

iStartek GPS Tracker Protocol

Ver.: V1.0

www.istartek.com

Applied Models

The document describes the format of position/alarm GPRS data, and it is applied for the following models:

- VT200 L
- VT200

Content


| | |
|--|----|
| Content..... | 2 |
| 1. Copyright and Disclaimer..... | 4 |
| 2. GPRS Command Format..... | 4 |
| 3. GPRS Event Data Format..... | 4 |
| 4. SMS Command Format..... | 7 |
| 5. SMS Event Data Format..... | 8 |
| 6. Command List..... | 8 |
| 000 – Ordinary upload of device positioning data package | 8 |
| 010 – Ordinary upload of device positioning data package | 9 |
| 020 – Compressed upload of device positioning data package | 9 |
| 100 – Set the GPRS parameters of server 1..... | 9 |
| 101 – Set up a Backup Server for Server 1..... | 10 |
| 102 – Set the GPRS Time Interval of Server 1..... | 10 |
| 103 – Set the Reliable Data Transmission Mode of Server 1..... | 11 |
| 104 – Set Server 1 Data Sorting Transmission Mode..... | 12 |
| 105 – Set the GPRS Parameters of Server 2..... | 12 |
| 106 – Set the GPRS Time Interval of Server 2..... | 12 |
| 107 – Set the Reliable Data Transmission Mode of Server 2..... | 13 |
| 108 – Set Server 2 Data Sorting Transmission Mode..... | 14 |
| 109 – Set APN..... | 14 |
| 110 – Set Device ID..... | 14 |
| 111 –Set DNS IP..... | 15 |
| 120 – Set Track by Distance Interval..... | 15 |
| 121 – Set Heading Change Report..... | 15 |
| 122 – Set Heartbeat..... | 16 |
| 123 – Set Speeding Alarm..... | 16 |
| 124 – Set Sleep Mode..... | 17 |
| 125 – Set a Circular Geo-fence..... | 17 |
| 126 – Set Geo-fence Name..... | 18 |
| 127 – Delete Circular Geo-fence..... | 18 |
| 128 – Set Acceleration Alarm..... | 19 |
| 129 – Set Deceleration Alarm..... | 19 |
| 130 – Set Harsh Turning Alarm..... | 19 |
| 131 – Set Impact Alarm..... | 20 |
| 132 – Set Vibration (tow) alarm..... | 20 |
| 133 – Set Idling Alarm (stop without ACC OFF)..... | 21 |
| 134 – Set Fatigue Driving Alarm..... | 21 |
| 135 – Set Temperature Sensor..... | 22 |
| 136 – Set High and Low Temperature Alarm..... | 22 |
| 137 – Get Temperature Value..... | 23 |
| 138 – Set Fuel Tank Parameters..... | 23 |
| 139 – Set Fuel Sensor Type..... | 24 |
| 140 – Set Fuel Steal Alarm..... | 24 |
| 141 – Set Low Fuel Alarm..... | 25 |
| 144 – Authorize RFID/iButton..... | 25 |
| 145 – Delete RFID/iButton..... | 26 |
| 146 – Check Authorization Status of RFID/iButton Card..... | 26 |
| 150 – Set GPS Log Time Interval..... | 27 |
| 151 – Set Vibration Detection Sensitivity..... | 27 |
| 152 – Set Arming/Disarming..... | 28 |
| 153 – Set GSM Jamming Alarm..... | 28 |
| 200 – Set SMS Time Interval..... | 28 |
| 201 – Set Authorized Phone Number..... | 29 |
| 202 – Set Device Call Event..... | 29 |

| | | | |
|-----------|-------------------------------|------|---------|
| File Name | iStartek GPS Tracker Protocol | Ver. | 1.0 |
| Update | 2021-2-3 | Page | 3 of 45 |

| | |
|--|----|
| 203 – Set the Authorized Number SMS Alarm Event..... | 30 |
| 204 – Set the Characters for Event SMS Alarm..... | 30 |
| 205 – Set Two-way Audio Events..... | 31 |
| 206 – Set up Listening Events..... | 31 |
| 210 – Set GPRS Alarm Event..... | 32 |
| 211 – Set Photo Taking Event..... | 32 |
| 212 – Set Output to Generate Output Events..... | 32 |
| 250 – Set Input Working Mode..... | 33 |
| 251 – Set Output Working Mode..... | 33 |
| 252 – Set RS232 Port to Connect External Devices..... | 34 |
| 600 – Set SMS Command Password..... | 35 |
| 601 – Set SMS Time Zone..... | 35 |
| 602 – Set SIM Card PIN Code..... | 35 |
| 610 – Set Initial Mileage..... | 36 |
| 611 – Clear GPRS/SMS Buffer..... | 36 |
| 612 – Initialization Parameter..... | 37 |
| 620 – Set Device LED Indicator Mode..... | 37 |
| 800 – Get Current Location..... | 37 |
| 801 – Get Device SN, IMEI, Software Version..... | 38 |
| 802 – Get Device Working Status..... | 38 |
| 900 – Output Control..... | 39 |
| 901 – Output Control (Mode Output) | 39 |
| 910 – Restart Device or Module..... | 40 |
| 990 – FOTA Upgrade Detection..... | 40 |
| 991 – FOTA Upgrade Authorization..... | 41 |
| 992 – Send FOTA Packet..... | 41 |
| 993 – FOTA Data Check..... | 42 |
| 994 – Device Update FOTA Program..... | 42 |
| 995 – Cancel FOTA..... | 43 |
| Appendix A-Alarm Event Codes and Alarm Characters..... | 43 |

1. Copyright and Disclaimer

Shenzhen iStartek Technology Co., Ltd. All rights reserved Copyright © 2019 iStartek.

iStartek and  are registered trademarks of Shenzhen iStartek Technology Co., Ltd.

This manual cannot be copied for any purpose, disseminated in any way without the written authorization of iStartek.

iStartek shall not be liable for direct, indirect or all losses (including but not limited to economic losses, personal injuries, property and assets) caused by the use or inappropriate use of the product or documents.

2. GPRS Command Format

GPRS command packet format (from server to tracker) :

\$\$<pack-no><pack-len>,<ID>,<cmd-code>,<cmd-data><checksum>\r\n

GPRS command packet format (from tracker to server) :

&&<pack-no><pack-len>,<ID>,<cmd-code>,<cmd-data><checksum>\r\n

Description:

The comma (,) is a symbol used to separate each data item, and there is no space before and after the comma.

&&: It is the header of packet from tracker to server

\$\$: It is the header of packet from server to tracker

pack-no: Data packet number, 1 byte, calculated cyclically from 0x3A to 0x7E. When the platform receives the request instruction from the device, or the device receives the instruction sent by the platform, and needs to reply to the other party, the reply pack-no must be consistent with the received instruction.

pack-len: Data packet length, in decimal format, the data packet length includes the data of "<ID>,<cmd-code>,<cmd-data>" (note: include the comma before the ID).

ID: Device ID number, the default is the IMEI number of the device.

cmd-code: Command code.

cmd-data: The content of the command data, see the description of each command in the following protocol.

checksum: Checksum of the data packet, 2 bytes, in hexadecimal format, is the cumulative sum calculation of all the data before the checksum (&&<pack-no><pack-len>,<ID>,<cmd-code>,<cmd-data>)

\r\n: It is the ending character, <CR><LF>.

If not specified, multi-byte binary data in cmd-data use big endian format. i.e. Most significant byte first.

3. GPRS Event Data Format

&&<pack-no><pack-len>,<ID>,<cmd>,<alm-code>,<alm-data>,<date-time>,<fix_flag>,<latitude>,<longitude>,<sat-quantity>,<HDOP>,<speed>,<course>,<altitude>,<odometer>,<MCC|MNC|LAC|CI>,<CSQ-quanlity>,<system-sta>,<in-sta>,<out-sta>,<ext-V|bat-V|ad1-V|adn-V>,<pro-code>,<fule_liter>,<temp-sensor><checksum>\r\n

GPRS event data description:

Example:

&&A147,021104023195429,000,0,,180106093046,A,22.646430,114.065730,8,0.9,54,86,76,326781,460|0|27B3|0EA7,27,0000000F,02,01,04E2|018C|01C8|0000,1,0104B0,01013D|02813546\r\n

| Item | Description | Example |
|-----------|---|---------|
| pack-head | Data header, 2 bytes | && |
| pack-no | Data packet number, 1 byte, calculated cyclically from 0x3A to 0x7E. When the platform receives the request instruction from the device, or the device receives the instruction sent by the | A |

| | | |
|-----------------------|--|---|
| | platform, and needs to reply to the other party, the reply pack-no must be consistent with the received instruction | |
| pack-len | Data packet length, decimal character format, the length is sum of {,<ID>,000,<alm-code>,<alm-data>,<date-time>,<fix_flag>,<latitude>,<longitude>,<sat-quantity>,<HDOP>,<speed>,<course>,<altitude>,<odometer>,<MCC MNC LAC CI>,<CSQ-quanlity>,<status>,<in-sta>,<out-sta>,<ext-V bat-V ad1-V ... adn-V>,<pro-code>,<fule_level>,<temp-sensor>} | 147 |
| ID | Device ID number, composed of 3~16 numbers or English letters, the default is the IMEI number of device | 021104023195429 |
| cmd | GPRS command data type flag 000 is a normal data from tracker to server, and the platform does not need to reply to receive confirmation; 010 is a normal data from tracker to server, which requires the platform to reply to the receipt confirmation; 020 is a compressed data package from tracker to server, which requires the platform to reply and confirm receipt. | 000 |
| alm-code | Event code of the alarm, please refer to Appendix A | 0 |
| alm-data | Additional description of alarm events, please refer to Appendix A | Empty means the event has no additional description |
| date-time | GMT0 date & time, format: YYMMDDHHmmss 01 YY: Year, which is the value of the year minus 2000, 2 characters 02 MM: Month, 01-12, 2 characters 03 DD: day, 01--31, 2 characters 04 HH: hour, 00--23, 2 characters 05 mm: minutes, 00-59, 2 characters 06 ss: second, 00--59, 2 characters | 180106093046 means 2018-1-6 9:30:46 |
| fix_flag | GPS Location status indicator, A = valid, V = invalid | A |
| latitude | Latitude, the unit is degree, decimal format If it is south latitude, add-in front | 22.646430 |
| longitude | Longitude, the unit is degree, decimal format If it is west longitude, add-in front | 114.065730 |
| sat-quantity | Number of satellite signals received, decimal format | 8=8 satellites |
| HDOP | Horizontal positioning accuracy, decimal format, the smaller the value, the more accurate the accuracy | 0.9 |
| speed | GPS speed, the unit is km/h, decimal format | 54 |
| course | The direction and angle of the movement, in degrees, in decimal format | 86 |
| altitude | Altitude, in meters, decimal format | 76 |
| odometer | The accumulated total mileage, in meters, in decimal format | 326781 |
| MCC MNC LAC CI | Base station information, ' ' is used to separate each data; MCC, MNC: Decimal format LAC, CI: Hexadecimal format | 460 0 27B3 0EA7 MCC = 460; MNC = 0; |

| | | |
|------------------------------------|--|---|
| | | LAC = 0x27B3; CI = 0x0EA7; |
| CSQ-quantity | GSM signal value, 0-31, decimal format | 27 |
| system-sta | <p>The working status of tracker, in 8-bit hexadecimal format, each bit represents a working status:</p> <p>Bit0: GPRS connection status of IP1, 1=connected, 0=disconnected</p> <p>Bit1: GPRS connection status of IP2, 1=connected, 0=disconnected</p> <p>Bit2: GPS positioning status, 1=valid, 0=invalid</p> <p>Bit3: External power connection status, 1=connected, 0=disconnected</p> <p>Bit4: GPS antenna connection status, 1=connected, 0=disconnected</p> <p>Bit5: Stop status, 1=stop, 0=move</p> <p>Bit6: Armed state, 1=armed, 0=disarmed</p> <p>Bit7: RFID/iButton login status, 1=log in, 0=log out</p> <p>Bit8~bit31: reserved</p> | 0000000F |
| in-sta | <p>Input status, 2-digit hexadecimal format, each bit represents a working status:</p> <p>bit[0]-input1 status, 1=triggered, 0=non-triggered</p> <p>bit[1]-input2 status, 1=triggered, 0=non-triggered</p> <p>bit[2]-input3 status, 1=triggered, 0=non-triggered</p> <p>etc.;</p> | <p>02</p> <p>input2 is in the trigger state, other inputs are in the non-trigger state</p> |
| out-sta | <p>Output status, 2-digit hexadecimal format, each bit represents a working status:</p> <p>bit[0] – output1 status, 1=active, 0=inactive</p> <p>bit[1] – output2 status, 1=active, 0=inactive</p> <p>bit[2] – output3 state, 1=active, 0=inactive</p> <p>etc.;</p> | <p>01</p> <p>output1=active</p> |
| ext-V bat-V ad1-V ... adn-V | <p>Voltage value, the value of V*100, in hexadecimal format;</p> <p>' ' is used to separate each data;</p> <p>ext-V: external power supply voltage value;</p> <p>bat-V: internal battery voltage value;</p> <p>ad1-V... and-V: is the voltage value of the corresponding AD input ports ad1... adn. Different devices support different numbers of AD input ports;</p> | <p>04E2 018C 01C8 0000</p> <p>The external power supply voltage value is 0x04E2=1250, V=1250/100=12.50V;</p> <p>The internal battery voltage value is 0x018C=396, V=396/100=3.96V;</p> <p>The AD1 input voltage value is 0x01C8=456, V=456/100=4.56V;</p> <p>AD2 input voltage value is 0x0000=0, V=0/100=0V;</p> <p>The device supports two AD inputs.</p> |
| pro-code | Extended protocol version number to distinguish different extended protocol functions. Decimal format. | 1 |

| | | |
|--------------------|--|--|
| fule_liter | <p>The number of liters of the fuel tank. If the device is connected to multiple fuel sensors, upload the value of multiple fuel tanks in hexadecimal format;</p> <p>' ' is used to separate each fuel tank data;</p> <p>The number of liters of a fuel tank is expressed in 6-digit hexadecimal format, the first 2 characters are the number of the fuel tank, and the last 4 characters are the number of liters*10.</p> | <p>0104B0</p> <p>01# Fuel tank: 0x04B0, the decimal value is 1200, the fuel volume is 120.0 liters</p> <p>The 138, 139, and 140 commands must be used to set the fuel tank parameters to detect the liters.</p> |
| temp-sensor | <p>The temperature value of the temperature sensor, if the device is connected to multiple sensors, upload the value of multiple sensors in hexadecimal format;</p> <p>' ' is used to separate each data;</p> <p>A sensor value is expressed in a 6-digit hexadecimal character format, the first 2 characters are the sensor number, the last 4 characters are the temperature value, the highest bit of the temperature value is the sign bit, and the value is the actual temperature value *10.</p> | <p>01013D 028135</p> <p>01#Temperature sensor: 0x013D, the highest bit is 0 for positive temperature value, decimal value is 317, 3176/10= 31.7°C</p> <p>02#Temperature sensor: 0x8135, the highest digit is 1 for negative temperature value, the decimal value is 309 (0x0135), 309/10= 30.9, then -30.9°C</p> |
| checksum | <p>The checksum of the data packet, in 2-digit hexadecimal format, the accumulation and calculation result of all the data before the checksum</p> <p>{&&<pack-no><pack-len>,<ID>,000,<alm-code>,<alm-data>,<date-time>,<fix_flag>,<latitude>,<longitude>,<sat-quantity>,<speed>,<course>,<altitude>,<odometer>,<MCC MNC LAC CI>,<CSQ-quantity>,<status>,<in-sta>,<out-sta>,<bat-ad ext-ad ad1 ... adn>,<pro-code>,<fule_data>,<temp-sensor>}.</p> | 46 |
| \r\n | End of data packet, which is <CR> <LF> | \r\n |

4. SMS Command Format

SMS command format (data sent from mobile phone to tracker):

<password>,<cmd-code>,<cmd-data>

SMS command format (data is sent from tracker to mobile phone):

<cmd-code>,<cmd-data>

Description:

The comma (,) is a symbol used to separate each data, and there is no space before and after the comma.

password: SMS command password, 4 characters, can be composed of any numbers, letters, and symbols. The default is 0000.

cmd-code: command code.

cmd-data: command data content, see the description of each command in the following protocol.

If not specified, multi-byte binary data in cmd-data use big endian format. i.e. Most significant byte first.

5. SMS Event Data Format

<Alarm_Head_String>,<date-time>,<fix_flag>,<speed>,<course>,<altitude>,<CSQ-quanlity>,http://maps.google.com/maps?q=<latitude>,<longitude>

GPRS Event data description:

Example:

SOS,082619 09:30:46,A,54,286,76,31,http://maps.google.com/maps?q=22.646430,114.065730

| Item | Description | Example |
|---------------------------------------|--|--|
| Alarm_Head_String | The header name of the SMS alarm event, please refer to Appendix A. In and out of the fence event, add (fence name) after Alarm_Head_String | SOS Exit Fence(Home) |
| date-time | GMT0 + Time zone, date & time, format: MMDDYY hh:mm:ss 01 MM: month, 01-12, 2 characters 02 DD: day, 01--31, 2 characters 03 YY: year, which is the year minus 2000, 2 characters 04 hh: hour, 00--23, 2 characters 05 mm: minutes, 00-59, 2 characters 06 ss: second, 00--59, 2 characters 07 YY and hh are separated by a space symbol 08 hh, mm, ss are separated by ":" | 082619 09:30:46=2019-08-26 09:30:46 |
| fix_flag | GPS Location status indicator, A = valid, V = invalid | A |
| speed | GPS speed, the unit is km/h, decimal format | 54 |
| course | The direction and angle of the movement, in degrees, in decimal format | 286 |
| altitude | Altitude, in meters, decimal format | 76 |
| CSQ-quanlity | GSM signal value, 0-31, decimal format | 31 |
| http://maps.google.com/maps?q= | Links located on Google Maps | http://maps.google.com/maps?q= |
| latitude | Latitude, in degrees, decimal format If it is south latitude, add - in front | 22.646430 |
| longitude | Longitude, in degrees, decimal format If it is west longitude, add - in front | 114.065730 |

