GSM
Home Alarm system

User Guide

Version 2.0

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System Overview

Introduction

Wireless GSM Burglar Alarm for commercial and home use is built on leading microprocessor technology with advanced GSM digital signal processing power. It is a highly integrated system of digital speech, mobile messages, multiple modes of wireless coding, long-distance home appliances controlling, SMS Messages identification and other technologies. When alarming, it will automatically notify users via mobile network about the possible break-in using either voice calling or SMS messaging. It is stable, reliable and safe. With its user-friendly design and without the need of fixed telephone network, it can be widely used in different locations including shops, offices, villas, residential estate, garage, warehouse, to name just a few. It is an ideal choice to protect your properties and personnel safety.

Features

■ Two groups of Scheduled Arming and Disarming function.

■ Ten zones, can be set as AWAY, STAY, INTELLIGENT or CLOSED types.

■ Using phone (cellular phone) or SMS Messages to configure and control the Panel remotely.

■ Four wired zone, six wireless zone, each zone can be equipped with many accessories.

■ Six groups of phone numbers for voice calling and three groups for SMS Messages, 10 seconds ISD automatic leaving message record

■ One group of normally open signal output, which can be externally linked to electrical appliances with alarming output.

■ Many built-in speeches, letting alarm receivers know the accurate alerting location

■ SMS Messages content from alarming Defense zone can be customized.

■ Wireless intelligent study coding, compatible with PT2262 normal encoding and a million group encoding, convenient and flexible for adding or reducing accessories.

■ Telephone (phone) long-distance telecontrol for arming, disarming, monitoring, talkbacking, shouting, and controlling appliances, etc.

■ EEPROM information protection, information never lost

■ Built-in Ni-Lithium battery with auto-switchable between AC and DC power upon AC power outage.

■ SMS notification for AC power outage.

■ Panel using double, triple or quadruple GSM/GPRS wireless industry module, (depends on model) which is stable and reliable.

About the Front Panel
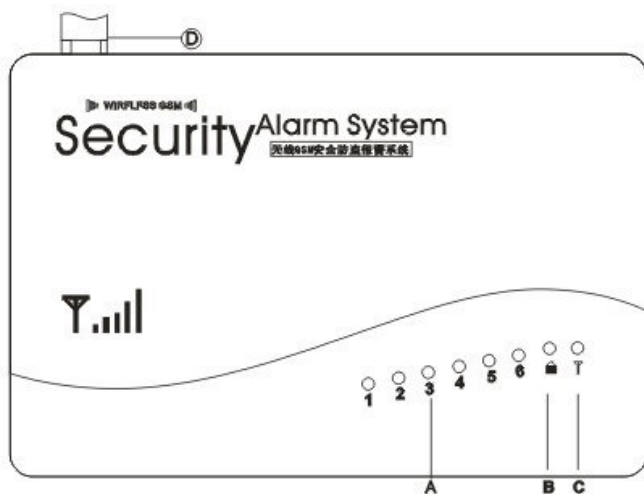
Legend for front side alarm panel

    A. Defense zone (1 – 6) indicating light

    B. [Arming] light

    C. [Signal] light

    D. Antenna pedestal

About the Back Panel
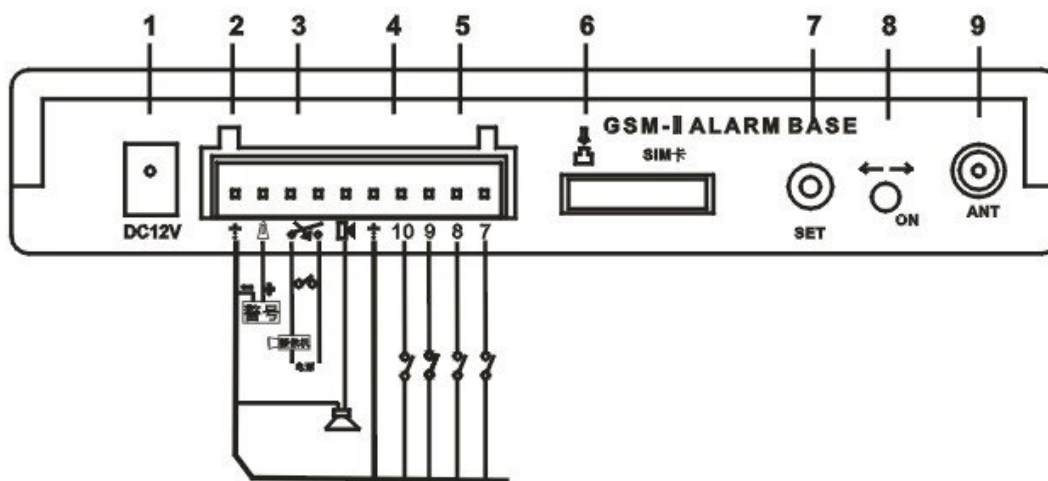
Legend fo the back side alarm panel
1. Power input hole
2. Siren output port
3. Relay Output port
4. Ground
5. Wired Defense zone (Z1, Z2, Z3 and Z4) input (labelled 7,8,9,10)
6. SIM card switch
7. Reset button
8. Power Switch
9. Antenna Pedestal

