

AN1808 4G Gate Opener User Manual



Please read these instructions completely before use.

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Thank you for purchasing the 4G Gate Opener. Please read this manual carefully before using. Be sure to keep this manual for future reference.

1. SAFTY PRECAUTIONS

1. Unplug the power adapter before cleaning. Do not use liquid cleaners or aerosol Cleaners. Use a damp cloth for cleaning.
2. Do not use this product near water.
3. Do not use this product near an area where there is a potential of gas leaks or near any fumes that can be explosive.
4. Do not place this equipment near or over a radiator or any other heat source.
5. Do not overload the wall outlet or power cord where the power adapter is installed. This can result in fire or electric shock.
6. Avoid spilling liquid on this equipment and do not insert any objects through the Ventilation slots.
7. Avoid using the equipment during an electrical storm. There is a remote risk of electrical shock from lighting.

2. BRIEF INTRODUCTON

4G Gate Opener is a SIM based remote control system which can activate automatic gates with a free call from you mobile phone. The users' phone numbers are programmed into the device by SMS or call. The device recognizes incoming Caller ID and drops the call without answering. With this system you can authorize up to 1150 phone numbers to open the gate or door at no cost

This model has 3 inputs included, input 2 can monitor the status of an electrical circuit when the circuit's state changes. The 4G opener will send an SMS messages to all of the nominated alarm contacts saved in the unit.

3. Product Features:

1. Simple to use, easy to program.
2. Programming via SMS command.
3. Ideal for remote control of automatic gates, barriers, doors, central heating systems, home

4. Send SMS notification when a short circuit exists on inputs
5. 1150 telephone numbers memory for access control by caller ID automatic number recognition at no call cost to user.
6. To open the gate/door by password with 4 digit code access option if the number is not stored in the access control section.
7. 2 outputs and 3 inputs for switching contacts (alarm output, sensors etc.)
8. Automation, industrial process, intruder alarm dialer and more.

4. STANDARD PACKING LIST

Item	Description	Q'ty	Included	Optional
1	4G/LTE Gate Opener	1	⊙	
2	Adapter	1	⊙	
3	Short Antenna	1	⊙	
4	External Antenna - 3 meter length	1		⊙
5	Bracket for antenna	1		⊙
6	Manual	1	⊙	

5. INSTALLATION :

5.1 SIM CARD INSTALLATION (Fig1)

1. Ensure power is off before inserting or removing the SIM card
2. Register your SIM card with the network, and check that it works in a mobile phone
3. Remove the PIN code from the SIM before inserting it in the unit
4. Insert the SIM card (note orientation of notched corner)
5. Make sure the SIM is fully inserted

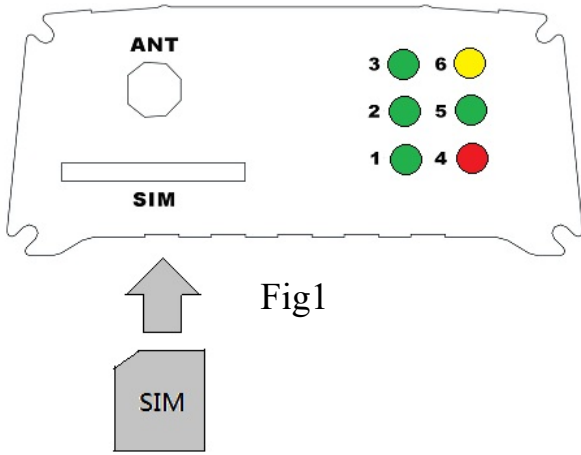


Fig1

5.2 ANTENNA CONNECTION

1. Ensure that there is good network reception at the location where it will be installed.
2. If you use an antenna with a 3 metre cable, install it as high as possible on the top of the pillar for best possible reception.

5.3 WIRING DIGRAM (Fig2 & Fig3)

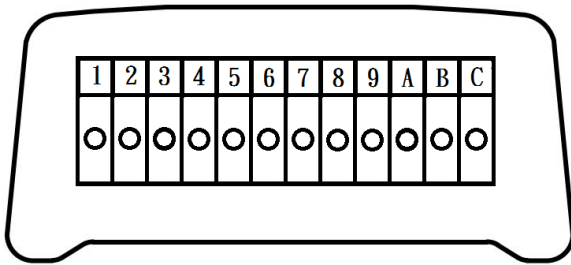


Fig2

Interface introduction:

