Dioche RTU5024

Dioche RTU5024 GSM Gate Opener User Manual

Model: RTU5024 | Brand: Dioche

Product Overview

The Dioche RTU5024 is a GSM-based remote control switch designed for various access control applications, such as gate openers, garage doors, and other remote switching needs. It operates by recognizing authorized phone numbers and performing an on/off operation upon receiving a call, without incurring call charges. This device offers secure access control and can manage up to 200 authorized users.



Image: The Dioche RTU5024 GSM Gate Opener, a compact black and blue device with an attached white antenna, designed for remote access control.

Key Features

- **Quad-Band GSM Support:** Operates on 850/900/1800/1900MHz frequencies, ensuring compatibility with global GSM networks.
- **No Call Charges:** Activates by recognizing authorized caller IDs, eliminating call costs.
- **Secure Access Control:** Identifies and ignores unauthorized callers for enhanced security.
- **SMS Command Management:** Users can be added or removed via simple SMS text commands.
- **User Capacity:** Supports up to 200 authorized phone numbers.
- **Programmable Relay Time:** The relay closing or opening time can be customized.
- **Durable Design:** Features a metal casing with IP30 level protection, suitable for industrial applications.
- **Compact and Wall-Mountable:** Small footprint with support for wall installation.

Package Contents

Upon opening the package, verify that all components are present:

- 1 x GSM Mobile Phone Access Controller (RTU5024)
- 1 x Antenna
- 2 x Terminal Blocks
- 1 x English Manual (this document)

Setup Instructions

1. SIM Card Installation

The RTU5024 requires a standard 2G SIM card for operation. Ensure the SIM card is active and has sufficient credit if required for SMS commands.

1. Locate the SIM card slot on the device. This is typically found by removing a small cover on the unit.
2. Carefully insert the standard SIM card into the slot, ensuring correct orientation.
3. Replace the SIM card cover securely.



Image: Rear view of the RTU5024 unit, indicating the location for SIM card insertion and mounting points.

2. Antenna Connection

Connect the provided antenna to the SMA antenna interface on the RTU5024. Ensure it is tightened securely to guarantee optimal signal reception.



Image: Top view of the RTU5024 device, clearly showing the SMA connector where the antenna is attached.

3. Power Supply Connection

Connect the device to a stable DC power supply within the specified range of 9-15VDC / 2A using the provided terminal block.

1. Identify the power input terminals (usually marked "Power DC5-24V" or similar) on the device.
2. Connect the positive (+) and negative (-) wires from your DC power supply to the corresponding terminals.
3. Ensure connections are secure to prevent intermittent power issues.

4. Relay Output Connection

The RTU5024 provides a dry contact relay output (NC/NO) for controlling external devices such as gate motors or door locks. Connect your device to these terminals.

1. Identify the relay output terminals (NC, NO, COM).
2. Connect your gate opener or other controlled device to the appropriate relay contacts (e.g., COM and NO for normally open operation).
3. Consult your gate opener's manual for specific wiring requirements.



Image: Bottom view of the RTU5024, highlighting the terminal blocks for power input and relay output connections.

5. Initial Configuration (SMS Commands)

The RTU5024 is configured primarily through SMS commands sent from an authorized phone number. Refer to the detailed SMS command list in the full technical manual for advanced settings. Basic setup involves adding authorized numbers.

To add an authorized user: Send an SMS command from the administrator's phone to the RTU5024's SIM card number. The format typically involves a password followed by the command and the phone number to be added.

Example (*Note: Actual command format may vary, refer to the included physical manual for precise syntax*):

> #PASSWORD#ADD#PHONE_NUMBER#

Replace PASSWORD with the device's default or set password, andPHONE_NUMBER with the number to authorize.



Image: A conceptual diagram illustrating a mobile phone sending signals to the RTU5024, representing the SMS command and call-based control functionality.

Operating Instructions

Once the RTU5024 is set up and authorized numbers are configured, operating the connected device is straightforward.

Remote Control via Free Call

To activate the relay (e.g., open a gate), simply dial the phone number of the SIM card inserted in the RTU5024 from any authorized phone number. The device will recognize the authorized caller ID, reject the call (so no call charges are incurred), and then trigger the relay.

