GSM AUTO MK2

User Manual

Contents

IMPORTANT!

Please read through this instruction manual before you start to install and program the GSM-AUTO MK2.
If you are unsure how to connect the device you wish to control refer to a qualified person.

Description

The GSM-AUTO MK2 is a wireless remote control switch that connects to the GSM (2G) cell phone network.
It has 2 independent relay switches, these can be programmed to switch on or off for a pre-determined length of time when the unit is called, or toggled on & off with alternate calls.
The GSM-AUTO MK2 will recognise an authorised telephone number calling it and action the call without answering. Therefore, there are no call charges incurred when calling it.
The relay switches can also be temporarily or permanently switched on or off by sending the unit a text message command.

Specification

Operating voltage:	12Vac/dc (1A power supply recommended)
Relay contacts:	2 x Normally Open & Normally Closed contacts. Maximum switching capacity 20A @ 230Vac per relay
GSM frequency MHz:	GSM-850, GSM-900, GSM-1800, GSM-1900
SIM requirements:	2G enabled micro SIM
Operating temperature:	-10°C to 50°C
Physical size:	157 x 122 x 53mm
Protection:	IP65
Caller ID memory:	1000

Preparing the SIM card

When choosing a SIM card please make sure the SIM is 2G enabled, not 3G or 4G only, or a data only SIM. From experience the EE and O2 networks work best, choose whichever has the best signal strength in the area the GSM-AUTO MK2 is to be located.

Make sure the new SIM card is registered, this can be done by calling the network provider or registering on their website. Please refer to the instructions supplied with your SIM card.

After successfully registering the SIM card, ensure there is sufficient credit on the card for programming confirmation texts to be sent from the GSM-AUTO MK2 unit.

You MUST ensure that the PIN request is disabled from the SIM card before inserting it into the GSM-AUTO MK2. If you do not disable the PIN request the GSM-AUTO MK2 will not work.
To check the PIN request status of your SIM card, place the card in an unlocked mobile phone, switch the phone on. If you are able to make calls without entering a PIN then the PIN request is disabled.
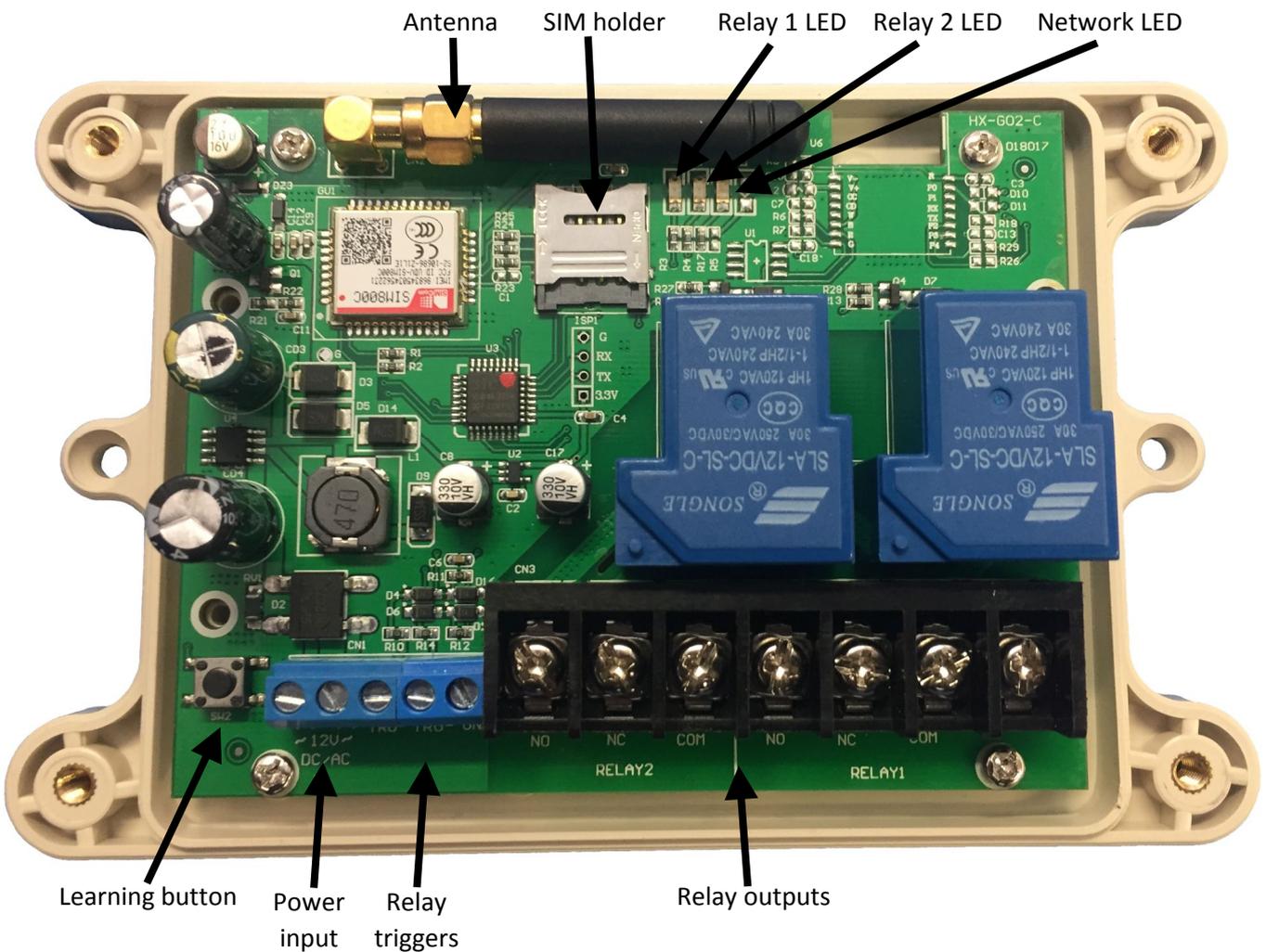
You MUST disable any voicemail that is set up on the SIM card, this can be done by placing the SIM in an unlocked mobile phone and calling the network. Alternatively, some networks allow it to be removed online.

