MEITRACK GPRS Protocol

Applicable Model: T1/T333

Change History

File Name	MEITRACK T1 & T333 GPRS Protocol		
Project	T1/T333	Creation Date Update Date	2017-01-17 2018-12-04
Subproject	GPRS Protocol	Total Pages	40
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Contents

1 Command Format

1.1 GPRS Command Format

- GPRS command sent from the server to the tracker:
  @@<Data identifier><Data length>,<IMEI>,<Command type>,<Command content><*Checksum>\r\n
- GPRS command sent from the tracker to the server:
  $$<Data identifier><Data length>,<IMEI>,<Command type>,<Command content><*Checksum>\r\n

1.2 Tracker Command Format

$$<Data identifier><Data length>,<IMEI>,<Command type>,<Event code>,<(-)Latitude>,<(-)Longitude>,<Date and time>,<Positioning status>,<Number of satellites>,<GSM signal strength>,<Speed>,<Direction>,<Horizontal dilution of precision (HDOP)>,<Altitude>,<Mileage>,<Run time>,<Base station info>,<I/O port status>,<Analog input value>,<Assisted event info>,<Customized data>,<Protocol version>,<Fuel percentage>,<Temperature sensor 1 value|Temperature sensor 2 value|……Temperature sensor n value>,<Max acceleration value>,<Max deceleration value>,<*Checksum>\r\n

Note:

- A comma (,) is used to separate data characters. The character type is the American Standard Code for Information Interchange (ASCII). (hexadecimal: 0x2C)
- Symbols "<" and ">" will not be present in actual data, only for documentation purpose only.
- All multi-byte data complies with the following rule: High bytes are prior to low bytes.
- The size of a GPRS data packet is about 160 bytes.

Descriptions about GPRS packets from the tracker are as follows:

Parameter	Description	Example
@@	Indicates the GPRS data packet header sent from the server to the tracker. The header type is ASCII. (Hexadecimal: 0x40)	@@
$$	Indicates the GPRS data packet header sent from the tracker to the server. The header type is ASCII. (Hexadecimal: 0x24)	$$
Data identifier	Contains 1 byte. The type is the ASCII, and its value ranges from 0x41 to 0x7A.	Q
Data length	Indicates the length of characters from the first comma (,) to \r\n. Decimal. Example: $$<*Data identifier*><*Data length*>,<*IMEI*>,<*Command type*>,<*Command content*><**Checksum*>\r\n	25
IMEI	Indicates the tracker's IMEI number. The number type is ASCII. It has 15 digits generally.	353358017784062
Command type	Hexadecimal For details, see chapter 2 and chapter 3.	AAA
Event code	Decimal For details, see section 1.3 "Event Code."	1
Latitude	Unit: degree	22.756325 (indicates 22.756325°N)

(-)yy.dddddd	Decimal When a minus (-) exists, the tracker is in the southern hemisphere. When no minus (-) exists, the tracker is in the northern hemisphere. **yy** indicates the degree. **dddddd** indicates the decimal part.	-23.256438 (indicates 23.256438°S)
Longitude (-)xxx.dddddd	Unit: degree Decimal When a minus (-) exists, the tracker is in the western hemisphere. When no minus (-) exists, the tracker is in the eastern hemisphere. **xxx** indicates the degree. **dddddd** indicates the decimal part.	114.752146 (indicates 114.752146°E) -114.821453 (indicates 114.821453°W)
Date and time yymmddHHMMSS	**yy** indicates year. **mm** indicates month. **dd** indicates day. **HH** indicates hour. **MM** indicates minute. **SS** indicates second. Decimal	091221102631 Indicates 21 December 2009, 10:26:31 am.
Positioning status	Indicates the GPS signal status. **A** = Valid **V** = Invalid	A The GPS is valid.
Number of satellites	Indicates the number of received GPS satellites. Decimal	5 Five GPS satellites are received.
GSM signal strength	Value: 0–31 Decimal	12 The signal strength is 12.
Speed	Unit: km/h Decimal	58 The speed is 58 km/h.
Direction	Indicates the driving direction. The unit is degree. When the value is **0**, the direction is due north. The value ranges from 0 to 359. Decimal	45: indicates that the location is at northeast. 90: indicates that the location is at due east.
HDOP	The value ranges from 0.5 to 99.9. The smaller the value is, the more the accuracy is. Decimal When the accuracy value is **0**, the signal is invalid. 0.5–1: Perfect 2–3: Wonderful 4–6: Good 7–8: Medium 9–20: Below average 21–99.9: Poor	5 The HDOP is 5.

Altitude		Unit: meter Decimal	118
Mileage		Unit: meter Decimal Indicates the total mileage. The maximum value is 4294967295. If the value exceeds the maximum value, it will be automatically cleared.	564870
Run time		Unit: second Decimal Indicates the total time. The maximum value is 4294967295. If the value exceeds the maximum value, it will be automatically cleared.	2546321
Base station info		The base station information includes: MCC|MNC|LAC|CI The MCC and MNC are decimal, while the LAC and CI are hexadecimal. Note: Base station information in an SMS is empty.	460|0|E166|A08B
I/O port status		Hexadecimal Status values of eight input ports and eight output ports: Bits 0–7 correspond to status of output ports 1–8. Bits 8–15 correspond to status of input ports 1–8.	0421 (hexadecimal) = 0000 0100 0010 0001
Analog input value		Hexadecimal Eight analog input values are separated by "|". AD1|AD2|AD3|Battery analog|External power analog|AD6|AD7|AD8 Unit: V Note: Analog input values in an SMS report are empty. **Voltage formula of analog AD1–AD3:** T1: (AD x 3.3 x 2)/4096 T333: AD1/100 **Voltage formula of battery analog (AD4):** T1: (AD4 x 3.3 x 2)/4096 T333: AD4/100 **Voltage formula of external power supply (AD5):** T1: (AD5 x 3.3 x 16)/4096 T333: AD5/100 AD6–AD8: Reserved. (Note: Unnecessary AD values at the end of this parameter can be removed while editing. For example, if AD6, AD7, and AD8 are not in use, you can just send the first five AD values: **0123|0456|0235|1234|0324**.)	0123|0456|0235|1234|0324|0654|1456|0222
Assisted event	Geo-fence number	32-bit unsigned Only available by GPRS event code 20 or 21.	02 00 00 00 (indicates geo-fence 2)

info	Picture name	Only available by GPRS event code 39.	0918101221_C2E03
	iButton/RFID ID	Indicates the ID number of an iButton key or a RFID card. Contains 8 hexadecimal characters. Only available by GPRS event code 37.	42770680 (hexadecimal)
	Temperature sensor No.	The temperature sensor No. is set by command C40. Contains 2 hexadecimal characters. Note: The number is only available by event code 50 or 51.	08 (indicates temperature sensor 8)
	System flag	Contains 4 bytes; hexadecimal Bit 0: Whether to modify the EEP2 parameter. When the value is **1**, the EEP2 parameter is modified. Bits 1–31: reserved. Only available by GPRS event code 35.	00000001 The EEP2 parameter is modified.
Customized data		Reserved A separator still exists.	
Protocol version		Decimal 1–50: Used for all common Meitrack protocols. 50–99: Used for OBD. When the protocol is compatible with the old tracker, the value is empty or is 0 by default.	1
Fuel percentage		Contains 4 hexadecimal characters. A high byte indicates the integer bit of the percentage. A low byte indicates the decimal of the percentage. When the fuel level sensor type is **0**, the sensor is not connected and the value is empty.	241E (indicates the fuel percentage is 36.30%.)
Temperature sensor No. + Temperature value		Contains 6 hexadecimal characters. The first two characters indicate the sensor No. The two characters in the middle are the integer part of temperature (-127°C to +127°C). The lowest two characters are the decimal part of temperature.	011A09|021A15|061E20 There are 3 temperature sensors. Temperature sensor 1: 26.09°C Temperature sensor 2: 26.21°C Temperature sensor 6: 30.32°C
Max acceleration value		Decimal Unit: mg Indicates the maximum acceleration value at the specific time interval of two pieces of AAA data.	30 The maximum acceleration value is 30mg.
Max deceleration value		Decimal Unit: mg Indicates the maximum deceleration value at the specific time interval of two pieces of AAA data.	18 The maximum deceleration value 18mg.
*		Separates commands from checksums. Contains 1 byte.	*

