



GSM Gate, Barrier, Shutter, Garage Door and Door opener

Open gate or garage door with a FREE call from your mobile phone!

Remote switching machines with a FREE call from your mobile phone!

# GSM Gate Opener Remote Relay Switch



## User Manual

V2019 Rain proof version

RTU5024 WAC / WDC

Date Issued: 2019-03-08

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This handbook has been designed as a guide to the installation and operation of RTU5024 Gate Opener. Statements contained in the handbook are general guidelines only and in no way are designed to supersede the instructions contained with other products. We recommend that the advice of a registered electrician be sought before any Installation work commences.

# Caution!

**Please read this user manual carefully before install/operate the Gate**

**Opener, basic electronic acknowledges required.**

**Only AC Version is powered with AC100-240V.**

# GSM Gate Opener, Remote Relay Switch

## 1. Product details

The RTU5024 (WAC) is the Rain proof cover version RTU5024 and it is still a powerful remote relay controller, it is a very simple device which can be used for authorized door access, controlling gates, switching of remote equipments, car parking systems. Actually the RTU5024 can be used in places which require to turn ON/OFF your system, machines, equipments remotely with a FREE call from your mobile phone.

Just dial from Authorized User number at the specified time then the Barrier and doors are opened, or the machine are turn on or off by the RTU5024. There are no call costs, the RTU5024 rejects the call from authorized number then carries out the turn ON/OFF action.

Moreover, the user can be authorized at the specified time to operate it, after timeout, will automatically change to unauthorized type.

### 1.1 Features:

#### Advantages

- Quad-band, can work in the worldwide GSM Networks;
- No call charges. the GSM Switch rejects the calling from authorized number then turn ON/OFF on the first 'ring';
- Multiple applications. (gates, bollards, barriers, garage doors, shutters and access doors or machines);
- Secure - Using caller-ID for identification, unknown callers are ignored;
- Can be operated from anywhere, no distance limit;
- Add or remove users by SMS Text command;
- No need to provide a remote control or keys for different users;
- Up to 1000 authorized phone numbers can be configured at the specified time;
- One output with relay rating 3A/240VAC for connecting the switch of the door or machines;
- The relay action will return a SMS confirmation to the owner or authorized call-in number, this function is editable by user;
- The relay close or open time is programmable;
- Multiple applications. (gates, bollards, barriers, garage doors, shutters and access doors or machines);
- Rechargeable battery for power failure alert
- One alarm input port on board

#### Setting

- SMS command;
- PC software with USB programmer;
- Operate from anywhere anytime, no distance limitation;

### 1.2 Specifications

GSM Frequency	Quad-band 850/900/1800/1900MHz
Digital Output	NC/NO dry contact, 3A/240VAC
Power Input	AC100-240V or AC/DC9-40V
Power consumption	Average 0.12W
SIM Card	Supporting 3V SIM Card
Antenna	50Ω SMA Antenna interface
Temperature range	-20~+60 °C
Humidity range	Relative humidity 90%
Exterior dimension	W112mm*D106mm*H45mm
Net Weight	180 g

### 1.3 Dimensions



**Please must check your version before power on  
RTU5024 ( AC ) version is powered with AC100-240V  
RTU5024 ( DC ) version is powered with AC/DC9-40V**

In order to indicate the generality of the standard description, we still refer to RTU5024 in the following description

## 1.4. Standard Packing List

- ✓ Gate Opener Controller,
- ✓ Antenna,
- ✓ User Manual,
- ✓ Packing size: 17\*9.5\*4 cm,
- ✓ Gross Weight: 0.30kg

## 1.5 Applications:

- Remote open/close swing/sliding gates, doors, shutters, garage doors,locks with a free call!
- **Residential:** Door,gate,garage access control, electronic fan,microwave,air-conditioner control.
- **Industry:** Remote switch equipment, for example: street lights, solar power, motor, inverter, PLC, pumps, fans, etc.
- **Agriculture:** Remote control pumps, etc.
- **Business:** Remote control electronic boxes,bright billboards,LED signs,etc.