1	2	3	4	5	6	7	8	9	A	B	C
GND	IN1(Lo)	IN2(Lo)	IN3(Hi)	NO2	COM2	NC2	NO1	COM1	NC1	AC2	AC1

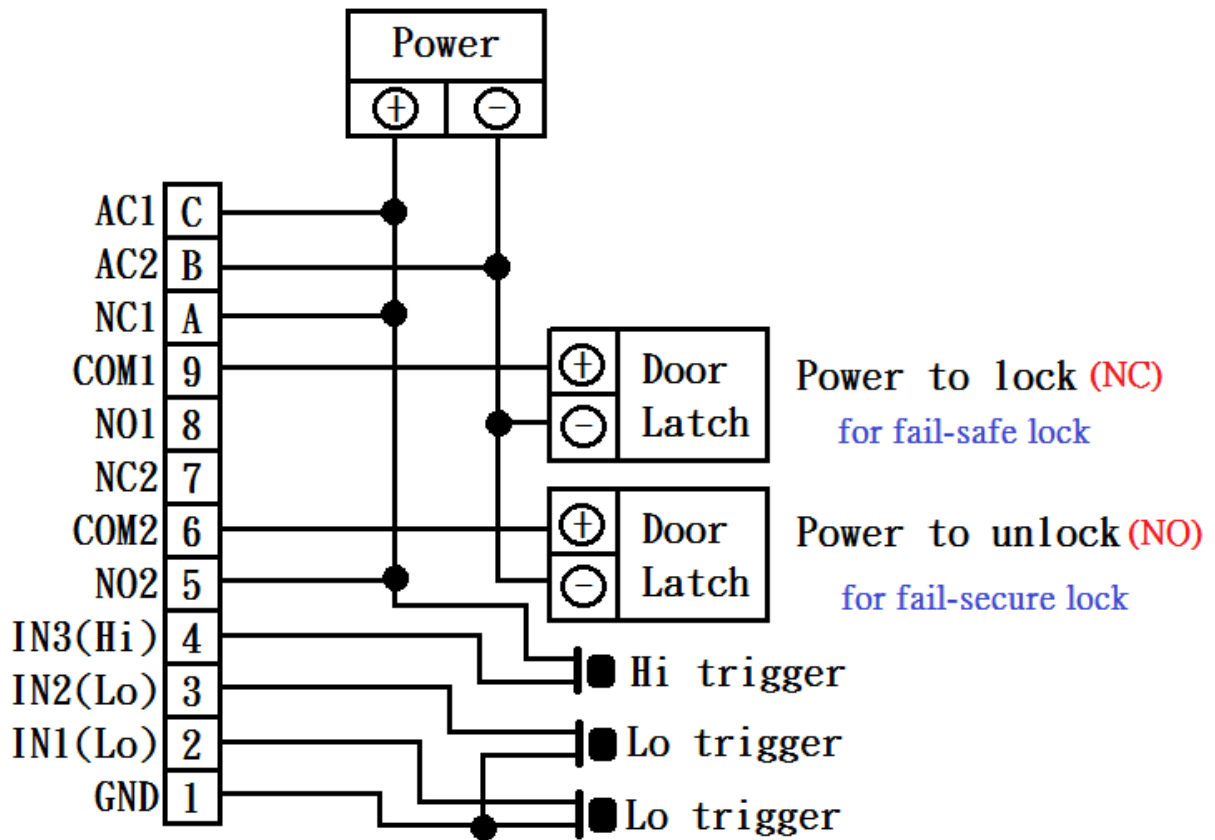


Fig3

5.4 POWER SUPPLY

The 4G Gate Opener is designed to work with power supplies 12V~24V AC or DC.

The power supply should be capable of supplying a constant current of no less than 1amp.

After a final check of wiring switch on the power. Allow 20~30 seconds for the unit to boot up and detect the network.

