KT-G3 GSM 2CH Relay Switch
User Manual(4G version)

29.03.2019 Version

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⚠ IMPORTANT SAFETY INSTRUCTIONS

BEFORE YOU BEGIN TO INSTALL YOUR GSM Relay Switch: Read these instructions carefully and completely to become familiar with all parts and installation steps. You must read the installation manual for detailed instructions on safety and proper use of the GSM relay switch.

Relay switch device should be powered by 12-24VDC, NO 100-240VAC high power please!

Relay switch output NO/NC/COM signal only, same working concept as your home wall mount switch button, it doesn't supply power to the connected home appliances directly.

Because this relay switch is only part of the intelligent home system or gate opener system, it is the responsibility of the installer/consumer to ensure that the total system is safe for its intended use.

Before you install the relay switch at a place, please use your mobile phone to test 4G signal firstly and ensure the device will work in good condition.

Description

The KiaoTime 2CH 4G Relay Switch works on the basis of 4G/3G network, so it requires a prepaid pay-as-you-go 4G SIM card from your cellular provider(AT&T and T-Mobile or Verizon), No minutes are used as it doesn't actually answer the calls - it recognize caller ID and then reject your phone call to turn on the switch automatically.

Its working way as same as your home wall mount manual press lights switch, the only difference is we change manual press working way to Cell Phone wireless remote control. It enable you to access your gate opener and open your door remotely, it also can turn on or off your home appliances such as winter heater, garden water pump, aircraft engine heater, even if you can use it to make a hog trap system. Simply dial the relay switch SIM card number and, through caller ID, the switch will recognize the programmed number and open the gate. This is more secure than traditional remotes because the number has to be programmed into the relay switch to operate it, so there is less of a chance that unauthorized persons will be able to operate the gate, each member of the family, plus friends, can operate the relay switch easily and conveniently.

The range of this relay switch is truly unlimited, as long as there is a cell tower available to receive and transmit the call and SMS. This is particularly beneficial in areas that have a great deal of interference for traditional radio transmitters and receivers, or for users who wish to turn on/off the switch from extended distances. You can remote control your home appliances anytime anywhere in the world!

Features

2-channel Relay Switches enable you to control many home appliances, such as lights, heater, water pump, aircraft engine etc.

FREE Phone Call No.1 relay can be remote controlled by phone call, no minutes are used as it doesn't actually answer the calls - it recognize caller ID and then reject your phone call to turn on the switch automatically

SMS Remote Control Simply NO.2CH Relay can be controlled by SMS only, just send a simple SMS "?" to the relay switch and then it will feedback with all the menus in message, so you even don't need a user manual

iOS/Android APP Software enable you to program all the parameters and remote control relay switches on your fingers

LAN WiFi Module(Optional) enable you to search the relay switch hot spot and connect to your computer in LAN network, then program all the parameters on PC software for free and check device logs, but need to buy extra WiFi module

PLUG and PLAY USB Cable Programming Free-driver USB cable connection to your computer and enable you to program all the parameters on PC software for free and check device logs

8 Groups of Timer to Work Automatically you can set which relay when to work and how long delay time to work automatically

CH1 and CH2 Related Working Mode this feature work like this, when you call the relay switch, CH1 will open your gate, then CH2 will turn on the light after a preset delay time automatically, so you can drive your car to the garage safely

CH1 and CH2 Turn on/off Simultaneously it is great for you to close the feral hog trap system two doors simultaneously with just a free call on the APP software

30A 250VAC 30VDC High Power Relay Contact high power relay contact to support much more loads

Three Power Sources Designed you can connect 12VDC power adapter, solar panel kit and 18650 backup battery

AC Power Outage/Recover SMS Alert When AC power outage or recover, internal backup battery will support the relay switch to send SMS alert(18650 backup battery is optional)

Support 3 Administrators and 5 General Users Administrators can program functions and remote control relay switch, but general users can remote control relay switch only

Fast Save Authorized Numbers by SET Button you can press the SET button and then use your mobile to dial in the relay switch to save your number as authorized ID fast way

Multi-Bands 4G Module enable relay switch device can be used with USA 4G and 3G network

RF433Mhz Wireless Keyfob Remote Control Locally(Optional) enable you to remote control the relay switch locally on/off, no need phone call or message, need to buy extra wireless keyfob

Specification

Model	KT-G3
Brand Name	KiaoTime
Working Voltage	DC 12-24V@1-2A
Material	ABS
Output	2CH, NO/NC,COM
Relay Contact	30A 250VAC/30VDC
Power Consumption	Standby status:60mA@12V, Working status:100mA@12V
Memory	Relay memory after AC power outage
Control way	Phone Call/SMS/Timer control/Ralated working
Working Humidity	>65%
Working Temperature	-25-+55℃
WiFi	Optional
4G Module Bands	KT-G3-A (AT&T,T-Mobile) FDD-LTE:B2/B4/B12 3G-WCDMA:B2/B4/B5 *Compatible with: Chatr Mobile(Canada)*
	KT-G3-V (Verizon) FDD-LTE: B4/B13
	KT-G3-AF (AT&T,T-Mobile,Verizon) FDD-LTE: B2/B4/B5/B12/B13/B14/B66/B71 3G-WCDMA:B2/B4/B5 *Compatible with: Chatr Mobile(Canada)*
OEM/ODM	YES, we can design 2G/3G/4G relay device for EU/USA/Australia customers