6. Command List

| 000 - Ordinary upload of device positioning data package (no need for platform to reply receipt confirmation) | |
|---|---|
| Supported Modes | GPRS |
| Command to Server | See above GPRS event data packet format |
| Command Description | 01 Upload the positioning data package, the device will automatically delete the data after uploading |

| | |
|-----------------|---|
| Command Reply | No |
| Command Example | See above GPRS event data packet format |
| Remarks | |

010 – Ordinary upload of device positioning data package (requires platform to reply receipt confirmation)

| | |
|---------------------|--|
| Supported Modes | GPRS |
| Command to Server | See above GPRS event data packet format |
| Command Description | 01 The positioning data package is uploaded. After uploading, the platform must reply receipt confirmation before deleting the positioning data 02 The pack-no in the platform's reply must be the same as the pack-no in the uploaded positioning data package |
| Command Reply | 010,1 |
| Command Example | See above GPRS event data packet format |
| Remarks | |

020 – Compressed upload of device positioning data package (requires platform to reply receipt confirmation)

| | |
|---------------------|--|
| Supported Modes | GPRS |
| Command to Server | See above GPRS event data packet format |
| Command Description | 01 Multiple positioning data packages are compressed and uploaded. After uploading, the platform must reply receipt confirmation before deleting the positioning data 02 The pack-no in the platform's reply must be the same as the pack-no in the uploaded positioning data package |
| Command Reply | 020,1 |
| Command Example | See above GPRS event data packet format |
| Remarks | |

100 – Set the GPRS parameters of server 1

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 100,mode,IP,Port |
| Command Description | 01 mode: GPRS connection mode, 0-Close GPRS connection, at this time any GPRS event will not be generated and sent to server; |

| | |
|-----------------|--|
| | <p>1-TCP connection mode; 2-UDP connection mode;</p> <p>02 IP: The IP address or domain of the server, up to 32 characters; 03 Port: server port, decimal format, range value: 2~65534; 04 This command sets the IP and port of the main server, and 101 command sets the IP and port of the backup server. After the backup server is set, if the main server fails to connect (try to connect 5 times), the device will actively connect to the backup server (if it fails to connect to the backup server after 5 attempts, try to connect to the main server again).</p> |
| Command Reply | <p>100,<result></p> <p>result: The result of Command Reply; OK-The command is set successfully; Unsupport- the command is not supported; Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | 100,1,istartracker.com,8011 |
| Remarks | |

101 – Set up a Backup Server for Server 1

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 101, IP,Port |
| Command Description | <p>01 IP: The IP address or domain of the backup server, up to 32 characters; 02 Port: the port of the server, in decimal format, range value: 2~65534; 03 This command sets the IP and port of the backup server. After the backup server is set, if the main server fails to connect (try to connect 5 times), the device will actively connect to the backup server (if you try to connect to the backup server 5 times) If the connection fails, try to connect to the main server again); 04 The connection mode is subject to the mode set by 100 instructions; 05 The device will not connect to the main server and backup server at the same time.</p> |
| Command Reply | <p>101,<result></p> <p>result: the result of Command Reply; OK-The command is set successfully; Unsupport-the command is not supported; Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | 101,87.172.73.51,8011 |
| Remarks | |

102 – Set the GPRS Time Interval of Server 1

| | |
|--------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 102,normal_time,ACC_Off_time,stopping_time |
| Command | 01 normal_time: Normal time interval. When the conditions of ACC_Off_time or stopping_time are |

| | |
|-----------------|--|
| Description | <p>not met, the device will upload GPRS positioning data at normal_time intervals; the unit is second, and the maximum is 65535 seconds.</p> <p>02 ACC_Off_time: The time interval when ACC is off. When ACC_Off_time is set, normal_time is the time interval when ACC is on. The unit is seconds, and the maximum is 65535 seconds.</p> <p>03 stopping_time: the time interval when the device stops. When stopping_time is set, the device will upload at normal_time intervals when the device is moving. The unit is seconds, and the maximum is 65535 seconds.</p> <p>04 When both ACC_Off_time and stopping_time are set at the same time, the data will be uploaded according to the conditions of ACC_Off_time first.</p> |
| Command Reply | <p>102,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport- the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>102,10</p> <p>Set the normal time interval to 10 seconds;</p> <p>102,10,60</p> <p>Set the ACC on time interval to 10 seconds, and the ACC off time interval to 60 seconds;</p> <p>102,10,,60</p> <p>Set the normal time interval to 10 seconds when moving, and 60 seconds when stationary;</p> |
| Remarks | |

103 - Set the Reliable Data Transmission Mode of Server 1

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 103,mode |
| Command Description | <p>01 mode: The method of reliable data upload, =0 means the device automatically deletes the data after the data is uploaded, =1 means the device needs the platform to reply to confirm data uploaded before deleting the data; the default is 0.</p> <p>02 When selecting UDP to upload data, it is recommended to set the mode=1 transmission mode, because UDP is an unreliable transmission protocol.</p> <p>03 When mode=0, the positioning data is uploaded with the 000 command;</p> <p>04 When mode=1, the positioning data is uploaded with the 010 command, The receipt confirmation command returned by the platform also needs to be responded with the 010 command, and the pack-no must also be consistent with the pack-no of the positioning data packet.</p> |
| Command Reply | <p>103,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport-the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | 103,0 |
| Remarks | |

104 – Set Server 1 Data Sorting Transmission Mode

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 104,mode |
| Command Description | 01 mode: the method of sorting and uploading data, =0 means that real-time data is uploaded first when there is buffer, =1 means that all data is uploaded in FIFO mode; the default is 0. 02 When real-time tracking is required, it is recommended to set mode=0 transmission mode. |
| Command Reply | 104,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 104,0 |
| Remarks | |

105 – Set the GPRS Parameters of Server 2

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 105,mode,IP,Port |
| Command Description | 01 mode: GPRS connection mode, 0-Close the GPRS connection, and no GPRS events will be sent to server 2 at this time; 1-TCP connection mode; 2-UDP connection mode; 02 IP: The IP address or domain of the server, up to 32 characters; 03 Port: the port of the server, in decimal format, range value: 2~65534; 04 When data needs to be uploaded to two servers at the same time, server 2 can be set. For example, when you need to upload data to your own server and government server. |
| Command Reply | 105,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 105,1,istartracker.com,8012 |
| Remarks | |

106 – Set the GPRS Time Interval of Server 2

| | |
|--------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 106,normal_time,ACC_Off_time,stopping_time |
| Command | 01 normal_time: Normal time interval. When the conditions of ACC_Off_time or stopping_time are |

| | |
|-----------------|--|
| Description | <p>not met, the device will upload GPRS positioning data at normal_time intervals; the unit is second, and the maximum is 65535 seconds.</p> <p>02 ACC_Off_time: The time interval when ACC is off. When ACC_Off_time is set, normal_time is the time interval when ACC is on. The unit is seconds, and the maximum is 65535 seconds.</p> <p>03 stopping_time: the time interval when the device stops. When stopping_time is set, the device will upload at normal_time intervals when the device is moving. The unit is seconds, and the maximum is 65535 seconds.</p> <p>04 When both ACC_Off_time and stopping_time are set at the same time, the data will be uploaded according to the conditions of ACC_Off_time first.</p> |
| Command Reply | <p>106,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>106,10</p> <p>Set the normal time interval to 10 seconds;</p> <p>106,10,60</p> <p>Set the ACC on time interval to 10 seconds, and the ACC off time interval to 60 seconds;</p> <p>106,10,,60</p> <p>Set the normal time interval to 10 seconds when moving, and 60 seconds when stationary;</p> |
| Remarks | |

107 - Set the Reliable Data Transmission Mode of Server 2

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 107,mode |
| Command Description | <p>01 mode: The method of reliable data upload, =0 means the device automatically deletes the data after the data is uploaded, =1 means the device needs the platform to reply to confirm data uploaded before deleting the data; the default is 0.</p> <p>02 When selecting UDP to upload data, it is recommended to set the mode=1 transmission mode, because UDP is an unreliable transmission protocol.</p> <p>03 When mode=0, the positioning data is uploaded with the 000 command;</p> <p>04 When mode=1, the positioning data is uploaded with the 010 command, The receipt confirmation command returned by the platform also needs to be responded with the 010 command, and the pack-no must also be consistent with the pack-no of the positioning data packet.</p> |
| Command Reply | <p>107,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | 107,0 |
| Remarks | |

108 – Set Server 2 Data Sorting Transmission Mode

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 108,mode |
| Command Description | 01 mode: the method of sorting and uploading data, =0 means that real-time data is uploaded first when there is buffer, =1 means that all data is uploaded in FIFO mode; the default is 0. 02 When real-time tracking is required, it is recommended to set mode=0 transmission mode. |
| Command Reply | 108,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 108,0 |
| Remarks | |

109 – Set APN

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 109,APN,APN_User_Name,APN_Password |
| Command Description | 01 If APN does not have an APN username and APN password, leave it blank when setting; 02 Please confirm the correct SIM card APN information with the local network operator. |
| Command Reply | 109,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 109,internet,internet,internet 109,CMNET |
| Remarks | |