The SIM card is now ready to use.

We recommend that if you are using a 'pay as you go' (PAYG) SIM card that you choose to automatically 'Top-Up' when the cards credit falls below a certain limit.

Most but not all PAYG SIM cards will be de-activated by the network if not used to make an outgoing voice call or send an SMS text message within a specific period. To prevent this simply send the GSM-AUTO MK2 a text command, it will reply by text message, do this once a month to keep the SIM card active.

Installation

Antenna · SIM holder · Relay 1 LED · Relay 2 LED · Network LED

Learning button · Power input · Relay triggers · Relay outputs

To insert the SIM card, slide the metal holder into the open position and lift it up (it is hinged at the open side). Place the SIM card onto the holder. Carefully put the metal holder back down and slide it into the lock position.

| + | − | TRG-2 | TRG-1 | GND | NO | NC | COM | NO | NC | COM | |

Input voltage 12Vac/dc

Relay 2   Relay 1
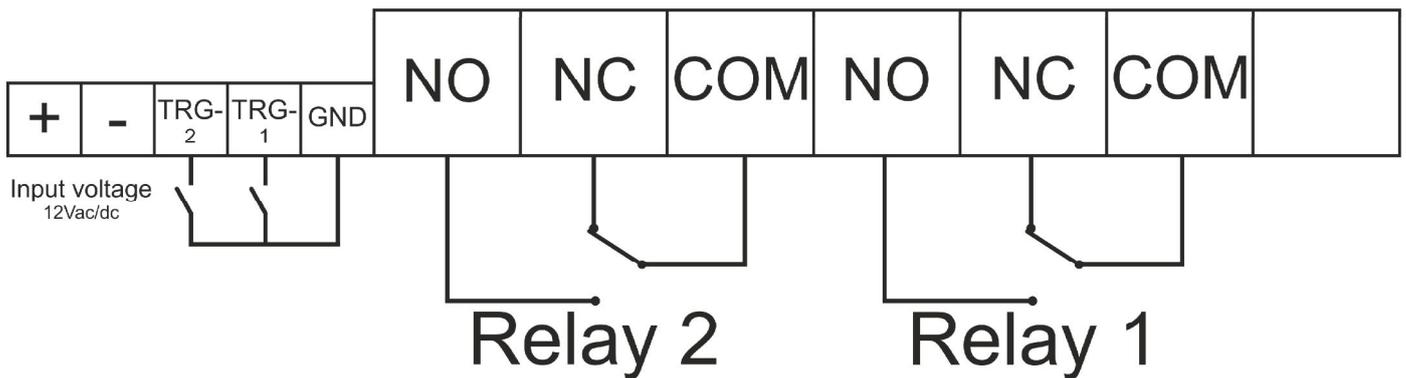
Connect 12V to the marked terminals. If using DC voltage ensure correct polarity. Switch on the power supply. The 3 LEDs will flash quickly in series, then the blue LED will flash consistently every couple of seconds and the system is connected to the network.