Control Panel Layout
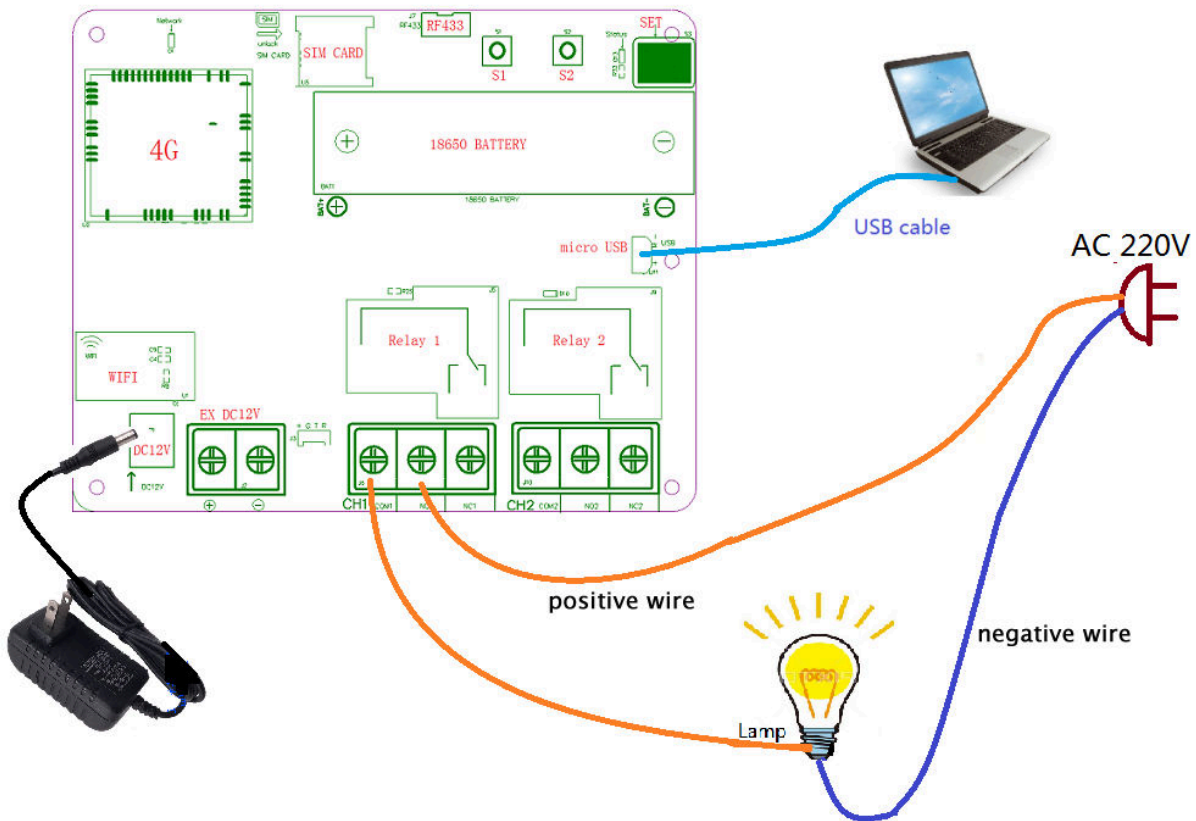
4G: 4G module

ANT: Internal mini antenna

Network LED: 4G GSM signal, slow flash at standby status, fast flash at working status

SIMCARD: Micro SIM card slot (15x12mm)

RF433:   Wireless receiver for keyfob control(Optional)

S1/S2:   Manual press switch button for fast test purpose

Status: POWER LED, light up all the time when system powered

SET(three features): 1) Fast SAVE authorized phone number button

                             2) RESET the relay device back to factory setting

                             3) CONNECT wireless keyfob

18650 BATTERY: Backup battery

Micro USB: System programming on PC software via USB data cable

CH1/CH2:   Two channels of relay contacts with NO/COM/NC output

-/+(EX DC12V):   Solar panel or gate opener 12VDC backup battery input

DC12V: 12VDC 1A/2A power adapter input

WIFI: System programming on PC software via LAN WiFi hotspot connection(WiFi module optional)

Wiring Diagram

Serial connection the relay switch NO/COM two ports on the 110-220VAC positive wire and home appliance on the negative wire as above diagram show you, connect power adapter to the "DC12V" power port directly is ok, if you want to use your own 12VDC backup battery, then connect to the "+/-" two ports as picture show you.

Set Up the System

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1. SIM card

Purchase a 4G SIM card from your local provider or supermarket retailer, prepaid the SIM monthly plan service, put the SIM on your mobile phone to disable the PIN code protection feature firstly and activate your account (eg. T-Mobile will send a text message for validation), and please ask provider to disable voice-mail feature at the same time. Leave the SIM card in the 'larger' format (don't pop the mini card out of the larger carrier when you buy the card). When you install sim card, please follow the correct direction icon mark on PCB board.

* ABOUT SIM PROVIDER

From the specification table, you can find out this relay device 4G module support 4G FDD-LTE and 3G-WCDMA multi-bands, we recommend AT&T and T-Mobile or Verizon pay-as-you-go prepaid SIM card.

