

M508 GPS Tracking Device

(GPS+GPRS+GSM)

Product Manual

Edition 1.3

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Notes:

Please mount the device steadily on the flat place before using;

Please make sure the voltage value is right before connecting with battery, and placing the wires to where shouldn't be trodden;

Please power off when plugging or taking out of any module or connector;

Please keep the device dry and don't let any liquid fall into the device in case any damage caused in the device or circuit;

If any problem caused as follows, please turn to professional technician:

When power wire, keyboard, or socket are damaged;

When liquid infiltrating into the device;

When the device work unusually or cannot resume to normal even operated according to the instruction;

When the device cannot as usual after falling, throwing or breaking;

When there is obvious damage in the device.

1. Products Introduction

GPS Tracking device mainly consists of two parts such as GPS module and GSM module. GPS module is for getting location data from satellite, and GSM module is for transferring data to server so that people can check the information via PC or mobile phone. Our GPS Tracking device M528, with the best quality, stable performance and versatile functions, can be applied to various kind of fleet management like construction trucks, rental cars, logistics vehicles and public transportation, anti-theft system and security purpose.



2. Characteristics

- 1) small size, easy to install;
- 2) accurate GPS positioning, dynamic positioning deviation is less than 5 m;
- 3) support GPRS and SMS tracking mode, adopt UDP / TCP communication protocol in GPRS mode;
- 4) able to get current location immediately, and support real-time tracking (GPS data uploading at intervals);
- 5) support two way voice communication via handset;
- 6) support two way SMS communication via Mobile and PC software;
- 7) support authorized tapping;
- 8) support protection from high level voltage;
- 9) support the data resend from signal dead zone;
- 10) support remotely disable engine;
- 11) 3 digital inputs for detecting the status of engine, door, air condition, etc.;
- 12) support illegal door-open/illegal engine-start alarm, SOS alarm, power-off alarm, over-speed alarm, parking alarm, Geo-fence alarm, fatigue driving alarm
- 13) support mileage statistics;
- 14) support remote update

3. Specifications

3.1、 Hardware Datasheet

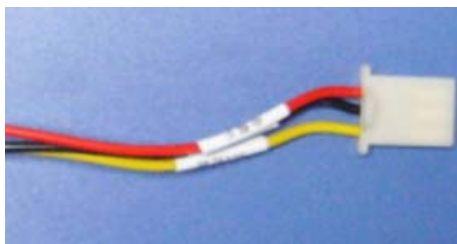
| | |
|------------------------|---|
| work voltage | 12VDC |
| work current | 50mA~160mA |
| GSM module | Simcom300/340 inside contain frequency GSM 900/1800 inside contain frequency GSM 850/900/1800/1900Mhz (can be customized) |
| Communication protocol | UDP/TCP(can be customized) |
| GPS module | GPS JRC 595 with SIRFIII chipset |
| GPS sensitivity | -159dBm |
| GPS frequency | L1, 1575.42 MHz |
| C/A coding | 1.023 MHz chip rate |
| Channels | 20 channels examine track |
| Position accuracy | 10 meter, 2D RMS |
| Speed accuracy | 0.1 meter/second |
| Time accuracy | GPS time synchronization |
| Default data | WGS-84 |
| Recover | Average 0.1 second |
| Hot start | Average 1 second |
| Warm boot | Average 38 second |
| Cold boot | Average 42 second |
| Height limit | 18,000 meter (60,000 feet) max |
| Speed limit | 515 kilometer/second (1000 knots)max |

| | |
|---------------------|--|
| Acceleration limit | Less than 4g |
| 3.2、 Others | |
| Work temperature | -20°~ 70° C |
| Storage temperature | -30°~ 85° C |
| Humidity | 5% ~ 95% noncondensing |
| Terminal size | 101 mm × 50mm × 24mm |
| Inside battery | Continuous working no less than 4 hours |
| LED light | Red: device state; yellow: GSM module state; green: GPS module state |

4. Interface Description



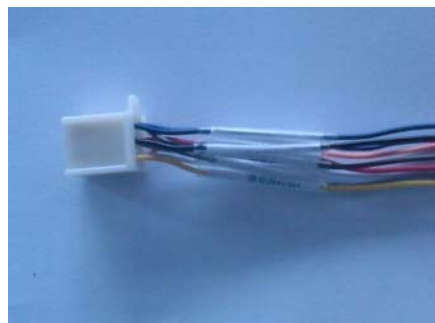
4.1 Power Interface



Description

| pin | color | function explain/connection method |
|-----|--------|--|
| 1 | red | Power positive input, the working voltage 9VDC ~ 34VDC, connect the positive of car battery; |
| 2 | dark | Power negative input, then the negative pole of vehicle battery; |
| 3 | yellow | ACC check line, connect the ACC line; |

