GPS CAR ALARM SYSTEM

USER MANUAL

(Model: TK220)

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CONTENT

Preface

TK220 GPS car alarm & tracking device is a multifunctional product. It is an integration of car alarm system & GPS tracking system.

It can be taken as a car alarm. In arm status, following operations will trigger alarm: door open, engine on, shake, cut-off power. The system will trigger the siren to sound on spot, it will also send out alarm message with location by SMS/GPRS to your mobile phone or tracking center immediately.

What's more, this device it has more other applied functions. Such as: Stop the car by SMS/internet, monitoring voice and 2 way talking by phone, start the engine by SMS, lock/unlock car door remotely, etc.

Read it Firstly:

Please read this manual thoroughly before you use the device; please keep it for future reference.

Attention:

(1) Please keep the device away from water, humidity, high temperature, heavy dust or strong magnetism.

(2) Please prepare a valid GSM SIM card in advance.

Warning:

We strongly suggest user let the professional car electrician to install the system.

I. Features & Functions

1. Arm/disarm by SMS remotely, or by the remote controller
2. Check the car's real physical address(such as city name, street name..) ;
3. Track by mobile SMS to get the latitude & longitude or the Google map's URL;
4. Track by GPRS data network for online tracking;
5. Track on command or by time interval via SMS/GPRS;
6. 2-way talking function(optional) & voice monitoring function;
7. Vibration alert, door open alert, movement alert and ignition on alert;
8. Mileage calculation function (=odometer)
9. Cut-off external power alert;
10. Power saving mode;
11. Geo-fence alert (radius range: 0.1~99KM);
12. Over-speed alert (speed range:1~255km/h);
13. SOS button to call for help in case of emergency;
14. Open/close car door/rear trunk remotely;
15. Start your car remotely;(optional)
16. Cut off engine to stop the car safely by SMS/GPRS;
17. Monitor fuel level;
18. Central lock automation, when car speed >30Km/h, car door will be locked automatically;
19. Inbuilt 4Mb data logger to store the offline GPS waypoints;
20. Built-in rechargeable backup battery; when the car battery is cut off or damaged, the built-in 600mAH backup battery can work for emergency check, and the system will send out power failure alert immediately.
21. Two kinds of location information; user can check the GPS latitude, longitude, speed, direction. If there is no GPS signal, user could also locate the car by GSM base station code.

II. How to operate it

SMS Command Format

User can send SMS instruction to operate the tracker by any mobile phone, the format of the instruction is:

User Password (******) + Control Code(XXX)

The default user password is **111111**.

If the user password is changed, user should send the SMS instruction with the new user password instead of 111111.

XXX is the control code, all the letters must be all **capital letters** or small letters, any code mixed by two of them will be not available.

There is no space between the user password & the control instruction.

Authorize the Alert-received Mobile

SMS command: **111111*10 Mobile #1*20 Mobile #2***

In case of alarm, if user wants to get the alert SMS from the tracker, he/she needs send the following SMS to program the system firstly, otherwise, the alert information can not be received correctly.

Example:

User sends the SMS 111111*10139227135 71*2013711189059* to the tracker's SIM card number, if there is any alert, system will send alert SMS to both of these two mobiles. In case of SOS alert, the system will only send alert to the mobile #2.

Change User Password

SMS command: **111111PSWnnnnnn**

This instruction is used to change the user password. The length of the user's password is 3~6 digits. Users are suggested to change to the new password in use.

Example:

User sends the SMS "111111PSW12345" to the system SIM card number, and gets the confirmed SMS "111111PSW12345" in 3 seconds. It means that the user password has been changed to 12345.

Remark: Please keep the password deep in mind if it is changed.

Check the Vehicle's Status

SMS command: **111111CHK**

This instruction is used to inquiry the vehicle's location & system's status.

The system will send back the SMS, includes the similar information, such as "Car is Armed……"

Arm/Disarm the System by SMS

SMS command: **111111ARM**

This SMS instruction is used to arm the system

SMS command: **111111DSM**

This SMS instruction is used to disarm the system

Arm/Disarm by Phone Calling

User could also use the **first** alarm-received mobile phone to call the system SIM card number, so as to arm/disarm the system.

Arm: After hearing several ring tones, if the systems hang up the call automatically, and call back you, it means that the system is armed.

Disarm: After hearing several ring tones, if the system hangs up the call automatically, and don't call back you, it means that the system is disarmed.

Note:

(1) There is no communication fee for this operation, it is a very convenient way to arm & disarm the system.

(2)The SIM card inside the device must have the function of Caller ID Display.

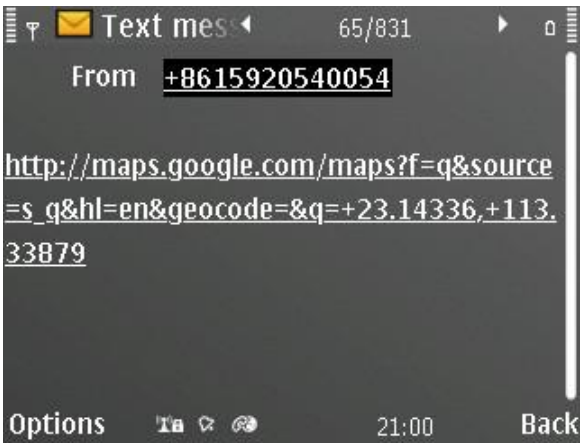
(3) Only the 1st authorized mobile phone can realize this function.

