IME GPRS Communication Protocol Between GPS Tracker and Server

2011-11-28 V2.3

I Command Format

Command format of GPRS packet is as follows: From server to tracking unit: @@<L><ID (7 bytes)><command (2 bytes)><data><checksum (2 bytes)>\r\n From tracking unit to server: \$\$<L><ID (7 bytes)><command (2 bytes)><data><checksum (2 bytes)>\r\n

Note:

Do not input '<' and '>' when writing a command. All multi-byte data complies with the following sequence: High byte prior to low byte

| Item | Specification |
|-----------------------|---|
| @@ | 2 bytes. It means the header of packet from server to tracking unit. It is in ASCII |
| | code (Hex code: 0x40) |
| \$\$ | 2 bytes. It is the header of packet from tracking unit to server, It is in ASCII code |
| | (Hex code: 0x24) |
| L | 2 bytes. It means the length of the whole packet including the header and ending |
| | character and it is in hex code |
| ID | 7 bytes, the unused byte will be stuffed by 'f' or '0xff'. It is in the format of hex code. |
| | For example, if ID is 13612345678, then it will be shown as follows: 0x13, 0x61, |
| | 0x23, 0x45, 0x67, 0x8f, 0xff. |
| Command | 2 bytes. The command code is in hex code. Please refer to the command list |
| | below. |
| Data | Min 0 byte, max 100 bytes. |
| Checksum | 2 bytes. It indicates CRC-CCITT(default is 0xffff) checksum of all data (not |
| | including CRC itself and the ending character). It is in hex code. |
| | For example: |
| | 24 24 00 11 13 61 23 45 67 8f ff 50 00 05 d8 0d 0a |
| | 0x05d8 = CRC-CCITT (24 24 00 11 13 61 23 45 67 8f ff 50 00) |
| \ r \ n | 2 bytes. It is the ending character and in hex code (0x0d,0x0a in hex code) |

| Command | Definition |
|---------|--|
| 0x0001 | Heart Beat |
| 0x0002 | Get IP and port |
| 0x4000 | Server confirms tracker's login |
| 0x5000 | Tracker's login |
| 0x4101 | Request one single location report |
| 0x4102 | Set time interval for continuous tracking |
| 0x4103 | Set authorized phone number |
| 0x4104 | Reserved |
| 0x4105 | Set speed limit for over speed alarm |
| 0x4106 | Set movement alert |
| 0x4108 | Set extended functions |
| 0x4110 | Initialize all parameters except for password, IP/PORT/APN, ID and time interval for |
| | continuous tracking. |
| 0x4116 | Set GPRS alert for buttons or inputs |
| 0x4130 | Set telephone number for wiretapping |
| 0x4132 | Set time zone |
| 0x9002 | Read time interval of continuous tracking |
| 0x9003 | Read authorized phone number |
| 0x9955 | Single location report |
| 0x9956 | Black box report |
| 0x9957 | Send SMS |
| 0x9958 | Get plain address |
| 0x9959 | Get GPRMC form GSM Cell |
| 0x9960 | Report answer phone number and location (For Italy customer only) |
| 0x9961 | Set answer phone mode (For Italy customer only) |
| 0x9962 | Get battery voltage and signal strengh |
| 0x9963 | Report call duration (For Italy customer only) |
| 0x9964 | Report the content of SMS sent before (For Italy customer only) |
| 0x9965 | Set Any Settings |
| 0x9966 | Get All Settings |
| 0x9967 | Report Any Settings |

II Command List

III Command Details

1. Heart Beat

Command code: 0x0001 Command from tracking unit to server: \$\$<L><ID><0xaaaa><checksum>\r\n

Message from server to tracking unit: @@<L><ID><0xaaaa ><Flag><checksum> \r\n

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

2. Get IP and port

Command code: 0x0002 Command from tracking unit to server: \$\$<L><ID><0x0002><checksum>\r\n

Message from server to tracking unit: @@<L><ID><0x0002 ><IP:port><checksum> \r\n

IP: The IP address of server Port: The port of server For example: @@<L><ID><0x0002 ><118.128.198.38: 8090><checksum> \r\n

3. <u>Tracker's Login</u>

Command code: 0x5000 Once the IP/PORT/APN is correctly set by SMS and GPRS function is enabled, the tracking unit will apply for a GPRS connection by sending the login command every 30 seconds to the server until the server confirms the tracking unit's login.