6. LED INDICATORS

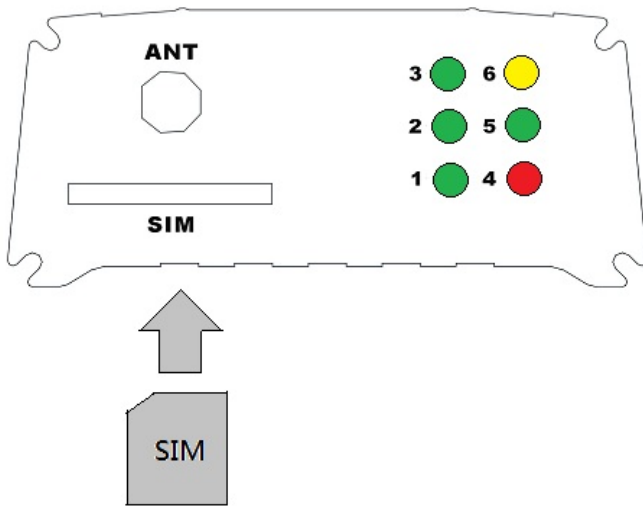


Fig4

LED Number	Definition	LED Status		
		Solid	Off	Flash
1	Trigger input 3	Input 3 active & Sending SMS	Standby	In triggering setup time (24+Time#)
2	Trigger input 2	Input 2 active & Sending SMS	Standby	In triggering setup time (17+Time#)
3	Trigger input 1	Input 1 active & Sending SMS	Standby	In triggering setup time (15+Time#)
4	Power	Power ON	Power OFF	X
5	4G/3G Network	Busy or searching	Module OFF	Flashes once per second (Standby)
6	Device status	Standby	Power OFF	Flashes once per second (No SIM inserted)
				Flashes twice per second (SIM not registered)

7. OPERATION

Programming of authorized telephone numbers in the unit will enable these numbers to call the gate opener's Mobile number, and whenever the unit receives a call, it will recognize the authorized telephone number(s) calling it, and will disconnect without answering (so there will be no charge). The gate or door relay will be activated. The relay can also be temporarily or permanently switched on or off by sending SMS or dialing in.

This 4G Opener can enable users to gain access from their mobile phone by two methods

1. Caller ID recognition
2. by access control password mode

1. Caller ID recognition to open

Ring in to open the door for an authorized telephone number.

2. Access control password to open

Dial the SIM card telephone number. The unit will answer the call and you will hear a bleep tone. The door can be opened after enter correct password code. Or just simply send SMS password code to the device.

*71*5678# : Trigger relay 1

*72*5678# : Hold relay 1

*73*5678# : Release relay 1

*74*5678# : Trigger relay 2

*75*5678# : Hold relay 2

*76*5678# : Release relay 2

*This is for door open option when telephone numbers are not stored.

8.PROGRAMMING

Programming can be carried out either by text message or by dialing into the Gate Opener.

8.1 Programming by dialing in

Dial the SIM card telephone number. The unit will answer the call and you will hear a bleep tone.

Enter Programming Mode by Pressing.....

*12***1234**# (1234 is default password)

A successful pass code will produce a single long beep. A failed attempt will produce 3 short beeps.

Example: start to program the phone number for dialing in to open the door.

Use the following commands to program the unit

* Insert international country code (1~3 digits): **71[country code] #**

* Add a number (up to 100 numbers):**72[relay][phone number] #**

* Delete a number: **73[phone number] #**

* Delete all numbers: **73*#**

Note:

*programming dialing in can't be used from telephones which are already programmed to open the door when they dial the Gate Opener.

* If the number is programmed to open the door but you still would like to use the same number to dial in for programming, then you can **disable Caller ID display (withhold the number)** on the mobile. In Australia, insert 1831 number prefix before the gate number.

8.2 Programming by text message

Programming by text message is the simplest way to customize the settings of the 3G/GSM Gate Opener and add or delete telephone numbers. Simply send texts in the format to the telephone number of the SIM within the Gate Opener.

Note:

1. A Single SMS text messages is limited to 140 characters.
2. You can program many different user command codes in a single text message with SMS command format. *12*1234 # [command Code1] # [command Code 2] # [command Code3] #.....
3. Each SMS must start with the pass code , default 1234 in the following format *12*1234 # Followed immediately by a command.

Program with the following format:

*12*1234#71[country code]#72[relay][phone number]#72[relay][phone number]#72[relay][phone number]#.....

Relay= 1 or 2

The passcode *12*1234 only needs to be put at the beginning of each new message.

Example:

Ireland Country code: 353 (UK: 44 / USA: 1 / Do not using any leading zeros)

086 5683624 (mobile number 1)

086 5682554 (mobile number 2)

086 2235644 (mobile number 3)

SMS format:

*12*1234#71353#7210865683624#7220865682554#7210862235644#

To delete phone numbers of dialing in to open

SMS format: (to delete phone number 1 and 2)

*12*1234#730865683624#730865682554#

SMS format: (to delete all numbers)

*12*1234#73*#

After the numbers are programmed you can also send the text message to check the stored numbers by sending SMS format *22*1234# , then the 4G gate opener will reply with the phone number list by text message.

