iStartek GPS tracker Communication Protocol

Ver.: V1.3

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Applied Models

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

for the following models:

➢ VT200 L

➢ VT200

➢ PT60

Protocol modification record:

Version	Modify Content
V1.0	Initial version
V1.1	01 Add command and descriptions for 144, 212, 251, and 901.
	02 Add 808 command to query parameters, support 100, 101, 102, 105, 106, 109 command
V1.2	01 Add the definition description of the index of the 211 command.
	02 Modify the 252 command, remove the magnetic reader option settings.
	03 Add 260, 261, 262, 263, 264, 265, 270 command functions, and add 56 event code.
	04 139 command add option for 250cm Ultrasonic fuel sensor.
	05 Add OBD-data data and OBD accessories.
	06 Add the description of the calculation method of the data packet checksum.
V1.3	01 Add 142 instructions to set the data source of the fuel tank.
	02 Modify the fuel tank and AD1, AD2 in the 138, 139, 140, and 141 command to have a non-one-to-one correspondence. You can set the data source through 142 command.

Content

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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: the checksum of the data packet, which is the lowest of the cumulative sum calculation result of all the data before the checksum (&&<pack-no><pack-len>,<ID>,<cmd-code>,<cmd-data>) One byte, expressed in a 2-digit hexadecimal string format.

For example, the cumulative result of the data packet "&&A20,021104023195429,800" is'&'+'&'+'A'+'2'+'0'+','+'0'+'2'+'1' +'1'+'0'+'4'+'0'+'2'+'3'+'1'+'9'+'5'+'4'+'2'+'9'+ ',+'8'+'0'+'0'=0x04DA, take the lowest byte as 0xDA, and use a 2-digit hexadecimal string as "DA".

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

fule_liter	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; '|' is used to separate each fuel tank data; 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.		0104B0 01# Fuel tank: 0x04B0, the decimal value is 1200, the fuel volume is 120.0 liters The 138, 139, 140 and 142 commands must be used to set the fuel tank parameters to detect the liters.
temp-sensor	The temperature value of the temperature sensor, if the device is connected to multiple sensors, upload the value of multiple sensors in hexadecimal format; '|' is used to separate each data; 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.		01013D|028135 01#Temperature sensor: 0x013D, the highest bit is 0 for positive temperature value, decimal value is 317, 3176/10= 31.7℃ 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℃
OBD-data **RPM|ENGINE_L OAD|MAF_FLO W|INTAKE_PRES SURE|INTAKE_T EMP|THROTTLE| COOLANT_TEMP |INSTANT_FUEL| FUEL_LEVEL**	RPM	The speed per minute, the unit is r/min, a decimal string. It is empty when the data cannot be read.	800 Indicates that the engine speed is 800 revolutions per minute
	ENGINE_LOAD	Percentage of engine load. The unit is% (percent), a decimal string. It is empty when the data cannot be read.	40 Indicates that the engine load is 40%
	MAF_FLOW	Unit: g/s (gallons per second), decimal string. It is empty when the data cannot be read.	4 Indicates that the intake air flow is 4 gallons per second
	INTAKE_PRESSURE	The unit is kPa (kilopascal), a decimal string. It is empty when the data cannot be read.	45 Indicates the absolute pressure of the intake pipe is 45 kPa
	INTAKE_TEMP	Unit: ℃ (Celsius), decimal string. It is the actual value +40℃. It is empty when the data cannot be read.	83 Indicates the intake air temperature 83-40=43℃
	THROTTLE	The unit is% (percent), a decimal string. It is empty when the data cannot be read.	79 Indicates that the throttle position is at 79%
	COOLANT_TEMP	Engine coolant temperature. The unit is ℃ (Celsius), a decimal string. It is the actual value +40℃. It is empty when the data cannot be read.	128 Indicates engine coolant 128-40=88℃
	INSTANT_FUEL	The unit is L/h. Decimal string. It is the value of L*10, which is accurate to one decimal place. It is empty when the data cannot be read.	35 Indicates instantaneous fuel consumption 3.5 liters/h