Tracking unit sends the following command to the server to apply for login and GPRS connection: $\C = \frac{1}{\sqrt{n}} - \frac{1}{\sqrt{n}}$

4. Server Confirms Tracker's Login

Command code: 0x4000

Following command will be sent back to tracking unit after server receives the login command: @@<L><ID><0x4000><Flag><checksum>\r\n

If Flag (1 byte) is 0x00, it means login failed and will try to login again. Or 0x01, it means login succeeded.

5. <u>Request One Single Location Report</u>

Command code: 0x4101 Command from server to tracking unit: @@<L><ID><0x4101><checksum>\r\n

Upon receipt of the above command, the tracking unit will send the following message with its current location to the server: \$\$<L><ID><0x9955><data><checksum>\r\n

Please refer to annex 1 for detailed description of 'data'.

6. <u>Set Time Interval for Continuous Tracking</u>

Command code: 0x4102 Command from server to tracking unit: @@<L><ID><0x4102><timer interval in hex code (2 bytes)><checksum>\r\n

Note: 2 bytes of timer interval is in format of 10 seconds and if =0, it means stop tracking Max time interval = 65535*10 seconds

Message from tracking unit to server: \$\$<L><ID><0x5100><Flag (1byte)> <timer interval (2 bytes)><checksum>\r\n

Note: If Flag =0, it means setting failed, =1, it means setting succeeded When time interval is set successfully, the tracking unit will send the following message with its current

location to the server at the interval specified:

 $S<L><ID><0x9955><data><checksum>\r\n$

Please refer to annex 1 for detailed description of 'data'.

7. <u>Set Authorized Phone Number</u>

Command code: 0x4103

Command from server to tracking unit:

@ @ <L > ID > 0x4103 > button number > <authorized phone number for receiving

SMS><authorized phone number for receiving call><checksum>/r/n

Remarks:

Button number -1 byte and in hex code. It can support up to 4 buttons. Currently only have three speed dial buttons (SOS, button 1, button2 and button3). Therefore for these trackers, if button number,

= 0x01, to set authorized phone number for SOS button;

= 0x02, to set authorized phone number for button 1;

= 0x03, to set authorized phone number for button 2.

= 0x04, to set authorized phone number for button 3.

Authorized phone number -16 bytes in ASCII. If the phone number is less than 16 bytes, the blank byte(s) should read as '0x00'. For example:

If the authorized number is 8613612345678, then is should be written as follows: 0x38 0x36 0x31 0x33 0x36 0x31 0x32 0x33 0x34 0x35 0x36 0x37 0x38 0x00 0x00 0x00 If all 16 bytes data are 0x00, it means the authorized number is invalid.

After the above command is received, the tracking unit will send the following message back to the server:

 $S<L><ID><0x4103><Flag><checksum>\r\n$

If Flag (1byte)

=0x00, it means setting failed;

=0x01, it means setting succeeded.

8. <u>Set Speed Limit for Over Speed Alarm</u>

Command code: 0x4105

Command from server to tracking unit:

 $@@<\!\!L\!\!><\!\!ID\!\!><\!\!0x4105\!\!><\!\!speed\!\!><\!\!checksum\!\!>\!\!\!r\!\!\wedge\!\!n$

Speed -1 byte and in hex code. When the tracker is over this preset speed limit, an alarm message will be sent to the server.

If speed is

0, to cancel over speed alarm; 0x01, speed limit is set to 10km/hour; 0x02, speed limit is set to 20km/hour; 0x03, speed limit is set to 30km/hour; 0x04, speed limit is set to 40km/hour; 0x05, speed limit is set to 50km/hour;

Max speed limit is 200km/hour

After the above command is received, the tracking unit will send the following message back to the server:

\$\$<L><ID><0x4105><Flag><checksum>\r\n

If Flag (1byte) =0x00, it means setting of speed limit failed; =0x01, it means setting of speed limit succeeded.

9. <u>Set Movement Alert</u>

Command code: 0x4106 Command from server to tracking unit: @@<L><ID><0x4106><area (1byte in hex code)><checksum>\r\n

If area:

=0, to cancel movement alert function

=0x01, it is set in a square with current location as center and with side length=2x30m; =0x02, it is set in a square with current location as center and with side length=2x50m; =0x03, it is set in a square with current location as center and with side length=2x100m; =0x04, it is set in a square with current location as center and with side length=2x200m; =0x05, it is set in a square with current location as center and with side length=2x300m; =0x06, it is set in a square with current location as center and with side length=2x300m; =0x07, it is set in a square with current location as center and with side length=2x1000m; =0x08, it is set in a square with current location as center and with side length=2x1000m;

Message replied from tracking unit to server: \$\$<L><ID><0x4106><Flag><checksum>\r\n If Flag

=0, it means setting failed;

=1, it means setting succeeded.