	ASCII (hexadecimal: 0x2A)	
Checksum	Contains 2 bytes. Hexadecimal The parameter indicates the sum of all data (excluding the checksum and ending mark). Example: *$$<Data identifier><Data length>,<IMEI>,<Command type>,<Command content><*Checksum>*\r\n	BE
\r\n	Contains 2 bytes. The parameter is an ending character. The type is ASCII. (Hexadecimal: 0x0d 0x0a)	\r\n

1.3 Event Code

Event Code	Event	Default SMS Header (At Most 16 Bytes)
1	**Input 1 Active**	In1 Active
2	**Input 2 Active**	In2 Active
3	**Input 3 Active**	In3 Active
9	**Input 1 Inactive**	In1 Inactive
10	**Input 2 Inactive**	In2 Inactive
11	**Input 3 Inactive**	In3 Inactive
17	**Low Battery**	Low Battery
18	**Low External Battery**	Low Ext-Battery
19	**Speeding**	Speeding
20	**Enter Geo-fence**	Enter Fence N (N means the number of the fence)
21	**Exit Geo-fence**	Exit Fence N (N means the number of the fence)
22	**External Battery On**	Ext-Battery On
23	**External Battery Cut**	Ext-Battery Cut
24	**GPS Signal Lost**	GPS Signal Lost
25	**GPS Signal Recovery**	GPS Recovery
26	**Enter Sleep**	Enter Sleep
27	**Exit Sleep**	Exit Sleep
28	**GPS Antenna Cut**	GPS Antenna Cut
29	**Device Reboot**	Power On
31	**Heartbeat**	/
32	**Cornering**	Cornering
33	**Track By Distance**	Distance
34	**Reply Current (Passive)**	Now
35	**Track By Time Interval**	Interval
36	**Tow**	Tow
37	**iButton/RFID**	(Only for GPRS)
39	**Photo**	/
40	**Power Off**	Power Off

41	**Stop Moving**	Stop moving
42	**Start Moving**	Start Moving
44	**GSM Jamming**	GSM Jamming
50	**Temperature High**	Temp High
51	**Temperature Low**	Temp Low
52	**Full Fuel**	Full Fuel
53	**Low Fuel**	Low Fuel
54	**Fuel Theft**	Fuel Theft
63	**No GSM Jamming**	No GSM Jamming
70	**Reject Incoming Call**	/
71	**Get Location by Call**	/
72	**Auto Answer Incoming Call**	/
73	**Listen-in (Voice Monitoring)**	/
78	**Impact**	Impact
82	**Fuel Filling**	Fuel Filling
83	**Ult-Sensor Drop**	Ult-Sensor Drop
90	**Sharp Turn to Left**	Harsh Cornering
91	**Sharp Turn to Right**	Harsh Cornering
94	**Output 1 Active**	Out1 Active
95	**Output 2 Active**	Out2 Active
96	**Output 1 Inactive**	Out1 Inactive
97	**Output 2 Inactive**	Out2 Inactive
129	**Harsh Braking**	Harsh Braking
130	**Harsh Acceleration**	Fast Accelerate
133	**Idle Overtime**	Idle Overtime
134	**Idle Recovery**	Idle Recovery
135	**Fatigue Driving**	Fatigue Driving
136	**Enough Rest after Fatigue Driving**	Enough Rest

2 Command List

Command	Command Description
A10	Real-Time Location Query
A11	Setting a Heartbeat Packet Reporting Interval
A12	Tracking by Time Interval
A13	Setting the Cornering Report
A14	Tracking by Distance
A15	Setting the Parking Scheduled Tracking Function
A16	Enabling the Parking Scheduled Tracking Function
A17	Controlling Output 1 Status by RFID/iButton
A21	Setting GPRS Parameters

A22	Setting the DNS Server IP Address
A23	Setting the Standby GPRS Server
A70	Reading All Authorized Phone Numbers
A71	Setting Authorized Phone Numbers
A72	Setting Listen-in Phone Numbers
A73	Setting the Smart Sleep Mode
AAA	Automatic Event Report
AFF	Deleting a GPRS Event in the Buffer
B05	Setting a Geo-Fence
B06	Deleting a Geo-Fence
B07	Setting the Speeding Alert
B08	Setting the Towing Alert
B09	Setting the Vibration Sensitivity Level
B10	Fast Setting the Towing Alert
B11	Setting a Polygonal Geo-Fence
B14	Setting the Idling Alert
B15	Setting Driver Fatigue Parameters
B21	Setting the Anti-Theft Function
B34	Setting a Log Interval
B35	Setting the SMS Time Zone
B36	Setting the GPRS Time Zone
B37	Setting the Auto Sleep Function
B38	Setting the Auto Sleep Voltage
B60	Determining Vehicle Status by ACC Status
B72	Setting the Fuel Filtering Function
B99	Setting Event Authorization
C01	Controlling Output Status
C02	Notifying the Tracker of Sending an SMS
C03	Setting a GPRS Event Transmission Mode
C40	Registering a Temperature Sensor Number
C41	Deleting a Registered Temperature Sensor
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C85	Setting the GSM Jamming Detection Function
D00	Obtaining a Picture
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D11	Authorizing iButton Keys/RFID Cards in Batches
D12	Checking iButton/RFID Authorization
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F00	Restarting the GSM and GPS Modules
F01	Restarting the GSM Module
F02	Restarting the GPS Module
F08	Setting the Mileage and Run Time
F09	Deleting SMS/GPRS Cache Data
F11	Restoring Initial Settings

3 Command Details

3.1 Real-Time Location Query – A10

GPRS Sending	A10
GPRS Reply	AAA,34,(-)*Latitude*,(-)*Longitude*,*Date and time*,*Positioning status*,*Number of satellites*,*GSM signal strength*,*Speed*,*Direction*,*HDOP*,*Altitude*,*Mileage*,*Run time*,*Base station info*,*I/O port status*,*Analog input value*
Description	**34**: indicates the GPRS command event code.
Example	
GPRS Sending	@@Q25,353358017784062,A10*6A\r\n
GPRS Reply	$$Q128,353358017784062,AAA,34,22.543176,114.078448,100313093738,A,5,22,2,205,5,-14,0,60,0|0|10133|4110,0000,149|153|173|2707|914,*91\r\n

3.2 Setting a Heartbeat Packet Reporting Interval – A11

GPRS Sending	A11,*Interval*
GPRS Reply	A11,OK
Description	The heartbeat packet function is used to keep the Transmission Control Protocol (TCP) connection open when the interval of scheduled GPRS reporting is long. Interval = 0: function disabled (default). Interval = [1…65535]: function enabled. Unit: minute. The heartbeat function is available only in conjunction with deep sleep mode. When the

	device enters deep sleep mode, a heartbeat packet will be sent at the specified interval. A heartbeat packet is to confirm the device is online, and positioning data is invalid.
Example	
GPRS Sending	@@S28,353358017784062,A11,10*FD\r\n
GPRS Reply	$$S28,353358017784062,A11,OK*FE\r\n *After the above command is run successfully, the tracker will send the following GPRS heartbeat packet to the platform every 10 minutes in sleep mode:* *$$a131,353358017784062,AAA,31,22.913458,114.083183,080229123628,V,9,23,21,83,1,18,1350,127,0|0|10133|4110,0000,169|181|184|2714|919,*60*

3.3 Tracking by Time Interval – A12

GPRS Sending	A12,*Interval*
GPRS Reply	A12,OK
Description	Unit: x10 seconds Interval = 0: function disabled. The maximum time interval is 65535 x 10 seconds. 6 x 10 seconds are recommended.
Example	
GPRS Sending	@@V27,353358017784062,A12,6*D5\r\n
GPRS Reply	$$V28,353358017784062,A12,OK*02\r\n *After the above command is run successfully, the tracker will send the following GPRS data packet to the platform every 1 minute:* *$$W129,353358017784062,AAA,35,22.540113,114.076141,100313094354,A,5,22,1,174,4,129,0,435,0|0|10133|4110,0000,166|224|193|2704|916,*BE\r\n*