	FUEL_LEVEL	The amount of remaining oil. Decimal string. The percentage after the value is the remaining oil percentage. The number with L after the value is the remaining oil volume in liters. It is empty when the data cannot be read.	80% means 80% oil remaining 35L means the remaining 35L oil volume
checksum		The checksum of the data packet, in 2-digit hexadecimal format, the accumulation and calculation result of all the data before the checksum {&&<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-quanlity>,<status>,<in-sta>,<out-sta>,<bat-ad|ext-ad|ad1|...|adn>,<pro-code>,<fule_data>,<temp-sensor>}. the lowest byte of the accumulation and calculation result of is expressed in a hexadecimal string.	46 The lowest byte that represents the result of the accumulation is 0x46, and it is represented by a hexadecimal string as "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;

	1-TCP connection mode; 2-UDP connection mode; 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).
Command Reply	100,<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	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	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.
Command Reply	101,<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	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	not met, the device will upload GPRS positioning data at normal_time intervals; the unit is second, and the maximum is 65535 seconds. 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. 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. 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.
Command Reply	102,<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	102,10 Set the normal time interval to 10 seconds; 102,10,60 Set the ACC on time interval to 10 seconds, and the ACC off time interval to 60 seconds; 102,10,,60 Set the normal time interval to 10 seconds when moving, and 60 seconds when stationary;
Remarks	

103 – Set the Reliable Data Transmission Mode of Server 1	
Supported Modes	GPRS/SMS
Command to Tracker	103,mode
Command Description	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. 02 When selecting UDP to upload data, it is recommended to set the mode=1 transmission mode, because UDP is an unreliable transmission protocol. 03 When mode=0, the positioning data is uploaded with the 000 command; 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.
Command Reply	103,<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	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	not met, the device will upload GPRS positioning data at normal_time intervals; the unit is second, and the maximum is 65535 seconds. 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. 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. 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.

Command Reply	106,<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	106,10 Set the normal time interval to 10 seconds; 106,10,60 Set the ACC on time interval to 10 seconds, and the ACC off time interval to 60 seconds; 106,10,,60 Set the normal time interval to 10 seconds when moving, and 60 seconds when stationary;
Remarks	

107 – Set the Reliable Data Transmission Mode of Server 2	
Supported Modes	GPRS/SMS
Command to Tracker	107,mode
Command Description	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. 02 When selecting UDP to upload data, it is recommended to set the mode=1 transmission mode, because UDP is an unreliable transmission protocol. 03 When mode=0, the positioning data is uploaded with the 000 command; 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.

Command Reply	107,<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	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	01 mode: sleep mode, =0 to turn off sleep function, =1 to normal sleep mode, =2 to deep sleep mode; the default is 0. 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; 03 Normal sleep mode: GPS module power off, GSM module sleeps, it can be triggered by the input port, vibrate, call SMS activation; 04 Deep sleep mode: GPS module power off, GSM module power off, it can only be triggered by the input and vibration is activated.
Command Reply	124,<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	124,1 Turn on the normal sleep mode, the time to enter the sleep mode is the default 300 seconds
Remarks	

125 – Set a Circular Geo-fence

Supported Modes	GPRS/SMS
Command to Tracker	125,index,flag,radium,latitude,longitude
Command Description	01 index: Geo-fence number, the value range is 1~8, up to 8 electronic fences; 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; 03 radium: the radius of the circular Geo-fence, in meters, the maximum is 65535 meters; 04 latitude: the longitude of the center of the Geo-fence, in degrees; 05 longitude: the latitude of the center of the Geo-fence, in degrees; 06 When latitude, longitude are empty, use the current longitude and latitude of the device; 07 When the radius, latitude, and longitude are empty, use the current latitude and longitude of the device with a radius of 200 meters; 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; 09 Set 06, 07, 08 when the GPS signal is valid, the setting can be successful, otherwise the setting will fail.
Command Reply	125,<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	125,1 125,1,1 125,1,1,200 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; 125,1,1,200,22.540103,114.082329
Remarks	