It is recommended that the GSM-AUTO MK2 be programmed to operate as required before final installation.

Programming

Setting up admin number by voice call

Press the learning button for 5 seconds and release it, the blue network LED and red relay 2 LED will be permanently lit. Dial the number of the SIM card in the unit from the phone you want to set as the administrator. The unit will reject the call and send an SMS confirmation as **SAVE ADMIN OK**.

The system will only remain in this mode for 40 seconds and then timeout.

The administrator can now program the system using the instructions in this manual. To change the administrator number, repeat the process above, the new number will override and replace the existing one.

Changing the password

The system is programmed via SMS commands using a pre-fixed 4 digit password, factory default **1234**.

To change the password to 1212 send the following command: **1234CP1212** and receive SMS confirmation: **CP:1212**

The new password is now 1212. We will refer to the password as 1234 in the remainder of the manual.

Open/secure access mode

It is possible to have the device set in open access mode (any phone number can call the device) or secure access mode (only authorised numbers can call the device).

To turn open access mode on, send the following command: **1234ATH0#** and receive SMS confirmation: **'CALL CONTROL UNLIMITED'**.

To turn secure access mode on, send the following command: **1234ATH1#** and receive SMS confirmation: **'CALL CONTROL LIMITED'**.

Adding caller ID numbers via voice call

To enable caller ID numbers to be added via voice call firstly set the device to learning mode by sending the following command: **1234ADD ON** and receive SMS confirmation: **ADD ON.**

The individual caller ID user can now call the unit and the system will reject the call and send that caller a confirmation of: **ADD071234566789 OK.** The number 07123456789 has now been stored as a caller ID number.

It is possible to add as many caller ID numbers as required until learning mode is turned off.

To turn off learning mode send the following command: **1234ADD OFF** and receive SMS confirmation: **ADD OFF.**

Adding caller ID numbers via SMS

It is possible to add up to 8 telephone numbers in one SMS command. To do this, assuming the numbers to be added are 11111111111 & 22222222222 & 3333333333333, send the following command: **1234AD11111111111#22222222222#33333333333#** and receive SMS confirmation: **SET OK.**

Caller ID access restriction

It is possible for the administrator to limit the number of times caller ID numbers can activate the system, up to 250 times.

To restrict the number 07123456789 to access the system 14 times send the following command: **1234NUMBER07123456789*14#** and receive SMS confirmation: **SET OK!,07123456789,14**

Deleting caller ID numbers via SMS

It is possible to delete up to 8 telephone numbers in one SMS command. To do this, assuming the numbers to be deleted are 11111111111 & 22222222222 & 3333333333333, send the following command: **1234DD11111111111#22222222222#33333333333#** and receive SMS confirmation: **Delete OK!**

Deleting all caller ID numbers via SMS

To delete all numbers from the caller ID list send the following command: **1234FD** and receive SMS confirmation: **FD OK**.

Checking the status of the system

The administrator can check the system status at any time by sending the following command: **CHK** and receive a similar SMS confirmation:

RELAY1 OFF
RELAY2 OFF
MODE A
Admin SMS OFF
User SMS OFF

Admin password: 1234
FREE MEMORY 980
CALL CONTROL LIMITED**********

Checking GSM signal

In order to check the GSM signal quality send the following command: **1234CD:AT+CSQ** and receive a similar SMS confirmation: **+CSQ: 24,0 OK**. The number will be 9 to 28, anything up to 24 is a good signal.

Administrator SMS feedback

The caller ID numbers can receive SMS confirmations when they activate the unit, and the administrator can also choose to receive these SMS confirmations or disable the function.

To enable the function send the following command: **1234SMS1#** and receive the SMS confirmation: **SMS ON!**

To disable this function send the following command: **1234SMS0#** and receive the SMS confirmation: **SMS OFF!**

Setting the working mode

The system has 2 output relays and 4 call function modes & 1 text function mode:

MODE A

Mode A is the factory default function and allows the caller to activate relay 1 from 1 second up to 65,000 seconds. When programming this function it is possible to decide whether to receive SMS confirmations or not.

Factory default is Mode A with the relay 1 latching time set to 3 seconds and the SMS confirmations enabled.