110 – Set Device ID

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 110,ID |
| Command Description | 01 ID: 3-16 digits or English letters, the default is the 15-digit IMEI number of the device; |
| Command Reply | 110,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |

| | |
|---------|---------------------|
| Command | 110,827643321798018 |
| Example | 110,myID123456 |
| Remarks | |

111 -Set DNS IP

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 111,IP |
| Command Description | 01 IP: The IP address of the DNS server, up to 16 characters; |
| Command Reply | 111,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 111,121.236.189.173 |
| Remarks | |

120 - Set Track by Distance Interval

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 120,distance |
| Command Description | 01 distance: The distance interval, in meters. The value range is 0~65535 meters, if it is 0, the function is turned off; the default is 0. 02 The recommended setting is not less than 100 meters. 03 When installed on a slow-moving vehicle, the track by distance interval function can be set to reduce the generation of GPRS traffic. |
| Command Reply | 120,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 120,200 Set distance interval to 200 meters |
| Remarks | |

121 - Set Heading Change Report

| | |
|--------------------|------------|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 121,course |

| | |
|---------------------|--|
| Command Description | 01 course: The value of heading change, in degrees. The value range is 0~180 degrees, and it is 0 to turn off the function; the default is 0. 02 When the driving direction changes beyond the set value, a position information will be generated. |
| Command Reply | 121,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 121,30 Set the heading change to 30 degrees |
| Remarks | |

122 - Set Heartbeat

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 122,time |
| Command Description | 01 time: Heartbeat interval, in minutes. The value range is 0~65535 minutes. If it is 0, the function is turned off; the default is 0. 02 The heartbeat is only generated in the sleep state. 03 Heartbeat data is complete GPRS positioning data. |
| Command Reply | 122,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 122,60 Set the heartbeat interval to 60 minutes |
| Remarks | |

123 - Set Speeding Alarm

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 123,speeding |
| Command Description | 01 speeding: speeding alarm value, in km/h. The value range is 0~255 km/h, if it is 0, the function is turned off; the default is 0. |
| Command Reply | 123,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 123,100 Set speeding alarm to 100 km/h |

| | |
|---------|--|
| Remarks | |
|---------|--|

124 - Set Sleep Mode

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 124,mode,wait_time |
| Command Description | <p>01 mode: sleep mode, =0 to turn off sleep function, =1 to normal sleep mode, =2 to deep sleep mode; the default is 0.</p> <p>02 wait_time: The device enters sleep mode after no input trigger, no vibration, no phone, no messages reaches the preset time, in seconds. If the sleep mode is set and the wait_time parameter is not set, the default is 300 seconds;</p> <p>03 Normal sleep mode: GPS module power off, GSM module sleeps, it can be triggered by the input port, vibrate, call SMS activation;</p> <p>04 Deep sleep mode: GPS module power off, GSM module power off, it can only be triggered by the input and vibration is activated.</p> |
| Command Reply | <p>124,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>124,1</p> <p>Turn on the normal sleep mode, the time to enter the sleep mode is the default 300 seconds</p> |
| Remarks | |

125 - Set a Circular Geo-fence

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 125,index,flag,radius,latitude,longitude |
| Command Description | <p>01 index: Geo-fence number, the value range is 1~8, up to 8 electronic fences;</p> <p>02 flag: Alarm flag, =1 means exiting the fence alarm, =2 means entering the fence alarm, =3 means both exiting and entering the fence alarm;</p> <p>03 radius: the radius of the circular Geo-fence, in meters, the maximum is 65535 meters;</p> <p>04 latitude: the longitude of the center of the Geo-fence, in degrees;</p> <p>05 longitude: the latitude of the center of the Geo-fence, in degrees;</p> <p>06 When latitude, longitude are empty, use the current longitude and latitude of the device;</p> <p>07 When the radius, latitude, and longitude are empty, use the current latitude and longitude of the device with a radius of 200 meters;</p> <p>08 When flag, radius, latitude, longitude are empty, use the current location latitude and longitude of the device with a radius of 200 meters, which is an alarm for exiting the fence;</p> <p>09 Set 06, 07, 08 when the GPS signal is valid, the setting can be successful, otherwise the setting will fail.</p> |
| Command Reply | <p>125,<result></p> <p>result: the result of Command Reply;</p> |

| | |
|-----------------|---|
| | <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>125,1</p> <p>125,1,1</p> <p>125,1,1,200</p> <p>The above 3 commands are all for setting the first Geo-fence with current location of the device in the longitude and latitude, the radius is 200 meters, exit the fence alarm;</p> <p>125,1,1,200,22.540103,114.082329</p> |
| Remarks | |

126 - Set Geo-fence Name

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 126, index,name |
| Command Description | <p>01 index: Geo-fence number, the value range is 1~8, up to 8 Geo-fences;</p> <p>02 name: composed of 1~16 characters;</p> <p>03 If name is set, it will be displayed as name in the SMS fence alarm event, see the above SMS event data format;</p> <p>04 If the name is not set, it will be displayed as the fence number in the SMS fence alarm event.</p> |
| Command Reply | <p>126,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | 126,1,Home |
| Remarks | |

127 - Delete Circular Geo-fence

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 127,index |
| Command Description | <p>01 index: Geo-fence number, the value range is 1~8, up to 8 Geo-fences;</p> <p>02 When index is empty, delete all Geo-fences.</p> |
| Command Reply | <p>127,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>127,1</p> <p>Delete the first Geo-fence;</p> <p>127</p> |

| | |
|---------|------------------------|
| | Delete all Geo-fences. |
| Remarks | |

128 – Set Acceleration Alarm

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 128,acceleration |
| Command Description | 01 acceleration: acceleration value, the unit is mg, the default is 450mg; when it is 0, the function is canceled. 02 When the acceleration exceeds acceleration, an emergency acceleration alarm is generated. |
| Command Reply | 128,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 128,450 |
| Remarks | |

129 – Set Deceleration Alarm

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 129,deceleration |
| Command Description | 01 deceleration: deceleration value, the unit is mg, the default is 800mg; when it is 0, the function is canceled. 03 When the deceleration exceeds the deceleration, an deceleration alarm is generated. |
| Command Reply | 129,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 129,700 |
| Remarks | |

130 – Set Harsh Turning Alarm

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 130,value |
| Command Description | 01 value: harsh turning alarm value, the smaller the value, the more sensitive, the value range is [0,32], the default is 19; when it is 0, the function is canceled. 03 When the harsh turning exceeds preset value, a harsh turning alarm is generated. |

| | |
|-----------------|---|
| Command Reply | 130,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 130,17 |
| Remarks | |

131 – Set Impact Alarm

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 131,value |
| Command Description | 01 value: impact sensitivity, the value range is 0~10, the smaller the value, the more sensitive, 0 is cancel function, and the default is 5; 02 When using this function, it is recommended that the device be installed parallel to the horizontal plane. |
| Command Reply | 131,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 131,5 |
| Remarks | |

132 – Set Vibration (tow) alarm

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 132,time,mode |
| Command Description | 01 time: The duration of continuous vibration (movement). When the vibration time reaches the set value, an alarm will be generated. The value range is 0~255, the unit is second; =0 is to turn off the vibration alarm function, the default is 0; 02 mode: Check the conditions of vibration; =0, detect vibration under the condition of ACC OFF, the default is 0, when set to 0, the device needs to be connected to ACC detection. =1, no need to detect vibration based on ACC. 03 If this function is used for vehicles, it is recommended to connect ACC and set mode=0. 04 The trailer tow will only be triggered when the tracker enters a static state (no vibration or movement within 3 minutes), and vibration occurs again. |
| Command Reply | 132,<result> result: the result of Command Reply; OK-The command is set successfully; |

| | |
|-----------------|--|
| | Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 132,10 132,10,1 |
| Remarks | |

133 – Set Idling Alarm (stop without ACC OFF)

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 133,time |
| Command Description | 01 time: Idling time, the value range is 0~255, the unit is minute; =0 close the function, the default is 0; 02 Idling condition: ACC is ON and the speed is 0, the tracker needs to be connected to ACC detection. |
| Command Reply | 133,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 133,5 Alarm after 5 minutes of idling |
| Remarks | |

134 – Set Fatigue Driving Alarm

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 134,fatigue_time,rest_time,total_drive_time |
| Command Description | 01 fatigue_time: single fatigue driving time, in minutes, 0 means to cancel the fatigue alarm function, the default is 0 minutes. When the time of parking after ACC OFF exceeds rest_time, the driving time is automatically cleared to 0. 02 rest_time: The minimum rest time, in minutes, the value range is [0, 255], and the default is 0 minutes; when the rest time exceeds rest_time, the driving time is automatically cleared to 0. 03 total_drive_time: total driving time. When the accumulated driving time in 24 hours exceeds total_drive_time, an fatigue driving alarm will be generated. 0 means to cancel the fatigue driving function, and the default is 0 minutes; |
| Command Reply | 134,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 134,240,20,480 Set the fatigue driving time to 240 minutes, the rest time to 20 minutes, and the cumulative driving time to 480 minutes |
| Remarks | |