* ABOUT SIM MONTHLY COST

APP message and sending message directly two ways will cost money, so we recommend system programming on computer software via USB cable or LAN WiFi hotspot to save money on prepare steps. You can remote control relay switch by phone call or easy operation on iOS/Android APP software. Because the relay switch will recognize your preprogrammed phone number and reject your phone call to turn on/off switch automatically, so no minutes are used as it doesn't actually answer the calls. According to this working method, you can buy proper economy phone call & SMS only monthly package service is ok, you just need to put small money in the SIM and keep it activated status to receive phone call and message is ok, no need extra provider's services.

2. POWER SUPPLY

Power on the relay switch with 12V 1A power adapter included in the package.

* ABOUT -/+ POWER SUPPLY

Connect solar panel kit or gate opener backup lead-acid battery

if you want to use the relay switch in remote area without city grid power, then you can connect solar panel to the -/+ ports. According to the standby current and working current parameters, we recommend at least 12V 2000mAH lead-acid battery which can support the relay switch to work about 35 hours(connect 1 channel relay only). You need to buy power enough solar panel kit to charge the battery full in proper time according to your local sunshine.

3. Connect Antenna

Connect internal mini antenna, if signal not good, then you can replace the internal antenna with external antenna.

4. Backup battery

Internal backup battery is optional, you can buy it from local shop, it is 3.7V 18650 rechargeable li-ion battery. Backup battery support the 4G module to send you AC power ON/OFF sms alert only, it cannot support you to remote control relay switch turn on/off. SMS alert like this:


You can program the relay device by three ways: PC software, iOS/Android APP and sending SMS. We introduce three ways programming one by one, but we mainly introduce PC software because it includes all of the features of APP software and SMS feature. Please read PC software operation firstly and understand all the features, then you can use APP software and SMS directly.

1. PC Software

You can download the pc software here and save files on your computer:

http://kiaotime.hkziot.com/
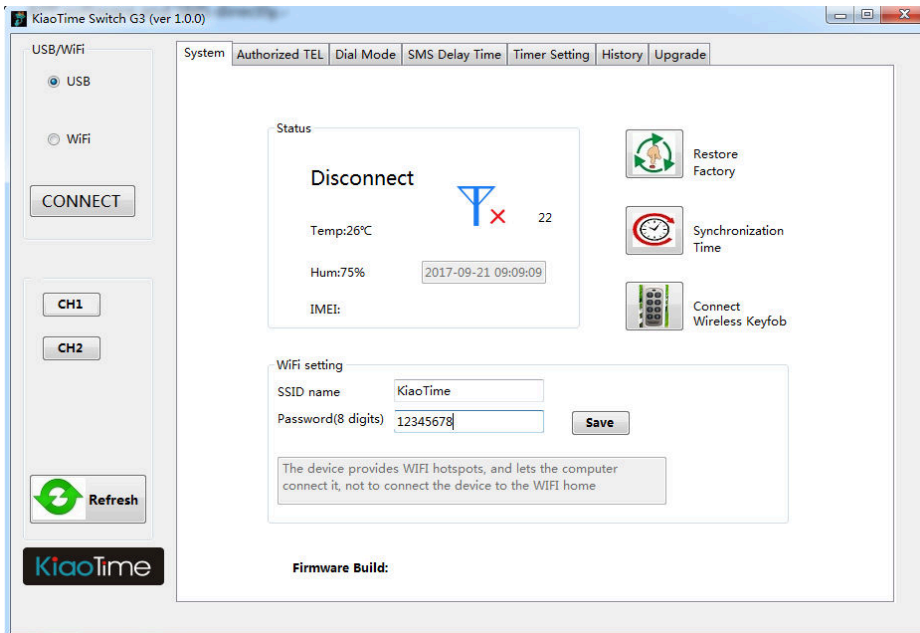
1.1 USB/WiFi

A. USB connection

USB datacable is free-driver, plug and play, connect mini-USB port to relay switch and USB port to your computer is ok.

B. WiFi connection(Optional)

WiFi module support LAN hotspots connection and programming only. When relay switch powered by 12VDC power adapter, internal WiFi module begin to work, use your laptop to search the relay device hotspots and input password to connect. Factory setting SSID name: KiaoTime, Password: 12345678, you can change and save them on PC software.
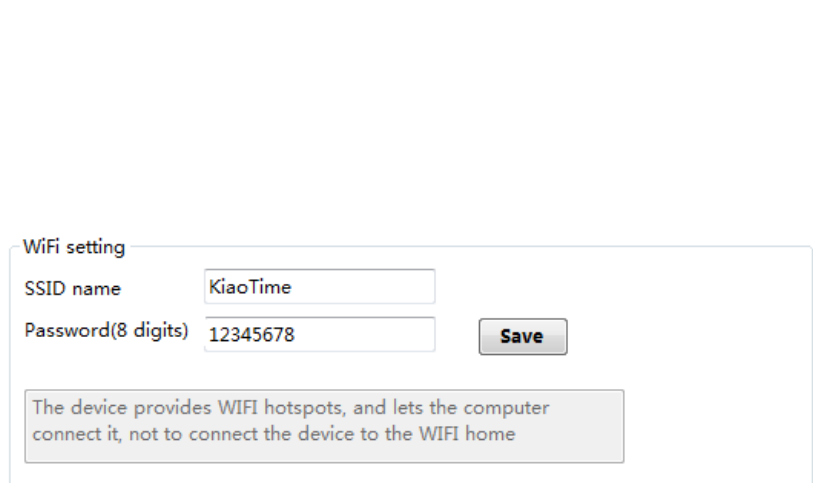
1.2 CH1/CH2

