WT-2009
GSM-AUTO

User Manual

IMPORTANT!

Please read through the instruction manual before you start to install and program the device.

If you are unsure how to connect the device you wish to control please refer to a qualified person.

Description:

The WT-2009 is a wireless remote control ON/OFF switch that connects to the GSM cell phone network.

It is activated by calling its cell phone number, it will reject the call without answering and switch on the device connected to it.

There are no call charges incurred when dialing the unit, it will recognize an authorized telephone number calling it and reject the call without answering.

It has 2 independent switches, these can be programmed to switch on for a pre-determined length of time whenever the WT-2009 is called, alternatively the switches can be permanently switched ON or OFF by sending the WT-2009 a text message.

Requirements:

- The WT-2009 requires a 12 volt DC power supply capable of providing a minimum current of 500mA, typical current consumption is 50mA

- A mobile phone SIM card with sufficient credit to send confirmation text messages when programming the WT-2009 unit.

Installation:

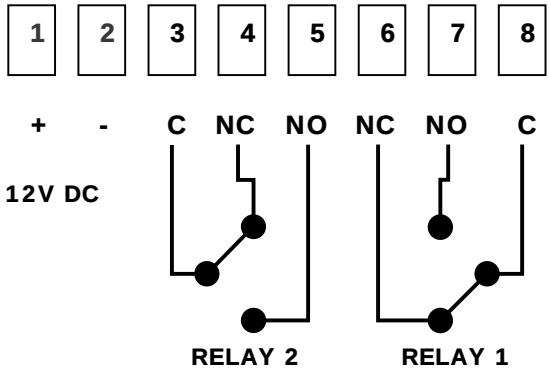
Insert the SIM card, to access the SIM card carrier gently push the button adjacent to it, insert the SIM card and carefully close the carrier, connect the antenna

Connect a 12 volt DC power supply to terminal 1 & 2 ensuring positive is connected to terminal 1, switch on the power supply, the power LED will lit indicating power is present, the network LED indicator will initially flash quickly, once logged onto the network it will flash more slowly approximately every 3 to 4 seconds

It is recommended that the WT-2009 be programmed to operate as required before final installation

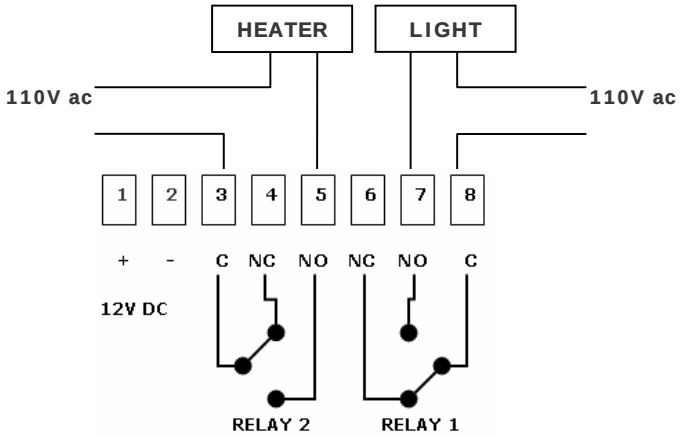
Connection Details:

If you are unsure how to connect the device you wish to control please refer to a qualified person.

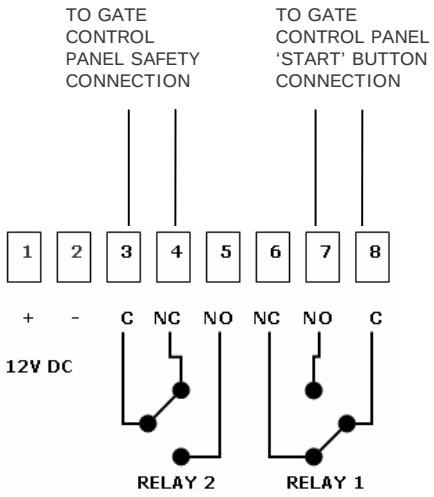


Port	Descriptions	
1	+12 volts	12 volt DC power supply capable of providing a minimum current of 1 Amp
2	- 12 volts	
3	COMMON (COM)	**RELAY 2**
4	NORMALLY CLOSED (N.C)	
5	NORMALLY OPEN (N.O)	
6	NORMALLY CLOSED (N.C)	**RELAY 1**
7	NORMALLY OPEN (N.O)	
8	COMMON (COM)	