126 – Set Geo-fence Name

Supported Modes	GPRS/SMS
Command to Tracker	126, index,name
Command Description	01 index: Geo-fence number, the value range is 1~8, up to 8 Geo-fences; 02 name: composed of 1~16 characters; 03 If name is set, it will be displayed as name in the SMS fence alarm event, see the above SMS event data format; 04 If the name is not set, it will be displayed as the fence number in the SMS fence alarm event.
Command Reply	126,<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	126,1,Home
Remarks	

127 – Delete Circular Geo-fence

Supported Modes	GPRS/SMS
Command to Tracker	127,index
Command Description	01 index: Geo-fence number, the value range is 1~8, up to 8 Geo-fences; 02 When index is empty, delete all Geo-fences.
Command Reply	127,<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	127,1 Delete the first Geo-fence; 127 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	01 index: the serial number of temperature sensor, 1~8, supports up to 8 sensors at the same time; 02 name: The name of the temperature sensor, up to 16 characters. 03 Installation of temperature sensor: 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; 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; C. Repeat the above steps to set more sensors. Only one sensor can be connected at a time; 04 When the name is empty, delete the index sensor; 05 When both index and name are empty, delete all sensors.

Command Reply	135,<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	135,1,Storage room Set 1# temperature sensor, named Storage room.
Remarks	

136 – Set High and Low Temperature Alarm

Supported Modes	GPRS/SMS
Command to Tracker	136,index,high_temp,low_temp
Command Description	01 index: the serial number of the temperature sensor, 1~8; 02 high_temp: high temperature alarm value, the unit is ℃, accurate to one decimal place, if it is empty, cancel the high temperature alarm; 03 low_temp: low temperature alarm value, the unit is ℃, accurate to one decimal place, if it is empty, the low temperature alarm will be canceled;

Command Reply	136,<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	136,1,40.5,-10 Set 1# temperature sensor high temperature alarm to 40.5℃, low temperature alarm to -10℃.
Remarks	

137 – Get Temperature Value

Supported Modes	GPRS/SMS
Command to Tracker	137
Command Description	01 Read all the configured sensor temperature values.

Command Reply	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.
	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 ℃, if it is empty, it means that the temperature value of the sensor cannot be read.

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	01 index: the serial number of the fuel tank,
	    1=1# fuel tank
	    2=2#fuel tank
	02 length: The length of the fuel tank, in mm; the default is 0.
	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.
	04 high: the height of the fuel tank, in mm; when high=0, it is a cylindrical fuel tank. The default is 0.
	05 When length, wide, high, and name are all empty, delete the fuel sensor of the index.

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	01 index: the serial number of the fuel tank: 　　1=1# fuel tank 　　2=2#fuel tank 02 Fuel Sensor Type: 　　0=Not connect with fuel sensor, the default is 0. 　　1=Liqud level fuel sensor (Capactive fuel sensor, resistence fuel sensor, 0~5V output), 　　2=Ultrasonic fuel sensor (range 100CM, 0~5V output) 　　3=Ultrasonic fuel sensor (range 250CM, 0~5V output) 03 name: The name of the fuel tank, up to 16 characters.
Command Reply	139,<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	139,1,1,Right Tank Set 1# fuel tank as the ultrasonic oil sensor connected to AD1, and the name of the fuel tank is Right Tank.
Remarks	

140 – Set Fuel Steal Alarm

Supported Modes	GPRS/SMS
Command to Tracker	140,index,theft-liter,time
Command Description	01 index: the serial number of the fuel tank: 　1=1# fuel tank 　2=2#fuel tank 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; 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. 06 It is necessary to use commands 138, 139, 140 and 142 to set the parameters of the fuel tank to detect the alarm.
Command Reply	140,<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	140,1,20,60 Set 1# fuel tank to generate fuel steal alarm when the reduction exceeds 20 liters within 60 seconds.
Remarks	

141 – Set Low Fuel Alarm	
Supported Modes	GPRS/SMS
Command to Tracker	141,index,low-liter

Command Description	01 index: the serial number of the fuel tank,
	    1=1# fuel tank
	    2=2#fuel tank
	  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;
	01 It is necessary to use commands 138, 139, 141 and 142 to set fuel tank parameters to detect alarms.