General Operation

AWAY Arming

Arming means that when there is no one at home and so the whole home requires a full protection. All detectors are activated. When suspicious break-in triggers the detectors, the burglar alarm will alarm at once. After arming operation, arming LED in the Panel will be lid.

- Remote control operation: pressing on the arming key in the remote control once.

STAY Arming

STAY arming means that when there is someone at home, to partially guard your home, it requires to activate the outside doors, windows, balconies, and detectors at the perimeter. Some detectors inside home are deactivated to avoid false alarm. The arming LED in the Panel is blinking when STAY arming is activated.

- Remote control operation: pressing on the STAY arming key in the remote control (keyfob) once.

Disarming Operation

Disarming means alarm panel will not alarm even detectors are triggered, except the detectors in EMERGENCY Defense zone and emergency button on the remote control (keyfob) being pressed. After disarming, arming LED not lit.

- Remote control (keyfob) operation: pressing on the disarming key in the remote control (keyfob) once.

EMERGENCY Alert

When emergency happens, press on the emergency key in the remote control (keyfob).

Receiving Alert on Telephone

After Panel alerts, it will automatically dial all preset telephone numbers in sequence.

When the user picks up the phone, a piece of pre-recorded voice message will be played back immediately and let the receiver noted about the event. The Panel will continuously dial the next phone number for alerting until someone picks up the call. Each phone number preset will be tried for three times. Upon receiving the call, it can also control the alarm panel remotely via the phone (according to the command below).

[1] key: arming   [2] key: disarming
[3] key: monitoring open   [4] key: monitoring closed
[5] key: talkback open   [6] key: talkback closed
[7] key: siren ringing   [8] key: siren closed
[9] key: Relay open   [10] key: Relay closed

[*] key: Quits and hang up, the system will not dial the next group of numbers.

Note: Alternatively, upon receiving the call, you can select not to do any operation but just do a live monitoring via the phone. Default live monitoring duration is 20 seconds. If you can lengthen the duration by pressing [3] key when each session of 20 seconds end. To support 2-way voice function, the Panel needs to connect to another passive loudspeaker, which are 8 ohm and its power above 0.5 W.

Alarm Panel Operation Remotely via Telephone

Dial into the alarm panel using telephone or cellular phone can carry out some operations remotely. Upon the panel pick up your call and connected, input password, (default password is 1234), then input the command according to the following table of command:

Operation is as follows:

[1] key: arming   [2] key: disarming
[3] key: monitoring open   [4] key: monitoring closed
[5] key: talkback open   [6] key: talkback closed
[7] key: siren ringing   [8] key: siren closed
[9] key: Relay open   [10] key: Relay closed

[*] key: Quits from the status and hang up, the system will not dial the next group of numbers.

[#] key: Enter the system configuration mode (a completed description in later chapter of this user guide).

Without receiving no instruction, the panel will automatically hang up after 20 seconds.

Installation and Configuration

Interpretation to Panel Signals

Types of Indicators	Signal	Interpretation
Buzzer	Short "Beep" once	Key-pressing indication
	Long "Beep" once	Confirm received of a key stroke
	Continuous short "Beep" for 2 times	Correct command received
	Continuous short "Beep" for 3 times	Error in command
	"Beep" at moderate intervals	SIM card not found
Defense Zone LED	Always lit	Defense zone alerting
	Blinking	Defense zone coming into delayed alerting
Arming LED	Always lit	Arming status
	Blinking quickly	Coming into STAY arming status
	Blinking slowly	Coming into delayed arming status
GSM signal LED	Blinking every 1 second	GSM signal weak, or SIM card not found
	Blinking every 3 seconds	GSM module, and SIM card working properly
	Not lit	Without electricity

Alarm Panel Location

Control panel should be installed in a central area where being protected so as to make sure that all wireless detectors can connect to the panel with good wireless signal quality. Keep panel and detectors away from concreted wall with steel mesh inside, metallic objects or household appliances (particularly those big) to avoid potential interference.