## 2.Safety Directions



### Check the power input voltage before installation

For AC Version, that is powered on with AC100-240V, but for DC Version,that is only can be power input with AC/DC12-24V, Improper voltage input will permanently damage the device.



### Interference

All wireless equipment might interfere network signals of Gate Opener and influence its performance.



### Avoid Use at Gas Station

Do not use Gate Opener at a gas station. Power off Gate Opener when it near fuels or chemicals.



### Power it off near Blasting Places

Please follow relevant restrictive regulations. Avoid using the device in blasting places.



### Reasonable Use

Please install the product at suitable places as described in the product documentation. Avoid signal shielded by covering the mainframe.



### Use Qualified Maintenance Service

Maintenance can be carried out only by qualified maintainer.

## Please read this entire manual before installation **!Note!**

- For AC Version, Take **EXTREME** care with the high voltage AC100-240V installation;
- In case of fault, Must pull the mains adapter out from 220V network immediately;
- If device is connected into electricity, you couldn't take off its cover;
- Always ensure that the power is switched OFF before inserting or removing a SIM card from its holder or damage will be caused to the module.





## 5. Installation and Settings

### Notice:

1. The default Password is **1234**.
2. You can program the RTU5024 with SMS commands using your phone. It is safe to do so because in addition to the fact that other people may not know the number of the SIM inserted in it, we also use a Password that makes it impossible for others who doesn't know it, to access the system by chance, and all the action will be recorded.
3. The relay output will change the close or open status by every call in, please note it. Means the first time call it, it will close the relay to switch on the lock, if the second call in is in the setting time, then the unit will ignore the setting time, and open the relay, to switch off the lock.
4. Remember that commands must be **CAPITAL LETTERS**. It is AA not aa, EE not Ee etc. Don't add spaces or any other character on the SMS commands.
5. The **pwd** in the command means the password, like 1234 or 5678 if you changed.
6. If the RTU5024 used for gate access only, all you need to do is to change the default password and add the authorized numbers.
7. If you cannot call to control the RTU5024 or cannot send or receive any SMS message from it, please try to add + in front of the country code or the phone numbers:

### For example:

In China, the country code is **0086** The user cell phone number is **13570810254** and has been assigned as the SMS Alert number, the simcard number in the panel is **13512345678**.

**Problem 1:** Alarm but the user hasn't received the SMS Alert.

Solution: Please plus the country code while you setup the 13570810254 as SMS Alert number, means setup **008613570810254** instead of the **13570810254**.

**Problem 2:** The user number can receive the SMS Alert message from alarm panel, but the alarm panel can not receive the commands from the user number.

Solution: Please add country code to the simcard number in the alarm panel. Means send sms commands to **008613512345678** instead of **13512345678**.

**Solution 3:** Use mobile phone A to call mobile phone B, the number displayed on B is which you should set as the dial number; Use mobile phone A send SMS to mobile phone B, the number displayed on B is which you should set as the SMS alert number; sometimes you may need to use the 00 to replace the + or use the + to replace the 00 on front of the country code.

8. *Fo security purpose, the RTU5024 will NOT return any SMS if command error, so please make sure and check the SMS Commands, or add the country code before the telephone number or check the input is in ENGLISH INPUT METHOD and CAPS LOCK.*
9. The SMS commands that you will certainly use in the RTU5024 are the following:



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**Installation:** Slide the SIM card cover on board of RTU5024, insert your SIM Card and slide to Lock  
**Reset:** Press and hold the RESET button, then power ON, after 6 seconds later, the RTU5024 will restart, then release the RESET button. This operation will reset the password to default 1234 and other parameters



## 5.0 Auto clock adjust with received SMS

(This is not necessary only when user need to use the time-authorization enablement number):

Send **pwdTELphone number of the RTU5024#** to the RTU5024 for adjust the time.

E.g.: **1234TEL00861351015#** if the SIM card number inside the RTU5024 is 00861351015.

RTU5024 Reply: Set Suces!

## 5.1 Change Password

**1234Pnew password**

RTU5024 return: "Password changed to "new password", please remember it carefully." if sucessfully.

E.g.: **1234P6666** for change the new password to 6666.