3.4 Setting the Cornering Report – A13

GPRS Sending	A13,*Angle*
GPRS Reply	A13,OK
Description	When the driving angle exceeds the preset value, the tracker will send a GPRS data packet with location information to the server, which ensures a smoother route on the platform. Angle = 0: function disabled (default). Angle = [1…359]: function enabled. Recommended value: **30**.
Example	
GPRS Sending	@@X29,353358017784062,A13,120*37\r\n
GPRS Reply	$$X28,353358017784062,A13,OK*05\r\n *After the above command is run successfully, if the cornering angle is greater than 120 degree, the tracker will send the following GPRS data pakcet to the server:* *$$Y129,353358017784062,AAA,32,22.540968,114.077455,100313094534,A,4,22,1,166,3,175,0,534,0|0|10133|4110,0000,141|138|159|2691|904,*D9\r\n*

3.5 Tracking by Distance – A14

GPRS Sending	A14,*Distance*
GPRS Reply	A14,OK
Description	Distance = 0: function disabled (default). Distance = [1…65535]: function enabled. Unit: meter. Note: When both the GPRS time interval and distance tracking functions are enabled, the "first reach first report" rule will be applied. For example, set the time interval to 6 x 10 seconds and distance to 200 meters. If the road is clear, a distance data packet will be reported first; if there is heavy traffic on the road, a time interval data packet will be reported first. Then both the time interval and distance counters will be reset to 0. **300** is recommended.
Example	
GPRS Sending	@@D30,353358017784062,A14,1000*4A\r\n
GPRS Reply	$$D28,353358017784062,A14,OK*F2\r\n *After the above command is run successfully, if the driving distance reaches 1000m, the tracker will send a data packet to the server.* *$$D131,353358017784062,AAA,33,22.547271,114.047405,080310080929,A,8,21,13,89,1,12,8525,561,0|0|10133|4110,0000,163|185|186|2712|939,*31\r\n*

3.6 Setting the Parking Scheduled Tracking Function – A15

GPRS Sending	A15,*Interval*
GPRS Reply	A15,OK
Description	The function is available for vehicle trackers only. With the function, the number of GPRS messages is reduced, and thus GPRS traffic is saved. After the A15 function is set, the A16 function is automatically enabled. For details about engine status, see section 3.7 "Enabling the Parking Scheduled Tracking Function – A16." Interval unit: x10 seconds Interval = 0: function disabled. The maximum interval is 65535 x 10 seconds. Note: If data needs to be sent at the specified interval after the vehicle starts or stops, the function needs to work with the A12 function.
Example	
GPRS Sending	@@E27,353358017784062,A15,6*C7\r\n
GPRS Reply	$$E28,353358017784062,A15,OK*F4\r\n

3.7 Enabling the Parking Scheduled Tracking Function – A16

GPRS Sending	A16,*Status*
GPRS Reply	A16,OK
Description	**The function is available for vehicle trackers only. The first positive input port (high level) of a vehicle tracker must connect to engine detection. Otherwise, the function**

	is unavailable. When the activation status is **1**, the parking scheduled tracking function is enabled; when the activation status is **0**, the function is disabled. GPRS data is sent at the following interval: ● Interval of the A12 function when the engine is on ● Interval of the A15 function when the engine is off
Example	
GPRS Sending	@@F27,353358017784062,A16,0*C3\r\n
GPRS Reply	$$F28,353358017784062,A16,OK*F6\r\n

3.8 Controlling Output 1 Status by RFID/iButton – A17

GPRS Sending	A17,X
GPRS Reply	A17,OK
Description	X = 1: function enabled. Before using the function, ensure that ACC detection is connected to input 3 and a RFID card has been authorized. X = 0: function disabled (default). For example: After swiping the authorized RFID card, you must start the engine within 1 minute. If the time exceeds 1 minute, you need to swipe the card again. After the engine is started, input 3 has been detecting the ACC status. If ACC ON is detected (that is, input 3 is the high level), output 1 will not generate data. If ACC OFF is detected, after 1 minute, swipe the authorized RFID card to start the engine as required. For details about how to authorize a RFID card or an iButton key, see commands D10–D15.
Example	
GPRS Sending	@@T27,353358017784062,A17,1*D3\r\n
GPRS Reply	$$T28,353358017784062,A17,OK*05\r\n

3.9 Setting GPRS Parameters – A21

GPRS Sending	A21,*Connection mode*,*IP address*,*Port*,*APN*,*APN user name*,*APN password*
GPRS Reply	A21,OK
Description	Connection mode = 0: function disabled. Connection mode = 1: function enabled; use TCP/IP reporting mode. Connection mode = 2: function enabled; use UDP reporting mode. IP address: IP address or domain name. A maximum of 32 bytes are supported. Port: a maximum of 5 digits. APN/APN user name/APN password: a maximum of 32 bytes respectively. If no user name and password are required, leave them blank. Note: 1. If you want to change a parameter (named **A**), the parameter before **A** cannot be empty. 2. If you do not want to change the parameters after **A**, no comma is required when

	you edit the command. 3. If you want to clear the parameters after **A**, commas are required when you edit the command. For example, if you want to change the IP address and port only, send **A21,1,192.168.1.1,8800**.
Example	
GPRS Sending	@@H48,353358017784062,A21,1,67.203.13.26,8800,,,*C9
GPRS Reply	$$H28,353358017784062,A21,OK*F4\r\n

3.10 Setting the DNS Server IP Address – A22

GPRS Sending	A22,*DNS server IP address*
GPRS Reply	A22,OK
Description	An incorrect DNS server IP address may lead to GPRS data reporting failures after the A21 command is used. Use the A22 command to set the DNS server IP address (confirm the IP address with your domain name provider.). Then use the A21 command to reset the domain name. DNS server IP address: a maximum of 16 bytes
Example	
GPRS Sending	@@K38,353358017784062,A22,75.127.67.90*FD\r\n
GPRS Reply	$$K28,353358017784062,A22,OK*F8\r\n

3.11 Setting the Standby GPRS Server – A23

GPRS Sending	A23,*IP address*,*Port*
GPRS Reply	A23,OK
Description	IP address: a maximum of 32 bytes Port: a maximum of 5 digits When the tracker fails to send data to the active server set by command A21, data is automatically sent to the standby server to prevent data loss.
Example	
GPRS Sending	@@S43,353358017784062,A23,67.203.13.26,8800*F0
GPRS Reply	$$S28,353358017784062,A23,OK*01\r\n

3.12 Reading All Authorized Phone Numbers – A70

GPRS Sending	A70
GPRS Reply	A70,*SOS phone number 1*,*SOS phone number 2*,*SOS phone number 3*,*Listen-in phone number 1*,*Listen-in phone number 2*
Description	Read all authorized phone numbers.
Example	
GPRS Sending	@@T25, 353358017784062,A70*93\r\n

GPRS Reply	$$T85,353358017784062,A70,13811111111,13822222222,13833333333,13844444444,13855555555*21\r\n

3.13 Setting Authorized Phone Numbers – A71

GPRS Sending	A71,*Phone number 1*,*Phone number 2*,*Phone number 3*
GPRS Reply	A71,OK
Description	Phone number: A phone number has a maximum of 16 bytes. If no phone numbers are set, leave them blank. Phone numbers are empty by default. Phone number 1: SOS phone number. When you call the tracker by using the phone number, you will receive SMS notification about the location, geo-fence alert and low power alert. When the SOS button is pressed, the tracker will dial phone numbers 1, 2, and 3 in sequence. The tracker stops dialing when a phone number responds.
Example	
GPRS Sending	@@U61,353358017784062,A71,13811111111,13822222222,13833333333*7D\r\n
GPRS Reply	$$U28,353358017784062,A71,OK*06\r\n