Installing SIM Card

- The first step: Press down the yellow switch besides SIM card tray, SIM card tray will be ejected from slot.
- The second step: taking out SIM tray and putting GSM card into tray according to the correct direction.
- The third step: Plugging back the SIM card tray SIM card to the slot.

First-Time Configuration

Upon correctly installed SIM card, all wired sensors (if applicable) and antenna, the AC adapter can be connected. Upon power up, the alarm panel will carry a self-test as sequence below:

- Six Defense Zone LED and two Functional LED on front panel will flash in order once and end with a buzzer long "Beep".
- The Signal LED flashes with one second interval for checking the GSM signal.
- If GSM network detected all right, "Beep" sound stops and Signal LED becomes flashing every three seconds, the GSM signal and SIM card are all confirmed normal, system is READY.

Now, system can be switch on by the power button (also stand-by battery switch) at the back, recharge of backup battery is activated.

Personalized Voice Message Recording

Upon the alarm panel at the state of disarming, follow the steps below to record personalized voice message.
- press and hold [SET] key for three seconds, panel returns with a one long "Beep", then release, the [arming] LED flashes and the recording is began.
- In front of the panel at a distance of about 30cm, use moderate tone of speech to record your personalized information. For example, "this is an automatic calling from a home alarm system at address XXXX, please come for assistance as soon as possible".
- The maximum duration of message is 10 seconds, the recording automatically stops, saved and exited, [Arming] LED stop blinking.

Assign Remote Control (Keyfob) to Alarm Panel

Add remote control to alarm panel

Upon the alarm panel at the state of disarming, follow the steps below to add remote control to panel.
1. press the [SET] key once and release immediately, alarm panel returns one short "Beep" and all Defense zone LED lid, this is the configuration mode for remote control coding.
2. press any key on the remote to trigger a wireless signal to the Panel.
3. when panel receives signal and "Beep" twice, it means remote control (keyfob) has been added to panel successfully, this remote control can be used to control

the panel.

4. if panel receives signal and "Beep" only once, it means remote control (keyfob) has been learnt before.
5. You can take out all remote controls required to configure and trigger them one by one by repeating step (3) above.
6. Pressing [SET] key again and again until all Defense zone LED off to exit the configuration model and system READY again.

Note: The Panel allows a maximum of 20 remote control (keyfob).

Remote control deletion from alarm panel

Upon the alarm panel at the state of disarming, follow the steps below to delete remote control to panel.

1. press the [SET] key once and release immediately, alarm panel returns one short "Beep" and all Defense zone LED lid, this is the configuration mode for remote control coding.
2. Then press and hold the [SET] key for 3 seconds, panel "Beep" for a long time and all Defense zone LED vanished means all remote control deleted.

Note: For the remote control (keyfob) deletion operation, one operation will delete all remote control (keyfob).

Assign Detectors to Defense Zones

Adding sensors to alarm panel

Upon the alarm panel at the state of disarming, follow the steps below to add sensors or detectors to panel.

1. press the [SET] key once and release immediately, alarm panel returns one short "Beep" and all Defense zone LED lid, this is the configuration mode for remote control coding.
2. press [SET] key once and release immediately, Defense Zone 1 LED on, this is the configuration mode of zone 1.
3. trigger the detectors send a wireless signal to the Panel.
4. when panel receives signal and "Beep" twice, it means remote control (keyfob) has been added to panel successfully, this remote control can be used to control the panel.
5. if panel receives signal and "Beep" only once, it means remote control (keyfob) has been learnt before. If panel receives signal and "Beep" for 3 times, it means error.
6. You can take out all remote controls required to configure and trigger them

oneIby one by repeating step (3) above.
7. Pressing [SET] key again and again until all Defense zone LED off to exit the configuration model and system READY again.

Note: A Panel can learn up to 32 detectors of different types.

Deleting sensors from alarm panel

Upon the alarm panel at the state of disarming, follow the steps below to delete remote control to panel.
1. press the [SET] key once and release immediately, alarm panel returns one short "Beep" and all Defense zone LED lid, this is the configuration mode for remote control coding.
2. press [SET] key once and release again until the LED of the Defense wanted is on, this is the configuration mode of your target zone.
3. Then press and hold the [SET] key for 3 seconds, panel "Beep" for a long time and all Defense zone LED vanished means all remote control deleted.