Check the Location by Google Map's URL

Command: **111111MAP**

User can use any mobile phone to send this command to tracker's SIM number, the tracker will automatically send back the SMS including the Google map's URL, user can use smart phone(be able to visit internet) to open the URL

link and then the car's location will be showed on the Google map.



Note:

The SIM card inside the tracker must be activated with the service of caller's ID display.

Check the Real Physical Address

SMS command: **111111ADD**

When user sends this SMS command to the tracker, the tracker will automatically send back the car's real physical address (such as city name, street name) to your mobile by SMS.

Attentions: If you want this function, you need to link your tracker into our TS03 tracking centre.

Remark:

(1) The GPRS service of the tracker's SIM card must be activated, and the correct GPRS setting is needed (refer to the chapter of the setting of GPRS connection), user can set up the GPRS upload time interval to 0 so as to save the GPRS flow;

(2) The physical address depends on the Google map's address information. If the place has very detailed information on Google map, then the physical address by SMS is very detailed.

Stop the Car

You have two methods to stop your car.

(1) SMS command: **111111STP**

(2) If your tracker has linked with our TS03 tracking centre. You can

stop your car by our TS03 tracking center also.

The two instructions are used to cut off the car's power supply or fuel supply, so as to stop the car.

Attention:

It is very dangerous to stop the car when the vehicle is running at high speed. We do not take any responsibility to the consequence caused by this action.

Restore the Stopped Car to Normal Status

SMS command: **111111RES**

This instruction is used to restore the car to normal status after stopping the car or SOS alert happens.

Monitor the Voice around the Car

SMS command: **111111MON**

This instruction is used to monitor the voice around the car.

After sending out this SMS, the tracker will call back immediately, then, user can monitor the voice around the car upon picking up the call.

Two-way Talking with the Car

SMS command: **111111MON:Tel**

This instruction is used to program the phone number which is used for carrying out direct monitoring or talking.

User uses this phone number to call the tracker, it will be connected automatically without driver's permission. By this way, user can monitor the voice or talk with the driver freely.

Example: 111111MON:13922713571

Note: If the Tel is the same as the first alarm-received phone (111111*10 Mobile #1*20 Mobile #2*), then this telephone can only be used to carry out direct monitoring, it can not realize the function arm/disarm by calling any more.

Set up the Shock Sensor

Command: **111111SHK@**

Normal status, when shock sensor is activated, it will trigger the alarm immediately.

@=0, turn off shake sensor.

@=1, normal working mode(default setting).

Normal status, when sensor is activated, it will trigger the alarm immediately. It is the default setting

@=2, Time-delay working mode

Time-delay status, if the sensor is activated for 3 seconds continuously, it will trigger the alarm. This setting can avoid some false vibration alarm.

Arm the System Mutely.

There are two ways to carry out the function.

(1) **Command**:

111111MUTE:0, to turn off mute alarm.(default setting)

111111MUTE:1, to turn on mute alarm.

when user turn on MUTE alarm function, the vibration sensor will not trigger the siren & it will not send out alarm SMS, but if the door is open or ignition is ON, it will trigger alarm normally.

(2) Remote controller

You can press mute button to carry out this function too.

Turn ON/OFF Sleep Mode.

111111SLEEP0 Turn off sleep mode, it is the default setting

111111SLEEP1 Turn ON sleep mode, it is used to save power & GPRS flow. In this working mode, if the engine is OFF, the system will go into sleep mode after 3 minutes. In sleep mode, the device only reports the heart-beating packet by GPRS, GSM & GPS module will go into power save mode also. Once there is any vibration, or alarm, or incoming call/SMS, the system will wake up immediately.

Check the IMEI No.

Command: 111111REG

This instruction is used to check the GSM module's IMEI number. Last 14 bits is tracker's ID.

Study the Remote Control

Command: **111111STD**

This instruction is for study of remote control.

Please send 111111STD to the device, then press ARM/DISARM button on remote control, the remote is programmed successfully. If you want to study another remote control, please send this command again, and press ARM/DISARM button on the other remote control.

Odometer function

111111ODO: It is used to read the present odometer value.

111111ODO:R It will reset the device's odometer reading to 00000 & start calculation from the beginning.

111111ODO:0 It will reset the device's odometer reading to 00000 & close the calculation of odometer.

111111ODO:1~999999 It will make the device to start calculation of odometer from the base value. Example: 111111ODO:38980, then the device will reset the initial odometer reading as 38980KM & start the calculation again.

SOS Anti-robbery Alert

We have two ways for anti-robbery alert.

(1) Press SOS button;

once the SOS switch is pressed down & hold for at least 3 seconds, the system will send alarm SMS to the second alert-received mobile & the center number. User can send command 111111RES to release it.

(2) Press mute alarm button on the remote controller for several seconds;

(The mute alarm button on the remote controller has two functions: One is for mute alarm, the other is for emergency help)

Set up Movement Alert

Command: **111111MOV@**

@ =0, to disable the movement alert;

@=1, to enable the movement alert;

@=?, to check the setting of movement alert.

If user sends 111111MOV1 to enable the movement alert function, the movement alert centre is your tracker's current position. Every time when the system is armed, if the car moves away from the present parking point for about 90 meters(default setting), the movement alert will be triggered.

User can change the radius of triggering movement alarm by this SMS command: **111111MOV:R** (R=50~999).