- Ensure your phone number is authorized in the RTU5024's memory.
- Dial the number of the SIM card in the RTU5024.
- The device will ring once and then disconnect. The relay will activate.
- The relay's activation time (how long it stays open or closed) is programmable via SMS commands.

850/900/1800/1900MHz quad band,
can be used in the global GSM network.

No call charges.
The GSM relay switch answers the call from the authorized number and then performs an on/off operation on the first "ringing".



Image: The RTU5024 device positioned near a garage, illustrating its function in remotely opening or closing the garage door via a mobile phone call.

Maintenance

The Dioche RTU5024 is designed for low maintenance. However, periodic checks can ensure its longevity and reliable operation.

- **Cleanliness:** Keep the device free from dust and debris. Use a soft, dry cloth for cleaning. Do not use liquid cleaners.
- **Connections:** Periodically check all wiring connections (power, relay, antenna) to ensure they are secure and free from corrosion.
- **SIM Card:** Ensure the SIM card remains active and has sufficient credit if it's a pay-as-you-go plan.
- **Environment:** Ensure the device is installed in an environment within its specified temperature and humidity ranges to prevent damage.

Troubleshooting

If you encounter issues with your RTU5024, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not respond to calls.	SIM card not inserted correctly or inactive. Phone number not authorized. Poor GSM signal. Incorrect SMS command format for authorization. Device not powered on.	Check SIM card insertion and ensure it's active and has 2G network access. Verify the calling number is correctly added to the authorized list via SMS. Relocate the device or antenna for better signal reception. Double-check the SMS command syntax with the full manual. Ensure power supply is connected and functional.
Relay does not activate or activates incorrectly.	Incorrect relay wiring. Relay activation time not set correctly. Connected device malfunction.	Verify wiring to NC/NO/COM terminals. Adjust relay activation time via SMS command. Test the connected device independently.
Difficulty with SMS programming.	Incorrect password or command syntax. SIM card issues (e.g., no SMS capability).	Confirm the correct password and exact SMS command format. Test the SIM card in a mobile phone to ensure it can send/receive SMS.
Device stops working after some time.	Power supply instability. SIM card credit depletion or expiry. Hardware malfunction.	Check power supply for consistent voltage. Recharge or replace SIM card. If issues persist, contact support.

Specifications

Parameter	Value
Model	RTU5024
GSM Frequency	850/900/1800/1900MHz (Quad-Band)
Digital Output	NC / NO dry contact, 3A / 240VAC
DC Power Supply	9-15VDC / 2A
Power Consumption	12V, maximum input: 50mA / average 25mA
SIM Card Type	Standard SIM card (2G compatible)
Antenna Interface	50Ω SMA
Temperature Range	-20°C to +60°C (-4°F to +140°F)

Parameter	Value
Humidity Range	Relative humidity 90% (non-condensing)
Casing Material	Metal
IP Rating	IP30
Product Dimensions	Approximately 3.74 x 1.18 x 88 inches (9.5 x 3 x 223.5 cm)
Item Weight	Approximately 0.49 Pounds (7.8 ounces)

Warranty and Support

Information regarding the specific warranty period and detailed support contacts for the Dioche RTU5024 GSM Gate Opener was not provided in the product data. For warranty claims, technical assistance, or further inquiries, please refer to the contact information provided with your purchase documentation or visit the official Dioche website.
It is recommended to retain your proof of purchase for any warranty-related matters.

Additional Applications

The versatility of the RTU5024 extends beyond just gate and garage door control. Its remote switching capabilities make it suitable for a wide range of applications:

- Remote control of pumps, motors, or other electrical appliances.
- Access control for remote sites, such as warehouses, server rooms, or agricultural facilities.
- Activation of lighting systems or heating/cooling units in remote locations.
- Integration into security systems for remote arming/disarming.



Image: The RTU5024 shown in diverse application environments, including aquaculture, greenhouses, data centers, and manufacturing facilities, highlighting its broad utility.

© 2025 Dioche. All rights reserved. This manual is for informational purposes only.