Guideline for Installing Door or Window Sensor

1. The surface for door sensor installation should be clean so door sensor can be attached to the door and frame firmly with double faced adhesive.
2. Each door sensor is a pair of sensor and magnet. The sensor should be installed on the fixed door frame and the magnet should be placed on the movable door with a distance not exceeding 1 cm.

Guideline for Installing PIR Motion Sensor

1. Installation height is about 2.2 meters above ground and the optimized detection angle for most motion detector is 90 degree. The sensor should face the detected area with this consideration for best coverage.
3. Within coverage of detection, there should be no any objects for obstruction.
4. There should be no two infrared detectors in the same as they will possibly intervene with each other.
5. Avoid the detector facing window, cooling or warming machines, or other appliances that cause the temperature changing sharply and thus cause false alarm.
6. Most infra-red detector needs about 5 minutes to heat up before READY for normal operation.
7. Unless specifies otherwise, most infra-red detector are indoor use and not reliable to use outdoor.

Factory Default

Password:	1234		
Long-distance control:	Open	Ringing times:	once
Siren timing:	1 minute	Aural remote control siren:	open
Delayed arming:	0second	Delayed alerting:	0 second

Command Reference

General Command Syntax

There are two methods to configure the alarm panel, they are sending SMS command to panel via mobile phone and interactive setup using any analog phone set.

1) general command pattern sent via SMS is

[password] + [command] + [parameter] + #
e.g. setting SMS phone no.
1234379999999#

2) general input sequence sent via phone interactively is

- call in
- key in password
- key in #
- key in [command]
- key in [parameter]
- key in #

using the above same example, no. need to key in one by one after receipt the confirmation beep
1234#37999999#

Configuration Commands

[12]+[0/1]+[#]	Disable and enable SMS Messages function ● 0 means disactivated ● 1 means activated ● Default: activated ● Example: to disable SMS Messages function, send SMS Messages 1234120#, or using phone should input 1234 # 12 0 #
[31]+[phone number]+[#]	Add (or delete) 1st group of phone number for voice calling upon alarm triggered ● Example: if the user wants to add phone number 12345678, send SMS Messagess 123431123456 78#, or using phone should input 1234 # 31 12345678 # ● Example: if the user wants to delete 1st group number, send SMS Messages 123431#, or using phone should input 1234 # 31 #
[32]+[user number]+[#]	Add (or delete) 2nd group of phone number for voice calling upon alarm triggered
[33]+[user number]+[#]	Add (or delete) 3rd group of phone number for voice calling upon alarm triggered
[34]+[user number]+[#]	Add (or delete) 4th group of phone number for voice calling upon alarm triggered
[35]+[user number]+[#]	Add (or delete) 5th group of phone number for voice calling upon alarm triggered
[36]+[user number]+[#]	Add (or delete) 6th -group of phone number for voice calling upon alarm triggered
[37]+[user number]+[#]	Add (or delete) 1st group of phone number for receiving SMS messages ● Example: if the user wants to add phone number 12345678, send SMS Messagess 123437123456 78#, or using phone should input 1234 # 37 12345678 # ● Example: if the user wants to delete second-group number, send SMS Messages 123437#, or using phone should input 1234 # 37 #
[38]+[user number]+[#]	Add (or delete) 2nd group of phone number for receiving SMS messages
[39]+[user number]+[#]	Add (or delete) 3rd group of phone number for receiving SMS messages
[50]+[new password]+[#]	Modify user operation password ● For example: if user wants to set new user password as 4321, please send SMS Messages 1234504321# , or using phone should input 1234 # 50 4321 #