To program Mode A with the relay 1 latching time set as 60 seconds and SMS confirmations enabled send the following command: **1234MA60#1** and receive SMS confirmation: **MA60#1 OK**

To program mode A with the relay latching time set as 1 hour and SMS confirmations disabled send the following command: **1234MA3600#0** and receive SMS confirmation: **MA3600#0 OK**

MODE B

Mode B allows the caller to activate relay 1 on & off (toggle) with alternate phone calls and choose whether to receive SMS confirmations or not.

To program Mode B and enable SMS confirmations send the following command: **1234MB1#** and receive SMS confirmation: **MB1 OK**.

To program Mode B and disable SMS confirmations send the following command: **1234MB0#** and receive SMS confirmation: **MB0 OK**.

MODE C

Mode C allows you to program both relay 1 and relay 2 for a non-independent period of 1 second up to 65,000 seconds. It is also possible to program a time delay from when relay 1 latches and relay 2 is activated. The time delay can be set from 1 second up to 65,000 seconds and if there is no time delay set, then relay 2 will not activate. In addition, you can choose to receive or not receive SMS confirmations when both relays are activated and deactivated.

To set relay 1 latching time to 100 seconds and receive SMS confirmations send the following command: **1234MC100#1#1** and receive SMS confirmation: **MC100#1#1 OK**.

To set relay 1 latching time to 100 seconds and not receive SMS confirmations send the following command: **1234MC100#1#0** and receive SMS confirmation: **MC100#1#0 OK**.

To set relay 2 latching time to 3600 seconds and receive SMS confirmations send the following command: **1234MC3600#2#1** and receive SMS confirmation: **MC3600#2#1 OK**.

To set relay 2 latching time to 3600 seconds and not receive SMS confirmations send the following command: **1234MC3600#2#0** and receive SMS confirmation: **MC3600#2#0 OK**.

To set the time delay between relay 1 & relay 2 to 30 seconds send the following command: **1234DL30#** and

Relay 1	100 second run time	
Relay 2	30s delay	3600 second run time
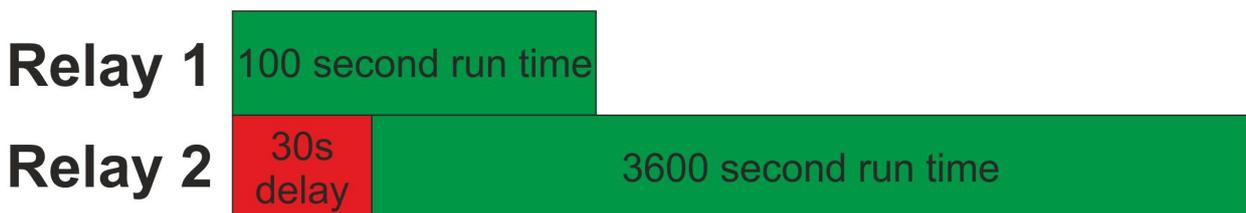
receive SMS confirmation: **DL30# OK**.

MODE D

In Mode D upon the first call received relay 1 will latch on. The next phone call will latch relay 1 off and latch relay 2 on. Each phone call effectively toggles between each relay.

Each relay can be turned off by activating the input trigger for that relay.

To program Mode D and enable SMS confirmations send the following command: **1234MD1#** and receive SMS confirmation: **MD1 OK.**

To program Mode D and disable SMS confirmations send the following command: **1234MD0#** and receive SMS confirmation: **MD0 OK.**

MODE E

Mode E allows you to latch relay 1 or 2 on for a preset period independently or latch either relay on & off permanently using a simple, short SMS code. This mode can also be used in conjunction with a call mode.

To set up a preset latching time of 3600 seconds for relay 1 send the following command: **1234ME3600#1** and receive SMS confirmation: **ME3600#1 OK**.

To activate relay 1 for 3600 seconds send the short code **ON1** and relay 1 will activate for 3600 seconds.

To set up a preset latching time of 600 seconds for relay 2 send the following command: **1234ME600#2** and receive SMS confirmation: **ME600#2 OK**.

To activate relay 2 for 600 seconds send the short code **ON2** and relay 2 will activate for 600 seconds.

To latch relay 1 on permanently (set the latch time to 0) send the following command: **1234ME0#1** and receive the following SMS confirmation: **ME0#1 OK.**

To latch relay 1 permanently on send the short code **ON1.**

To turn relay 1 permanently off send the short code **OFF1**.

The same format applies for relay 2.

Setting up customised SMS confirmations

The system allows up to 20 characters for each customised message.

To set the relay 1 SMS message when activated, assuming the SMS message is 'Gate opening' send the following command: **1234RL11: GATE OPENING** and receive SMS confirmation: **GATE OPENING**.