9. ADMINISTRATOR NUMBER

Once the administrator number is stored, the unit will only accept programming from this number and only via SMS programming.

Example:

Program a mobile number as an administrator number via SMS

Mobile number: 0865682554

Command to use *12*1234#74 [Admin number]#

SMS format *12*1234#740865682554#

To delete the Admin number *12*1234#74*#

10. CHECKING SIGNAL STRENGTH

When requesting the signal strength, an SMS command is sent to the 4G Gate Opener. The unit should reply with a signal strength code and service provider name. The code will be between 0~31 means the signal level is from poor to best.

Example:

SMS format *21*1234#

SMS reply Vodafone Signal Level = 31 【Signal is very strong】

11. CHECK RELAY STATUS

You can send SMS command code to check relay status.

SMS format *24*1234#

SMS Reply Relay1 [status], Relay2 [status] (status = Hold / release / trigger)

Input 1 [status] , Input 2 [status], Input 3 [status] (status= high / low)

12. HOW TO RESET THE UNIT WHEN YOU FORGET THE PASSWORD

1. To keep the red button pressed on the PCB
2. Then power up and wait for 5 sec
3. After you see LED 2 and 3 starts to flash which means it's resetting.
4. Release the red button

13. CHECK A LOG OF DIALED IN NUMBERS VIA E-MAIL OR SMS

This system allows you to save dial in numbers log and will then automatically send the record via e-mail or SMS as your request.

There is a list of commands you need and examples to guide you on the settings for this feature. Please setup following required parameters and commands before you can use it.

NOTE: G-mail doesn't support this feature.

No.	Function	SMS command codes
1	Auto sending a log of dial in numbers	*12*1234#83[N]# N= 0 (sending when it reaches 100 numbers)- default N=1 (sending when it reaches 200 numbers, Max)
Sending record when it reaches 200 numbers. / command code example: *12*1234#831#		
2	Way of sending a log of dial in numbers via e-mail or SMS	*12*1234#84[N]# N=0 (no saving /sending record) N=1 (via SMS, 4 numbers limited /SMS) N=2 (via E-mail)
Sending record via email / command code example: *12*1234#842#		
3	GPRS parameters setting	*40*1234#APN, auth_type,user name,password# auth_type: 0= none / 1= PAP / 2= CHAP
Command code Example: <u>*40*1234#internet,0,,#</u> (auth_type = 0 (no need for user name and password)) <u>pass code</u> <u>APN</u> <u>auth_type =0 (none)</u>		
4	E-mail parameters setting	*41*1234#SMTP server,port,user name, password, e-mail address, e-mail sender name#
Command code Example : <u>*41*1234#gainwise.com,25,gainwise,5826,gainwise@gainwise.com,gainwise#</u> <u>pass code</u> <u>SMTP server</u> <u>Port</u> <u>user name</u> <u>PD</u> <u>email address</u> <u>sender name</u>		
5	Recipient & Carbon copy settings	*42*1234# recipient e-mail address, recipient name, carbon copy e-mail address, carbon copy name#
Commande code example: <u>*42*1234#michael@gainwise.com,MICHAEL,ivy@gainwise.com,IVY#</u> (complete setting) <u>pass code</u> <u>recipient email address</u> <u>recipient name</u> <u>carbon copy email address</u> <u>carbon copy name</u> <u>*42*1234#michael@gainwise.com,ivy@gainwise.com,#</u> (recipient/carbon copy name can be omitted) <u>pass code</u> <u>recipient email address</u> <u>carbon copy email address</u> <u>*42*1234#michael@gainwise.com,MICHAEL,,#</u> (carbon copy can be omitted) <u>pass code</u> <u>recipient email address</u> <u>recipient name</u>		

No.	Function	SMS command codes
6	E-mail subject setting	*43*1234# e-mail subject#
Command code Example: <u>*43*1234#</u> <u>dial in numbers record#</u> pass code email subject		
7	To immediately send current dial in numbers log via email or SMS	*44*1234# SMS reply: successful or failed
8	Check parameters setting	*4[N]*1234# N=0 (reply GPRS parameters) N=1 (reply e-mail parameters) N=2 (reply recipient & carbon copy) N=3 (reply e-mail subject)
Check GPRS parameters setting / Command code example: *40*1234#		
9	Mobile number for receiving a log of dial in numbers via SMS	*12*1234#85[mobile number]#
10	Delete mobile number for receiving a log of dial in numbers via SMS	*12*1234#85*#
11	SIM phone number used in opener for Clock date and time correction	*12*1234#86[SIM phone number used in opener]#
12	To delete SIM phone number used in opener for Clock date and time correction	*12*1234#86*#
<p>Note: why you need to setup the number for system time clock date and time correction? This device has a time clock and supports automatically updating their date and time via NITZ information from network. In case some of the networks are not available for NITZ information, we strongly suggest to setup this clock date and time correction. When the device detects NITZ information is not available from the network will automatically send a command to itself via the SIM card used in the opener for time correction which will keep your “ dial in numbers log ” with correct date and time.</p>		