These two buttons designed for fast test purpose, you can click **CH1** button to toggle the NO.1 relay ON/OFF, when turn on, the CH1 button will be blue color, and grey color when turn off, same way for CH2 button
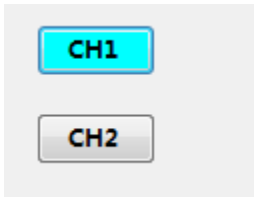
1.3 STATUS

On this page, you can see pc software connection status: green color connected, 4G module signal value, 4G module IMEI number, Relay device date and time

Restore Factory

Reset all the parameters back to factory setting

Synchronization Time

Synchronize relay switch time with your computer time

Connect Wireless Keyfob

Connect wireless keyfob to the relay device
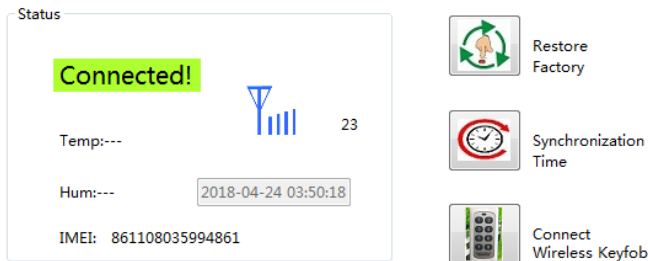
1.4 Authorized TEL

Relay device support 3 administrators and 5 general user phone numbers.

* Different Authority

3 administrators have the authority to program the relay switch parameters, remote control the relay switch and receive sms alerts, but 5 general users can remote control the relay switch and receive sms alerts only. AND relay switch recognize phone number as the only authority ID to access and remote control the switch, un-authorized phone numbers cannot access any more when the 1st phone number programmed into the relay switch.

* AC Change/Timer Control

If you want somebody to receive sms alert when AC power on/off or Timer control start/end, then you can choose "√ "

You can click "ADD MORE" to add the other 42 numbers.

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1.5 Dial Mode

Relay switch support two dial modes TOGGLE and AUTO, you can phone call to switch CH1 ON/OFF or make a phone call to activate the CH1/CH2 related working mode

* Switch CH1 ON/OFF by phone call (TOGGLE)

Dial in the relay switch, it will reject your phone call and turn on/off relay CH1 when it recognize your are the authorized phone number.

* CH1/CH2 related working mode (AUTO)

The purpose of this feature is to relate CH1 and CH2 two relays work together to make a ideal solution for two places. For example, when you make a phone call to open you gate(CH1), then you will drive your car to your garage, in the night, you would prefer the lamp(CH2) in the garage to turn on and make sure car parking safely.

CH1 Delay Time: 0-65535s programmable

CH2 Waiting Time: waiting time should be counted from the beginning of CH1 turn on.

　　　　　if CH2 waiting time is shorter than CH1 delay time, then CH2 will turn on when CH1 is ON

　　　　　if CH2 waiting time is same than CH1 delay time, then CH2 will turn on promptly when CH1 turn off

　　　　　if CH2 waiting time is longer than CH1 delay time, then CH2 will turn on after CH1 turn off some time

CH2 Delay Time: 0-65535s programmable

* SMS feedback confirm

If you want to receive feedback confirm sms after calling, you can choose "√ "

Tips: if you want CH1&CH2 two doors closed simultaneously, choose "AUTO" and set CH2 waiting time to be 0s is ok.

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1.6 SMS Delay time(Default)

You can send SMS to switch ON/OFF any channel of relay device permanently or turn on a preset time and turn off automatically. Here we are setting default delay time of each channel relay(1-65535s programmable).