Example Connections



A heater connected to relay 2 and a light to relay 1
When the WT-2009 is activated the relay contact will switch from the NC position to the NO position thus making the circuit and the heater and light will be switched on



Connections to an automatic gate control panel relay 1 control the opening of the gate relay 2 can be activated to ensure the gate remains open, for example a factory may want to leave the gate open during the day for easy access. (Note relay 1 would be connected in series with existing safety devices)

Default Settings

The default settings are, open access mode*, when activated relay 1 on for 2 seconds, wait time of 2 seconds, relay 2 on for 2 seconds, the default password is 123456
* Any call to the WT-2009 will activate it

Programming the WT-2009

The WT-2009 is programmed by sending it SMS text commands from a mobile phone, these are sent to the telephone number of the SIM card installed in the WT-2009.

The password command must pre-fix all SMS text commands it is recommended the default password be changed.

Remember that all SMS text commands must always be sent in **CAPITAL LETTERS**

DO NOT add spaces or any other characters

Programming Commands

If you are familiar with the commands a quick reference can be found on page 10

#PWD
Password
This command must always pre-fix any SMS text commands to the unit using the 6 digits as a password. The unit comes from the factory with the default password set as 123456 and the following must pre-fix all commands to the unit **#PWD123456** of course when you change the password you will pre-fix all commands with the new password

#CAP

Changing the Password

To change the password of the unit you would use the #CAP Command and to change the password to 121212 you would send the following SMS text message to the unit.
#PWD123456#CAP121212#CAP121212 the #CAP121212 is sent twice as confirmation of the new password.

You will receive the following confirmation from the unit **#CAP_OK**

#WHL

White List

This is the command that you will use for adding the authorized telephone numbers that can access the system.
The system comes in the open access mode which allows any telephone number to access the system and once the system has been installed and the White list programmed you would secure the system using the **#ACM2** command.
To add a number to the white list, you would send the following SMS text message to the unit assuming the number would be 07827829595.

Always remember to only use the last 8 digits of the telephone number.

#PWD121212#WHL01=27829595

You will receive the following confirmation from the unit **#WHL01_OK**

This is the first number in the White list and number 2 is sent as **#WHL02=** and so on up to a maximum of 99 numbers, number 99 would be **#WHL99=**

Checking the number in the White list

To check the number in a position on the white list, for example position 01 you would send the following SMS text message to the unit **#PWD123456#WHL01?**

You will receive the following confirmation from the unit **#WHL01=27829595**

Erasing a number in the White list

To erase a number in the white list you would send the following SMS text message to the unit.
#PWD121212#WHL01D
You will receive the following confirmation from the unit **#WHL01_OK**

Erasing all the number in the White list

To erase all the numbers in the white list you would send the following SMS text message to the unit **#PWD121212#WHL99D**

You will receive the following confirmation from the unit **#DELALL_OK**

#ACM

Security Access Mode

This command enables access security mode so only the numbers programmed into the white list can access the system and you would send the following SMS text message to the unit **#PWD121212#ACM2**

You will receive the following confirmation from the unit **#ACM-ON** confirming the security access mode is on

To turn off the security access mode you would send the following SMS text message to the unit
#PWD121212#ACM0

You will receive the following confirmation from the unit **#ACM_OFF** confirming the security access mode is switched off and open access mode is activated

#TEL
Administrator List
This is the command that allows you to add or remove the administrator numbers that will receive alert messages from the unit when the relays are switched on via SMS text message.

It is possible to add up to 8 Administrator numbers to the list and it is possible to use up to 16 digits in the numbers.

These SMS confirmation text messages only apply to the following commands **#RLY** and **#RLOP**

To add 07827829595 to the administrator list you would send the following SMS text message to the unit
#PWD121212#TEL1=07827829595

You will receive the following confirmation from the unit **#TEL1:07827829595**

To check all the administrator number in the list you would send the following SMS text message to the unit. **#PWD121212#TEL?**

You will receive the following similar confirmation from the unit

#TEL1:07827829595
#TEL2:07452314592
#TEL3:07865923401

#RERN
This is the command that allows you to enable, disable and check the status of the administrator list, these are the numbers that will receive text alerts.