Log example:

```
001@13/02/23,13:16:31- I 0982384664
002@13/02/23,13:16:43- I 0982384663
003@13/02/23,13:16:53- I 0982437053
004@13/02/23,13:17:14- I 0926251767
005@13/02/23,13:17:46- I 0982384663
006@13/02/23,13:17:59- I 0982384664
007@13/02/23,13:18:06- I 0926251767
008@13/02/23,13:18:25- I 0982437053
```

NO.

date

time

phone number

I : Dial in number

How to program checking a log of dialed in numbers via SMS

There are 3 programming codes you will need to make this feature work

1	Way of sending a log of dial in numbers via e-mail or SMS↵	*12*1234#84[N]#↵ N=0 (no saving /sending record) ↵ N=1 (via SMS, 4 numbers limited /SMS)↵ N=2 (via E-mail)↵
2	Mobile number for receiving a log of dial in numbers via SMS↵	*12*1234#85[mobile Number]#↵ ↵
3	SIM phone number used in opener for↵ Clock date and time correction↵	*12*1234#86[SIM phone number used in opener]#↵ ↵

You can program many different user command codes in a single text message with SMS command format.
*12*1234 # [command Code1] # [command Code 2] # [command Code3] #.....

Example:

Mobile number for receiving a log 0907967223
SIM phone number used in opener 0948778458

*12*1234#841#850907967223#860948778458#

Send *44*1234# to check log

Replied log information via SMS example:

001@13/02/23,13:16:31- I 0982384664
002@13/02/23,13:16:43- I 0982384663
003@13/02/23,13:16:53- I 0982437053
004@13/02/23,13:17:14- I 0926251767 N or E

I: Dial IN numbers
N: Next text message
E: End text message

14. USER COMMANDS

You can program many different user command codes in a single text message with SMS command format.
 *12*1234 # [command Code1] # [command Code 2] # [command Code3] #.....

No.	Command	Description	settings	Default
1	01 [new password]#	Change password of Programming Mode	password:4 ~6digits	1234
2	02[new password]#	Change password of Access control Mode	password:4 ~6digits	5678
3	11[Time]#	Door open confirming time	Time = 0~99 seconds	0 sec no delay
4	12[Time]#	Relay 1 activation time	Time = 1~9999 seconds	1
5	13[Time]#	Relay 2 activation time	Time = 1~9999 seconds	1
6	14[Time]#	Activation time when input 1 is triggered	Time = 1~9999 seconds	0 sec no delay
7	15[Time]#	Sending SMS duration when input 1 continues triggering	Time = 0-60 minutes	15[Time]#
8	16[Time]#	Activation time when input 2 is triggered	Time = 1~9999 seconds	0 sec no delay
9	17[Time]#	Sending SMS duration when input 2 continues triggering	Time = 0-60 minutes	0 min no delay
10	23[Time]#	Activation time when input 3 is triggered	Time = 1~9999 seconds	0 sec no delay
11	24[Time]#	Sending SMS duration when input3 continues triggering	Time = 0-60 minutes	0 min no delay
12	18[Status]#	Set Input1 status	Status= 0 or 1 0=N.O 1=N.C	0
13	19[Status]#	Set Input 2 status	Status= 0 or 1 0=N.O 1=N.C	0
14	22[Status]#	Set Input 3 status	Status= 0 or 1 0=N.O 1=N.C	0
15	20[mode]#	Set Input 1 mode	Mode= 0, 1 , 2 or 3 0 = Disable , 1 = Trigger 2 = Egress 1, 3= Egress2	1