10. <u>Set Extended Functions</u>

Command code: 0x4108

Command from server to tracking unit:

 $@ @ <\!\!L\!\!>\!\!<\!\!ID\!\!>\!\!<\!\!0x4108\!\!>\!\!<\!\!ABCDEFG\!\!>\!\!<\!\!checksum\!\!>\!\!r\!n$

Remarks for ABCDEFG:

A=0, Turn off the function of sending an SMS location report to the authorized phone number when it makes

a call to the tracking unit.

A=1, Turn on the function of sending an SMS location report to the authorized phone number when it makes

a call to the tracking unit.

B=0, location data of NMEA 0183 GPRMC will be interpreted into normal text for easy reading.

B=1, location data complies with NMEA 0183 GPRMC protocol.

C=0, Turn off the function to automatically hang up an incoming call after 5 rings.

C=1, Turn on the function to automatically hang up an incoming call after 5 rings.

D=0, Turn off the function of sending a message via SMS/GPRS when the tracking unit is turned on.

D=1, Turn on the function of sending a message via SMS/GPRS when the tracking unit is turned on. SMS

will be sent to preset SOS number.

E: reserved. Either 0 or 1 doesn't affect the other settings.

F=0: Turn off the alarm when the tracking unit enters GPS blind area.

F=1:Turn on the alarm when the tracking unit enters GPS blind area. The alarm message is to be sent by

SMS/GPRS.

G=0, 3 LED lights work normally.

G=1, 3 LED lights stop flashing automatically after the tracking unit is rebooted and initialized.

Following message will be sent from tracking unit to the server to confirm above settings: \$\$<L><ID><0x4108><Flag><checksum>\r\n

If Flag =0x00, it means settings failed; =0x01, it means settings succeeded.

11. <u>Initialize All Parameters Except for Password, IP/PORT/APN, ID and Time Interval for</u> <u>Continuous Tracking</u>

Command code: 0x4110 Command from server to tracking unit: @@<L><ID><0x4110><checksum>\r\n

Message from tracking unit to server to confirm the settings: \$\$<L><ID><0x4110><Flag><checksum>\r\n

If Flag =0x00, it means setting failed; =0x01, it means setting succeeded.

12. Set GPRS Alert for Buttons or Inputs

Command code: 0x4116 Command from server to tracking unit: @@<L><ID><0x4116><ABCD><checksum>\r\n A=SOS button B=1 button C=2 button D=3 button

When A or B or C or D
=1, to enable alert when button is pressed
=2, to enable alert when button is released
=3, to enable alert when button is pressed or released

Message from tracking unit to server: \$\$<L><ID><0x4116><Flag><checksum> \r\n

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

13. <u>Set Telephone Number for Wiretapping (Listen Only)</u>

Command code: 0x4130

Command from server to tracking unit: @@<L><ID><0x4130><data><checksum>\r\n

Data is the telephone number for wiretapping and it should be numbers or '+' and numbers. Max 16 digits. In ASCII code.

Message from tracking unit to server: \$\$<L><ID><0x4130><Flag><checksum> \r\n

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

14. Set Time Zone

Command code: 0x4132 Command from server to tracking unit: @@<L><ID><0x4132><data><checksum>\r\n

Default time is GMT. Data is to set time difference in minutes to GMT Data = [0,65535]/[-1,-65535], In ASCII code and in unit of minute Message from tracking unit to server: \$\$<L><ID><0x4132><Flag><checksum> \r\n

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

15. <u>Read Preset Time Interval of Continuous Tracking</u>

Command code: 0x9002 Command from server to tracking unit: @@<L><ID><0x9002><checksum>\r\n

Message from tracking unit to server: \$\$<L><ID><0x9002><Preset time interval (2 bytes in hex code)><checksum> \r\n Preset time interval: in format of 10 seconds and if =0, it means stop tracking. The max timer interval = 65535×10 seconds.

16. <u>Read Authorized Phone Number</u>

Command code: 0x9003 Command from server to tracking unit: @@<L><ID><0x9003><button number><checksum>\r\n

Button number: 1 byte and in hex code, it should be in the range form 1 to 4. When button name is 0xff, it is to read all authorized numbers.