Set up Over-speed Alert

111111SPD:X x is the speed in KM/H , maximum value is 255M/H

(For example: 111111SPD:120, if the car speed is over 120KM/H, it will send SMS to warn you)

111111SPD:0 to disable the over-speed alert. It is the default setting

When the over-speed alert function is activated, if the car is running over the speed limitation, the tracker will send out alert message.

Remark: this function is just for reference, because there might be some time delay or error in detecting the running car's real speed by GPS.

Set up Geo-Fence Alert

111111FEN0 Disable the Geo-fence

111111FEN1 Enable the Geo-fence, using the stored setting

111111FEN? Check the setting of geo-fence

111111FEN1(YL:a,XL:b,DL:C) Set up the all the parameters

111111FEN1(YL:a) Setup the latitude separately

111111FEN1(XL:b) Setup the longitude separately

111111FEN1(DL:C) Setup the radius separately

YL:a, a is latitude of the reference point

XL:b, b is the longitude of the reference point

DL:c, c is radius of latitude & longitude, the range of the value is (1-990), the unit is :100 meters. The range is 1~99000 meters.(0.1-99KM)

Remark: (1) FEN, XL, YL,DL must be in capital letter.

(2) The Setting will be stored and used all the time.

Example: If the fence's center coordinate is: latitude:+23.1400, longitude:+113.4500, the radius is 5KM, then the SMS instruction is:

111111FEN1(YL: +23.1400,XL: +113.4500,DL:50) .

If the vehicle is running across the boundary of the fence, the system will automatically send out alert SMS.

· **Start the Engine Remotely by SMS**

Command: **111111STR**

This instruction is used to start the engine by SMS. It is optional function, the starter must be connected correctly with the device, otherwise, it will not work.

Please send 111111STR to the device, the engine will start running,10 minutes later, it will stop automatically.

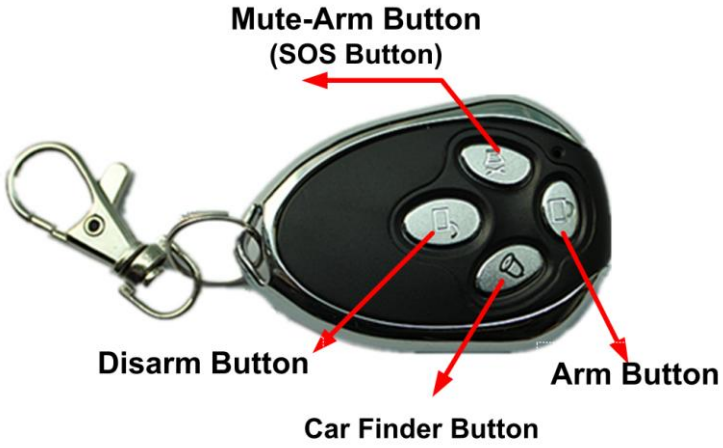
Change the Heart-beating Interval.

111111HRT:1~999

This instruction is used to change the time interval of heart-beating GPRS data package. The default setting is 3 minutes.

If the GSM networks do not detect the tracker's activities for a certain time, it will close the GPRS connection and the device will be offline. User can adjust the value so as to avoid this situation. Example: 111111HRT:5 (set time interval of hear-beating as 5 minutes)

III. Remote Control



There is four buttons on the remote control and each of them has different use.
(1) ARM button: Press this button, your tracker will enter arm status.
(2) DSM button: This is used to disarm your system.
(3) Car finder button: If you press this button, your car horn will sound to help you find your car in the parking lot.
(4) MUTE/SOS button: This button has two functions. If you press it for one second, your car will be in mute alarm status. Shake alarm will not make car horn sound. What's more, if you press it for more than 3 seconds, you will send out SOS alarm for help.

IV. The Setting for GPRS Connection

The GPRS setting is necessary for using the following 2 functions:
(1) Check the car's real physical address by send 111111ADD
(2) Online tracking service by web-based tracking platform (www.track800.com or www.topten-track.com)

SMS format: **111111WWW**:**Item** (separated by :)

Compositive SMS Command for GPRS Setting

(Please kindly noted that the device GPRS ID is the last 14 digits of the IMEI, you can check it on the sticker on the device or send 111111REG to get it)

User can use one SMS to do all the GPRS setting. For example, if the APN name is internet, APN user name web and APN password gprs , GPRS report time 3 minutes(=180seconds). Server's IP: 98.143.144.145, Server's Port:

8500, then you can do all settings together in one SMS command:

11111WWW:APN:internet,web,gprs;IPN:98.143.144.145;COM:8500;RPT:180;GPRS:1;

✧ **IPN:XXX.XXX.XXX.XXX;**

This is to set the server's IP address.
Eg: 111111WWW:IPN:98.143.144.145;
If user wants to use domain name as server, please use DSN instead of IPN
Such as: 111111DSN:www.track800.com;
If user wants to use UDP transmission, please use UDP instead of IPN
Such as: 111111WWW:UDP:98.143.144.145;

✧ **COM:XXXX;**

This is to set the server's COM port No.
Eg: 111111WWW:COM:8500;

✧ **APN:XXX;**

This is to set the APN (access point name). Please use "," to separate the APN, APN username & APN password.
Eg: 111111WWW:APN:web.gprs.mtnnigeria.net,web,gprs;

✧ **RPT:XXX;**

This is to set the upload time interval. The unit is second, the value is between 15-999 seconds.
The default setting is 0, the tracker will not upload data but GPRS is online.
Eg: 111111WWW:RPT:60; (Upload time interval is every 60s)

✧ **GPRS:0/1;**

GPRS:0; is to close down the GPRS;
GPRS:1; is to open the GPRS.
Eg: 111111WWW:GPRS:1; (Open the GPRS connection)

Check the GPRS Settings

111111WWW:

You can send 111111WWW: to check the parameters if you forgot.