135 - Set Temperature Sensor

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 135,index,name |
| Command Description | <p>01 index: the serial number of temperature sensor, 1~8, supports up to 8 sensors at the same time;</p> <p>02 name: The name of the temperature sensor, up to 16 characters.</p> <p>03 Installation of temperature sensor:</p> <p>A. Connect a temperature sensor, send the command 135, index, name, and the device will automatically configure the sensor as the sensor at the index position;</p> <p>B. Remove the previous sensor, connect another sensor, and send the command 135, index, name, and the device will automatically configure the sensor as the sensor at the index position;</p> <p>C. Repeat the above steps to set more sensors. Only one sensor can be connected at a time;</p> <p>04 When the name is empty, delete the index sensor;</p> <p>05 When both index and name are empty, delete all sensors.</p> |
| Command Reply | <p>135,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>135,1,Storage room</p> <p>Set 1# temperature sensor, named Storage room.</p> |
| Remarks | |

136 - Set High and Low Temperature Alarm

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 136,index,high_temp,low_temp |
| Command Description | <p>01 index: the serial number of the temperature sensor, 1~8;</p> <p>02 high_temp: high temperature alarm value, the unit is °C, accurate to one decimal place, if it is empty, cancel the high temperature alarm;</p> <p>03 low_temp: low temperature alarm value, the unit is °C, accurate to one decimal place, if it is empty, the low temperature alarm will be canceled;</p> |
| Command Reply | <p>136,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>136,1,40.5,-10</p> <p>Set 1# temperature sensor high temperature alarm to 40.5°C, low temperature alarm to -10°C.</p> |
| Remarks | |

137 – Get Temperature Value

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 137 |
| Command Description | 01Read all the configured sensor temperature values. |
| Command Reply | <p>01 If the command is failed, reply: 137,<result> result: the result of Command Reply; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed.</p> <p>02 If the command is successful, reply: 137,<index1:Temp,index2:Temp,...,indexN:Temp> index: The Nth sensor, if the response does not contain the Nth, then the Nth position is not configured; Temp: temperature value, the unit is °C, if it is empty, it means that the temperature value of the sensor cannot be read.</p> |
| Command Example | 137 Reply: 137,1:29.0,2:28.8 |
| Remarks | |

138 – Set Fuel Tank Parameters

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 138,index,length,wide,high |
| Command Description | <p>01 index: the serial number of the fuel tank, 1=1# fuel tank, corresponding to AD1; 2=2#fuel tank, corresponding to AD2;</p> <p>02 length: The length of the fuel tank, in mm; the default is 0.</p> <p>03 wide: the width of the fuel tank, it is the diameter of the circle if it is a cylindrical fuel tank, the unit is mm; the default is 0.</p> <p>04 high: the height of the fuel tank, in mm; when high=0, it is a cylindrical fuel tank. The default is 0.</p> <p>05 When length, wide, high, and name are all empty, delete the fuel sensor of the index.</p> |
| Command Reply | 138,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 138,1,1000,500,600 Set the length of 1# fuel tank to 1000mm, width to 500mm, and height to 600mm. |
| Remarks | |

139 – Set Fuel Sensor Type

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 139,index,type,name |
| Command Description | <p>01 index: the serial number of the fuel tank, 1=1# fuel tank, corresponding to AD1; 2=2#fuel tank, corresponding to AD2;</p> <p>02 type: the type of fuel sensor, 0=no fuel sensor 1=stick fuel sensor (including resistance, capacitive oil feel, 0~5V output), 2=ultrasonic fuel sensor (range 100CM, 0~5V output) . The default is 0.</p> <p>03 name: The name of the fuel tank, up to 16 characters.</p> |
| Command Reply | <p>139,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>139,1,1,Right Tank</p> <p>Set 1# fuel tank as the ultrasonic oil sensor connected to AD1, and the name of the fuel tank is Right Tank.</p> |
| Remarks | |

140 – Set Fuel Steal Alarm

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 140,index,theft-liter,time |
| Command Description | <p>01 index: the serial number of the fuel tank, 1=1# fuel tank, corresponding to AD1; 2=2#fuel tank, corresponding to AD2;</p> <p>02 theft-liter: The change in liters of the fuel stealing alarm. An alarm will be generated when the amount of fuel decreases within the time period and exceeds the set value. The unit is liter;</p> <p>03 time: The time for check the change of the fuel quantity. An alarm will be generated when the fuel quantity decreases within the time period and exceeds the set value. The value range is [0,255], and the unit is second.</p> <p>06 It is necessary to use commands 138, 139, and 140 to set the parameters of the fuel tank to detect the alarm.</p> |
| Command Reply | <p>140,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>140,1,20,60</p> <p>Set 1# fuel tank to generate fuel steal alarm when the reduction exceeds 20 liters within 60 seconds.</p> |

| | |
|---------|--|
| Remarks | |
|---------|--|

141 – Set Low Fuel Alarm

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 141,index,low-liter |
| Command Description | <p>01 index: the serial number of the fuel tank, 1=1# fuel tank, corresponding to AD1; 2=2#fuel tank, corresponding to AD2;</p> <p>02 low-liter: The number of liter changes for low fuel alarm. An alarm will be generated when the fuel volume is lower than the set value. Value range [0,255], the unit is liter;</p> <p>03 It is necessary to use commands 138, 139, and 141 to set fuel tank parameters to detect alarms.</p> |
| Command Reply | <p>141,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>141,1,10</p> <p>Set 1# fuel tank to generate low fuel alarm when the fuel volume is less than 10 liters.</p> |
| Remarks | |

144 – Authorize RFID/iButton

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 144,ID1,ID2,...,IDn |
| Command Description | <p>01 ID[1,n] is the RFID/ibutton card number, one command can authorize multiple ID numbers.</p> <p>02 The RFID card number is a decimal string; the ibutton card number is a hexadecimal string, the card number with a # sign in front is a hexadecimal number.</p> <p>03 If only command 144 is sent and the card number is empty, it enters the manual card authorization mode. In this mode, the card number is automatically saved as authorization number after the card is swiped. Each time the card is swiped, it will automatically delay for 30 seconds to maintain the swiping authorization mode, and the mode will end after 30 seconds of not swiping card. Card swiping in this mode does not generate a card swiping event.</p> <p>04 When the device uses the ibutton swiping function, Output2 is fixed as the card swiping sound. A beep when swiping the iButton is detected.</p> |
| Command Reply | <p>144,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>144,123456789,987654321</p> <p>Authorization ID number 123456789,987654321</p> <p>144,#00000A678C,#00000E4321F</p> |

| | |
|---------|---|
| | Authorization ID number 0x00000A678C, 0x00000E4321F 144 Enter manual swiping authorization mode, the device will reply "Under authorization" first, and then reply OK after 30 seconds without swiping the card |
| Remarks | |

145 - Delete RFID/iButton

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 145,ALL/ID1,ID2,...,IDn |
| Command Description | <p>01 ID[1,n] is the RFID/ibutton card number, one command can delete multiple ID numbers.</p> <p>02 The RFID card number is a decimal string; the ibutton card number is a hexadecimal string, and the card number with a # sign in front is a hexadecimal number.</p> <p>03 145, ALL, means delete all authorization cards</p> <p>04 If only command 145 is sent and the card number is empty, it will enter the manual card deletion mode. In this mode, the card number will be deleted automatically after swiping the card. Each time swipe card, it will automatically delay 30 seconds to maintain the swipe delete mode, and the mode will end after 30 seconds of no swipe. Card swiping in the swipe delete mode does not generate a swiping event.</p> <p>05 When the device uses the ibutton swiping function, output2 is fixed as the card swiping sound (a buzzer should be connected to output 2) . A beep when swiping the iButton is detected.</p> |
| Command Reply | <p>145,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> <p>Deleting-Authorizing</p> |
| Command Example | <p>145,123456789,987654321</p> <p>Delete the ID number 123456789,987654321</p> <p>145,#00000A678C,#00000E4321F</p> <p>Delete ID number 0x00000A678C, 0x00000E4321F</p> <p>145,ALL</p> <p>Delete all authorization cards</p> <p>145</p> <p>Enter manual swipe delete mode, the device will reply "Delete" first, and then reply OK after 30 seconds without swiping the card</p> |
| Remarks | |

146 - Check Authorization Status of RFID/iButton Card

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 146,ID1,ID2,...,IDn |
| Command Description | <p>01 ID[1,n] is the card number of RFID/ibutton, one command can query multiple ID numbers.</p> <p>02 The RFID card number is a decimal string; the ibutton card number is a hexadecimal string, and</p> |

| | |
|-----------------|---|
| | the card number with a # sign in front of it is a hexadecimal number. |
| Command Reply | 146,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 146,123456789,987654321 Query ID number 123456789,987654321, reply 146,123456789:0,987654321:1 146,#00000A678C,#00000E4321F Query ID number 0x00000A678C,0x00000E4321F, reply 146,#00000A678C:1,#00000E4321F:1 |
| Remarks | |

150 – Set GPS Log Time Interval

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 150,time |
| Command Description | 01 time: GPS Log time interval, in seconds. The value range is 0~65535 seconds. If it is 0, the function is turned off; the default is 0. 02 Stop recording in sleep state. |
| Command Reply | 150,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 150,2 Set GPS Log time interval as 2 seconds |
| Remarks | |