Message from tracking unit to server: \$\$<L><ID><0x9003><authorized phone number for receiving SMS><authorized phone number for receiving call><checksum>\r\n

Authorized phone number: 16 bytes in ASCII. If the phone number is less than 16 bytes, the blank byte(s) read as '0x00'.

17. <u>Report Black Box Location</u>

Remarks: The max number of data is 40.

Please refer to annex 1 for detailed description of 'data'.

Message from server to tracking unit: @@<L><ID><0x9956><Flag><checksum> \r\n

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

18. Send SMS

Command code: 0x9957 Command from server to tracking unit: @@<L><ID><0x9957><phone number><SMS data><checksum>\r\n

Remarks:

phone number-16 bytes in ASCII. If the phone number is less than 16 bytes, the blank byte(s) should read as '0x00'. For example: If the authorized number is 8613612345678, then is should be written as follows: 0x38 0x36 0x31 0x33 0x36 0x31 0x32 0x33 0x34 0x35 0x36 0x37 0x38 0x00 0x00 0x00 If all 16 bytes data are 0x00, it means the authorized number is invalid.

SMS data-Max 70*4 bytes in Unicode. For example: If the SMS data is "深圳市南山区", then is should be written as follows: 0xF1 0x6D 0x33 0x57 0x02 0x5E 0x57 0x53 0x71 0x5C 0x3A 0x53 0x00 0x00 This field must use 0x00 0x00 for end.

After the above command is received, the tracking unit will send the following message back to the server:

\$\$<L><ID><0x9957><Flag><checksum>\r\n
If Flag (1byte)
=0x00, it means setting failed;
=0x01, it means setting succeeded.

19. Get plain address

Command code: 0x9958 Command from tracking unit to server: \$\$<L><ID><0x9958><phone number><GPS/Cell data><checksum>\r\n

Remarks:

phone number-16 bytes in ASCII. If the phone number is less than 16 bytes, the blank byte(s) should read as '0x00'. For example:

If the authorized number is 8613612345678, then is should be written as follows: 0x38 0x36 0x31 0x33 0x36 0x31 0x32 0x33 0x34 0x35 0x36 0x37 0x38 0x00 0x00 0x00 If all 16 bytes data are 0x00, it means the authorized number is invalid.

Please refer to annex 2 for detailed description of 'GPS/Cell data'.

Message from server to tracking unit: @@<L><ID><0x9958><phone number><SMS data><checksum>\r\n SMS data-Max 70*4 bytes in Unicode. For example: If the SMS data is "深圳市南山区", then is should be written as follows: 0xF1 0x6D 0x33 0x57 0x02 0x5E 0x57 0x53 0x71 0x5C 0x3A 0x53 0x00 0x00 This field must use 0x00 0x00 for end.

20. Get GPRMC from GSM Cell

Command code: 0x9959 Command from tracking unit to server: \$\$<L><ID><0x9959><GPS and Cell data><checksum>\r\n

Message from server to tracking unit: @@<L><ID><0x9959><GPS data><checksum> \r\n

Please refer to annex 2 for detailed description of 'GPS/Cell data'.

21. <u>Report Answer Phone Number And Location (For Italy customer only)</u>

Command code: 0x9960

Command from tracking unit to server:

\$\$<L><ID><0x9960><phone number><GPS/Cell data><checksum>\r\n

Remarks:

phone number-16 bytes in ASCII. If the phone number is less than 16 bytes, the blank byte(s) should read as '0x00'. For example: If the authorized number is 8613612345678, then is should be written as follows: 0x38 0x36 0x31 0x33 0x36 0x31 0x32 0x33 0x34 0x35 0x36 0x37 0x38 0x00 0x00 0x00

If all 16 bytes data are 0x00, it means the authorized number is invalid.

Please refer to annex 2 for detailed description of 'GPS/Cell data'.

Message from server to tracking unit: @@<L><ID><0x9960><Flag><checksum>\r\n

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

22. Set Answer Phone Mode (For Italy customer only)

Command code: 0x9961 Command from server to tracking unit: $@@<L><ID><0x9961><mode><checksum>\r\n$

Remarks: mode – 1 byte and in hex code.

If mode is

0x00, the device cuts off the line and send the GPRS message to the server;

0x01, the device rings like a normal phone and does NOT send anything to the server;

0x02, the device rings and works like a normal phone and DOES send the position to the server;

After the above command is received, the tracking unit will send the following message back to the server:

 $S<L><ID><0x9961><Flag><checksum>\r\n$

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

23. Get battery voltage and signal strength

Command code: 0x9962 Command from server to tracking unit: @@<L><ID><0x9962><checksum>\r\n

After the above command is received, the tracking unit will send the following message back to the server:

\$\$<L><ID><0x9962><battery><signal><checksum>\r\n

Remarks: Battery – Percentage of the battery voltage, 1 byte in hex code. Signal – Percentage of the signal strength, 1 byte in hex code.