To allow the first 4 administrators in the Administrator List to receive text alerts only, you would send the following SMS text command to the unit. **#PWD121212#RERN=11110000**

Where 1 is a number enabled for the first 4 positions in the administrator list and 0 is a number disabled for the last 4 positions in the list.

You will receive the following confirmation from the unit **#RERN=11110000** and the first four administrator numbers in the list will receive SMS text alerts

To check the status of the RERN list you would send the following SMS text message to the unit
#PWD121212#RER?

You will receive the following similar confirmation from the unit **#RERN=11110000**

#CSQ

Check GSM signal strength

This command is useful to see what the GSM network signal strength is at the location of the unit

To check the signal strength of the location of the unit you would send the following SMS text message to the unit **#PWD121212#CSQ?**

You will receive an SMS with signal quality in range 0 to 31, minimum signal strength of 5 is required, if it is below 5 then a change of network is advised.

You will receive the following similar confirmation from the unit **#CSQ<22>**

#GOT

Relay ON time

This is the command that allows you to reset the default ON time of relays.
To change the default value, you can send the following text command by SMS text message specifying the number of seconds the relay should stay on when it is called.
It is possible to latch each relay for up to a maximum of 65,535 seconds.

To set relay 1 to switch on for 15 minutes each time the unit is called, the following SMS text message is sent to the unit. **#PWD121212#GOT1=00900**

Where 1 indicates relay number 1 and 00900 is the relay on time in seconds, this should be entered in 5 digits format as shown
You will receive the following similar confirmation from the unit **#GOT1=00900**

To set relay 2 to switch on for 10 minutes each time the unit is called, the following SMS command is sent to the unit. **#PWD121212#GOT2=00600**

Where 2 indicates relay number 2 and 00600 is the relay on time in seconds, this should be entered in 5 digits format as shown
You will receive the following similar confirmation from the unit **#GOT2=00600**

#GOTS

This is the command that allows you to set the delay time between Relay 1 switching off and Relay 2 switching on. To set the delay time between relay 1 switching off and 2 switching on by 5 seconds, you send the following command by SMS text message to the unit. **#PWD123456#GOTS=00005**
Where 00005 is the delay time in seconds and should be entered in 5 digits format as shown

You will receive the following similar confirmation from the unit **#GOTS=00005**

#GOT?

To check the relay on and delay times you would send the following SMS text message to the unit **#PWD121212#GOT?**

You will receive the following similar confirmation from the unit.
GOT1:00900
GOT2:00600
GOT3:00005

#RLY
Temporary latching of output relays
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
This command does not affect the #GOT1 or #GOT2 settings

To activate relay 1 for 60 seconds you would send the following SMS text message to the unit
#PWD121212#RLY1=00060

Where 1 indicates the relay number and 00060 is the time in seconds and should be entered in 5 digits format as shown

You will receive the following confirmation text message from the unit **#RLY1-ON:00060** when the relay switches on and you will receive the following message when the relay switches off **#RLY-OFF**

To switch on relay 2 for 360 seconds you would send the following SMS text message to the unit
#PWD121212#RLY2=00360

Where 2 indicates relay 2 and 03600 is the on time in seconds, this should be entered in 5 digits format as shown
You will receive the following confirmation from the unit **#RLY2-ON:00360** when relay 2 switches on and the following confirmation when the relay switches off **#RLY-OFF**

To check the status of the relays you would send the following SMS text message to the unit
#PWD123456#RLY?

#RLOP
Switching Relay 1 and Relay 2 permanently on and off
It is possible to switch both relays either on or off using the **#RLOP** commands

To switch Relay 1 permanently on you would send the following SMS text message to the unit.
#PWD121212#RLOP=1 (**0=OFF**)

You will receive the following confirmation from the unit **#RLOP1-ON** when the relay 1 switches on and **#RLOP1-OFF** when the relay 1 switches off

The confirmation SMS text messages are only sent to the administrators who are active in the #RERN list

#RLY?
Checking the status of the relays
To check the status of the relays you would send the following SMS text message to the unit
#PWD121212#RLY?

You will receive the following similar confirmation from the unit
RLY1:00000
RLY2:00030
RLOP1:OFF
RLOP2:OFF

#SMW
Relay 24 hour timers
This is the command that allows you to program the relays to operate at certain times over a 24 hour period.

Note: The time must be entered in 24-Hour format. You can program up to 8 time sections for each relay.