151 – Set Vibration Detection Sensitivity

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 151,sen |
| Command Description | 01 sen: Sensitivity of vibration detection. The value range is [3,255], the smaller the value, the more sensitive it is. The default is 3. |
| Command Reply | 151,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 151,3 Set sensitivity as 3 |
| Remarks | |

152 – Set Arming/Disarming

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 152,flag |
| Command Description | <p>01 flag: =0 means disarming, =1 means arming. The default is 0.</p> <p>02 In the arming state, Input trigger (open door, ignition, etc.), towing, GSM interference will generate a car theft alarm.</p> <p>03 The arming alarm function is independent of other events such as input port triggering and towing. The use of other events is not affected by arming or disarming.</p> |
| Command Reply | <p>152,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>152,1</p> <p>Armed</p> |
| Remarks | |

153 – Set GSM Jamming Alarm

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 153,time |
| Command Description | <p>01 time: the value is [0,255] seconds, =0 is to cancel the GSM jamming detection alarm function, the default is 0.</p> <p>02 When GSM is interfered for longer than the set time, an jamming alarm will be generated.</p> |
| Command Reply | <p>153,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>153,10</p> <p>Set the jamming time to alarm after 10 seconds</p> |
| Remarks | |

200 – Set SMS Time Interval

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 200,normal_time, ACC_Off_time,stopping_time |
| Command Description | <p>01 normal_time: Normal time interval. When the conditions of ACC_Off_time or stopping_time are not met, the device will upload GPRS positioning data at normal_time intervals; the unit is minute, and the maximum is 65535 minutes.</p> |

| | |
|-----------------|--|
| | <p>02 ACC_Off_time: The time interval when ACC is off. When ACC_Off_time is set, normal_time is the time interval when ACC is on. The unit is minute, and the maximum is 65535 minutes.</p> <p>03 stopping_time: the time interval when the device stops. When stopping_time is set, the device will upload at normal_time intervals when the device is moving. The unit is minute, and the maximum is 65535 minutes.</p> <p>04 When both ACC_Off_time and stopping_time are set at the same time, the data will be uploaded according to the conditions of ACC_Off_time first</p> |
| Command Reply | <p>200,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>Set the SMS time interval to 10 minutes;</p> <p>200,10,60</p> <p>Set the ACC on SMS time interval to 10 minutes, and the ACC off SMS time interval to 60 minutes;</p> <p>200,10,,60</p> <p>Set the SMS time interval to 10 minutes when moving, and the SMS time interval to 60 minutes when stationary;</p> |
| Remarks | |

201 – Set Authorized Phone Number

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 201,num1,num2,num3 |
| Command Description | <p>01 num1,num2,num3:</p> <p>01 num1,num2,num3: authorized mobile phone numbers, up to 3 authorized numbers can be set;</p> <p>02 The mobile phone number is up to 16 digits.</p> <p>03 The authorized number can receive SMS alarm and phone alarm.</p> <p>04 After setting the authorization number, the default event selected is event number</p> <p>05 Delete all authorized numbers when only 201 command is issued</p> |
| Command Reply | <p>201,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | 201,13412345678,13587654321,13856789123 |
| Remarks | |

202 – Set Device Call Event

| | |
|--------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 202,index,operation,code1,code2,... |
| Command | 01 index: the position number of the authorized number, 1 is the first number, 2 is the second |

| | |
|-----------------|--|
| Description | <p>number, and 3 is the third number;</p> <p>02 operation: operation code, 1 is setting, 2 is adding, 3 is deleting;</p> <p>03 code: 0=automatically answer, 1=automatically monitor, 2=automatically hang up the unauthorized code, 3=automatically reply location information, each event is separated by ' ' ;</p> <p>04 Priority level: automatic answering> automatic monitoring.</p> <p>05 is the corresponding processing method of the device when the mobile phone makes a call to the device.</p> |
| Command Reply | <p>202,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>202,1,1,0,3</p> <p>Set up automatic answering and automatic reply to the first authorized number incoming call.</p> |
| Remarks | |

203 – Set the Authorized Number SMS Alarm Event

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 203,index,operation,code1,code2,... |
| Command Description | <p>01 index: the position number of the authorized number, 1 is the first number, 2 is the second number, and 3 is the third number;</p> <p>02 operation: operation code, 1 is setting, 2 is adding, 3 is deleting;</p> <p>03 code: event code, see Annex A event code table, each event is separated by ' ' ;</p> <p>04 When the set event is generated, the SMS alarm event will be sent to the corresponding authorized number.</p> |
| Command Reply | <p>203,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>203,1,2,2,7,15,20,39</p> <p>Add the first authorized number to receive alarms for events 2, 7, 15, 20, 39</p> |
| Remarks | |

204 – Set the Characters for Event SMS Alarm

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 204,code,string |
| Command Description | <p>01 code: event code, see Annex A event code table;</p> <p>02 string: The description character of the SMS alarm, the longest is 32 characters;</p> <p>03 The default alarm characters are shown in the event code table.</p> |
| Command | 204,<result> |

| | |
|-----------------|---|
| Reply | result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 204,1,help Set the alarm character of the first event code to "help" . |
| Remarks | |

205 – Set Two-way Audio Events

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 205,index,operation,code1,code2,... |
| Command Description | 01 index: the position number of the authorized number, 1 is the first number, 2 is the second number, and 3 is the third number; 02 operation: operation code, 1 is setting, 2 is adding, 3 is deleting; 03 code: event code, see Annex A event code table, each event is separated by ',' ; 04 When the set event occurs, a call will be made to the corresponding authorized number for two-way conversation. |
| Command Reply | 205,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 205,1,1,2,7,15,20,39 Set the first authorized number to receive two-way calls for events 2, 7, 15, 20, 39 |
| Remarks | |

206 – Set up Listening Events

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 206,index,operation,code1,code2,... |
| Command Description | 01 index: the position number of the authorized number, 1 is the first number, 2 is the second number, and 3 is the third number; 02 operation: operation code, 1 is setting, 2 is adding, 3 is deleting; 03 code: event code, see Annex A event code table, each event is separated by ',' ; When the event set in 04 is generated, a call will be made to the corresponding authorized number to monitor the device. |
| Command Reply | 206,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command | 206,1,1,2,7,15,20,39 Set the first authorized number to receive monitoring of events 2, 7, 15, 20, and 39 |

| | |
|---------|--|
| Example | |
| Remarks | |

210 – Set GPRS Alarm Event

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 210,index,operation,code1,code2,... |
| Command Description | 01 index: server number, 1 is the GPRS event of server 1, and 2 is the GPRS event of server 2 02 operation: operation code, 1 is setting, 2 is adding, 3 is deleting 03 code: event code, see Annex A event code table, each event is separated by ' ' ; 04 GPRS alarm event will be generated when the set event is triggered. |
| Command Reply | 210,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 210,1,1,2,7,15,20,39 Set the GPRS alarm of server 1 for events 2, 7, 15, 20, 39 |
| Remarks | |

211 – Set Photo Taking Event

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 211,index,operation,code1,code2,... |
| Command Description | 01 index: camera number, 1 is camera 1, 2 is camera 2, 3 is camera 3; 02 operation: operation code, 1 is setting, 2 is adding, 3 is deleting 03 code: event code, see Annex A event code table, each event is separated by ' ' ; 04 A photo will be taken when the set event is generated. |
| Command Reply | 211,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 211,1,1,2,7,15,20,39 Set up the No. 1 camera to take pictures when events 2, 7, 15, 20, 39 triggered |
| Remarks | |

212 – Set Output to Generate Output Events

| | |
|--------------------|-------------------------------------|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 212,index,operation,code1,code2,... |

| | |
|---------------------|---|
| Command Description | 01 index: output port number, 1 is output port 1, 2 is output port 2, and 3 is output port 3; 02 operation: operation code, 1 is setting, 2 is adding, 3 is deleting 03 code: event code, see Annex A event code table, each event is separated by ',' ; 04 will generate output when the preset event is generated, and generate output according to the mode set by the 251 command. |
| Command Reply | 212,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 212,1,1,2,7,15,20,39 Set output 1 for events 2, 7, 15, 20, 39 to generate output. |
| Remarks | |

250 - Set Input Working Mode

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 250,input,mode,time |
| Command Description | 01 input: the serial number of the input port, 1=input1, 2=input2, 3=input3, 4=input4, 5=input5, 6=input6, and so on; 02 mode: input port working mode, 0=low level trigger, 1=high level trigger, 2=AD analog input; 03 time: The trigger time of the input port. The trigger event will be generated when the trigger time exceeds the set value. It is only valid for the high and low level trigger input modes, the unit is ms, the value is [0, 65535], when time =0 It is triggered immediately and the default is 0. Note: IN1 is fixed to low level trigger and cannot be set. IN2 is fixed as high level trigger and cannot be set. IN3 only supports high and low level trigger mode settings. IN4 only supports high and low level trigger mode settings. IN5 (AD1) only supports high-level trigger and AD input mode settings. IN6 (AD2) only supports high-level trigger and AD input mode settings. |
| Command Reply | 250,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 250,2,1,3000 Set input2 to high level trigger mode, the trigger time is 3000ms |
| Remarks | |