Default GPRS Setting

The default GPRS setting is:

- Server IP: www.track800.com
- Server Port:8500
- APN: internet
- GPRS report interval: 0
- GPRS connection: open

V. Alarm Type

SOS Alarm

In any condition, if the SOS button is pressed down for 3 seconds. It will trigger SOS alarm. The 2nd alarm-received phone No. will get SOS alarm such as “Emergency help…..” Several seconds later, your 2nd cell phone will receive call from tracker. However, this alarm will not cause relay to work. What’s more, car horn will not sound.

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Vibration Alarm

In arming status, if the car is vibrated, the siren will sound & system will send out alarm SMS to inform user..

Power Failure Alarm

In arming status, if the external power supply(car battery) is cut off, it will trigger this alarm.

Engine ON Alarm

In arming status, if the car engine is turned ON, it will trigger this alarm. The siren will sounds for 20 seconds, and you will get alert SMS firstly & then two calls from system. the relay will cut off the engine at the same time.

·Door-Open alarm

In arm status, if the car door is open, it will trigger door open alarm. The siren will sounds for 20 seconds, and you will get alert SMS firstly & then two calls from system. the relay will cut off the engine at the same time.

Movement Alarm

In arming status, the movement alert is enabled automatically. Once the car moves away from the parking point for 90 meters, it will trigger this alarm.

Geo-Fence Alarm

Once the Geo-fence is activated, if the car/motorcycle oversteps the boundary, it will trigger this alarm.

Over-speed Alarm

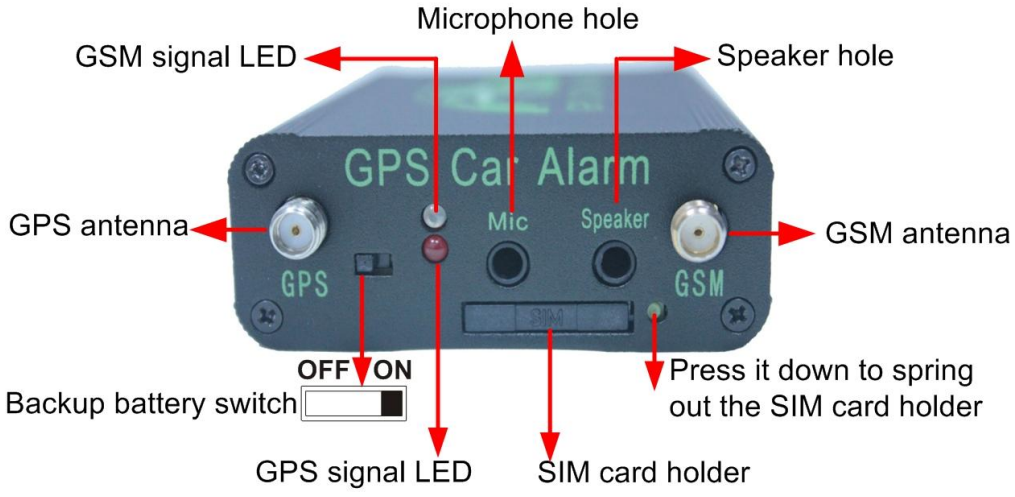
If the car/motorcycle runs over the speed limitation, it will trigger this alarm.

(Remark: this function is just for reference, because there might be some time delay or error in detecting the running car's real speed by GPS.)