1.7 Timer Setting

Relay device support 8 groups of timer setting, you need to choose the relay channel, start time and delay time. If you want the relay device to repeat this group timer every day, then you choose Repeat "√ ". For example, CH1 is connected with your aircraft engine heater, if you want to heat your aircraft engine 15s every day at 18:04pm, then you can set the parameters as same as following picture show you is ok, and when time is 18:04pm, your mobile will receive SMS alert:NO.1 timer set start(CH1,18:04:00,15s) and NO.1 timer set end(CH1,18:04:00,15s)
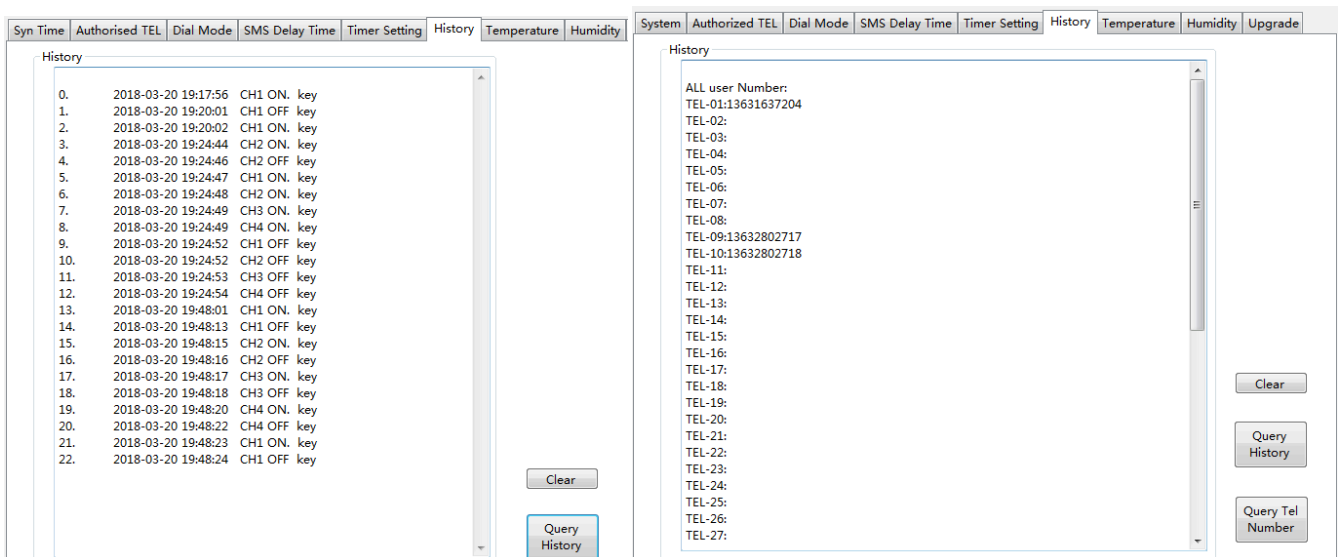
1.8 History

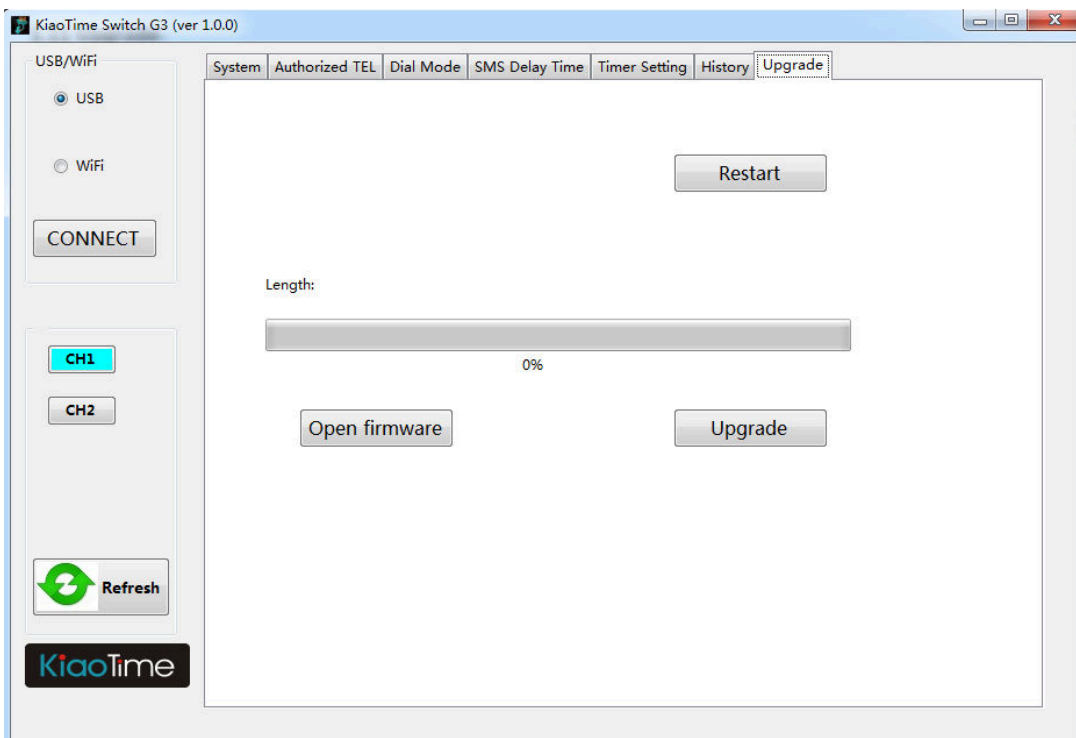You can query relay switch recent 50 history records, clear history and query 50 authorized phone number here.

1.9 Upgrade

This feature is for remote firmware upgrade once we have updated software version for the relay switch.

Step: keep on press the "SET" button on relay device, then click "Restart", release the SET button, relay switch will disconnect with PC. Now click "CONNECT" button, then click "Open firmware" to choose .bin format firmware file and click "Upgrade", you will see 100% when upgrade successfully.

