling an electromagnetic lock.

7. Maintenance

To ensure the longevity and proper functioning of your DieseRC module, follow these simple maintenance guidelines:

- Keep the device clean and free from dust. Use a soft, dry cloth for cleaning.
- Avoid exposing the device to direct sunlight or excessive heat.
- Do not use harsh chemicals or abrasive cleaners.
- Regularly check wiring connections to ensure they are secure.
- If the RF remote control's range decreases, consider replacing its CR2032 battery.

8. Troubleshooting

Problem	Solution
---------	----------

Problem	Solution
Module not powering on	Check power supply connections and ensure the voltage is within the specified range (DC 5V, DC 7-48V, or AC 7-32V).
Cannot connect to WiFi	Ensure your WiFi network is 2.4 GHz. Check WiFi password. Make sure the module's WiFi indicator is blinking rapidly (EZ mode) or slowly (AP mode) for pairing. Try resetting the module by pressing the pairing button for 5-10 seconds. Ensure your phone is connected to the same 2.4 GHz network.
RF remote not working	Ensure the remote's battery (CR2032) is not depleted. Re-pair the remote control with the module following the instructions in Section 5.2. Ensure no strong interference sources are nearby.
App control unresponsive	Check your internet connection. Ensure the module's WiFi indicator is solid (connected). Restart the app. If the issue persists, try re-connecting the module to WiFi via the app.
Voice control not working	Verify that the Tuya Smart/Smart Life skill is enabled and linked in your Alexa/Google Home app. Ensure the device name in the app is recognized by the voice assistant. Try re-discovering devices in the Alexa/Google Home app.
Relay not switching	Check the wiring to the connected device (NO, COM, NC terminals). Ensure the load current does not exceed 10A. Verify the module is receiving power and commands.

9. What's in the Box

- 1 x DieseRC Smart WiFi 1-Channel Relay Module
- 2 x RF Remote Controls

10. Warranty and Support

DieseRC products are designed and manufactured to the highest quality standards. For information regarding warranty, returns, or technical support, please refer to the seller's policy on the platform where you purchased the product or visit the official DieseRC brand store on Amazon: [DieseRC Brand Store](#).

For further assistance, you may also contact DieseRC customer service directly through the contact information provided on their official website or within the Tuya Smart/Smart Life app's support section.