GSM-AIR MANUAL

Specifications:

- ˅ 14 channels 230V 10A relay contacts and 2 channels 230V 30A relay contacts
- ˅ No call charges to operate from phone calling.
- ˅ Work with GSM phones calling and SMS.
- ˅ Relay operates almost every applicance.
- ˅ Remote password operation and also password change.
- ˅ Opetional relay working mode.
- ˅ One relay output with the calling mode and others with the SMS to control
- ˅ Caller ID confirmation for security.
- ˅ Quick & easy number barring.
- ˅ Can be operated from anywhere.
- ˅ Easy programming in minutes with your phone or PC software
- ˅ Optional Backup battery for main Power supply off alarm

About the Relay output:

GSM-AIR totally have 16 relays on board for remote control by phone calling or SMS, A relay is an electrically operated on/off switch. You must provide an external power source to the device you want to control. No voltage is present at the relay terminals (remember it is just a switch). The relay is normally connected in series with the positive (+) power wire of the device you want to control.
If you are not sure how to use the relay output,please download and read the file about the relay output:
http://www.waferstar.com/downloads/Relay_control_output_faq.pdf

Quick Start to Use:

1. Insert the SIM card from the slide slot and connect the GSM antenna
2. Power on the device with DC12V and the "D23" MCU Status Led will be lit and start to flash
3. D19 "GSM" Led will then start to quick flash with twice per second to connecting the GSM net
4. When the controller connected to the GSM net,then D19 Led would slow flash one time per 3 seconds
5. Use your mobile phone to call the SIM card number inside the device,if the device can reject your calling,that means the device is connected to the GSM net successfully.
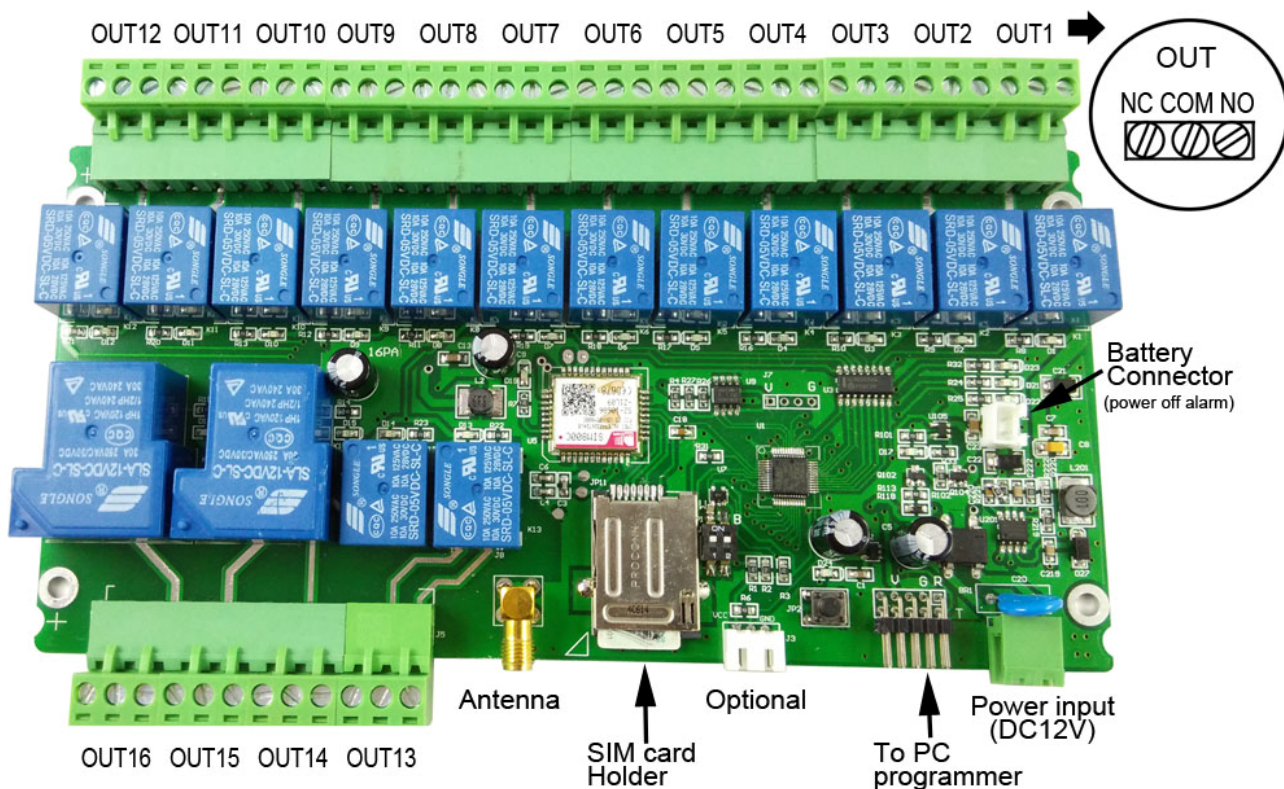
How to use App:

User can go to google play store or iPhone app store to search "gsm relay"
And then install the app to fast use the GSM-AIR

Board Connectors Descriptions:

OUT1 is activated by the phone calling and others is activated by the SMS instruction
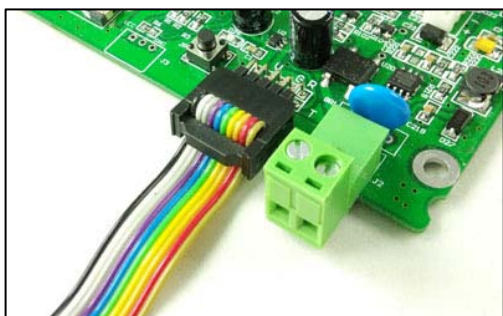
About GSM-AIR PROGRAMMING

You can program the GSM-AIR 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 anybody who doesn't know it to access the system by chance.

Remember that commands must be CAPITAL LETTERS. It is PWD not pwd, CAP not Cap etc. Don't add spaces or any other character.

Some complicated Instructions,that cann't be programmed by the phone SMS. That would need to use the PC software to program and inquiry the status of the terminal.

The below wire picture is to show how to connect the cable to the PC program connector with the Program adapter.Please connect it in the right direction with the picture.

The following compand is used in the GSM-AIR :

    #PWD: Password

    #CAP: Change password

    #WHL: White List (add or remove numbers)

    #GOT: Relay working output delay time

    #MODE: Relay mode

    #CSQ: Check Signal Quality

    #STATUS: Check status

    Once you issue a command with an SMS, you will receive a confirmation SMS with OK if everything is correct or Err if there is an Error.

GSM-AIR SMS COMMAND LIST:

#PWD *Password*.

This command must always come first 6 digits as a password.

The standard default one, when the device comes from the factory, is 123456.

We suggest that you change it, using the #CAP command.

In all the following examples we will use 123456 as an example of password.

#CAP *Change Password*.

Use this command to change the password with a new one that you will chose for your device (don't forget it or you will have to send the unit back to us to reset it, and this has a cost)

The #CAP command must be issued 2 times to be sure you don't digit a wrong one.

OF course it must be preceded by the old password.

For example, to change the password 123456 into the new password 333444 you need to send the following SMS:

#PWD123456#CAP333444#CAP333444

Acknowledge SMS: PWD SETUP OK

If you wrote correctly, or an Error message if you made a mistake.

If the old password is error,then conformation would be : Error Old Password

If you input two different new password,then reply would be : Error New Password,Please Check the input again

#WHL *White List*.

This is the command that you will use most. it is used to add or remove numbers that are enabled to control the relay sets into the White List. You can add up to 200 numbers in the list. Every position must be indicated in the command and we advise you to keep a list written somewhere to know which numbers are in and in which position.

• To add a number, the syntax of the command is the following:

#PWD123456#WHL01=61143815

Acknowledge **would be : WHL01 SET TO 61143815 OK**

Where 01 is the position in the list and 61143815 is the number enabled.

Please note that it is possible to program up to a maximum of 18 digits for a number. If it has more digits you should use the rightmost ones. For example, if your number is 33446665555 you should program 3446665555. If your number appears as +85261143815 you should not program the country code (+852). If your number has only 17 digits or less, it is not a problem. The important thing is that you don't exceed 18 digits.

• To check which is the number in a place of the list:

#PWD123456#WHL05?

Acknowledge **: WHL01 IS 61143815 OK**

• To erase a number:

#PWD123456#WHL01=0000

(or you can write over it another number you wish to add)

Acknowledge : **WHL01 SET TO 0000**

• To find a number in the phone book list:

#PWD123456#QUERY=61143815?

Acknowledge **: QUERY RESULT: 61143815 AT WHL05**

#ACM *Safety control or free control mode setting.* **(PC$PHONE)**

#PWD123456#ACM=ON

Acknowledge**:ACM SET TO ON**

#PWD123456#ACM=OFF

Acknowledge**:ACM SET TO OFF**

ACM=OFF, Then any number can free control the device through the phone calling

ACM=ON, Then only the authorized number can control the device through the phone calling

#REPORT *Report the system status change* **(PC$PHONE)**

When setup to:

#PWD123456#REPORT=ON

Acknowledge**: REPORT SET TO ON**

Then any device status change would send the alarm SMS to WHL01 number

#PWD123456#REPORT=OFF

Acknowledge**: REPORT SET TO OFF**

No report for the device status change

#PWD123456#REPORT?

You will receive the SMS reply:**REPORT IS ON** or **REPORT IS OFF**

Check the REPORT setting status

#GOT *Relay working output delay time.*

This command is useful in case you need to keep the Relay output working longer. The standard time is 5 Seconds. You can change it with the GOT command.

• The syntax of the command is the following:

#PWD123456#GOT5 **(PC$PHONE)(Only for NO.1 Relay)**

Acknowledge**: DELAY TIME SET TO 5S**

With the above command the delay time has been set to 5s.