[51]+[00-99]+[#]	Set Delayed Arming, when press the arming key from the remote control, it will not enter into arming status immediately but delay for a certain number of second ● Range: From 0 to 99 seconds. ● For example: set delayed arming for 10 seconds, send SMS Messages 12345110#, or using phone should input 1234 # 51 10 #
[52]+[00-99]+[#]	Set Delayed Alarming, on the arming status, if a detector is triggered, the Panel will not alarm at once. It will delay a certain time before making voice calling, sending SMS message or sound the siren. ● Range: The time can be set from 0 to 99 seconds. ● For example: set delayed alarming time as 10 seconds, send SMS Messages 12345210#, or using phone should input 1234 # 52 10 #
[53]+[00-20]+[#]	Setting the siren sounding time when the Panel triggered. ● Default time is 1 minuts ● Range: From 1-20 minutes. ● For example: if you want to set the siren alerting time 5 minutes, send 12345305#, , or using phone should input 1234 # 53 05 #
[54]+[0/1]+[#]	Open and close of alerting linkage. If Panel alerts, need the relay open linkage or not, 1 means linkage needed, and 0 not. ● For example: Panel relay output is connected to flashlight and other equipments. If output alerting, it needs linkage blinking. Send SMS Messages 1234541#. When the Panel triggered, the output relay at the back of the Panel will be connected, and external equipment will start up. telephone setting just press those key on the phone.
[55]+[0/1]+[#]	Used to set when use remote control to arm and disarm, the siren make sound or not. ● Value: 1 means sound, and 0 not. ● Default is make sound. ● For example: send SMS Messages 1234551#, meaning siren without indicating voice when arming and disarming by remote control (keyfob). telephone setting just press those key on the phone.
[56]+[AAAA]+[#]	Used to set system time. ● For example: to set system time as half past 20 o'clock, send SMS Messages 1234#562030#. This means to set system time as half past 20 o'clock. telephone setting just press those key on the phone.

[57]+[AAAA]+[BBBB]+[#]	Used to set first group of timing arming and disarming. ● For example: send SMS Messages 12345722000700# to Panel. This means from 22 o'clock at night, it automatically enters into arming status, and automatically disarms at 7 o'clock in the morning. telephone setting just press those key on the phone.
[58]+[AAAA]+[BBBB]+[#]	Used to set second group of timing arming and disarming. ● For example: send SMS Messages 12345812001300# to Panel. This means from 12 o'clock at noon, it automatically enters into arming status, and automatically disarms at 13 o'clock in the afternoon, telephone setting just press those key on the phone.

[60]+[AA]+[B]+[C]+[#]	This command is used to set six Defense zones status.
	● AA is double subarea and 01 to 06 means Defense zones 1 to 6.
	● B means the type of Defense zone.
	    1 means NORMAL Defense Zone,
	    2 means STAY Defense zone,
	    3 means INTELLIGENT Defense zone,
	    4 means EMERGENCY Defense zone,
	    5 means CLOSED Defense zone.
	● C has two types of status.
	    0 means siren no sound when alarming,
	    1 means siren sound when alarming.
	● For example: to set 5th Defense zone as NORMAL Defense Zone, and the 5th Defense zone alarming requires siren sounding, send SMS Messages 1234600511#

[61]+[AA]+[B]+[C]+[D]+[#]	This command is used to set the status of the four wired Defense zones.
	
	● AA is double subarea, use 07 to 10 to refer to Defense zones 7 to 10.
	
	● B means the type of Defense zone.
	    1 means NORMAL Defense Zone,
	    2 means STAY Defense zone,
	    3 means INTELLIGENT Defense zone,
	    4 means EMERGENCY Defense zone,
	    5 means CLOSED Defense zone.
	
	● C has two types, 0 and 1.
	    0 means no rings in that Defense zone when alerting.
	    1 means ringing in that Defense zone when alerting.
	
	● D has two types, 0 and 1.
	    0 means open circuit alerting and
	    1 means short circuit alerting.
	
	● For example: set Defense zone 7 as EMERGENCY Defense zone, no siren ringing when the 7th Defense zone alerts, and short circuit alarming, send SMS Messages 12346107101#

[13]+[0000]+[#]	This command to restore the factory default setting.
	
	● This command will only delete the password, but not delete the remote control and sensors already programmed.
	
	● For example: if need to restore the factory default setting, send 1234130000# to the main unit.
	
	● If the users forget password, to restore the device need to use **Forced Restore**. Steps are
	
	  ■ Turn off the back-up battery switch and AC power
	
	  ■ Press and hold RESET button at the back while turn on the power
	
	  ■ Keep press and hold the RESET button for about 5 seconds until the buzzer gives one long "Beep" and all LED flash in sequence, then release RESET button, all setting deleted, phone number deleted, password return to 1234, all remote control and sensors deleted, alarm panel fully returned to factory setting.