24. <u>Report call duration (For Italy customer only)</u>

Command code: 0x9963 Command from tracking unit to server: \$\$<L><ID><0x9963><outgoing call XX min made><checksum>\r\n

Remarks:

XX-Call duration in unit of minutes. If less than one minute, then the valuation in accordance with one minute.

For example:

| | Really call duration | Report call duration |
|--|----------------------|----------------------|
|--|----------------------|----------------------|

| 160 sec | 1 min |
|------------|-------|
| 61120 sec | 2 min |
| 121180 sec | 3 min |
| 181240 sec | 4 min |
| 241300 sec | 5 min |

Message from server to tracking unit:

 $@@<L><ID><0x9963><Flag><checksum>\r\n$

If Flag

=0x00, it means operation failed;

=0x01, it means operation succeeded.

25. <u>Report the content of SMS sent before (For Italy customer only)</u>

Command code: 0x9964 Command from tracking unit to server: \$\$<L><ID><0x9964><SMS has been sent XXXX><checksum>\r\n

Remarks: XXXX-The content of SMS sent before. For example: SMS has been sent W01,600,ITALY.09A.W09.28.MP.V2.81.352530005090846 OK

Message from server to tracking unit: @@<L><ID><0x9964><Flag><checksum>\r\n

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

26. Set Any Settings

Command code: 0x9965 Command from server to tracking unit: @@<L><ID><0x9965><Settings><checksum>\r\n

Remarks: Settings – Set any settings in one time. For example: "key1num":"2313213","key2num":"5555555","key3num":"321321344","sosnum":"321321321" Please refer to annex 2 for detailed description of 'any settings'.

After the above command is received, the tracking unit will send the following message back to

the server: \$\$<L><ID><0x9965><Flag><checksum>\r\n

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

27. Get All Settings

Command code: 0x9966 Command from server to tracking unit: @@<L><ID><0x9966><checksum>\r\n

After the above command is received, the tracking unit will send the following message back to the server: \$\$<L><ID><0x9966><Settings><checksum>\r\n

Remarks: Settings – Get any settings in one time. For example: "key1num":"2313213","key2num":"5555555","key3num":"321321344","sosnum":"321321321" Please refer to annex 2 for detailed description of 'any settings'.

28. <u>Report Any Settings</u>

Command code: 0x9967 Command from tracking unit to server: \$\$<L><ID><0x9967><Settings><checksum>\r\n

Remarks: Settings – Report any settings in one time. For example: "key1num":"2313213","key2num":"5555555","key3num":"321321344","sosnum":"321321321321" Please refer to annex 2 for detailed description of 'any settings'.

Message from server to tracking unit: @@<L><ID><0x9967><Flag><checksum>\r\n

If Flag =0x00, it means operation failed; =0x01, it means operation succeeded.

Annex 1: Description of data

1, Data

Data consists of: GPRMC | HDOP | Altitude | Cell | State | Alarm | Battery | Signal

For example:

(9) GPRMC includes:

hhmmss.dd,S,xxmm.dddd,<N|S>,yyymm.dddd,<E|W>,s.s,h.h,ddmmyy

For example:

134829.486,A,1126.6639,S,11133.3299,W,58.31,309.62,110200

Details:

| Parameter | Description | Example |
|-------------|--|------------------------------|
| hhmmss.dd | UTC time | 13:48:29.486 |
| | hh = hours; | |
| | mm = minutes; | |
| | ss = seconds; | |
| | dd = decimal part of seconds | |
| S | Status indicator, A = valid, V = invalid | A=Valid |
| xxmm.dddd | Latitude | 11 deg. 26.6639 min |
| | xx = degrees; | |
| | mm = minutes; | |
| | dddd = decimal part of minutes | |
| <n s></n s> | Either character N or character S | S = South |
| | N = North, S = South | |
| yyymm.dddd | Longitude | 111 deg. 33.3299 min |
| | yyy = degrees; | |
| | mm = minutes; | |
| | dddd = decimal part of minutes | |
| <e w></e w> | Either character E or character W | W=West |
| | E = East, W = West | |
| S.S | Speed, knots | 58.31 Knots |
| h.h | Heading | 309.62 deg |
| ddmmyy | Date | 11 th , Aug. 2000 |
| | dd = date; | |
| | mm = month' | |
| | yy = year | |

(2) | is list separator in ASCII (=0x7c)

(3) HDOP, in ASCII code, 0.5-99.9. HDOP is blank when the tracking unit has no GPS fix.