Command Reply	141,<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	141,1,10 Set 1# fuel tank to generate low fuel alarm when the fuel volume is less than 10 liters.
Remarks	

142 – Set the data source of the fuel tank	
Supported Modes	GPRS/SMS
Command to Tracker	142,index,Source

Command Description	01 index: the serial number of the fuel tank,
	  1=1#fuel tank;
	  2=2#fuel tank;
	02 Source: The data source of the fuel tank:
	  0=Oil value detected by AD1
	  1=Oil value detected by AD2
	  2=The oil value read by RS232-1
	  3=The oil value read by RS232-2
	03 The default data source of 1# fuel tank is AD1, and the default data source of 2# fuel tank is AD2.

Command Reply	142,<result>
	result: Set the result of the 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 has failed.

Command Example	142,1,2 Set 1# fuel tank to use the fuel value read by RS232-1 to calculate the fuel volume and alarm for stealing fuel and low fuel.
Remarks	

144 – Authorize RFID/iButton	
Supported Modes	GPRS/SMS
Command to Tracker	144,ID1,ID2,…,IDn
Command Description	01 ID[1,n] is the RFID/ibutton card number, one command can authorize multiple ID numbers, ID number max 12 digits. 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. 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. We can send the 146 command to query the authorization status of the authorization card. For details, please refer to the 146 command description. 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. 05 While swippng card, OUT1 can be set to connect with relay to control the oil and electricity. When you need OUT1 to control the oil and electricity, you need to use the 212 command to set the 53 event to control OUT1. Swiping card to control oil and electricity is a separate control logic, not according to the output mode set by the 251 command. 06 After set 53 event for output1 control, 53 events will not be uploaded when the unauthorized card is swiped, and 53 events will be uploaded when the authorized card is swiped. When the 53 event control output1 is canceled, any card swiping will upload 53 events. 07 After setting the 53 event control output of OUT 1, when ignition if the authorized card is not swiped (triggered by IN2), OUT1 will control to cut off immediately. 08 After swiping the authorization card, there is 60 seconds to ignite. If there is no ignition for more than 60 seconds, you need to swipe the authorization card again to ignite. 09 When the flame is turned off, there is 60 seconds to re-ignite. If the ignition is not performed for more than 60 seconds, you need to swipe the authorization card again to ignite.
Command Reply	144,<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	144,123456789,987654321 Authorization ID number 123456789,987654321 144,#00000A678C,#00000E4321F 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	01 ID[1,n] is the RFID/ibutton card number, one command can delete multiple ID numbers. 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. 03 145, ALL, means delete all authorization cards 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. 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.

Command Reply	145,<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.
	      Deleting-Authorizing

Command Example	145,123456789,987654321 Delete the ID number 123456789,987654321 145,#00000A678C,#00000E4321F Delete ID number 0x00000A678C, 0x00000E4321F 145,ALL Delete all authorization cards 145 Enter manual swipe delete mode, the device will reply "Delete" first, and then reply OK after 30 seconds without swiping the card
Remarks	

146 – Check Authorization Status of RFID/iButton Card	
Supported Modes	GPRS/SMS
Command to Tracker	146,ID1,ID2,...,IDn
Command Description	01 ID[1,n] is the card number of RFID/ibutton, one command can query multiple ID numbers. 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 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	01 flag: =0 means disarming, =1 means arming. The default is 0. 02 In the arming state, Input trigger (open door, ignition, etc.), towing, GSM interference will generate a car theft alarm. 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.