2. iOS/Android APP Software Program

You can search iOS APP name: KiaoTimeSwitch in application store, and you can download the Android APP software here and save files on your mobile phone to install it: http://kiaotime.hkziot.com/
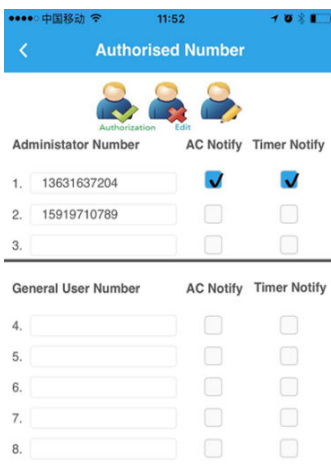
2.1 Add Device

Click "+" icon to Add Device--->Device Name--->Device Number(Relay SIM card #)--->Device Model:KT-G3--->SAVE

Tips: You can add and manage multi relays on APP software
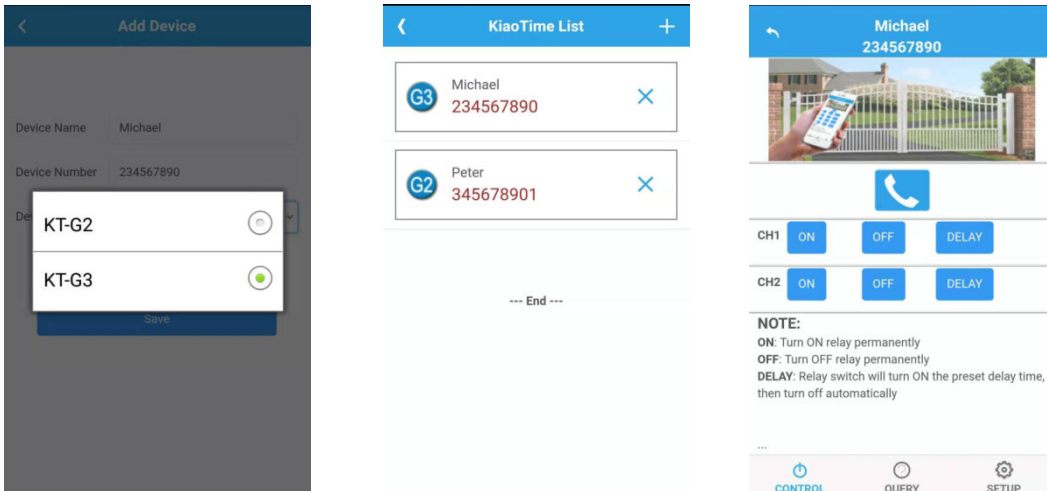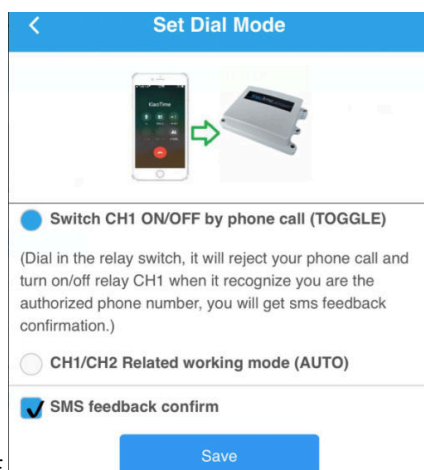

2.2 SETUP

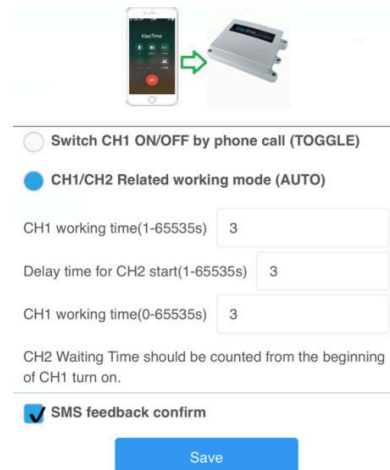2.2.1 Set Authorized phone number (Refer to user manual page #8)

2.2.2 Set Dial Mode (Refer to user manual page #9)

TOGGLE MODE   AUTO MODE

2.2.3 Set SMS Delay Time(default setting 10s) (Refer to user manual page #10)

2.2.4 Set Timer Setting (Refer to user manual page #10)

2.3 CONTROL

CALL: click this "CALL" icon button to turn on/off CH1 relay or activate CH1/CH2 related working mode fast

ON: click this "ON" button to turn on relay permanently

OFF: click this "OFF" button to turn off relay permanently

DELAY: click this "DELAY" button to turn on relay with preset delay time or you input a temporary delay time

* Please refer to user manual page #9 "Dial Mode" to find the dial mode setting and dial in method

* Please refer to user manual page #10 "SMS Delay Time" to check or modify the default setting of relay delay time

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2.4 QUERY

You can query 2 channels relay status, 8 groups of Timer Setting, Authorized Phone Number, Dial in Mode and SMS Delay Time, you will receive following SMS feedbacks from relay switch.

Query Relay Status   Query Timer Setting

Query Authorized Number   Query Dial in Mode   Query SMS Delay Time

3. SMS Program

You can send a short message "?" to relay switch, then you will get all the menus in feedback message and no need any paper user manual any more.