## 5.2 Authorized number management

### 5.2.0 Add authorized number:

**pwdAserial number#authorized number#start time#end time#**

**A:**command code.

**serial number:** the authorized number's position, from 001~1000.

**start time:**yy(year)mm(month)dd(day)hh(hour)mm(minute).the start time of this number can call in to control.

**end time:** yy(year)mm(month)dd(day)hh(hour)mm(minute).the end time of this number can call in to control.

**Without start time and end time means: Always can call in to control.**

E.g.: **1234A003#123456#** to set the phone no.123456 at the 3<sup>rd</sup> position and always can call in to control.

E.g.: **1234A016#123456#1502050800#1502051000#** to set the phone number 123456 at the 16<sup>th</sup> position, this number can call in to control during Feb 5<sup>th</sup> 8:00a.m.(1502050800) to Feb 5<sup>th</sup> 10:00a.m.(1502051000).

**Note:** 1. The authorized number means the one who can dial the RTU5024 to control the relay.

2. The Serial Number is the position to store the authorized users, from 001~1000.

## 5.2.1 Inquiry the Authorized number's position(serial):

**pwdAserial number#**

E.g.: **1234A002#** to check the number on the 2<sup>nd</sup> position(serial number2).

## 5.2.2 Inquiry batch users number

**pwdALserial number start#serial number end#**

E.g.: **1234AL002#050#** to inquiry the authorized numbers from the 2<sup>nd</sup> to the 50<sup>th</sup>, RTU5024 return serval SMS with the numbers list(10 numbers on each SMS).

## 5.2.3 Delete the Authorized Number(or you can overwrite this position with another number).

**pwdAserial number##**

E.g.: **1234A002##** to delete the 2<sup>nd</sup> authorized number.

## 5.3 Relay Control setting

### 5.3.1 Allow all numbers can call in to control:

**pwdALL#**

### 5.3.2 Allow only the authorized numbers can call in to control(Caller-ID for security,default):

**pwdAUT#**

### 5.3.3 How long time the relay keep close(ON) after phone call in (unit: second)

**pwdGOTclose time#**

close time=000~999. Unit:Second

close time=000: (Relay as Latch, relay will always keep close(ON) after call in untill the next call in.).

close time=999: relay will always keep close(ON) after call in untill the next call in.

Eg: **1234GOT030#** to set relay close 30 seconds(ON) and then open(OFF) after call in.

### 5.3.4 Who will receive the confirmation SMS when the relay is ON/OFF

**( Also will receive the power failure alert SMS and Input alarm SMS )**

**pwdGONab#content#**

for relay ON,

**pwdGOFFab#content#**

for relay OFF.

**ab**: the ID code of the 1<sup>st</sup> number(a) and the caller number(b), =0 means disable, =1 means enable.

**content**: confirmation SMS content.

ID code		RTU5024 send notify SMS to	
a	b	The 1 <sup>st</sup> number	Caller number
0	0		
0	1		√
1	0	√	
1	1	√	√

Eg: **1234GON11#Door Open#**

The 1<sup>st</sup> number & the caller number receive confirmation SMS when relay is ON(door opened).

Eg: **1234GOFF00#Door Close#**

The 1<sup>st</sup> number & the caller number will not receive confirmation SMS when relay is OFF(door closed)..

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## 5.3.5 No need confirmation SMS when the relay is ON/OFF.

**pwdGON##**

**pwdGOFF##**

## 5.3.6 Control the relay ON/OFF by SMS command

**pwdCC**

Return SMS: Relay Toggled for 02 seconds (or the SMS content which you modified before)

**pwdCD**

Return SMS: Relay ON (or the SMS confirmation content which you modified before)

**pwdDD**

Return SMS: Relay OFF (or the SMS confirmation content which you modified before)

The relay close timer according to the before setting 6.3.3:

**pwdGOTclose time#**

## 5.3.7 Control the relay ON/OFF by Customized SMS command

**pwdON-TEXT=wsd1on**

After defined,wsd1on can be send directly to control the relay to ON

**pwdOFF-TEXT=wsd1off**

After defined,wsd1on can be send directly to control the relay to OFF

**pwdTOG-TEXT=wsd1gg**

After defined,wsd1gg can be send directly to toggle the relay

User can change the above text "wsd1on", "wsd1off", "wsd1gg" to their own text that is easy remembered

**( Custom command make it easy to authorize people who don't need to know the password to use the device. )**

**pwdQUE-TEST?**

This is used to read back the customized SMS command setting

## 5.4 About the battery for power failure alarm

When main power supply failure,Device will send the alarm SMS to the 1<sup>st</sup> number

Battery is only for power failure alert, not for relay working.

**(Don't try to connect any other power voltage to battery connector,That will permanently damage the board)**

## 5.5 Alarm input:

### 5.5.1 Alarm input

**pwdMx**

x=0, 1, 2

M0: Alarm input disarmed

M1: Alarm input armed (When IN1 is shorted will send the alarm SMS)

M2: Alarm input armed (When IN1 status is changed, will send the alarm SMS)

**Inquiry the IN1 status**

**pwdEE#**

### 5.5.2 Setup the customized SMS for IN1 alarm

**pwdTEXT1O:aaaaaaa#**

and

**pwdTEXT1C:bbbbbbb#**

aaaaaaa is the TEXT for IN1 opened alarm bbbbbbb is the TEXT for IN1 closed alarm

After this configuration, At M1 mode, only when IN1 is shorted,will send the alarm SMS: bbbbbbb

At M2 mode, when IN1 is shorted will send the SMS: bbbbbbb and when IN1 is disconnected,will send the alarm SMS : aaaaaaa

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## 5.6 Others:

### 5.6.1 Self-check auto report SMS to the 1<sup>st</sup> number. (unit:hour)

**pwdT#xxx#**

xxx=000~999

xxx=000, default,no self-check auto report.

Auto report SMS including:

Relay status;  
GSM signal value(full is 31,cellular signal weak if lower than 14)