Command Reply	152,<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	152,1 Armed
Remarks	

153 – Set GSM Jamming Alarm

Supported Modes	GPRS/SMS
Command to Tracker	153,time
Command Description	01 time: the value is [0,255] seconds, =0 is to cancel the GSM jamming detection alarm function, the default is 0. 02 When GSM is interfered for longer than the set time, an jamming alarm will be generated.
Command Reply	153,<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	153,10 Set the jamming time to alarm after 10 seconds
Remarks	

200 – Set SMS Time Interval

Supported Modes	GPRS/SMS
Command to Tracker	200,normal_time, ACC_Off_time,stopping_time
Command Description	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. 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. 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. 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
Command Reply	200,<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	Set the SMS time interval to 10 minutes; 200,10,60 Set the ACC on SMS time interval to 10 minutes, and the ACC off SMS time interval to 60 minutes; 200,10,,60

	Set the SMS time interval to 10 minutes when moving, and the SMS time interval to 60 minutes when stationary;
Remarks	

201 – Set Authorized Phone Number

Supported Modes	GPRS/SMS
Command to Tracker	201,num1,num2,num3
Command Description	01 num1,num2,num3： 01 num1,num2,num3: authorized mobile phone numbers, up to 3 authorized numbers can be set; 02 The mobile phone number is up to 16 digits. 03 The authorized number can receive SMS alarm and phone alarm. 04 After setting the authorization number, the default event selected is event number 05 Delete all authorized numbers when only 201 command is issued
Command Reply	201,<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	201,13412345678,13587654321,13856789123
Remarks	

202 – Set Device Call Event

Supported Modes	GPRS/SMS
Command to Tracker	202,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: 0=automatically answer, 1=automatically monitor, 2=automatically hang up the unauthorized code, 3=automatically reply location information, each event is separated by ',' ; 04 Priority level: automatic answering> automatic monitoring. 05 is the corresponding processing method of the device when the mobile phone makes a call to the device.
Command Reply	202,<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	202,1,1,0,3 Set up automatic answering and automatic reply to the first authorized number incoming call.
Remarks	

203 – Set the Authorized Number SMS Alarm Event

Supported Modes	GPRS/SMS
Command to Tracker	203,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 is generated, the SMS alarm event will be sent to the corresponding authorized number.
Command Reply	203,\<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	203,1,2,2,7,15,20,39 Add the first authorized number to receive alarms for events 2, 7, 15, 20, 39
Remarks	

204 – Set the Characters for Event SMS Alarm

Supported Modes	GPRS/SMS
Command to Tracker	204,code,string
Command Description	01 code: event code, see Annex A event code table; 02 string: The description character of the SMS alarm, the longest is 32 characters; 03 The default alarm characters are shown in the event code table.
Command Reply	204,\<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	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 Example	206,1,1,2,7,15,20,39 Set the first authorized number to receive monitoring of events 2, 7, 15, 20, and 39
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 The camera with the smallest serial number is 1# camera, which increases in order; for example, the 252 command sets the RS232-2 and RS232-4 to connect the camera, then the RS232-2 connects to the 1# camera, and the RS232-4 connects to the camera. It is the 2# camera. 03 operation: operation code, 1 is setting, 2 is adding, 3 is deleting 04 code: event code, see Annex A event code table, each event is separated by ','； 05 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 photos 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. 05 Event 0, 17, 20, 23, 24, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 54 do not support event output. 06 After events 1, 3, 5, 7, 9, 11, 18, 21, 22, 25, 26, 43, 45, 46, 47, 49, 50 trigger output, when the trigger source disappears, the output will return to its original state . 07 Please set this feature carefully.
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. 04 The input modes for different models is different. 05 VT200 and VT200L series: IN1 supports high and low level trigger modes, and the default is low level trigger. IN2 supports high and low level trigger modes, and the default is high level trigger. IN3 supports three modes of high and low level trigger and AD2 (0~6.6V) input, and the default is high level trigger. IN4 (AD1) supports high-level trigger and AD input mode settings, and the default is AD input mode. 06 VT140: IN1 supports high and low level trigger modes, and the default is low level trigger. IN2 supports high and low level trigger modes, and the default is high level trigger. IN3 supports high and low level trigger modes, and the default is high level trigger. IN4 supports high and low level trigger modes, and the default is high level trigger. IN5 (AD1) supports two mode settings of high-level touch and AD input, and the default is AD input mode. IN6 (AD2) supports two mode settings of high level touch and AD input, and the default is AD input mode.