To set the relay 1 SMS message when deactivated, assuming the SMS message is 'Gate open' send the following command: **1234RL10: GATE OPEN** and receive SMS confirmation: **GATE OPEN**.

To set the relay 2 SMS message when activated, assuming the SMS message is 'Gate closing' send the following command: **1234RL21: GATE CLOSING** and receive SMS confirmation: **GATE CLOSING**.

To set the relay 2 SMS message when deactivated, assuming the SMS message is 'Gate closed' send the following command: **1234RL20: GATE CLOSED** and receive SMS confirmation: **GATE CLOSED**.

Relay input control triggers

The relay input triggers are both activated by taking the input triggers to the GND polarity of the controller as per the wiring diagram. The input triggers can be used to turn OFF their corresponding relay when activated.

Factory reset

Press & hold the learning button whilst powering up the unit, until all 3 LEDs start flashing together. The system has now been restored to factory default. Caller ID numbers are unaffected.

Quick reference of programming commands

Function	Command	Confirmation	Note
Change password	1234CP1212	CP:1212	Default: 1234
Open access mode	1234ATH0#	Call control unlimited	
Secure access mode	1234ATH1#	Call control limited	
Add caller ID numbers	1234AD11111111111#	SET OK	Add up to 8 numbers per message
Restrict caller ID numbers	1234NUMBER11111111111*14#	SET OK!, 11111111111,14	Up to 250 times
Delete caller ID numbers	1234DD11111111111#	Delete OK!	Delete up to 8 numbers per message
Delete all caller ID numbers	1234FD	FD OK	
Checking system status	CHK	Relay status, mode status, SMS settings, password, free memory	
Signal strength check	1234CD:AT+CSQ	+CSQ:24,0 OK	Number 9-28. Up to 24 means good signal.
Enable admin SMS confirmations	1234SMS1#	SMS ON!	Administrator receives confirmations when system is activated
Disable admin SMS confirmation	1234SMS0#	SMS OFF!	Administrator doesn't receive confirmations when system is activated
Program Mode A and enable SMS confirmations	1234MA**60**#1	MA60#1 OK	Time can be from 1 second to 65,000 seconds
Program Mode A and disable SMS confirmations	1234MA**60**#0	MA60#0 OK	Time can be from 1 second to 65,000 seconds
Program Mode B and enable SMS confirmations	1234MB1#	MB1 OK	Relay latches on & off with alternate calls
Program Mode B and disable SMS confirmations	1234MB0#	MB0 OK	Relay latches on & off with alternate calls
Program Mode C relay 1 latching time and enable SMS confirmations	1234MC**100**#1#1	MC100#1#1	Time can be from 1 second to 65,000 seconds
Program Mode C relay 1 latching time and disable SMS confirmations	1234MC**100**#1#0	MC100#1#0	Time can be from 1 second to 65,000 seconds
Program Mode C relay 2 latching time and enable SMS confirmations	1234MC**3600**#2#1	MC3600#2#1	Time can be from 1 second to 65,000 seconds
Program Mode C relay 2 latching time and disable SMS confirmations	1234MC**3600**#2#0	MC3600#2#0	Time can be from 1 second to 65,000 seconds
Program Mode C delay time	1234DL**30**#	DL30# OK	Time can be from 1 second to 65,000 seconds. If delay time is set to 0, relay 2 will not activate
Program Mode D and enable SMS confirmations	1234MD1#	MD1 OK	
Program Mode D and disable SMS confirmations	1234MD0#	MD0 OK	
Program Mode E relay 1 latching time	1234ME**3600**#1	ME3600#1 OK	Time can be from 1 second to 65,000 seconds. If set to 0, relay will latch permanently
Program Mode E relay 2 latching time	1234ME**600**#2	ME600#2 OK	Time can be from 1 second to 65,000 seconds. If set to 0, relay will latch permanently
Turn on relay 1/relay 2 short code	ON1 / ON2		
Turn off relay 1/relay 2 short code	OFF1 / OFF2		
Setup custom message for	1234RL11: custom	Custom message 1	Up to 20 characters

relay 1 activating	message 1		
Setup custom message for relay 1 deactivating	1234RL10: custom message 2	Custom message 2	Up to 20 characters
Setup custom message for relay 2 activating	1234RL21: custom message 3	Custom message 3	Up to 20 characters
Setup custom message for relay 2 deactivating	1234RL20: custom message 4	Custom message 4	Up to 20 characters