251 - Set Output Working Mode

| | |
|-----------------|--|
| Supported Modes | GPRS/SMS |
| Command to | 251,output,mode,time,on_time,off_time,safe_speed |

| Tracker | |
|---------------------|---|
| Command Description | <p>01 output: the serial number of the output port, 1= output1, 2= output2, 3= output3, and so on;</p> <p>02 mode: output action mode,</p> <p>mode=1, turn on the output (the output is in a low-level state) mode, which is a long-time on state;</p> <p>mode=2, close the output (the output port is in a floating state) mode, which is a long-term off state;</p> <p>mode=3, pulse output (pulse output is generated with on_time and off_time parameters, when on_time and off_time are 0, turn the current output status into a flip change output);</p> <p>03 time: The time when the output is generated, the unit is second, the value range is 0~65535; =0 is the infinite time output;</p> <p>04 on_time: The time to turn on the output (the output port is in a low-level state), the unit is ms, and the value range is 0~65535;</p> <p>05 off_time: The time to turn off the output (the output port is in a floating state), the unit is ms, and the value range is 0~65535;</p> <p>06 When on_time and off_time are both 0, it is long output mode.</p> <p>07 safe_speed: The speed limit of the action generated by the output port, the unit is km/h, and the value range is 0~255;</p> <p>When safe_speed=0 or empty, the output port immediately generates output action;</p> <p>When safe_speed>0, the output action is only generated when the current GPS speed is less than safe_speed and in the valid positioning state</p> |
| Command Reply | <p>251,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |
| Command Example | <p>251,1,2,10,500,500</p> <p>The output 1 mode is 10 pulse output, and the pulse is a cycle of 500ms ON and 500ms OFF.</p> |
| Remarks | no |

252 - Set RS232 Port to Connect External Devices

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 252,index,accessory |
| Command Description | <p>01 index: Serial number, 1= RS232-1, 2= RS232-2, 3= RS232-3, and so on;</p> <p>02 accessory: the external devices,</p> <p>1=RFID card reader;</p> <p>2=Camera;</p> <p>3=Ultrasonic sensor;</p> <p>4=Magnetic stripe card reader;</p> |
| Command Reply | <p>252,<result></p> <p>result: the result of Command Reply;</p> <p>OK-The command is set successfully;</p> <p>Unsupport -the command is not supported;</p> <p>Failed-The command format or password is incorrect and the setting failed.</p> |

| | |
|---------|-------------------|
| Command | 252,1,2 |
| Example | 设置 1# RS232 接摄像头。 |
| Remarks | |

600 – Set SMS Command Password

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 600,password |
| Command Description | 01 password: SMS command password, 4 characters, can be composed of any numbers, letters, and symbols; the default is 0000. |
| Command Reply | 600,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 600,PW37 Set SMS command passwork as PW37 |
| Remarks | |

601 – Set SMS Time Zone

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 601,time |
| Command Description | 01 time: Time zone, the unit is minutes, the value range is -720~720, the default is UTC 0; 02 When the time zone is set, SMS data use time in the set time zone; 03 The time in GPRS data uses UTC0 time and cannot be set |
| Command Reply | 601,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 601,480 Set SMS time zone to UTC+8 time zone 601,-480 Set the SMS time zone to UTC-8 time zone |
| Remarks | |

602 – Set SIM Card PIN Code

| | |
|--------------------|----------|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 602,pin |

| | |
|---------------------|---|
| Command Description | 01 pin: The PIN code of the SIM card, a 4-digit number; |
| Command Reply | 602,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 602,1234 Set the PIN code to 1234 |
| Remarks | |

610 - Set Initial Mileage

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 610,mileage |
| Command Description | 01 mileage: The initial mileage in GPRS data, in meters. |
| Command Reply | 610,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 610,1000 Set the initial mileage of GPRS data to 1000 meters. |
| Remarks | |

611 - Clear GPRS/SMS Buffer

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 611,flag |
| Command Description | 01 flag: =1: Clear the GPRS cache of server 1; =2: Clear the GPRS cache of server 2; =3: Clear SMS cache |
| Command Reply | 611,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 611,1 Clear the GPRS cache of server 1. |
| Remarks | |

612 – Initialization Parameter

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 612,flag |
| Command Description | 01 flag: =1: Initialize other parameters except GPRS parameters such as IP, Port, APN, GPRS interval; =2: Initialize the SMS password to 0000; =3: Initialize all parameters. |
| Command Reply | 612,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 612,3 Initialize all parameters |
| Remarks | |

620 – Set Device LED Indicator Mode

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 620,flag |
| Command Description | 01 flag=0, when the device is working, the LED indicator works normally to indicate the working status. The default is 0; 02 flag=1, when the device is working, the LED is off without indication. 03 When the device is turned on, the LED indicator will work for 10 seconds and then turn off. When any button is pressed, the LED indicator will work for 10 seconds and then turn off. |
| Command Reply | 620,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 620,1 Turn off the LED indication. |
| Remarks | |

800 – Get Current Location

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 800 |
| Command Description | 01 Get current location information; 02 When SMS Command to Tracker, reply the google map link of the location; 03 When GPRS Command to Tracker, reply the location data of 0 event. |

| | |
|-----------------|---|
| Command Reply | <p>01 If the command failed, reply: 800,<result> result: the result of Command Reply; Unsupport-The instruction is not supported; Failed-The command format or password is incorrect and the setting failed.</p> <p>02 If the command is successful, the current location information will be returned.</p> |
| Command Example | 800 |
| Remarks | |

801 – Get Device SN, IMEI, Software Version

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 801 |
| Command Description | 01 Get the SN, IMEI, and software version of the device |
| Command Reply | <p>01 If the command failed, reply: 801,<result> result: the result of Command Reply; Unsupport-The instruction is not supported; Failed-The command format or password is incorrect and the setting failed.</p> <p>02 If the command is successful, reply: 801, SN, IMEI, software version</p> |
| Command Example | 801 801,143190870823,869912033012424,VT100_V100 |
| Remarks | |

802 – Get Device Working Status

| | |
|---------------------|--|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 802 |
| Command Description | 01 Get the working status of device, including device system status, input status, output status, CSQ value, satellite number, internal battery voltage, external power supply voltage |
| Command Reply | <p>01 If the command failed, reply: 802,<result> result: the result of Command Reply; Unsupport-The instruction is not supported; Failed-The command format or password is incorrect and the setting failed.</p> <p>02 If the command is successful, reply: 802, device system status, input status, output status, CSQ value, satellite number, internal battery voltage, external power supply voltage</p> <p>03 Device system status, 8-digit hexadecimal character format, see the "system-sta" note in GPRS data.</p> |

| | |
|---------|--|
| | 04 Input status, 2-digit hexadecimal character format, see "in-sta" note in GPRS data. 05 Output status, 2-digit hexadecimal character format, see "out-sta" note in GPRS data. 06 CSQ value: decimal string. 07 satellite number: decimal string. 08 Internal battery voltage: decimal string, accurate to two decimal places. 09 External power supply voltage: decimal string, accurate to two decimal places. |
| Command | 802 |
| Example | 802,0000000F,03,01,31,12,4.15,00.00 |
| Remarks | |

900 – Output Control

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 900,output,flag,time,safe_speed |
| Command Description | 01 output: the serial number of the output port, 1= output1, 2= output2, 3= output3, and so on; 02 flag=1, turn on the output (the output is in low level state). flag=0, turn off the output (the output port is in a floating state) mode; 03 time: The time when the output is generated, the unit is ms, the value range is 0~65535; time=0 or empty, it is an infinite time output; 04 safe_speed: The speed limit of the action generated by the output, the unit is km/h, and the value range is 0~255; When safe_speed=0 or empty, the output immediately generates output action; When safe_speed>0, the output action is only generated when the current GPS speed is less than safe_speed and in the valid positioning state 05 The command control output has priority over the output generated by other events. |
| Command Reply | 900,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 900,2,1 output2 produces output 900,1,1,100 Output1 generates 100ms output 900,1,1,0,10 Output1 produces output when the speed is lower than 10km/h |
| Remarks | |

901 – Output Control (Mode Output)

| | |
|--------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 901,output,flag |
| Command | 01 output: the serial number of the output port, 1= output1, 2= output2, 3= output3, and so on; |

| | |
|-----------------|--|
| Description | 02 flag=1, the output action will be generated according to the mode set by the 603 command. flag=0, the reverse output action will be generated according to the mode set by the 603 command. 03 The command control output has priority over the output generated by other events. |
| Command Reply | 901,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 901,2,1 Output2 produces output |
| Remarks | no |

910 – Restart Device or Module

| | |
|---------------------|---|
| Supported Modes | GPRS/SMS |
| Command to Tracker | 910,operation |
| Command Description | 01 operation: =1: Restart the GSM module =2: Restart the GPS module =3: Restart the device |
| Command Reply | 910,<result> result: the result of Command Reply; OK-The command is set successfully; Unsupport -the command is not supported; Failed-The command format or password is incorrect and the setting failed. |
| Command Example | 910,3 Reboot the device |
| Remarks | |