3.14 Setting Listen-in Phone Numbers – A72

GPRS Sending	A72,*Listen-in phone number 1*,*Listen-in phone number 2*
GPRS Reply	A72,OK
Description	When you call the tracker by using authorized listen-in phone numbers, the tracker will answer the call automatically and enter the listen-in state. In this way, the tracker will not make any sound. Listen-in phone number: A maximum of two phone numbers can be set. Each phone number has a maximum of 16 digits. If no phone numbers are set, leave them blank. Phone numbers are empty by default. If no phone numbers are set and commas are remained, phone numbers set before will be deleted.
Example	
GPRS Sending	@@V49,353358017784062,A72,13844444444,13855555555*55\r\n
GPRS Reply	$$V28,353358017784062,A72,OK*08\r\n

3.15 Setting the Smart Sleep Mode – A73

GPRS Sending	A73,*Sleep level*
GPRS Reply	A73,OK
Description	Set the automatic smart sleep mode when the tracker is idle. Sleep level = 0: function disabled (default). Sleep level = 1: normal sleep. The GSM module always works, and the GPS module occasionally enters the sleep mode. The tracker works 25% longer in the normal sleep

	mode than that in the normal working mode. This mode is not recommended for short interval tracking; this will affect the route precision. Sleep level = 2: deep sleep. If no event is triggered after five minutes, the GPS module will stop working and the GSM module will enter sleep mode. Once an event is triggered, the GPS and GSM modules will be woken up. A heartbeat event will be triggered only in the deep sleep mode, which will be uploaded every one hour by default. Triggering events include: SOS alert, low internal/external battery, external power status, GPS antenna cutoff alert, towing alert, high temperature, low temperature, fuel theft, vehicle theft, ACC ON, (button) changes on any input port, vibration, incoming call, SMS receiving, call, and heartbeat event (The GPS is disabled during heartbeat wakeup.). Note: In any condition, you can use an SMS or a GPRS command to disable the sleep mode, and then the tracker exits the sleep mode and returns back to the normal working mode.
Example	
GPRS Sending	@@W27,353358017784062,A73,2*D9\r\n
GPRS Reply	$$W28,353358017784062,A73,OK*0A\r\n

3.16 Automatic Event Report – AAA

GPRS Event Report	AAA,*Command type*,(-)*Latitude*,(-)*Longitude*,*Date and time*,*Positioning status*,*Number of satellites*,*GSM signal strength*,*Speed*,*Direction*,*HDOP*,*Altitude*,*Mileage*,*Run time*,*Base station info*,*I/O port status*,*Analog input value*
Description	When an event occurs, the tracker automatically reports the event to the server.
Example	
GPRS Reply	*When you press the SOS button, the tracker will send the following information to the server:* *$$G127,353358017784062,AAA,1,22.538169,114.075958,100313095653,A,3,21,4,46,5,581,0,148,0|0|10133|4172,0000,166|204|205|2709|878,*77\r\n*

3.17 Deleting a GPRS Event in the Buffer – AFF

GPRS Sending	AFF,*Number of deleted GPRS events*
GPRS Reply	Use the AFF command to clear the existing data when the GPRS connection mode is UDP. AFF,*Number of remaining cache*,*Command type*, (-)*Latitude*,(-)*Longitude*,*Data and time*,*Positioning status*,*Number of satellites*,*GSM signal strength*,*Speed*,*Direction*,*HDOP*,*Altitude*,*Mileage*,*Run time*,*Base station info*,*I/O port status*,*Analog input value*
Description	Number of deleted GPRS events: hexadecimal. In general, the number is 1. Number of remaining cache: indicates the number of events in the buffer; hexadecimal.
Example	
GPRS Sending	@@h27,353358017784062,AFF,1*0B\r\n
GPRS Reply	$$h28,353358017784062,AFF,OK*3D\r\n

3.18 Setting a Geo-Fence – B05

GPRS Sending	B05,*Geo-fence number*,*Latitude*,*Longitude*,*Radius*,*Enter Geo-fence alert*,*Exit Geo-fence alert*
GPRS Reply	B05,OK
Description	Geo-fence number: 1–8. A maximum of eight geo-fences can be set. Latitude: latitude of the geo-fence center; decimal; accurate to 6 digits after the decimal point. If there are only 4 digits after the decimal point, add two digits 0. Otherwise, the command cannot be used successfully. Longitude: longitude of the geo-fence center; decimal; accurate to 6 digits after the decimal point. If there are only 4 digits after the decimal point, add two digits 0. Otherwise, the command cannot be used successfully. Radius: The value ranges from 1 to 4294967295. The unit is meter. Enter Geo-fence alert = 0: function disabled. Enter Geo-fence alert = 1: function enabled. Exit Geo-fence alert = 0: function disabled. Exit Geo-fence alert = 1: function enabled.
Example	
GPRS Sending	@@H57,353358017784062,B05,1,22.913191,114.079882,1000,0,1*96\r\n
GPRS Reply	$$H28,353358017784062,B05,OK*F7\r\n *When the tracker exits the geo-fence (latitude: 22.913191; longitude: 114.079882; radiu: 1000m), it will send the following GPRS data packet to the server:* *$$J132,353358017784062,AAA,21,22.918046,114.089726,080229123812,A,10,22,12,32,1,21,6667,847,0|0|10133|4110,0000,124|181|183|2714|922,*5A\r\n*

3.19 Deleting a Geo-Fence – B06

GPRS Sending	B06,*Geo-fence number*
GPRS Reply	B06,OK
Description	Geo-fence number: 1–8. Only one geo-fence can be deleted each time by SMS or GPRS command.
Example	
GPRS Sending	@@J27,353358017784062,B06,1*C8\r\n
GPRS Reply	$$J28,353358017784062,B06,OK*FA\r\n *After the above command is run successfully, the first geo-fence will be deleted.*

3.20 Setting the Speeding Alert – B07

GPRS Sending	B07,*Driving speed*
GPRS Reply	B07,OK

Description	Driving speed = 0: function disabled (default). Driving speed = [1…255]: function enabled. Unit: km/h. When the driving speed reaches the preset value, a speeding alert will be generated.
Example	
GPRS Sending	@@P28,353358017784062,B07,60*05\r\n
GPRS Reply	$$P28,353358017784062,B07,OK*01\r\n *When the tracker driving speed reaches 60 km/h, it will send the following information to the server:* *$$k134,353358017784062,AAA,19,22.916675,114.088813,080229123718,A,10,22,61,31,1,21,* *6635,395,460|0|10133|4110,0000,164|185|181|2712|915,*F7\r\n*

3.21 Setting the Towing Alert – B08

GPRS Sending	B08,*Vibration time*
GPRS Reply	B08,OK
Description	When the tracker's vibration time exceeds the preset value, the tracker will send an alert to an authorized phone number or the server. Before using the towing alert function, use the A73 command to set the smart sleep level to **2** and use the B08 command to set the consecutive vibration time. Otherwise, the towing alert function will be unavailable. Vibration time = 0: function disabled (default). Vibration time = [1…255]: function enabled. Unit: second.
Example	
GPRS Sending	@@I27,353358017784062,B08,3*CB\r\n
GPRS Reply	$$I28,353358017784062,B08,OK*FB\r\n *When the tracker vibrates for more than three consecutive seconds, it will send the following information to the server:* *$$K133,353358017784062,AAA,36,22.916675,114.088813,080229123718,A,10,22,61,31,1,21,6635,395,460|0|1013|4110,0000,164|185|181|2712|915,*A2*

3.22 Setting the Vibration Sensitivity Level – B09

GPRS Sending	B09,*Sensitivity level*
GPRS Reply	B09,OK
Description	The vibration sensitivity level is used to detect whether the tracker stops moving, starts moving or is woken up by vibration, or a towing alert is generated. Sensitivity level: The parameter value ranges from **1** to **65535**. The default value is **1**, and the parameter value cannot be **0**. The smaller the parameter value is, the stronger the sensitivity is.
Example	
GPRS Sending	@@I27,353358017784062,B09,1*CA\r\n
GPRS Reply	$$I28,353358017784062,B09,OK*FC\r\n