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	01 output: the serial number of the output port, 1= output1, 2= output2, 3= output3, and so on;
	 02 mode: output action mode,
	 mode=1, turn on the output (the output is in a low-level state) mode, which is a long-time on state;
	 mode=2, close the output (the output port is in a floating state) mode, which is a long-term off state;
	 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);
	 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;
	 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;
	 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;
	 06 When on_time and off_time are both 0, it is long output mode.
	 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;
	    When safe_speed=0 or empty, the output port 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

Command Reply	251,<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	251,1,2,10,500,500 The output 1 mode is 10 pulse output, and the pulse is a cycle of 500ms ON and 500ms OFF.
Remarks	no

252 – Set RS232 Port to Connect External Devices	
Supported Modes	GPRS/SMS
Command to Tracker	252,index,accessory
Command Description	01 index: Serial number, 1= RS232-1, 2= RS232-2, 3= RS232-3, and so on; 02 accessory: the external devices, 0=Empty 1=RFID card reader; 2=OBD decoder; 3=Camera; 4=Ultrasonic oil feel; 03 The default is that RS232-1 is the RFID reader, and RS232-2 is empty.

Command Reply	252,<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	252,1,2
	Set 1# RS232 connect with OBD Reader.
Remarks	

260 – Set the Resolution when taking photo

Supported Modes	GPRS/SMS
Command to Tracker	260,index,resolution
Command Description	01 index: camera serial number, 1= 1# camera, 2= 2# camera, 3= 3# camera, 4= 4# camera; maximum support 4 cameras.
	02 The camera with the smallest serial number is 1# camera, which increases in order; for example, the 252 command sets the RS232-2 and RS232-4 to connect the camera, then the RS232-2 connects to the 1# camera, and the RS232-4 connects to the camera. It is the 2# camera.
	02 resolution: The resolution of the photo, defined as follows, the default is 2.
	1: 160*128
	2: 320*240
	3: 640*480
Command Reply	260,<result>
	Result: Set the result of the command reply;
	OK-the instruction is set successfully;
	Unsupport-the instruction is not supported;
	Failed-The command format or password is incorrect, and the setting has failed.
Remarks	

261 – Set the time interval for the camera to take photos

Supported Modes	GPRS/SMS
Command to Tracker	261,index,normal_time,ACC_Off_time,stopping_time
Command Description	01 index: camera serial number, 1= 1# camera, 2= 2# camera, 3= 3# camera, 4= 4# camera; maximum support 4 cameras.
	02 normal_time: Normal time interval for taking photos. When the conditions of ACC_Off_time or stopping_time are not met, the device will take photos at normal_time intervals; the unit is minutes, and the maximum is 65535 minutes.
	03 ACC_Off_time: The time interval for taking photos 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.
	04 stopping_time: The time interval for taking photos when the device stops. When stopping_time is set, the upload will be performed at normal_time intervals when the device is moving. The unit is minute, and the maximum is 65535 minutes.
	05 When both ACC_Off_time and stopping_time are set at the same time, take photos with ACC_Off_time first.
	06 The event trigger source for timing photo is 0 event.
	07 VT200 series devices support storage of up to 128 photos, and when the number of photos exceeds 128, the oldest photos will be overwritten.
Command Reply	261,<result>
	result: Set the result of the command reply;
	OK-the instruction is set successfully;
	Unsupport-the instruction is not supported;
	Failed-The command format or password is incorrect, and the setting has failed.