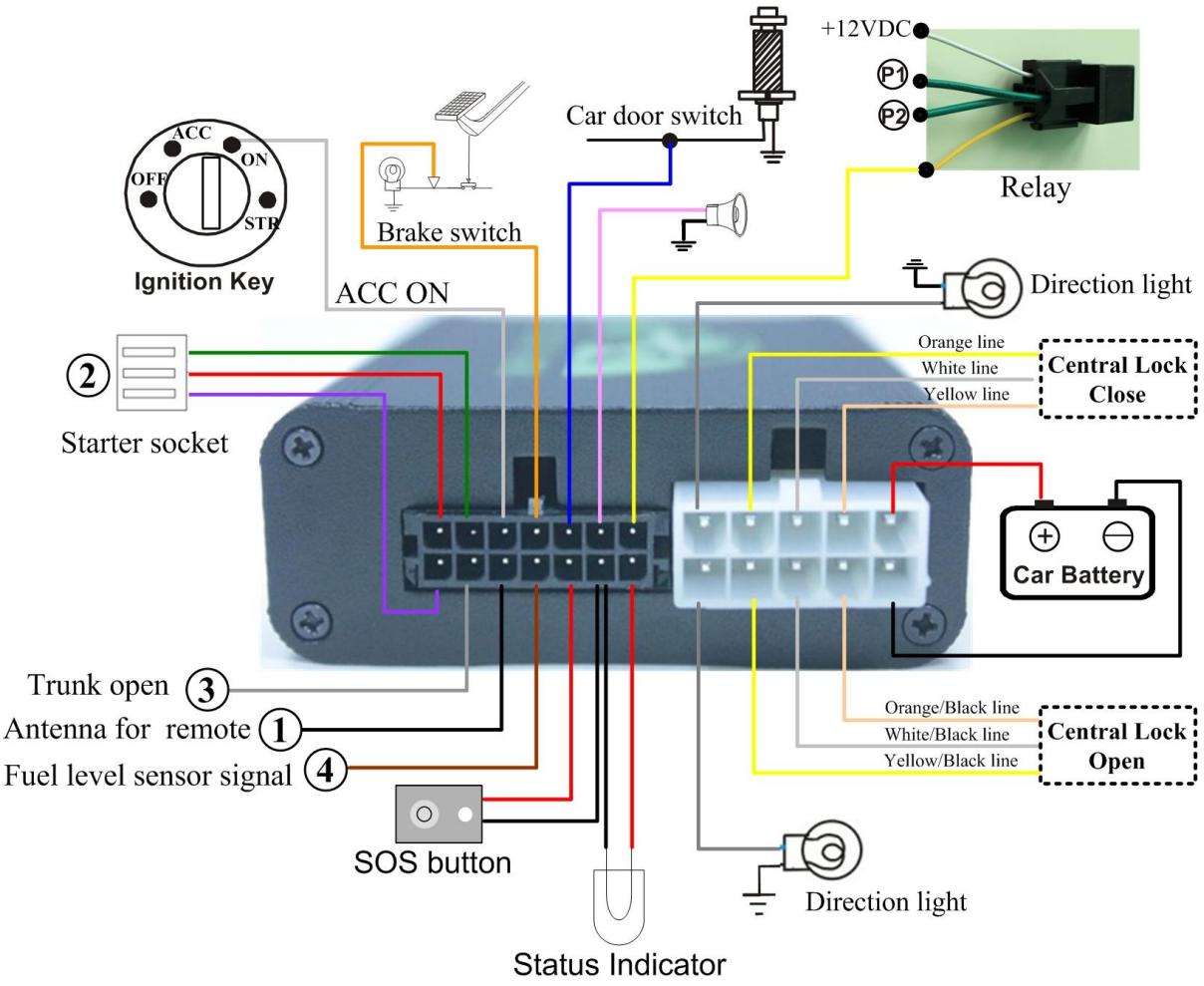
NOTE: the SOS alarm will only be sent to the 2nd phone & the GPRS tracking center, the other alarms will send to all the preset phone numbers & TS03 tracking center.

VI. Installation

（1）Main Unit Overview



（2）Wiring Diagram



Notes：

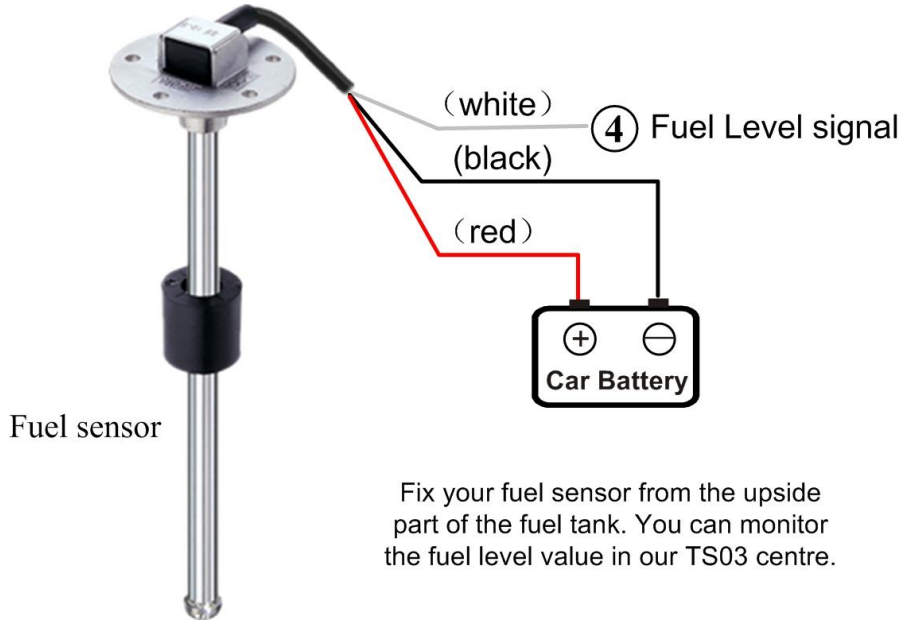
①: This line is used to receive the signal from remote control. please draw it straight and fix it alone at wide place, otherwise, it will affect the working distance of remote controls..

②: This three lines are used to start your car remotely, please refer to the following wiring diagram of remote starter. The command to start the engine is: 111111STR

③: This line is used to open your car's trunk.

This function is for reference, not all of the cars can work with this function. when you press the DISARM button and hold it for 2 seconds, the TRUNK OPEN line (gray color) will generate a ground signal. you can use this signal to unlock the trunk.

④: This line is used to monitor fuel level.