4.2 Extended interface



Description

| pin | color | function explain/connection method |
|-----|--------|--|
| 1 | orange | LV1 (low-level signal detection port 1), input low voltage to detect, voltage should be less than 0.3 VDC, connecting with effective low-level signal wire |
| 2 | red | SOS alarm input, low-level triggered alarm, directly connect with the wire of SOS button |
| 3 | brown | SOS alarm indicator signal, drive LED, when alarm is triggered, the LED will be on. |
| 4 | white | HV1(high-level signal detection port 1, it is described as illegal door-open, illegal engine-start signal detection), input positive voltage to detect, which should be 5DC~input power supply, connecting with effective high-level signal wire. |
| 5 | blank | No description |
| 6 | purple | GND of SOS alarm wire |
| 7 | yellow | Relay positive input, connect with the yellow wire in relay |
| 8 | black | Relay negative input, connect with the white wire in relay |
| 9 | blue | HV2(high-level signal detection port 2) input positive voltage to detect, which should be 5DC~input power supply, connecting with effective high-level signal wire. |

5. Installation

5.1 Warm reminder for Installation

In order to realize the full functions of this product, please read this manual carefully before starting to use the product.

1. This product can only be maintained and repaired by qualified professional service personnel. If you detach this product for maintenance or repair, your warranty will be invalidated.
2. When connecting the other devices, read carefully their instruction manuals, so as to carry out correct installation; do not connect incompatible device.
3. Please use genuine original parts and qualified batteries and peripheral equipments, so as to avoid damage to this product.
4. As this product is a high-tech product, please read carefully this manual before starting to use the product, so as to avoid inappropriate operation.
5. Drivers should not operate this product while driving a vehicle, thereby, affecting safe driving.
6. This product can work properly only when GSM communication is in good condition.
7. Please reduce electromagnetic wave interference to the product; and use it properly.
8. GPS communication is liable to be affected by environmental shielding; may fail to carry out positioning during certain circumstances. It will resume the positioning function as soon as it leaves the shielding environment. This is normal. Please do not worry when encountering such problem.
9. Each signal sent out from the system will be confirmed for successful transmission in the base station of the mobile operator. However, if system stoppage occurs or if the mobile telephone is preset to a switch off state by the customer, it cannot ensure successful transmission.
10. For safety reason, do not tell the other people your device SIM number, without taking precautions. Otherwise, your privacy may be compromised along with other safety problem.

5.2 Wiring diagram

5.3 Parameter settings

1. Reboot

R,* Password *

2. Settings

Format: SS,*APN*,*USERNAME*,*PASSWORD*,*IP*,*Port*,*System number*,*Phone number for getting SMS alerts*,*Password*

e.g.:

SS,*CMNET*,**,**,*058.060.185.172*,*8886*,*13512345002*,*+8613418776340
*,*123456*

Notes:

- a) If no username and password, please leave it blank,
e.g.: 1) SS, *APN*,**,**,*IP*,*Port*,*System number*,* Phone number for getting SMS alerts *,*Password*
- 2) S,*APN*,*IP*,*Port*,*terminal ID*,**System number*,* Phone number for getting SMS alerts *,*Password*
- b) System number's length must be 11 digitals, and begin with the number from 134-154;
- c) Please add country code in the front of phone number, e.g.: Chinese code is 86. phone number is 13612345678, You can set the phone number like this, *+8613612345678*
- d) Default password is 123456

1. Change password

C,*password*,*new password*

6. Standard Accessories

Power Wires, GPS Antenna, GPRS Antenna, Magic Tape, Warranty Card, Warranty card receipt, Certification

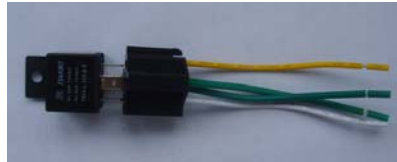


7. Optional accessories

7.1 Taping Earphone and Mic



7.2 Relay



Federal Communications Commission (FCC) Statement

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.

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.

Warning: Changes or modifications made to this device not expressly approved by **GATOR GROUP CO., LTD** may void the FCC authorization to operate this device.

Note: The manufacturer is not responsible for any radio or tv interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

RF exposure statement:

The transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.