3.23 Fast Setting the Towing Alert – B10

GPRS Sending	B10,*Vibration time*,*Idling time*
GPRS Reply	B10,OK
Description	Vibration time = 0: function disabled (default). Vibration time = [1…255]: function enabled. Unit: second. Idling time: The default value is **2**. Unit: minute. Idling time = 0: The deep sleep mode will be disabled. Idling time = [1…255]: The power-saving function will be enabled. When the idling time exceeds the preset value, the tracker will enter deep sleep mode.
Example	
GPRS Sending	@@I30,353358017784062,B10,10,5*4D\r\n
GPRS Reply	$$I28,353358017784062,B10,OK*F4\r\n

3.24 Setting a Polygonal Geo-Fence – B11

GPRS Sending	B11,*Geo-fence number*,*Latitude 1*,*Longitude 1*,*Latitude 2*,*Longitude 2*...*Latitude N*,*Longitude N*,*Enter Geo-fence alert*,*Exit Geo-fence alert*
GPRS Reply	B11,OK
Description	Geo-fence number: The parameter value ranges from **1** to **8**. (The maximum value varies depending on customization projects.) Latitude: accurate to 6 digits after the decimal point. For example, 22.512517 or -22.512517. Longitude: accurate to 6 digits after the decimal point. For example, 114.057200 or -114.057200. Enter Geo-fence alert: The parameter value is **0** or **1**. ● **0**: An alert will not be generated when the tracker enters the geo-fence. ● **1**: An alert will be generated when the tracker enters the geo-fence. Exit Geo-fence alert: The parameter value is **0** or **1**. ● **0**: An alert will not be generated when the tracker exits the geo-fence. ● **1**: An alert will be generated when the tracker exits the geo-fence. If the command only cotains the parameter **Geo-fence number**, related geo-fences will be deleted.
Example	
GPRS Sending	@@I94,353358017784062,B11,1,22.526922,114.052695,22.526946,114.056232,22.523720,114.053521,1,1*D5\r\n
GPRS Reply	$$I28,353358017784062,B11,OK*F5\r\n

3.25 Setting the Idling Alert – B14

GPRS Sending	B14,*Time (second)*,*Speed (km/h)*
GPRS Reply	B14,OK
Description	The function is used to detect idling. The tracker must be connected to ACC detection.

	Otherwise, the function will be unavailable. Time: indicates the consecutive time for the speed. The parameter value ranges from **0** to **60000**. Unit: second. Speed: The parameter value ranges from **0** to **200**. Unit: km/h. (5 km/h is recommended.) An idling alert will be generated when the following conditions are met simultaneously: the device detects that the ACC is on; the speed is lower than the preset value; and the consecutive time for the speed is larger than the preset value. If you want to read the parameters, send **B14**. Note: The alert activation conditions may be affected due to static drift. Therefore, you are advised to set the speed to a value between 5 km to 10 km and the consecutive time for the speed to a value that is larger than 60 seconds.
Example	
GPRS Sending	@@I30,353358017784062,B14,60,5*56\r\n
GPRS Reply	$$I28,353358017784062,B14,OK*F8\r\n

3.26 Setting Driver Fatigue Parameters – B15

GPRS Sending	B15,*Consecutive driving time (min)*,*Reserved value*,*Rest time (min)*,*Related to speed or not*
GPRS Reply	B15,OK
Description	The command is used to detect driver fatigue. Consecutive driving time: The parameter value ranges from **0** to **1000**. Unit: minute. When the consecutive driving time exceeds the preset value, driver fatigue detection will be activated. Reserved value: Leave the parameter blank for later use. Rest time: The parameter value ranges from **0** to **1000**. Unit: minute. Drivers must have a rest based on the preset time. When the tracker detects that the ACC is off or the speed is 0, the driver fatigue alert will be cleared. Related to speed or not: The parameter value is **0** or **1**. **0**: The driving status is related to the ACC only. **1**: The driving status is related to the ACC and speed. Each parameter can be set separately, and the commas in this command need to be remained. For example, the command for setting the parameter **Related to speed or not** is **B15,,,,1**, and the command for setting the parameter **Consecutive driving time** is **B15,300**. If you want to read the parameters, send **B15**.
Example	
GPRS Sending	@@I35,353358017784062,B15,120,,20,1*3F\r\n
GPRS Reply	$$I28,353358017784062,B15,OK*F9\r\n

3.27 Setting the Anti-Theft Function – B21

GPRS Sending	B21,*Status*
GPRS Reply	B21,OK

Description	Status = 1: function enabled (default). Status = 0: function disabled. Note: A vehicle theft alert will be generated only when the device is in arming state.
Example	
GPRS Sending	@@C27,353358017784062,B21,1*BE\r\n
GPRS Reply	$$C28,353358017784062,B21,OK*F0\r\n

3.28 Setting a Log Interval – B34

GPRS Sending	B34,*Log interval*
GPRS Reply	B34,OK
Description	Set the interval for recording data to device's memory when the GPS signal is valid. Recorded logs can only be read by GPSLog or Meitrack Manager software. Log interval = 0: function disabled (default). Log interval = [1…65535]: function enabled. Unit: second.
Example	
GPRS Sending	@@N28,353358017784062,B34,60*03\r\n
GPRS Reply	$$N28,353358017784062,B34,OK*FF\r\n

3.29 Setting the SMS Time Zone – B35

GPRS Sending	B35,*SMS minute*
GPRS Reply	B35,OK
Description	The default time zone of the tracker is GMT 0. You can run the B35 command to change the time zone of an SMS report to the local time zone. The time zone of an SMS report is different from the GPRS data packet time zone. When **SMS minute** is **0**, the time zone is **GMT 0**. When **SMS minute** is a value ranging from -32768 to 32767, set time zones.
Example	
GPRS Sending	@@O29,353358017784062,B35,480*3C\r\n
GPRS Reply	$$O28,353358017784062,B35,OK*01\r\n *After the above command is run successfully, the tracker SMS time zone is changed to UTC+08:00 (China time zone).*

3.30 Setting the GPRS Time Zone – B36

GPRS Sending	B36,*GPRS minute*
GPRS Reply	B36,OK
Description	When **GPRS minute** is **0**, the time zone is **GMT 0** (default). The MS02 can automatically detect the user time zone, so that the GPRS time zone does not need to be changed. Otherwise, inaccurate data occurs. When **GPRS minute** is a value ranging from -32768 to 32767, set time zones.

Example	
GPRS Sending	@@P29,353358017784062,B36,480*3E\r\n
GPRS Reply	$$P28,353358017784062,B36,OK*03\r\n *After the above command is run successfully, the GPRS time zone is changed to UTC+08:00 (China time zone).*

3.31 Setting the Auto Sleep Function – B37

GPRS Sending	B37,X
GPRS Reply	B37,OK
Description	Whether the tracker will enter deep sleep mode automatically when it detects that the voltage of the external power supply is lower than the preset value (see command B38). X: The parameter value is **0** or **1**. **0**: The auto sleep function will be disabled. **1**: The auto sleep function will be enabled. The default value is **1**.
Example	
GPRS Sending	@@P27,353358017784062,B37,1*D2\r\n
GPRS Reply	$$P28,353358017784062,B37,OK*04\r\n

3.32 Setting the Auto Sleep Voltage – B38

GPRS Sending	B38,X
GPRS Reply	B38,OK
Description	X: The parameter value ranges from **0** to **2400**. When the paramater value is **0**, use the formula (voltage = X/10 V) to calculate the voltage. If you want to read the parameters, send **B38**.
Example	
GPRS Sending	@@P30,353358017784062,B38,1180*66\r\n
GPRS Reply	$$P28,353358017784062,B38,OK*05\r\n

3.33 Determining Vehicle Status by ACC Status – B60

GPRS Sending	B60,X
GPRS Reply	B60,OK
Description	X = 0: function disabled (default). X = 1: function enabled. When the device detects that the ACC is off, device's longitude and latitude will not be updated, so as to avoid static drift. The first positive input of the tracker connects to engine detection by default.
Example	
GPRS Sending	@@U27,353358017784062,B60,1*D3\r\n
GPRS Reply	$$U28,353358017784062,B60,OK*05\r\n