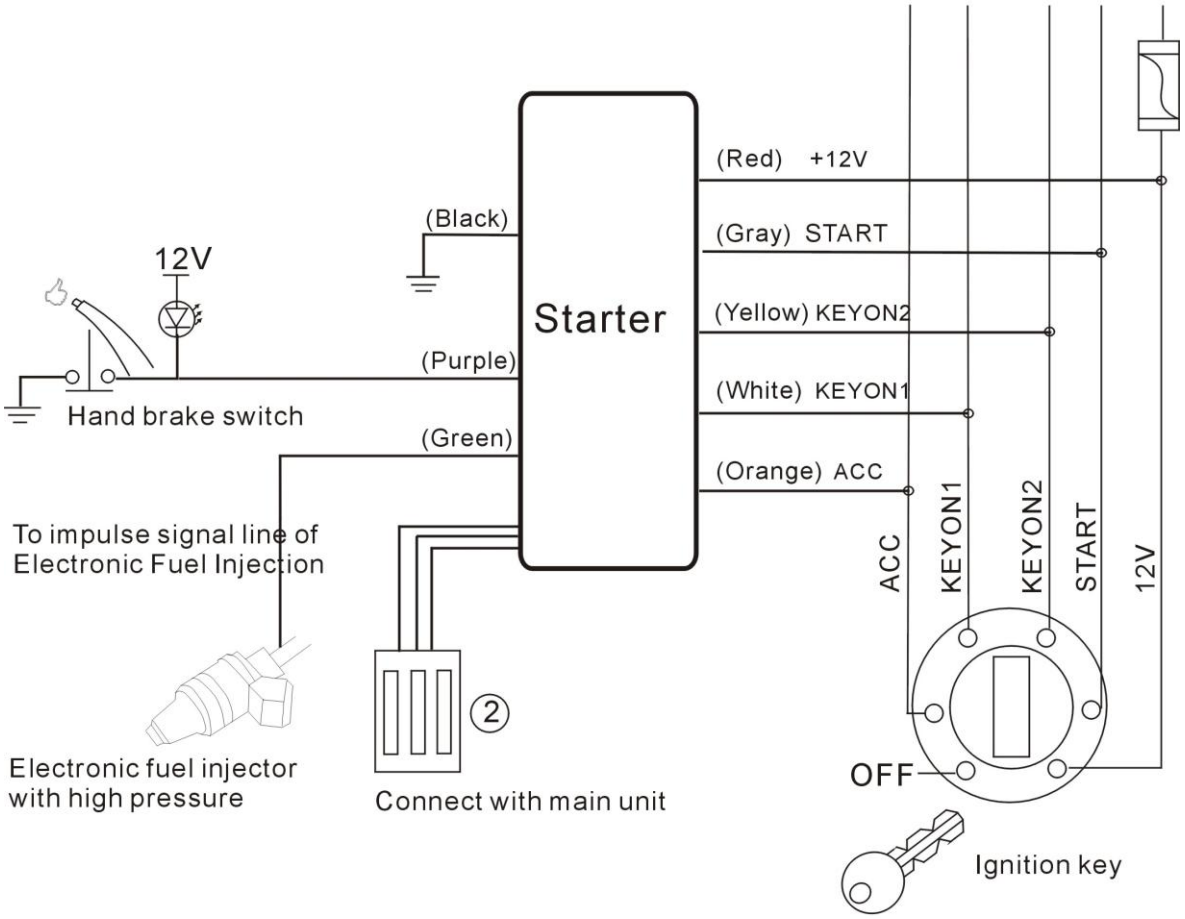


(3) Central Lock Connections:

The connection with central lock is similar to that of normal car alarm.

- ✧ please do the connection according to the correct type of the central lock system. The negative/positive triggering is the majority.
- ✧ For cars with pneumatic lock, please send 111111LCK1 to make it work in this mode. Command:**111111LCKX** X=1, pneumatic mode; X=0, electric mode(default).

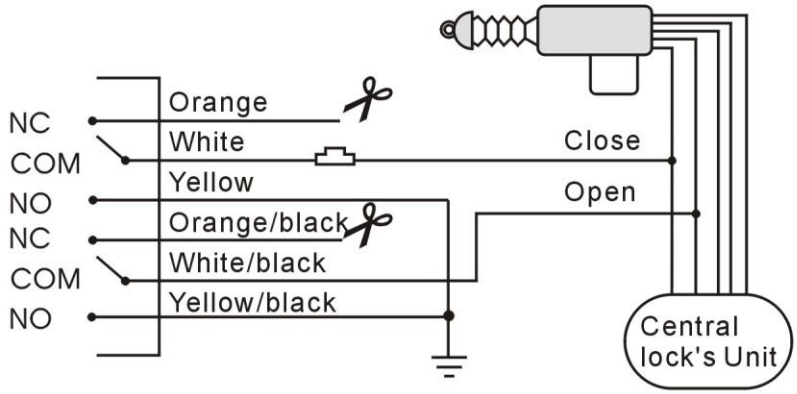
Wiring Diagram of Starter



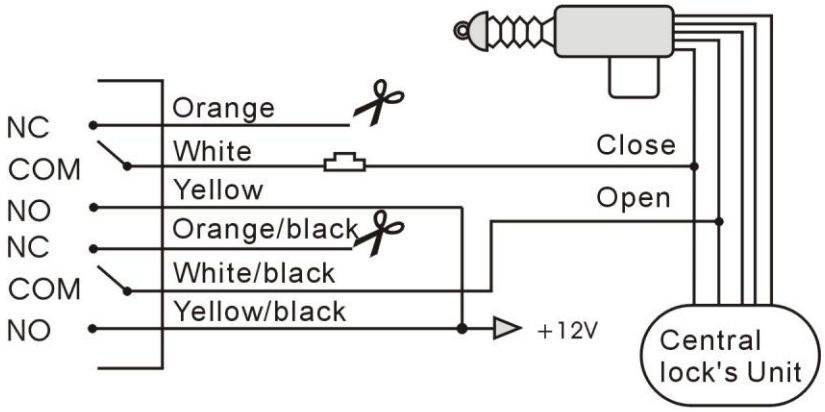
IMPORTANT NOTES:

(1).When the hand brake is pulled up, the purple line is connected to GROUND.
(2).The green line is used to detect the engine running status, it is connected to the impulse signal line of fuel injector. Once the engine is running, the green line will detect the signal & stop the ignition process.
(3).For some cars, if there is only one KEYON point, user can directly connect the white line to KEYON line, and let the yellow line unconnected.
(4). Send 111111STR sms command, the engine will be started automatically, it will run for 10 minutes & then stop running automatically.
(5).While the engine is running during this 10 minutes, if the door is opened illegally, system will send out alarm & switch into arming status immediately.
(6). If the hand brake switch signal line(purple line) and impulse signal line(green line) are not connected properly, the starter can not start the engine.