### Inquiry the self-check and auto-report time

**pwdT#**

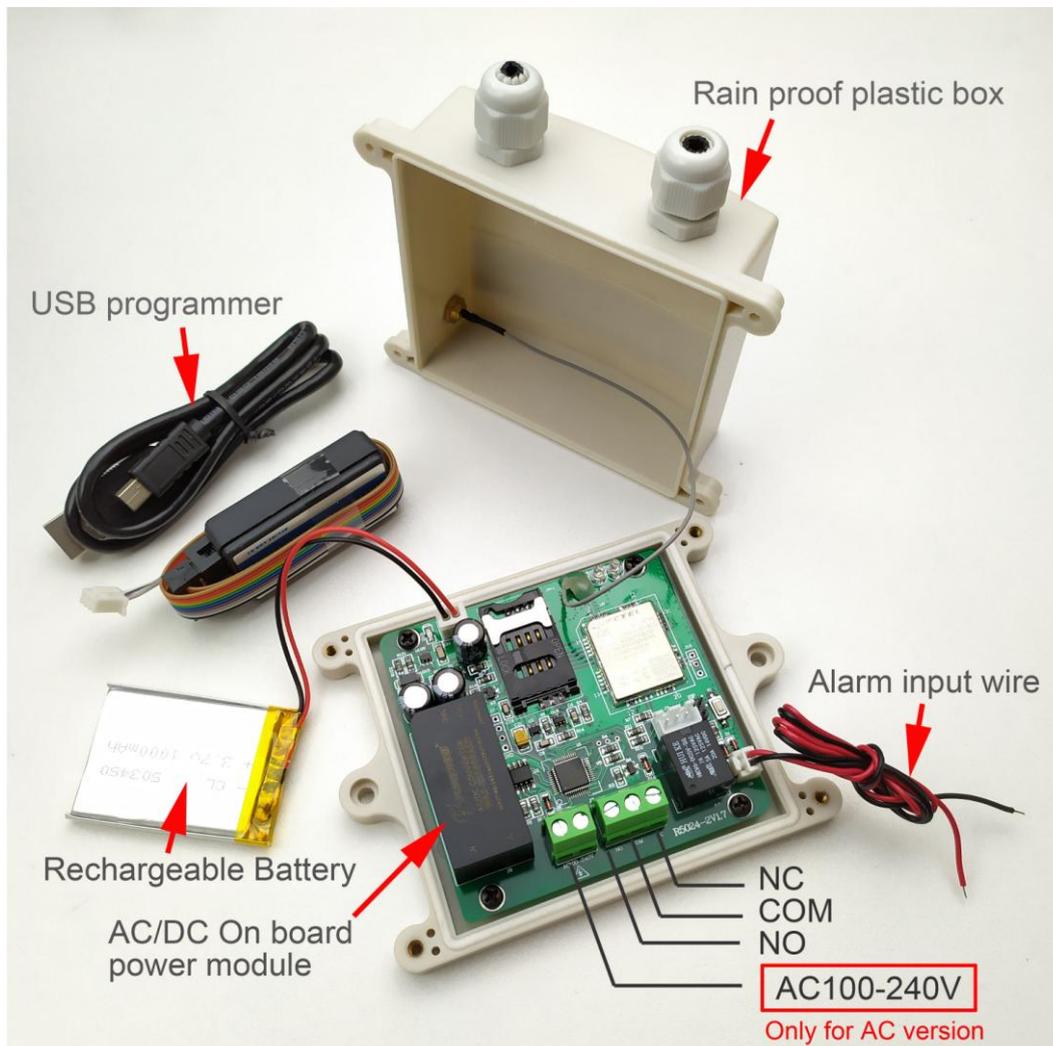
### 5.6.2 Inquiry current status

**pwdEE**

### 5.6.3 Inquiry the GSM modules' IMEI code and firmware version

**pwdIMEI#**

## 5.7 About the Controller description:



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## 5.8 About the PC software:

1. Download the software from our website QA page: <http://www.waferlife.com/en/QA-RTU5024.html>
2. Download the USB driver from the QA page: <http://www.waferlife.com/en/QA-RTU5024.html>
3. Connect the USB programmer to PC and plug another end to RTU5024 three pin connector
4. Check the Virtual COM Number which is created in the PC Windows "Device Manager "
5. Then Run the RTU5024 PC software and press the "open" to open the right com port.
6. Input the right password and Press the next "Login" button to connect to the RTU5024  
(Device default password is : 1234)

### PC Software :

Remote Gate Opener Configurator - RTU5024

COM Port: COM1 Close Password: 1234 Login

Basic Settings

1. Modify Password 1234 Set

2. Number can control  Only Authorized  All Number

Number List

3. GOT Setting 0 Set

4. Set Report Time 1 Set

Historical Data

5. Receive Number

ON:  00  01  10  11 Content: Relay work Set

OFF:  00  01  10  11 Content: wsd10ff Set

Help

6. SMS Reply for SMS Relay Control  ON  OFF Set

7. Customized SMS Relay Control Command

ON-TEXT: lon OFF-TEXT: loff TOG-TEXT: ltog

Only authorized numbers can use customized command:  ON  OFF Set

Get Status

Data Test COM Port: [Green LED] Version: RTU5024-2017RtuB12 Apr 17 2017

## **6. Important information**

- 1) Please read the User Manual carefully before you install and control the RTU5024.
- 2) Avoid getting water into the RTU5024 from the connector.
- 3) Have a secure connection to the main power supply.

## **7. Maintenance**

- 1) In case of failure, please contact the distributor or manufacturer.
- 2) If the RTU5024 works but fail to send SMS texts, switch the power off and on again after one minute. Test it after few minutes later, or ensure and check the settings are correct and the cellular signal strong enough.
- 3) If the RTU5024 works well with sensors but cannot send SMS texts, please change a SIM Card from another Mobile Operator's, and then testing again.

## **8. Warranty**

- 1) The RTU5024 is warranted to be free of defects in material for one year from the date of purchase.
- 2) This warranty does not extend to any malfunction or failure caused by abuse or misuse. In no event shall the manufacturer be liable for any alarm system altered by purchasers.

Any questions please help to contact us feel free.