3.34 Setting the Fuel Filtering Function – B72

GPRS Sending	B72,X
GPRS Reply	B72,OK
Description	Whether to filter the fuel percentage value. If the function is enabled, the too high or too low values generated during a time period will be filtered and an average value will be obtained. If the function is disabled, the last data will be obtained. X: The parameter value is **0** or **1**. **0**: function disabled (default). **1**: function enabled.
Applicable Model	T1/T333
Example	
GPRS Sending	@@P27,353358017784062,B72,1*D1\r\n
GPRS Reply	$$P28,353358017784062,B72,OK*03\r\n

3.35 Setting Event Authorization – B99

GPRS Sending	B99,<SMS>/<0>,<*Phone number location*>/<*Authorized phone number*>,<*Operation code*>, [*Event code 1*]……[*Event code n*] B99,<CALL>/<1>,<*Phone number location*>/<*Authorized phone number*>,<*Operation code*>, [*Event code 1*]……[*Event code n*] B99,<GPRS>/<2>,<*Operation code*>, [*Event code 1*]……[*Event code n*] 0000,B99,<CAMERA>/<3>,<*Operation code*>, [*Event code 1*]……[*Event code n*] B99,<BUZZER>/<4>,<*Operation code*>, [*Event code 1*]……[*Event code n*].
GPRS Reply	B99,<SMS>/<0>,<*Phone number location*>,<*Authorized phone number*>, [*Event code 1*]……[*Event code n*] B99,<CALL>/<1>,<*Phone number location*>,<*Authorized phone number*>, [*Event code 1*]……[*Event code n*] B99,<GPRS>/<2>,[*Event code 1*]……[*Event code n*] B99,<CAMERA>/<3>,[*Event code 1*]……[*Event code n*] B99,<BUZZER>/<4>,[*Event code 1*]……[*Event code n*]
Description	Fields SMS, CALL, CAMERA, GPRS, and BUZZER can be presented by 0–4 in decimal string. Operation codes GET, SET, ADD, and DEL can be presented by 0–3 in decimal string. These characters are not case-sensitive. Note: Ensure that an authorized phone number is set by using the A71 command or the parameter configuration tool before the B99 command is used to set the SMS/CALL event code. The tracker compares the authorized phone number issued by B99 with the authorized phone number (excluding +86 characters) of the tracker. If the phone numbers are the same, the new event code will be stored. If the phone numbers are inconsistent, an error SMS will be sent.
Example	
GPRS Sending	@@B34,863070010825791,B99,gprs,get*BC\r\n
GPRS Reply	$$B33,863070010825791,B99,1,17,18*B5\r\n

3.36 Controlling Output Status – C01

GPRS Sending	C01,*Speed*,ABCDE
GPRS Reply	C01,OK
Description	When the speed is **0**, no speed limit exists. That is, when the tracker receives a command, the function will take effect immediately. When the speed is a value ranging from 1 to 255 (unit: km/h), set the speed limit. When the driving speed is lower than the speed limit, the function will take effect. A=0, close output (output 1) - open drain A=1, open output (output 1) - connect to GND A=2, remain previous status. B=0, close output (output 2) - open drain B=1, open output (output 2) - connect to GND B=2, remain previous status. C=0, close output (output 3) - open drain C=1, open output (output 3) - connect to GND C=2, remain previous status. D=0, close output (output 4) - open drain D=1, open output (output 4) - connect to GND D=2, remain previous status. E=0, close output (output 5) - open drain E=1, open output (output 5) - connect to GND E=2, remain previous status.
Example	
GPRS Sending	@@M34,353358017784062,C01,20,10122*18\r\n
GPRS Reply	$$M28,353358017784062,C01,OK*F9\r\n

3.37 Notifying the Tracker of Sending an SMS – C02

GPRS Sending	C02, X,*Phone number*,*Content*
GPRS Reply	C02,OK
Description	Used for the platform to notify the tracker of sending an SMS to a mobile phone. X = 0: in TEXT mode X = 1: in Unicode mode Phone number: a maximum of 16 digits Content: a maximum of 140 characters After receiving the message, the tracker sends Content information to specified phone numbers.
Example	
GPRS Sending	@@f47,353358017784062,C02,0,15360853789,Meitrack*B1\r\n
GPRS Reply	$$f28,353358017784062,C02,OK*13\r\n

3.38 Setting a GPRS Event Transmission Mode – C03

GPRS Sending	C03, X
GPRS Reply	C03,OK
Description	X = 0: automatic event report (default) X = 1: Before another event can be transmitted, existing event reports need to be confirmed and deleted on the server by the AFF command. Select this mode when GPRS uses UDP.
Example	
GPRS Sending	@@f27,353358017784062,C03,0*E1\r\n
GPRS Reply	$$f28,353358017784062,C03,OK*14\r\n

3.39 Registering a Temperature Sensor Number – C40

GPRS Sending	C40,SN1 & number 1,SN2 & number 2,…,SNn & number n
GPRS Reply	C40,SN1 & number 1 & result, SN2 & number 2 & result,…SNn & number n & result
Description	Commands C40 to C46 are used to read or set a temperature sensor. Installation steps: 1) Check whether the temperature sensor number in AAA GPRS data is 0. 2) If the number is 0, the temperature sensor is not numbered. Then send the C42 command to read the mappings of sensor SNs and numbers. 3) Use the C40 command to index all sensors and bind information in the database, such as the IMEI number, SN, number, and customized name. 4) If a high or low temperature alert is required, send the C43 command to set the temperature value and customize a name. You are advised to use the installation path as the name and save the name to the database. 5) If the sensor is pulled out or replaced when the device is online, use the C46 command to check the sensor. If data is inconsistent, use the C40 and C43 commands to set data. The device uploads current temperature data by the AAA event. If the number in temperature data is 0, the temperature sensor is not registered. The platform automatically sends the C42 command to obtain the temperature sensor SN and number list. Find out the sensor whose number is 0, and register it. n: The maximum value is 8. SN: unique number to identify a temperature sensor. Eight bytes. Hexadecimal string. The SN is displayed on the platform like 28 1B D5 23 04 00 00 57, which is the same as that on the sensor label. Number: one byte. Hexadecimal. The value ranges from 1 to 254. Registration result: 0x01, 0x02, 0x03, and 0x04 0x01: The registration is successful. 0x02: The number or SN already exists. 0x03: All sensors are registered. 0x04: Registration failed. Hexadecimal.

Example (ASCII is used to display examples because hexadecimal characters cannot be displayed.**)**	
GPRS Sending	@@q35,012896001078259,C40,(1BD5#040000W02*50\r\n
GPRS Reply	$$q36,012896001078259,C40,(1BD5#040000W0201*1B \r\n

3.40 Deleting a Registered Temperature Sensor – C41

GPRS Sending	C41,*Number 1*,*Number 2*,…*Number n*
GPRS Reply	C41,*Number 1*,*Result*,*Number 2*,*Result*,…*Number n*,*Result*
Description	Number: indicates the registered sensor number; hexadecimal. The value ranges from 1 to 254. Result: Decimal. **1** indicates deletion succeeded. **2** indicates that the number does not exist. **3** indicates deletion failed. To delete all registered temperature sensors, send command C41 only. If deletion is successful, **OK** is returned. If not, **Error** is returned.
Example	
GPRS Sending	@@n28,012896001078259,C41,01*19\r\n
GPRS Reply	$$n30,012896001078259,C41,01,1*37\r\n

3.41 Reading the Temperature Sensor SN and Number – C42

GPRS Sending	C42
GPRS Reply	C42,SN1 and number 1,SN2 and number 2,…SNn and number n
Description	SNn: indicates the n(th) sensor SN, and has eight bytes in hexadecimal format. Number n: indicates the n(th) sensor number, and has one byte in hexadecimal format. The value ranges from 0 to 255. If the value is **0**, the temperature sensor is not registered.
Example (ASCII is used to display examples because hexadecimal characters cannot be displayed.)	
GPRS Sending	@@m25,012896001078259,C42*89\r\n
GPRS Reply	$$t45,012896001078259,C42,(B4v#040000R00,(1BD5#040000W00*13\r\n

3.42 Setting the Temperature Threshold and Logical Name – C43

GPRS Sending	C43,*Number 1/SN1/High temperature value 1/Low temperature value 1/High temperature alert 1/Low temperature alert 1/Logical name 1/…Number n/SNn/High temperature value n/Low temperature value n/High temperature alert 1/Low temperature alert 1/Logical name n*
GPRS Reply	C43,*Number 1/Result 1/Number 2/Result 2…/Number n/Result n*
Description	n: The maximum value is 8. Number: one byte in hexadecimal format. SN: indicates the temperature sensor SN, and has eight bytes in hexadecimal format. High/Low temperature value: two bytes in hexadecimal format. The first byte is the integer part. When the high bit is **1**, the first byte is a negative integer. When the high bit is **0**, the first byte is a positive integer. The second byte is the decimal part.