Examples	261,1,20 Set the time interval of 1# camera to take photos as 20 minutes; 261,1,20,60 Set the time interval of ACC on timed photographing to 20 minutes, and the time interval of ACC off timed photographing to 60 minutes; 261,1,20,,60 Set the time interval of timed photographing when moving is 20 minutes, and the time interval of timed photographing when stationary is 60 minutes;
Remarks	

262 – Command to take photos	
Supported Modes	GPRS/SMS
Command to Tracker	262,ID1,ID2,ID3,ID4
Command Description	01 ID: camera serial number, 1= 1# camera, 2= 2# camera, 3= 3# camera, 4= 4# camera; maximum 4 cameras are supported. 02 One command can control one or more cameras to take photos. 03 If the IDn photo is successful, the reply IDn: OK, if the photo fails, the reply IDn: Err 04 When the device responds to the 262 command, a photo event is generated at the same time. The trigger source of the photo command is 34 events. The photo event data includes the photo name. 05 VT200 series devices support storage of up to 128 photos, and when the number of photos exceeds 128, the oldest photos will be overwritten.
Command Reply	262,<result> result: Set the result of the command reply; IDn:OK/IDn:Err-The command is set successfully; Unsupport-the command is not supported; Failed-The command format or password is incorrect, and the setting has failed.
Examples	262,1,2 1# RS232 and 2# RS232 cameras take photos at the same time.
Remarks	

263 – Read the list of photos	
Supported Modes	GPRS/SMS
Command to Tracker	263
Command Description	01 Get all the photo names of the device. 02 The device can upload up to 60 photo names in one package of data. If it is exceeded, the data will be uploaded in multiple packages. 03 VT200 series devices support up to 128 photos storage.
Command Reply	263,<data> data: command reply; None-no photos; Unsupport-the instruction is not supported; Failed-the command format or password is wrong, the command failed; pt1,pt2,pt3,...ptn-photo names, separated by commas;
Examples	263

Remarks	

264 – Delete photo

Supported Modes	GPRS
Command to Tracker	264,pt1,pt2,pt3,...ptn
Command Description	01 ptn: The name of the photo, which must be the same as the name uploaded in the photo event. 02 One command can delete max 60 photos.
Command Reply	264,<data> data: 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 has failed.
Examples	264,pt1
Remarks	

265– Set the time interval for the camera to take photos

Supported Modes	GPRS/SMS
Command to Tracker	265,photo_name
Command Description	01 photo_name: The name of the photo, which must be the same as the name uploaded in the photo event 02 The device will upload the photo data continuously in sub-packages until the complete photo data is uploaded, and each package uploads 1024 bytes of data. 03 The device does not automatically delete the photo after uploading the photo data, and requires the platform to issue a 264 command to delete it.
Command Reply	265,<data> data: command reply; 　　photo_name,offset,size,data-photo data package; 　　Unsupport-the command is not supported; 　　Failed-The command format or password is wrong, or the photo does not exist. offset: the offset position of the photo data package in the entire photo data; size: The current data length of the data packet.
Examples	265, 1# RS232 and 2# RS232 cameras take photos at the same time.
Remarks	