Text Prompts:

#SMW=SS,MM,HH,TTTTT,F,R;

SS is a 2 digits value in seconds
MM is a 2 digits value in minutes
HH is a 2 digits value in hours
TTTTT is a 5 digits value in seconds, this is the amount of time the relays switch on for
F is the Time Section number **1** – **8**
R is the Relay number **1** or **2**

To program relay 1 to switch on for 30 minutes at 9.00pm you would send the following SMS text message to the unit. **#PWD123456#SMW=00,00,21,01800,1,1;**

You will receive the following confirmation from the unit. **SMW=00,00,21,01800,1,1;**

To program the output relay 2 to turn on for 1 hour at 6am, you would send the following SMS text message to the unit. **#PWD123456#SMW=00,00,06,03600,1,2;**

You will receive the following confirmation from the unit **SMW=00,00,06,03600,1,2;**

Note: Once this function has activated, the relays will operate automatically according to the programmed time sections. Activation of relays via Caller ID or SMS will be ignored.

#TSET
Setting the time
To set the time, you send the following SMS command to the unit.
The time must enter in 24-Hour format.

Text Command to be sent would be
#TSET=SS,MM,HH;

SS is a 2 digits value: Seconds
MM is a 2 digits value: Minutes
HH is a 2 digits value: Hours

To program the time 8.00am, you would send the following SMS text message to the unit
#PWD123456#TSET=00,00,08;

You will receive the following confirmation from the unit **TSET=00,00,08;**

Note: The Time has to be set to use the #SMW command

#REST#121212

Resetting the unit

To reset the unit you would send the following SMS text message to the unit

#PWD123456#REST#121212

You will receive the following confirmation from the unit REST-OK and the unit will be reset to factory and the password will revert to **#PWD123456**

Programming Commands – Quick Reference

Password #PWDXXXXXX (6 digits) This command must always pre-fix any SMS text commands sent to the unit.
Only use the LAST 8 digits of the telephone numbers to be entered

FUNCTION	COMMAND	FORMAT	NOTE
Changing the Password	**#CAP**	**#PWD123456#CAP121212#CAP121212** Current password > new password twice	
White List	**#WHL**	**#WHL01=27829595** Position > telephone number (last 8 digits)	Up to 99 numbers
Security Access Mode	**#ACM**	**#ACM2 #ACM0** **On > Off**	
Administrator List	**#TEL**	**#TEL1=827829595** Position > telephone number (Up to 16 digits)	Up to 8 numbers
Check signal strength	**#CSQ**	**#CSQ?**	0 – 31, minimum 5 required
Relay ON time	**#GOT**	**#GOT1=00900** 1=RLY1, 2=RLY2 > time in seconds, 5 digits	Maximum 65,535 seconds
Delay time between Relay 1 switching off and Relay 2 switching on	**#GOTS**	**#GOTS=00005** Time in seconds, 5 digits	
Temporary latching of output relays	**#RLY**	**#RLY1=00060** 1=RLY1, 2=RLY2 > time in seconds, 5 digits	Maximum 65,535 seconds
Switching Relay 1 and Relay 2 permanently on and off	**#RLOP**	**#RLOP1=1** 1=RLY1, 2=RLY2 > 1=ON, 0=OFF	
Setting the time	**#TSET**	**#TSET=SS,MM,HH;** SS=Seconds, MM=Minutes, HH=Hours all 2 digits values	24 Hour format
Relay 24 hour timers	**#SMW**	**#SMW=SS,MM,HH,TTTTT,F,R;** SS=Seconds, MM=Minutes, HH=Hours, TTTTT=Relay on time in seconds (5 digits), F=Time Section number 1 – 8, R=Relay number 1 or 2	
Resetting the unit	**#REST#121212**	**#REST#121212** Reset to factory default settings including password	

Specifications

Model	WT-2009
Operating Voltage	12 or 24V DC
Operating Current	Maximum 500mA, typically 55mA
Relay Contacts	2 x 230V @ 30Amp, Normally Open and Normally Closed contacts (Form C)
GSM Frequency MHz	GSM850, GSM900, GSM1800, GSM1900
Humidity	Less than 80% RH
Operating Temperature	-10°C to 55°C
Physical size	130 x 100 x 50 mm
Protection	IP65
Weight	250 Grams
Approvals	C.E

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment。

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.