Operation Commands

Following commands only for SMS Messages long-distance operation and settlement:

0#	Long-distance SMS Messages disarming, send SMS Messages 12340#
1#	Long-distance SMS Messages arming, send SMS Messages 12341#
2#	Long-distance SMS Messages STAY arming, send SMS Messages 12342#
3#	Long-distance SMS Messages Relay opening, send SMS Messages 12343#
4#	Long-distance SMS Messages Relay closing, send SMS Messages 12344#
[20]+[#]	To inquire arming and disarming status. send SMS Messages 123420#
[21]+[#]	To inquire alerting number and alert-receiving number configured in the panel. send SMS Messages 123421#
[80]+[#]	Used to inquire SMS Messages contents from all Defense zones. ● For example: send SMS Messages 123480#
[81]+[Defense zone one, SMS Messages content]+[#]	Used to set SMS Messages content given by Panel when the first Defense zone alerts. SMS Messages content can not exceed twelve characters. ● For example: send SMS Messages "123481 the front door is opened # " At that time, when the first Defense zone is triggered, the SMS Messages of "the front door is opened" will be sent to the short-message alarming number.
[82]+[Defense zone two, SMS Messages content]+[#]	Used to set SMS Messages content given by Panel when the second Defense zone alerts. ditto
[83]+[Defense zone two, SMS Messages content]+[#]	Used to set SMS Messages content given by Panel when the third Defense zone alerts. ditto
	The forth to ninth Defense zone can be inferred as above.
[90]+[Defense zone ten, SMS Messages content]+[#]	Used to set SMS Messages content given by Panel when the tenth Defense zone alerts. ditto

Note: Difference between Defense Zone Types:

- NORMAL Defense Zone: the Panel only works on the arming status. When disarming, there is no response.
- STAY Defense zone: can be shut off solely through the remote control (keyfob) to avoid the Infrared Detectors and other in-room detectors from misinformation when master is resting at home.
- INTELLIGENT Defense zone: if the detector in the Defense zone is triggered only once, it will not immediately alarm. But if being triggered once again within 30 seconds after the first triggering, it will not alarm immediately.
- EMERGENCY Defense zone: no matter on arming or disarming status, if detector is triggered it will alert. Usually used in connecting with Smoke Detectors, Gas Detectors and emergency button, etc.
- CLOSED Defense zone: no matter arming or disarming status, detectors will not alert even being triggered.

Troubleshooting

Problem	Probable Reasons	Available Solutions
1. cannot dial for alarm	• no arming • alerting phone unsetted • parts improperly installed • code no match • SIM card overdue	• do arming operation • re-set according to the specification • coordinating the location of parts • re-coding • 5. pay to the SIM card
2. cannot long-distance operation	• password input wrongly (or forgotten)	• retry password or reset password
3. no record indication when alerting	• voice message not recorded	• record voice message
4. remote control (keyfob) out of order	• coding un-matched with the Panel • insufficient battery power • battery pieces poor contact or voltage un-matched with Panel	• re-learn the remote control • change battery to correct type • contact the local dealer to change the matched remote control (keyfob)
5. infrared detector out of order	• low power	• change to the same type battery
6. siren without sound	• siren plug or jack in short circuit or broken-line • siren out of order • closed siren by command • positive and ground wires of siren reversed	• repair or change plug or jack • change the jack line • activate siren by command • use another siren to double check • reverse the wires to try
7. the transmission distance of detector to panel shorten	• a nearby emitter is sending code • Panel receiver stoppage • standby battery of the Panel insufficient	• move one detector next to panel and try • identify the interfering source and eliminate it • check Panel power whether plugged well
8. the signal LED blinking quickly	• SIM card un-loaded • SIM card is setting PIN code • GSM signal weak	• reload SIM card • cancel PIN code of SIM • change to place with strong signal

System Specification

- Input voltage: DC 9V – 12V
- Standby current: ＜25mA
- Alerting current: ＜450 mA
- Wireless frequency: 315/433/868/915MHZ, 2262/1.5--4.7M, EV1527/300K.
- GSM SYSTEM: supporting GSM850/900/1800/1900MHz
- Standby battery: NI-HI AAA*6   DC7.4V
- Siren loudness: 110dB
- Accessories parameters: this annunciator is compatible with PT2262 code; PT2240 code and EV1527 shorten code. In use of PT2262 code, timing resistor is suggested 1.5M to 4.7M. In use of EV1527 shorten code, timing resistor is 300K. The address code A0-A7 of door status switch, infrared and other accessories can be any code. We do not suggest it is all empty. Data code D3-D0 is any code except 0001, 0010, or 0100. It is suggested to use 1010.