270-Set vehicle Type

Supported Modes	GPRS/SMS
Command to Tracker	270,car_type

Command Description	01 car_type: a 4-digit hexadecimal string, the default car type is 0x0000.
	02 The OBDII protocol may be different for each vehicle. If failed to read data from C12 OBD Reader, the corresponding vehicle code needs to be set.
	03 When when it is used in the car with the J1939 protocol, no setting is required.
	04 The list of vehicle type codes are as follows:
	0x0000 standard car series (default)
	0x0100 Volkswagen/Audi/Skoda
	0x0200 Buick/Chevrolet/Cadillac
	0x0300 Ford/Mazda
	0x0400 Toyota/Lexus
	0x0500 Honda/Acura
	0x0600 Nissan/Infiniti
	0x0700 Kia
	0x0800 modern
	0x0900 BMW
	0x0A00 Mercedes
	0x0B00 Subaru
	0x0C00 Mitsubishi
	0x0D00 Renault
	0x0E00 Peugeot/Citroen
	0x0F00 Land Rover/Jaguar
	0x1000 Volvo
	0x1100 Ssangyong
	0x1200 Chrysler
	0x1300 Chery
	0x1400 Geely
	0x1500 BYD
	0x1600 Great Wall
	0x1700 seahorse
	0x1800 China
	0x1900 Trumpchi
	0x1A00 MG
	0x1B00 Qoros
	0x1C00 Changan Automobile
	0x1D00 BAIC
Command Reply	270,<result>
	result: Set the result of the 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 has failed.
Examples	270,0400
	Set model to 0400 (Toyota)
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	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.
	02 If the command is successful, the current location information will be returned.
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	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.
	02 If the command is successful, reply:
	801, SN, IMEI, software version

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	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.
	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
	03 Device system status, 8-digit hexadecimal character format, see the "system-sta" note in GPRS data.
	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.
	External power supply voltage: decimal string, accurate to two decimal places.

Command Example	802 802,0000000F,03,01,31,12,4.15,00.00
Remarks	

808 – Check device Parameters

Supported Modes	GPRS/SMS
Command to Tracker	808,cmd
Command Description	01 Query the parameters of the device 02 cmd is the corresponding setting parameter command, such as 100, 102, please refer to the corresponding command description for the parameter content
Command Reply	01 If the command is failed, reply: 808,cmd,<result> result: the result of the command reply; Unsupport-This parameter query is not supported; 02 If the command is successful, reply: 808,cmd,parameters
Command	808,100
Example	808,100,1,istartracker.com,8011
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 Description	01 output: the serial number of the output port, 1= output1, 2= output2, 3= output3, and so on; 02 flag=1, the output action will be generated according to the mode set by the 251 command. flag=0, the output action will be stopped. 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	

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	990,<flag><device code><maximum support FOTA single data packet length><software version>
	01 flag: comparison result of software file name, 1 byte, hexadecimal data type.
	=0x01, indicating that the OTA file matches the version of the device itself, and the upgrade can be performed.
	=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.
	02 Machine code: 2 bytes, hexadecimal character type, big-endian alignment.
	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).
	Software version: ASCII character type, the software version of the device itself.
Command Example	Send：990,VT100_V101
	Answer：990,<0x01><0x0003><0x0400><VT100_V100>
Remarks	

991 – FOTA Upgrade Authorization	
Supported Modes	GPRS
Command to Tracker	991
Command Description	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.
	02 After OTA is authorized, the device will no longer send timing interval data or alarm data until it exits the OTA state.
Command Reply	991,<flag>
	flag: 1 byte, hexadecimal data type.
	=0x01 means authorization is successful.
	=0x00 means authorization failed.
	=0xFF, OTA authorization is illegal, that is, the 990 command is not issued in advance to upgrade the detection.
Command Example	Send：991
	Answer：991,<0x01>
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	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;
	02 OTA data packet length: the length of the OTA data packet issued this time, 2 bytes are 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 checksum is correct before using this command, otherwise the device may crash.**

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	photo name, character	/	photo Event
55	NULL	dismantling	Anti Disassembly Alarm
54	Trouble Code, Hexadecimal character	Trouble	Diagnostic Trouble Code (diagnostic trouble code alarm). The first byte indicates the fault category, 00 is J1979 fault, 01 is J1939 fault; every subsequent 3 bytes indicate a fault code. J1979 fault code: The first two bytes indicate the fault code, and the last byte indicates the status (01: indicates the solved fault, 02: represents the pending fault). For example: 00019501019602 It is J1979 fault type, fault code is P0195, P0196. J1939 fault code: 3 bytes are represented as 19 bits (SPN) + 5 bits (FMI) For example: 01F40305F80307 It is J1939 fault type, fault code is SPN1012-5, SPN1016-7