	High temperature alert: one byte in hexadecimal format. Low temperature alert: one byte in hexadecimal format. Logical name (customized name): 16 bytes in hexadecimal format. If the name length is less than 16 bytes, add 0x00. There are 15 English characters, and # is located at the end of English characters to distinguish the Unicode and English characters. A maximum of eight Chinese characters can be supported. Chinese characters must be the Unicode. Result: one byte in hexadecimal format. **0x01** indicates setting succeeded. **0x02** indicates that the number is not located. **0x03** indicates that setting failed due to wrong parameters. Note: Separators (/) are not required between parameters.
Example (ASCII is used to display examples because hexadecimal characters cannot be displayed.)	
GPRS Sending	@@o57,012896001078259,C43,01(1BD5#040000W<0005000101T1#00000000000000000000000000*3F
GPRS Reply	$$o28,012896001078259,C43,0101*85

3.43 Reading Temperature Sensor Parameters – C44

GPRS Sending	C44
GPRS Reply	C44,*Number 1/SN1/High temperature value 1/Low temperature value 1/High temperature alert 1/Low temperature alert 1/Logical name 1/…Number n/SNn/High temperature value n/Low temperature value n/High temperature alert 1/Low temperature alert 1/Logical name n*
Description	n: The maximum value is 8. Number: one byte in hexadecimal format. SN: indicates the temperature sensor SN, and has eight bytes in hexadecimal format. High/Low temperature value: two bytes in hexadecimal format. The first byte is the integer part. When the high bit is **1**, the first byte is a negative integer. When the high bit is **0**, the first byte is a positive integer. The second byte is the decimal part. High temperature alert: one byte in hexadecimal format. Low temperature alert: one byte in hexadecimal format. Logical name (customized name): 16 bytes in hexadecimal format. If the name length is less than 16 bytes, add 0x00. There are 15 English characters, and # is located at the end of English characters to distinguish the Unicode and English characters. A maximum of eight Chinese characters can be supported. Chinese characters must be the Unicode. Note: Separators (/) are not required between parameters.
Example (ASCII is used to display examples because hexadecimal characters cannot be displayed.)	
GPRS Sending	@@r25,012896001078259,C44*90\r\n
GPRS Reply	$$r274,012896001078259,C44,01(B4v#040000R00000000000000000000000 000000000000000000000002(1BD5#040000W000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000

	00000000000000000000000000000000000000000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000 00000000000000000000*1E\r\n

3.44 Checking Temperature Sensor Parameters – C46

GPRS Sending	C46
GPRS Reply	C46,*Checksum*
Description	Checksum: two bytes in hexadecimal format. Use CRC-CCITT to calculate parameters of eight temperature sensors (in sequence: number, SN, high temperature value, low temperature value, high temperature alert, low temperature alert, and logical name). The calculation result is used as the temperature sensor checksum.
Example	
GPRS Sending	@@i25,012896001078259,C46*89\r\n
GPRS Reply	$$i28,012896001078259,C46,12_*F1\r\n

3.45 Setting Fuel Parameters – C47

GPRS Sending	C47,*Sensor type*,*Alert percentage upper limit*,*Alert percentage lower limit*
GPRS Reply	C47,OK
Description	Sensor type: The parameter value is **0**, **1**, **2**, and **3**. ● **0**: No fuel level sensor is connected. ● **1**: A C-type fuel level sensor (AD2) is connected. ● **2**: A R-type fuel level sensor (AD2) is connected. ● **3**: A V-type fuel level sensor (AD2) is connected. The AD2 of the T1 and T333 is connected to the fuel level sensor by default. In general, a R-type fuel level sensor will be selected. Alert percentage upper limit: When the value is **0**, the alert will be cleared. When the value is not **0**, GPRS and SMS event flags will take effect automatically. When the fuel percentage is higher than or equal to the value, an alert is generated, and the alert event code is **52**. Alert percentage lower limit: When the value is **0**, the alert wil be cleared. When the value is not **0**, GPRS and SMS event flags will take effect automatically. When the fuel percentage is lower than or equal to the value, an alert is generated, and the alert event code is **53**. If you want to modify a parameter, other parameters need to be left blank and separators (,) must be remained. If you only send **C47**, all parameter values will be initialized to **0**. All the parameter values are decimal characters. Note: When a fuel level sensor is set, the remaining fuel data will be uploaded according to the fuel percentage described in procotol version 1. For details, see the descriptions about protocol version 1 in section 1.2 "Tracker Command Format". And the AD2 of the T1 and T333 is connected to the fuel level sensor by default.
Example	

GPRS Sending	@@i33,012896001078259,C47,2,80,20*09\r\n
GPRS Reply	$$i28,012896001078259,C47,ok*5B\r\n

3.46 Reading Fuel Parameters – C48

GPRS Sending	C48
GPRS Reply	C48,*Sensor type*,*Alert percentage upper limit*,*Alert percentage lower limit*
Description	The format of returned parameters is the same as that of the C47 command. All the parameter values are decimal characters.
Example	
GPRS Sending	@@i25,012896001078259,C48*8B\r\n
GPRS Reply	$$i33,012896001078259,C48,2,80,20*D2\r\n

3.47 Transparently Transmitting Data over the Serial Port – C61

GPRS Sending	C61,*Server date & time*,*Config*,*Interface device No.*,*Data packet*
GPRS Reply	C61,*GPS date & time*,*Interface device No.*,*<Data packet>/<Error code>*
Description	Interface device No.: contains 1 byte; hexadecimal. Server date & time: indicates the date and time of the server; 14 characters. For example, **20121114235959**. GPS date & time: indicates the date and time of the tracker; 14 characters. For example, **20121114235959**. Config: Reserved value for later use. Interface device No.: The default value is **2**. Data packet: at most 512 bytes; only support GPRS. Note: When the tracker receives data from a peripheral, data packets will be uploaded. If data packets are not detected from a peripheral, an error code will be sent.

3.48 Setting a Serial Port and a Peripheral – C70

GPRS Sending	C70,X,Y
GPRS Reply	C70,OK
Description	X: Select a serial port. The default value is **2**. Y: Select a peripheral; decimal. Y = 0: camera Y = 2: LED display Y = 4: RFID
Example	
GPRS Sending	@@f29,353358017784062,C70,2,0*17\r\n
GPRS Reply	$$f28,353358017784062,C70,OK*8B\r\n

3.49 Setting the GSM Jamming Detection Function – C85

<table>
<tr><td>GPRS Sending</td><td>C85,X,Y</td></tr>
<tr><td>GPRS Reply</td><td>C85, OK</td></tr>
<tr><td>Description</td><td>X: The parameter value is 0 or 1. 0: function disabled (default). 1: function enabled.
Y: The parameter value ranges from 0 to 9999. When input 1 is triggered in ACC ON state and GSM jamming lasts Y minutes, an alert will be generated and output 1 will be activated. When the parameter value is 0, an alert will be generated and output 1 will be activated immediately.
If you want to read the parameters, send C85.
Note:
<table>
<tr><td>GSM jamming for Y mins</td><td>ACC ON</td><td>ACC OFF</td></tr>
<tr><td>GPS valid & speed ≤ 20 km/h</td><td>Output 1 (fuel/power cut-off) will be triggered immediately, and a GSM jamming event will be generated.</td><td>Output 1 (fuel/power cut-off) will be triggered immediately, and a GSM jamming event will be generated.</td></tr>
<tr><td>GPS invalid</td><td>Output 1 will be triggered for 1 second and then will recover to the inactive state. The action will be cycled every 5 seconds until the tracker detects that the ACC is off for more than 10 consecutive seconds. Then output 1 will be triggred all the time and a GSM jamming event will be generated.</td><td>The tracker detects that the ACC is off for more than 10 consecutive seconds. Then output 1 will be triggred all the time and a GSM jamming event will be generated.</td></tr>
</table>
If a driver can not drive due to GSM jamming, he or she can activate output 1 by triggering input 1 for 5 times within 1 minute.</td></tr>
<tr><td>Example</td><td></td></tr>
<tr><td>GPRS Sending</td><td>@@f29,353358017784062,C85,1,5*4F\r\n</td></tr>
<tr><td>GPRS Reply</td><td>$$f28,353358017784062,C85,OK*1E\r\n</td></tr>
</table>

3.50 Obtaining a Picture – D00

GPRS Sending	D00,*File name*,*Picture data packet start number*
GPRS Reply	D00,*File name*,*Number of picture data packets*,*Current picture data packet number*,*Picture data*
Description	After obtaining the picture list by D01 command, you can run the D00 command to obtain a picture from the tracker.