(4) Altitude, in algorism.

(5) Cell, includes:

cid,lac,mnc,mcc For example:

4272,10147,00,460

Details:

| Parameter | Description | Example |
|-----------|-------------|---------|
| cid | Cell ID | 4272 |
| lac | LAC | 10147 |
| mnc | MNC | 00 |
| mcc | MCC | 460 |

(6) State: Status of input and output

Bit0~Bit7: Reserved and default as '0'

Bit8: Status of Input1 If Bit8=0: Input1 is inactive; Bit8=1: Input1 is active (SOS button is pressed)

Bit9: Status of Input2

If Bit9=0: Input2 is inactive; Bit9=1: Input2 is active (Button 1 is pressed)

Bit10: Status of Input3 If Bit10=0: Input3 is inactive; Bit10=1: Input3 is active (Button 2 is pressed)

Bit11: Status of Input4 If Bit11=0: Input4 is inactive; Bit11=1: Input4 is active (Button 3 is pressed)

Bit12: Status of Input5

If Bit12=0: Input5 is inactive; Bit12=1: Input5 is active (Answer button is pressed)

Bit13: Status of Input6

If Bit13=0: Input6 is inactive; Bit13=1: Input6 is active ("Hang up/Power key" button is pressed)

(7) Alarm: Alarm command

| Alarm code | Definition |
|------------|-----------------------------------|
| =0x01 | SOS button is pressed |
| =0x02 | 2 nd button is pressed |
| =0x03 | 3 rd button is pressed |
| =0x04 | First button is pressed |
| =0x05 | Reserved |
| =0x10 | Low battery alarm |
| =0x11 | Over speed alarm |

| =0x12 | Movement alarm |
|-------|--|
| =0x13 | Reserved |
| =0x14 | Alarm of tracking unit being turned on |
| =0x15 | Alarm of tracking unit entering blind area |
| =0x16 | Alarm of tracking unit leaving blind area |
| =0x31 | SOS button is released |
| =0x32 | 2 nd button is released |
| =0x33 | 3 rd button is released |
| =0x34 | First button is released |
| =0x35 | Reserved |
| =0x40 | Vibrate alarm |

(8) Battery: Percentage of the battery voltage

(9) Signal: Percentage of the signal strength

| Parameter | Description | Example |
|-----------|---|-------------------------------|
| sosnum | Bind SOS key number (both SMS and calling) | "sosnum":"13500000000" |
| key1num | Bind the 1 st key number (only calling) | "key1num":"13511111111" |
| key2num | Bind the 2 nd key number (only calling) | "key2num":"13522222222" |
| key3num | Bind the 3 rd key number (only calling) | "key3num":"135333333333" |
| report | Set GPRS report interval (second) | "report":"3" |
| ovrspd | Set over speed | "ovrspd":"100" |
| ovrnum | Set the phone number of over speed alarm | "ovrnum":"13812345678" |
| ovrsms | Set the SMS of over speed alarm (in UTF-8) | "ovrsms":"超速了" |
| start | Set start work time (hour) | "start":"0" |
| stop | Set stop work time (hour) | "stop":"24" |
| smsintval | Set SMS report interval (minute) | "smsintval":"1" |
| dt | Set date time | "dt":"2011-9-20,20:19:00" |
| tzone | Set time zone (minute) | "tzone":"480" |
| agps | Set AGPS IP and port | "agps":"209.85.173.192: 7276" |
| tapnum | Set wiretap number | "tapnum":"135666666666" |
| ciaddr | Report location via SMS after incoming call (true/false) | "ciaddr":"true" |
| exc | Automatically hang up an incoming call (true/false) | "exc":"true" |
| exd | Sending an SMS to SOS number when tracker is turned on (true/false) | "exd":"true" |
| exf | GPS blind area (true/false) | "exf":"true" |
| exg | LED lights work (true/false) | "exg":"true" |
| psmode | Power save mode (true/false) | "psmode":"true" |
| firew | Firewall of incoming call (true/false) | "firew":"true" |
| vibc | Set vibrate alarm (true/false) | "vibc":"true" |
| vibs | Set vibrate | "vibs":"震动报警" |

Annex 2: Description of any settings