990 – FOTA Upgrade Detection

| | |
|---------------------|--|
| Supported Modes | GPRS |
| Command to Tracker | 990,firmware_name |
| Command Description | 01 firmware_name: The file name of the software package, ASCII character type, only the file name, without the directory. 02 After receiving the file name, the device compares with its own software version, and the reply sign informs the platform whether the upgrade can be performed. 03 FOTA starts with this command. |

| | |
|-----------------|--|
| Command Reply | <p>990,<flag><device code><maximum support FOTA single data packet length><software version></p> <p>01 flag: comparison result of software file name, 1 byte, hexadecimal data type.</p> <p>=0x01, indicating that the OTA file matches the version of the device itself, and the upgrade can be performed.</p> <p>=0x02, it means that the OTA file does not match the version of the device itself. If upgrade may cause the device to crash, the platform should pop up a prompt window. If you are sure to upgrade, you can directly perform the upgrade.</p> <p>02 Machine code: 2 bytes, hexadecimal character type, big-endian alignment.</p> <p>03 Maximum support for FOTA single data packet length: the data length of a single software package, 2 bytes, hexadecimal character type, big-endian alignment, the default support is 1024 bytes (0x0400).</p> <p>04 Software version: ASCII character type, the software version of the device itself.</p> |
| Command Example | <p>Send: 990,VT100_V101</p> <p>Answer: 990,<0x01><0x0003><0x0400><VT100_V100></p> |
| Remarks | |

991 – FOTA Upgrade Authorization

| | |
|---------------------|--|
| Supported Modes | GPRS |
| Command to Tracker | 991 |
| Command Description | <p>01 The platform issues instructions to authorize the device to enter the OTA state. After OTA authorization, if the device fails to receive the OTA data packet from the platform for more than 20 minutes, it will exit the OTA state. At this time, the platform needs to perform the 990->991 process again.</p> <p>02 After OTA is authorized, the device will no longer send timing interval data or alarm data until it exits the OTA state.</p> |
| Command Reply | <p>991,<flag></p> <p>flag: 1 byte, hexadecimal data type.</p> <p>=0x01 means authorization is successful.</p> <p>=0x00 means authorization failed.</p> <p>=0xFF, OTA authorization is illegal, that is, the 990 command is not issued in advance to upgrade the detection.</p> |
| Command Example | <p>Send: 991</p> <p>Answer: 991,<0x01></p> |
| Remarks | |

992 – Send FOTA Packet

| | |
|---------------------|--|
| Supported Modes | GPRS |
| Command to Tracker | 992, <OTA packet address offset (4 bytes)> <OTA packet length (2 bytes)> <OTA packet> |
| Command Description | <p>01 OTA data packet address offset: the address offset of the OTA data packet issued this time in the entire OTA file, 4 bytes are big-endian alignment, hexadecimal number;</p> <p>02 OTA data packet length: the length of the OTA data packet issued this time, 2 bytes are</p> |

| | |
|-----------------|--|
| | big-endian alignment, hexadecimal number; 03 OTA data packet: the n-byte OTA data packet issued this time (assuming the length of the OTA data packet is n). |
| Command Reply | 992, <OTA packet address offset (4 bytes)> <OTA packet length (2 bytes)> <flag(1 byte)> 01 OTA data packet address offset: corresponding to the data packet address offset issued by the platform; 02 OTA data packet length: corresponding to the data packet length issued by the platform; 03 flag: =0x01, received and saved correctly, the platform can then issue the next OTA packet; =0x00, receiving or saving error, the platform needs to re-issue the same OTA data packet to the device; =0xFF, OTA is not authorized or authorization timed out. |
| Command Example | Send: 992, Answer: 992,<0x01> |
| Remarks | |

993 – FOTA Data Check

| | |
|---------------------|--|
| Supported Modes | GPRS |
| Command to Tracker | 993, <OTA data length (4 bytes)> <OTA data check code (2 bytes)> |
| Command Description | 01 After the platform sends all the OTA data to the device, it checks whether the data received by the device is wrong. 02 OTA data length: the length of all OTA data (excluding the checksum of the last two bytes of the OTA file), 4 bytes are big-endian aligned, hexadecimal number. 03 OTA data check code: the checksum of all OTA data, the last two bytes of OTA file, hexadecimal number. |
| Command Reply | 993,<flag(1byte)> flag: =0x01, the data verification is correct, the platform can send 994 command to update the firmware; =0x00, data verification error, need to restart FOTA process; =0xFF, OTA is not authorized or authorization timed out. |
| Command Example | Send: 993, Answer: 993,<0x01> |
| Remarks | |

994 – Device Update FOTA Program

| | |
|---------------------|--|
| Supported Modes | GPRS |
| Command to Tracker | 994 |
| Command Description | 01 After getting the correct verification result of the terminal, the platform instructs the device to update the OTA program. Note: You must ensure that the check code is correct before using this command, otherwise the device may crash. |

| | |
|-----------------|--|
| Command Reply | 994,<flag> =0x01, the device receives the command and prepares to upgrade, and responds to the command before the program is updated; = 0x02, the device upgrade is completed, and the command will be returned after the program update is completed; =0x00, the device update failed; =0xFF, OTA is not authorized or authorization timed out. |
| Command Example | Send: 994 Answer: 994,<0x01> |
| Remarks | |

995 – Cancel FOTA

| | |
|---------------------|---|
| Supported Modes | GPRS |
| Command to Tracker | 995 |
| Command Description | After FOTA is authorized, the platform can cancel FOTA accordingly. |
| Command Reply | 995,<flag> = 0x01, FOTA cancel success. |
| Command Example | Send: 995 Answer: 995,<0x01> |
| Remarks | |

Appendix A-Alarm Event Codes and Alarm Characters

The following is the corresponding table of alm-code and alm-data:

| alm-code | alm-data | SMS Alarm Head String | Description |
|----------|----------|-----------------------|------------------------|
| 0 | NULL | Interval | Time interval tracking |
| 1 | NULL | SOS | Input1 active |
| 2 | NULL | IN1 Inactive | Input1 inactive |
| 3 | NULL | Ignition On | Input2 active |
| 4 | NULL | Ignition Off | Input2 inactive |
| 5 | NULL | Door Open | Input3 active |
| 6 | NULL | Door Close | Input3 inactive |
| 7 | NULL | IN4 | Input4 active |
| 8 | NULL | IN4 Inactive | Input4 inactive |
| 9 | NULL | IN5 | Input5 active |
| 10 | NULL | IN5 Inactive | Input5 inactive |
| 11 | NULL | IN6 | Input6 active |
| 12 | NULL | IN6 Inactive | Input6 inactive |
| 17 | NULL | Low Ext-Power | Ext-power low |
| 18 | NULL | Ext-Power Cut | Ext-power lost |
| 19 | NULL | Ext-Power On | Ext-power re-connect |

| | | | |
|----|---|------------------|------------------------|
| 20 | NULL | Low Battery | Internal battery low |
| 21 | NULL | GPS Antenna Cut | GPS antenna cut |
| 22 | NULL | Speeding | Speeding alarm |
| 23 | NULL | Enter Sleep | Enter sleep |
| 24 | Trigger | Wake Up | Exit sleep |
| 25 | n: index of fence | Exit Fence | Exit geo-fence |
| 26 | n: index of fence | Enter Fence | Enter geo-fence |
| 27 | NULL | Lose GPS Signal | Lose GPS Signal |
| 28 | NULL | Get GPS Signal | Get GPS Signal |
| 29 | NULL | Heading Change | Heading Change |
| 30 | NULL | Distance | Distance tracking |
| 31 | NULL | / | Heartbeat Report |
| 32 | NULL | Power On | Device Power On |
| 33 | NULL | Power Off | Device Power Off |
| 34 | NULL | Current | Reply Current |
| 35 | NULL | Tow | Tow Alarm |
| 36 | NULL | Stop Moving | Stop Moving |
| 37 | NULL | Start Moving | Start Moving |
| 38 | NULL | Idling | Idling Alarm |
| 39 | NULL | Harsh Accelerate | Harsh accelerate |
| 40 | NULL | Harsh Braking | Harsh braking |
| 41 | NULL | Harsh Turning | Harsh Turning |
| 42 | NULL | Impact | Impact Alarm |
| 43 | NULL | Fatigue Driving | Fatigue driving |
| 44 | NULL | Fatigue Relieve | Fatigue relieve |
| 45 | NULL | Overtime Driving | Overtime driving |
| 46 | n: index of Temperature | Temperature High | Temperature High |
| 47 | n: index of Temperature | Temperature Low | Temperature Low |
| 48 | n: index of tank | Fuel Steal | Fuel Steal Alarm |
| 49 | n: index of tank | Fuel Level Low | Low Fuel Alarm |
| 50 | NULL | GSM Jammed | GSM Jammed |
| 51 | NULL | GSM No Jamming | GSM No Jamming |
| 52 | Trigger | Stealing | Stealing Alarm |
| 53 | RFID/iButton number, Hexadecimal character | Swiping Card | RFID Event |
| 54 | Picture name, character | / | Picture Event |
| 55 | NULL | dismantling | Anti Disassembly Alarm |