• You can check what the current relay output delay time is with the command

#PWD123456#GOT?   (PC$PHONE) (Only for NO.1 Relay)

Acknowledge**: DELAY TIME IS 05S**

Also you can change the Timer Ratio from millisecond to Second or Minute
#PWD123456#TIMER-DELAY-AT-MILLISECOND;
#PWD123456#TIMER-DELAY-AT-SECOND;
#PWD123456#TIMER-DELAY-AT-MINUTE;

#MODE Relay Operation Mode SETUP   (PC$PHONE) (Only for NO.1 Relay)
#PWD123456#MODE0
Acknowledge**:   RELAY SET TO MODE0**
#PWD123456#MODE1
Acknowledge**:   RELAY SET TO MODE1**
If setup to MODE0,that is Momentary pulse mode, when you call the SIM card number , device will toggle the relay and delay a GOT timer ,then the relay will back the previous status.
If setup to MODE1,that is Ratchet relay mode,when you call the SIM card number,device will switch to the other status ON or OFF ,and when you call again ,it will switch the status again.
#PWD123456#MODE?   (Check the RELAY MODE Status)
Acknowledge**:   RELAY IS MODE0   or RELAY IS MODE1**

#OUT Relay output control
(1)ON the relay output contact
#PWD123456#OUTX=ON   (PC$PHONE)
Where X is the number of the relay in the list (X is from 1 to 16)
Acknowledge**: OUTX ON OK**
(2)OFF the relay output contact
#PWD123456#OUTX=OFF   (PC$PHONE)
Where X is the number of the relay in the list (X is from 1 to 16)
Acknowledge**: OUTX OFF OK**
(3)ALL the relay control at the same time
#PWD123456#OUT=110101100000000   (PC$PHONE)
Where the number is 1 or 0 to ON or OFF the relay.
Acknowledge**: #PWD123456#OUT=110101100000000 OK**
(3)Check the relay status
#PWD123456#OUT?   (PC$PHONE)
Check the status of all the relay
Acknowledge**:   OUT 111000000000000**

#RLY Temporary latching of output relays (Only Can control from RELAY1 to RELAY16)
This command allows the temporarily switch on the Relays for up to 65,000 seconds and receive confirmation SMS text alerts when the Relays switch on and off

- To activate relay 2 for 60 seconds you would send the following SMS text message to the unit

#PWD123456#RLY2=00060   (From RLY1 to RLY16)

Where 2 indicates the relay number and 0060 is the time in seconds and should be entered in a 5 digit format as shown

The administrator number will receive the following confirmation text message from the unit

#RLY02-ON:60 Second

#CSQ *Check GSM signal quality.*   **(PC$PHONE)**

This command is useful to see what is the GSM network signal level your GSM-AIR is receiving. It ranges from 0 to 32 (if it is 0 we doubt it will ever answer...). You should have a signal above 12 to be sure of being able to control the relay sets in any condition. Better if above 16. You should add an external antenna if this is not the case, or eventually even change operator with another that serves your area better.

#PWD123456#CSQ?

Acknowledge: **CSQ IS 23**

About the customized SMS Command:

For each relay output control command,we can customized a command for the authorized users to use,then will not need to remember the command and no need to put the password with each command, that would keep the system more safety and easy to use.

Customized output control command TEXT: (PC$PHONE)

With these following command you can customize the command to control your output.then would be easy for you to understand the command

#PWD123456#OPENn-TEXT#XXXX   (**n is the number from 1 to 16**)
#PWD123456#CLOSEn-TEXT#XXXX
#PWD123456#RLY-TEXTn#XXXX

For second output reply,then use the following command to config the second output
#PWD123456#OPEN2-TEXT#XXXX
#PWD123456#CLOSE2-TEXT#XXXX
#PWD123456#RLY-TEXT2#XXX

For example,you send the command:
#PWD123456#OPEN2-TEXT#GATE2 OPEN
Reply: OPEN TEXT2IS GATE2 OPEN
Then you can use the simple SMS: GATE2 OPEN to switch on the output2 relay
#PWD123456#CLOSE2-TEXT#GATE2 CLOSE
Reply: CLOSE TEXT2 IS GATE2 CLOSE
Then you can use the simple SMS: GATE2 CLOSE to switch off the output2 relay
#PWD123456#RLY-TEXT2#GATE2 DIAN
Reply: RLY2-TEXT IS GATE2 DIAN OKAY
Then you can use the simple SMS: GATE2 DIAN=5 to trigger the output2 relay for 5 second

Check the Customized command text: (*This command only for PC to check*)
#PWD123456#OUT-TEXT?

#REPLY SMS reply OFF or ON
#PWD123456#REPLY=ON
Acknowledge:**REPLY SET TO OFF**
When setup to ON,then Device will reply the customized command after Relay is toggled
#PWD123456#REPLY=OFF
Acknowledge:**REPLY SET TO OFF**
When setup to OFF,then Device will not reply the customized command after Relay is toggled
     (This command is used to save the cost for user)