3.1 Message: X0

Turn off relay switch permanently message, letter "X" is relay channel 1 to 2, Arabic number "0" means turn off relay.
for example, you can send message "10" to turn off the CH1 relay and get confirm feedback message

3.2 Message: X1

Turn on relay switch permanently message, letter "X" is relay channel 1 to 2, Arabic number "1" means turn on relay.
for example, you can send message "11" to turn on the CH1 relay and get confirm feedback message

3.3 Message: X2

Turn on relay switch with preset delay time message, letter "X" is relay channel 1 to 2, Arabic number "2" means turn

on relay with preset delay time(refer to user manual page #10 to check or modify delay time of 2 channels relay).

for example, default delay time of CH1 is 10s, you can send message "12" to turn on the CH1 relay 10s and get confirm feedback message (refer to above picture)
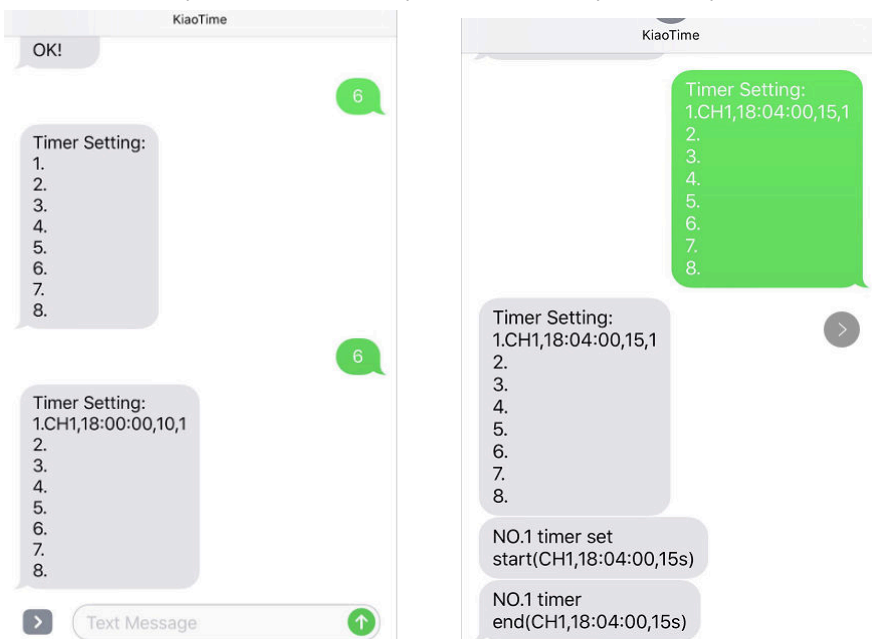
3.4 Message: 5

Authorized number setting message, you can send message "5" to relay switch and receive feedback empty TEL phone number list, you can COPY the message and input 8 authorized phone numbers as you need, then send the message to relay switch.
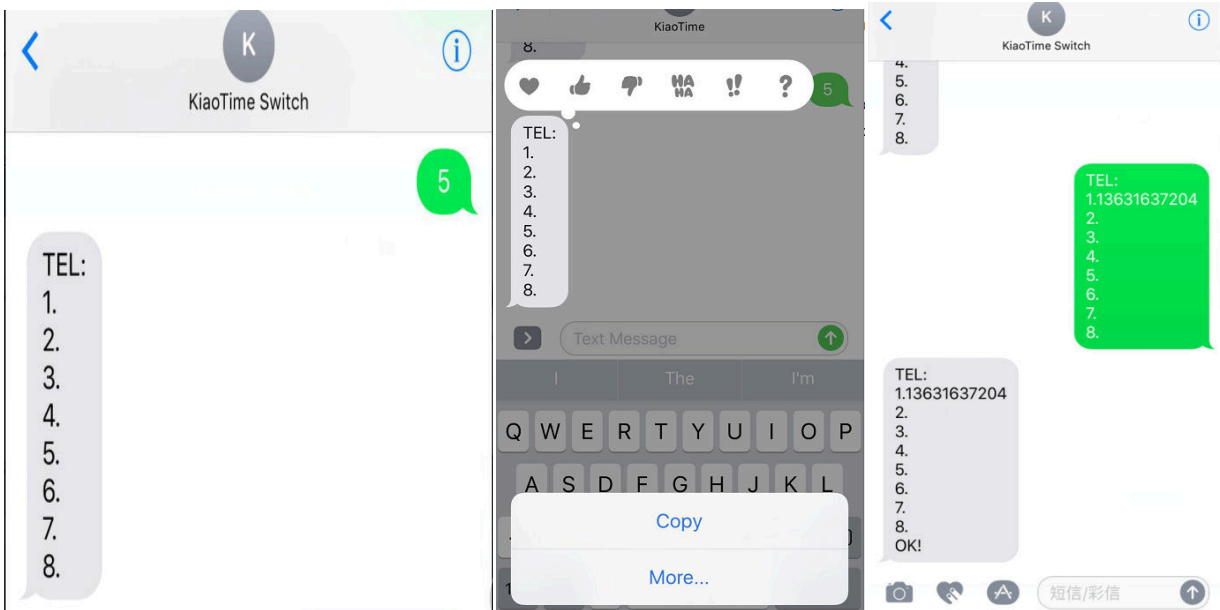
3.5 Message: 6

Timer Setting message, you can send message "6" to relay switch and receive feedback empty TIMER list, you can COPY the message and input 8 groups timer as you need, then send the message to relay switch, such as "1.CH1,18:00:00,10,1", here "CH1" is the relay channel,"18:00:00" is the start time, "10" is the delay time you want relay switch to work, "1" means you want relay switch to repeat this action every day. if you want relay switch to work for one time only and no need to repeat this action, you can input "0". (Refer to user manual page #10)

3.6 Message: 7

Query relay status message


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KiaoTime
8.