No.	Command	Description	settings	Default
16	21[mode]#	Set Input 2 mode	Mode= 0, 1, 2 or 3 0 = Disable , 1 = Trigger 2 = Egress 1, 3 = Egress2	1
17	27 [mode]#	Set Input 3 mode	Mode= 0 or 1 0 = Disable , 1 = Trigger	1
18	28+IN*time start+ time end*time start + time end*.....#	Set time duration (enable inputs) Example: Enable input 1time duration 00:00~05:00, 12:00~16:00, 21:00~23:00 SMS format:281*0005*1216*2123#	IN= 1, 2 or 3 (input 1~3) Time start = 00~23 Time end = 01~24 (hour as an unit)	enable
19	71[country code]#	To set country code	Country code= 1-3 digits (UK:44 / USA:1)	886
20	72[relay][phone number]#	Store phone number For ringing in to open the door (max: 100 numbers)	Relay= 1 or 2 Phone number =3 ~14 digits	N/A
21	73 [phone number]#	Delete a ring in to open number	phone number =3 ~14 digits	N/A
22	73*#	Delete all ringing in to open numbers		
23	74[admin number] #	Add administrator phone number	admin number =3 ~14 digits (no number no restriction)	N/A
24	74*#	Delete administrator phone number		
25	75[N][phone number]#	Add mobile number of alarm contact when inputs are triggered.	N=phone number 1, 2 or 3 phone number =3 ~14 digits	N/A
26	75[N]*#	Delete mobile number of alarm contact when inputs are triggered.	N=1~3(sequence of phone number)	N/A
27	Relay control SMS reply	871+N#	N= 0 or 1 0= disable 1= enable SMS replay Relay 1 trigger, relay 2 trigger Relay 1 hold, relay 2 hold Relay 1 release, relay 2 release	0
28	999#	Reset		

User commands to check system info & control relay via SMS

No.	Command	Description	SMS Reply
1	*21*1234#	check signal strength and operator	Signal Level = 0~31 From poor to strong
2	*22*1234#	Reply stored numbers	[number1]#[number2]#[number3]#..... E:Next page / N: End
3	*23*1234#	Reply alarm contact numbers when inputs are triggered	[number1]#[number2]#[number3]#
4	*24*1234#	Check relay and inputs status	Relay 1: status (status= hold/ release/ trigger) Input1: status (status= high / low) Input 2:status (status= high / low)
5	*31*1234#[SMS content]#	Store SMS content when input 1 is triggered.	SMS content=max 100 characters
6	*31*1234#	To check input 1 SMS content	Default SMS “ trigger 1 is active”
7	*32*1234#[SMS content]#	Store SMS content when input 2 is triggered.	SMS content=max 100 characters
8	*32*1234#	To check input 2 SMS content	Default SMS “ trigger 2 is active”
9	*33*1234#[SMS content]#	Store SMS content when input 3 is triggered.	SMS content=max 100 characters
10	*33*1234#	To check input 3 SMS content	Default SMS “ trigger 3 is active”
11	*71*5678 #	Trigger relay 1	No reply
12	*72*5678 #	Hold relay 1	No reply
13	*73*5678#	Release relay1	No reply
14	*74*5678 #	Trigger relay 2	No reply
15	*75*5678 #	Hold relay 2	No reply
16	*76*5678#	Release relay2	No reply

15. SPECIFICATIONS:

Operating Voltage	12~24 volts AC or DC
Operating Current	Maximum 250mA, typically 55mA
4G RF Module	Quectel EC21AU
LTE / WCDMA Frequency	4G-B1,B2,B3,B4,B5,B7,B8,B28. 3G-B1,B5,B8. (All AUS carriers.)
Power Consumption	Standby: 42mA/hr / Relay on: 83 mA/hr
Physical size	9.5 (L) X 6.0 (W) x 2.5 (H) cm
Antenna	Short Antenna
Humidity	Less than 80% RH
Operating Temperature	-20°C to 50°C

16. QUICK PROGRAMMING VIA SMS AND OPERATION

Program a phone number for dial in door release (Max 1150 numbers)

Note: Program a phone number for dial in door release you NEED TO enter country code.

*12*1234#71[country code]#72[relay][phone number]#72[relay][phone number]#72[relay][phone number]#.....

Relay= 1 or 2

Example:

Ireland Country code: 353 (UK: 44 / USA: 1 / Do not using any leading zeroes)

086 5683624 (mobile number 1)

086 5682554 (mobile number 2)

086 2235644 (mobile number 3)

SMS format:

*12*1234#71353#7210865683624#7220865682554#7210862235644#

Operation

You can dial in or send SMS password code to the device to control relay.

*71*5678# : Trigger relay 1

*72*5678# : Hold relay 1

*73*5678# : Release relay 1

*74*5678# : Trigger relay 2

*75*5678# : Hold relay 2

*76*5678# : Release relay 2

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