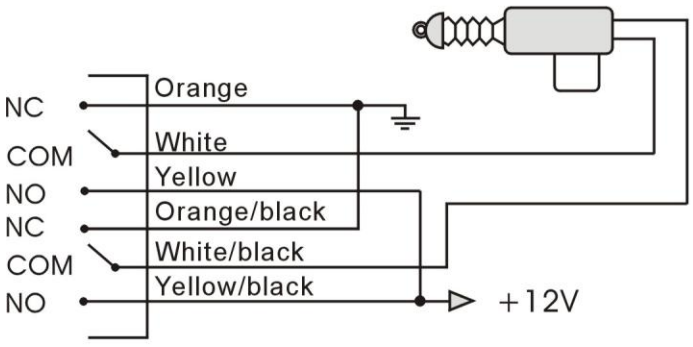
Connection with Center Lock



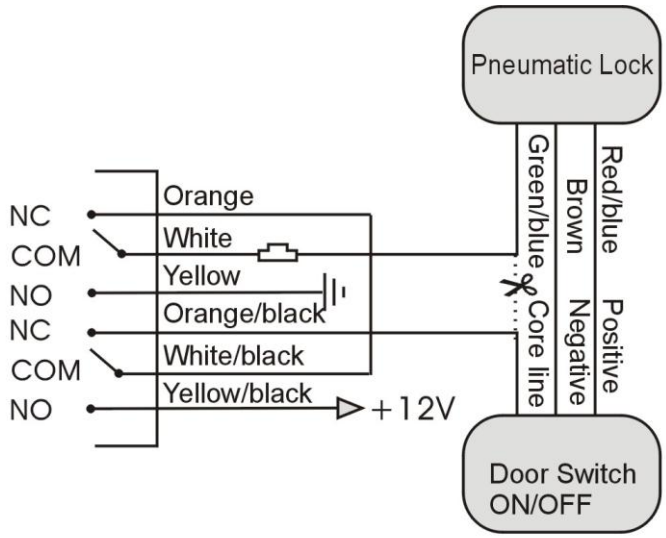
Negative Triggering



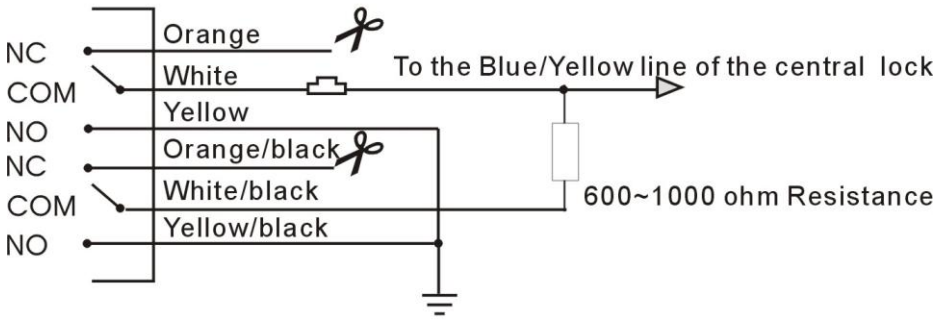
Positive Triggering



Positive/Negative Triggering
(Majority)



For pneumatic lock's installation



Negative Triggering and control by double-voltage (For Polo, Bora, PASSAT)

Important Notice

(1) Please read the manual carefully before installation and make sure you understand the installation wiring diagram and the car circuit & wiring firstly. We strongly advise you to ask professional car electricians to do the installation.

(2) Please prepare a valid GSM card (CDMA card not supported) with Caller ID Display & GPRS function. And use an ordinary mobile phone to check

it is not PIN-code protected and the SMS has sending & receiving function.

Note: installation for SIM card

Please make sure that main unit is powered off, and then use a pin to press the yellow button, then insert SIM card into the SIM card holder. **(Attention):** If you want to take out the SIM card from the main unit, please power off the main unit firstly, otherwise, it might damage the unit.

Explanation on Installation

✧ **Fix the Main Unit**

Choose a place for the main unit first. Please fix the main unit at a secret place to avoid being destroyed by theft. Please keep it away from the high-temperature, humidity or strong magnetic object (such as reversing radar, alarm). Please fasten it tightly. (Recommended places: under dashboard, under seat)

✧ **Fix the GPS antenna**

While fixing the GPS antenna, it is better to place the flat magnetic side downside. Make sure there are not any metal or shielded obstacles around the upside of the GPS antenna, so that it can receive the satellite signal from upside the sky very well, the GPS antenna should be placed at broad & secret place too. It should be drew straight and kept away from the sound box or speaker. (Recommended places: Upside & inner part of the driver's door rim, inside dashboard, secret place of front windshield, under bumper)

✧ **Fix the GSM antenna**

Fix the GSM antenna at place where there is no metal shield, so that it can receive signal very well. And keep it a certain distance from other wireless equipments. It is better fixed at a secret place so as to avoid tamper.