                              7

17:25:21
Relay Status:
CH1 OFF
CH2 OFF
CH3 OFF
CH4 OFF
Mobile signal:17
No temperature and humidity
sensor
```
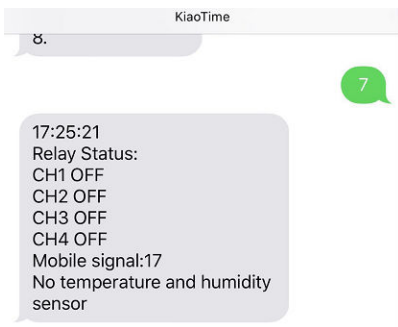
3.7 Message: 8

Query Dial in Mode message


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                        8                                    8

DIAL MODE=TOGGLE                      DIAL MODE=AUTO
CH1=5                                 CH1=5
DELAY=5                               DELAY=5
CH2=0                                 CH2=0
FEEDBACK=1                            FEEDBACK=1
```
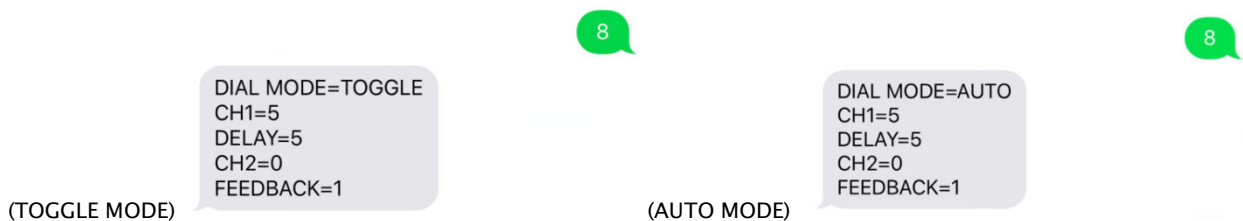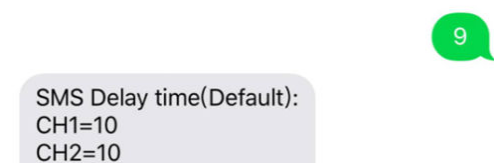(TOGGLE MODE)   (AUTO MODE)

3.8 Message: 9

Query SMS Delay Time message


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                        9

SMS Delay time(Default):
CH1=10
CH2=10
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How SET button Working

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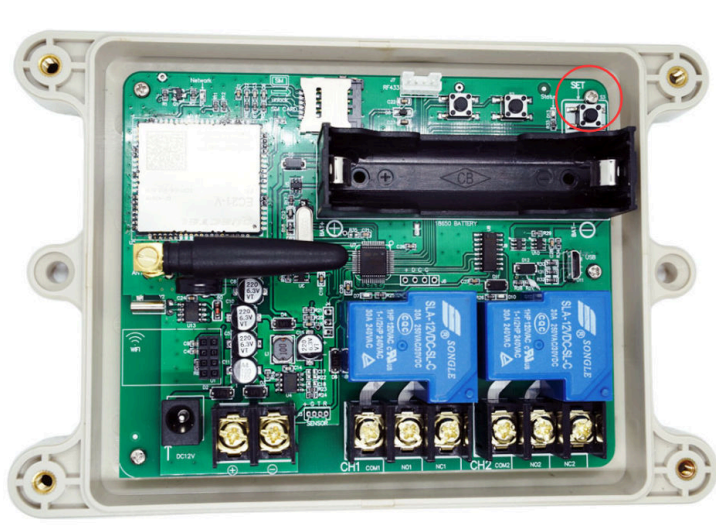
1. Connect wireless keyfob to relay switch

Keep on pressing "SET" button, then single press "S4" button, now release two buttons at the same time, you can see

relay switch device STATUS led light on the PCB flash quickly, now you press any button on the wireless keyfob to trigger a wireless signal is ok. if relay switch didn't receive any wireless signal within 30s, it will exit wireless keyfob connection.

2. Factory Default Setting

Keep on pressing "SET" button for 3s, you can see STATUS led light on the PCB flash quickly one time, then keep on light up, now default setting finished and all parameters back to factory setting, release the SET button to exit.

3. FAST SAVE authorized number

Single press "SET" button and release it, you can see STATUS led light on the PCB flash slowly, now you can use your mobile to dial in the relay switch, STATUS led light will flash quickly and save your phone number, then you can use the other phone to dial in again to save as authorized number. if the phone number has been saved into the device before, then relay switch will keep the original number and won't save it secondly. if relay switch didn't receive any phone call within 30s, it will exit fast save function and STATUS led light will keep on light up, you also can press the SET button and exit directly.

Aftersale Service

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if you have any question about the GSM relay device or you want to distribute our products and OEM/ODM service, please feel free to contact us, thanks!

KiaoTime Switch

Contact: Mr. George Qiao

Email: georgeqiao1985@qq.com

Get technical support and new product & features release news on Facebook.

Facebook ID: georgeqiao1985@qq.com