✧ **Fix the microphone & speaker**

Please fix the microphone at a secret place nearby the driver place so that it can pick up the voice clearly, please keep speaker away from the microphone so as to avoid the echo interference.

✧ **Fix the SOS button**

The SOS button is already fixed to the wiring harness.

Please fix the SOS button secretly under the left of the dashboard so that the driver can easily touch it in case of emergency.

✧ **Fix the relay**

The (P1 & P2) points of the relay are used to kill the engine. User can use them to control the engine ignition loop or the power supply loop of fuel pump, so as to stop the car.

If you fix the device on truck, please use 24VDC relay.

✧ **Connect with car central lock system.**

The connections with original central lock system is similar to that of normal car alarm. please check what kind of central lock system your car has firstly, then do the connection according to the correct wiring diagram.

✧ **Fix the ACC ignition wire (White line)**

Connect the White line to the ignition key ON position.

✧ **Fix the door switch wire (Blue line)**

Connect the BLUE line with the car door switch.

✧ **Fix brake switch wire (orange line)**

When the brake is pressed down, this line will be connected to GROUND.

✧ **Fix the power supply wire (Red line and black line)**

The device can work with +12VDC/24VDC power supply. Please connect the power supply lines directly to the car's battery.

For the truck, it is 24VDC power supply, the device can also work on truck, but you need use 24VDC relay to stop the car.

(2) Check the wiring:

Try to use the double-sticky paper or other material to fix the device. Fasten tightly the junction point of accessories and wires. Pay attention to insulation and precaution of water and hot temperature. Please check the installation according to the wiring diagram.

(3) Check the function

Please check the key functions after installation, such as

--Sending 111111CHK to see if it gets correct location.

--Sending 111111STP to check if the car can be stopped

---Sending 111111MON to check if monitoring is OK

If there is no GSM or GPS signal, please check the connection of the GSM antenna, or to place it to other place to test; If there is many noise when monitoring the voice, please fix the microphone away from the speaker or magnetism; If it can not stop the car, please check the connection of the relay.

VII. Specifications

Size of the main unit:	98*64*25 (mm)
Weight of the main unit:	0.16KG
Working temperature:	-20 ~ 70℃
Humidity:	0 ~ 95%
GSM frequencies:	Quad-band: (850MHz/900MHz/1800MHz/1900MHz)
GPS chip:	Latest SiRF-Star III chipset
Receiving ways:	20 channels
Working frequencies:	1575.42Mhz C/A（GPS）
Receiving sensibility:	-163dbm
Positioning accuracy:	≤15m (wide-open area)
Speed accuracy:	≤0.2M/S (wide-open area)
Positioning mode:	Auto 2D/3D
Working voltage:	10~26 VDC
Power Consumption:	Working current: 50mA; Peak current: 1000mA;
Inside Backup battery:	Rechargeable 3.7V 600mAh Li-ion battery

VIII. FAQs & Troubleshooting

FAQ	Troubleshooting
I call the tracker, it does not ring	(1) The GSM SIM card has no credit; (2) The SIM card is protected by PIN code; (3) Fix the GSM antenna to open place to test; (4) The SIM card is placed correctly in the slot; (5) Check the connection of the GSM antenna, or change another GSM antenna to test;
I call the tracker, it rings, but it doesn't send back response SMS	(1)The user password is wrong, please use the correct password or reset the password to test; (2) Low power, please use outside 12VDC power supply to power on the unit to test (3) Check whether your command format is right or not.
I can not get the alarm message	(1) The SIM card inside the device has no credit; (2) The Alert-received mobile number is not programmed correctly, or the SMS instruction is not in correct format; (3) The mailbox of the user's mobile is full;
I can not get the correct GPS coordinates or the location is wrong	(1) Please make sure there is no metal obstacles above the GPS antenna. Fix the GPS antenna to open place to test; (2) Please check the connection of the GPS antenna; (3) Chang another GPS antenna to test; (4) In cloudy condition, it is a little hard to get the GPS signal, and the GPS coordinate might have some errors.
I can check the location, but I can not get the alert SMS when the car moves	(1) Please setup the system firstly. (authorize SMS-received mobile number, etc); (2) In arming status,the device only warn you once the car moves at about 50 meters away from the parking place;
Much noise when monitoring voice	(1) Check the two sides of the MIC wire; (2) The MIC should be away from the engine, unit heater, GSM/GPS antenna and other obstacles

IX.Maintenance

Suggestions

- ✧ Please let the professional to do the installation & maintenance of the GPS terminal. If there is any disassembling or repair without our permission, we keep no responsibility for any loss caused thereafter.
- ✧ Please keep the terminal in dry place. In case of soaking or leaking water, contact the local professionals. Do not start the car yourself, or we take no responsibility for any loss caused thereafter.
- ✧ When the car is inside buildings, cave, tunnel, or very close to tall buildings, it is normal that the device might not get GPS signal at that moment.
- ✧ Please check the balance of the tracker's SIM card periodically. If there is no credit in the SIM card, the device can not work normally.
- ✧ The backup battery. The backup battery can only work for a certain time when the car battery is temporarily powered off.
- ✧ If the device can not get GSM signal or GPS signal, please try to check the connection of the antennas, it might get loosen or damaged. Please try to exchange to use another good antenna to test.