	File name: indicates the name of a picture got from the tracker's memory card. Each picture has a unique file name. Picture data packet start number: indicates the start sequence number of a picture package. A picture can be divided into multiple packages. The minimum value is **0**, indicating that you read the picture from the first picture package. Number of picture data packets: indicates the number of packets of a picture. The minimum number is **1**. Current picture data packet number: indicates the number of a picture packet that is sending. Picture data: indicates the raw data of a picture; hexadecimal. After all picture data is obtained, a picture will form automatically on the server. Note: When the tracker receives the D00 command, 8 picture packets will be uploaded consecutively. After 2 seconds, the server will send the D00 command to obtain picture data packets from the ninth picture data packet. The actions will be cycled until all picture data packets are uploaded.
Applicable Model	T1/T333
Example	
GPRS Sending	@@O48,353358017784062,D00,0215080432_C2E03.jpg,0*DB\r\n
GPRS Reply	The example cannot be displayed because of hexadecimal characters. Please do a test based on actual condions.

3.51 Obtaining the Picture List – D01

GPRS Sending	D01,*Picture data packet start number*
GPRS Reply	D01,*Number of picture data packets*,*Current picture data packet number*,*Picture name (1)*|*Picture name (2)*|…|*Picture name (n)*|
Description	Picture name (n): indicates picture names, which are separated by |. Picture data packet start number: indicates the start sequence number of a picture list. The minimum number is **0**. For example, when the value is **0**, obtain the picture list from the first picture package. When the value is **4**, obtain the picture list from the fifth picture package Number of picture data packets: indicates the number of packets of a picture in the tracker's memory card. The minimum number is **0**.
Applicable Model	T1/T333
Example	
GPRS Sending	@@A27,353358017784062,D01,0*BB\r\n
GPRS Reply	$$A480,353358017784062,D01,3,0,0506162517_C1E03.jpg|0506162517_C1E11.jpg|0506162624_C1E03.jpg|0506162630_C1E11.jpg|0506162720_C1E03.jpg|0506162721_C1E03.jpg|0215080547_C1E03.jpg|0215080547_C1E11.jpg|0215080626_C1E03.jpg|0215080626_C1E11.jpg|0215080827_C1E03.jpg|0215080827_C1E11.jpg|0215080850_C1E03.jpg|0215080850_C1E11.jpg|0507145426_C1E03.jpg|0507145426_C1E11.jpg|0507145512_C2E03.jpg|0507145512_C2E11.jpg|0215080050_C3E03.jpg|0215080050_C3E11.jpg|0215080459_C3E03.jpg|021508050*41\r\n

3.52 Deleting a Picture – D02

GPRS Sending	D02,*Picture name (1)*|*Picture name (2)*|…|*Picture name (n)*|
GPRS Reply	D02,OK
Description	Picture name (n): indicates the name of the picture to be deleted. Multiple pictures can be deleted simultaneously. Picture names are separated by |.
Applicable Model	T1/T333
Example	
GPRS Sending	@@E110,353358017784062,D02,0506162517_C1E03.jpg|0506162517_C1E11.jpg|0506162624_C1E03.jpg|0506162630_C1E11.jpg|*4E\r\n
GPRS Reply	$$F28,353358017784062,D02,OK*F4\r\n

3.53 Taking Photos on Demand – D03

GPRS Sending	D03,*Camera number*,*Picture name*
GPRS Reply	D03,OK
Description	Camera number: indicates the number of a camera connected to the tracker. The minimum value is **1**, indicating the first camera. The maximum value depends on the number of cameras connected to the tracker. In general, the maximum value is **2**. Picture name: indicates the name of a picture.
Applicable Model	T1/T333
Example	
GPRS Sending	@@D46,353358017784062,D03,1,camera_picture.jpg*21\r\n
GPRS Reply	$$D28,353358017784062,D03,OK*F3\r\n

3.54 Authorizing an iButton Key/RFID Card – D10

GPRS Sending	D10,iButton(1),iButton(2),…,iButton(n)
GPRS Reply	D10,OK
Description	iButton (n): indicates the authorized iButton ID number. The value ranges from 1 to 4294967295. Decimal. A maximum of 50 iButton keys can be authorized at a time.
Example	
GPRS Sending	@@f43,353358017784062,D10,13737431,13737461*17\r\n
GPRS Reply	$$f28,353358017784062,D10,OK*13\r\n

3.55 Authorizing iButton Keys/RFID Cards in Batches – D11

GPRS Sending	D11,*iButton start number*,n
GPRS Reply	D11,OK
Description	iButton start number: The value ranges from 1 to 4294967295. Decimal.

	n: indicates the number of batch-authorized iButton keys. Decimal. The maximum value is **128**.
Example	
GPRS Sending	@@e36,353358017784062,D11,13737431,1*AA\r\n
GPRS Reply	$$e28,353358017784062,D11,OK*13\r\n

3.56 Checking iButton/RFID Authorization – D12

GPRS Sending	D12,iButton
GPRS Reply	D12,n
Description	iButton: ranges from 1 to 4294967295. Decimal. n: When **n** is **0**, the iButton key is not authorized.
Example	
GPRS Sending	@@C34,353358017784062,D12,13737431*2A\r\n
GPRS Reply	$$C27,353358017784062,D12,0*87\r\n

3.57 Reading an Authorized iButton Key – D13

GPRS Sending	D13,*iButton packet start number*
GPRS Reply	D13,*Number of iButton packets*,*Current iButton packet number*,iButton (1)iButton (2)…iButton(n)
Description	iButton packet start number: indicates the start sequence number of the iButton packet. The minimum value is **0**. For example, when the value is **0**, you can obtain the package list from the first iButton packet. When the value is **4**, you obtain the package list from the fifth iButton packet. Number of iButton packets: indicates the number of authorized iButton packets. One iButton packet contains a maximum of 100 iButton IDnumbers. The minimum value is **0**. iButton (n): has eight hexadecimal characters.
Example	
GPRS Sending	@@w27,353358017784062,D13,0*F4\r\n
GPRS Reply	The example cannot be displayed because of hexadecimal characters.

3.58 Deleting an Authorized iButton Key – D14

GPRS Sending	D14,iButton(1),iButton(2),…,iButton(n)
GPRS Reply	D14,OK
Description	iButton (n): indicates the iButton ID to be deleted. The value ranges from 1 to 4294967295. Decimal. A maximum of 50 iButton keys can be deleted at a time. One SMS (including protocols) cannot exceed 140 bytes.
Example	
GPRS Sending	@@Q34,353358017784062,D14,13723455*3B\r\n

GPRS Reply	$$Q28,353358017784062,D14,OK*02\r\n

3.59 Deleting Authorized iButton Keys in Batches – D15

GPRS Sending	D15,*iButton start number*,n
GPRS Reply	D15,OK
Description	iButton start number: ranges from 1 to 4294967295. Decimal. n: indicates the number of iButton keys to be deleted in batches. Decimal. The maximum value is **128**. When the start number is a value ranging from 1 to 4294967295 and **n** is greater than or equal to 65536, all authorized numbers will be deleted.
Example	
GPRS Sending	@@K36,353358017784062,D15,13723455,3*97\r\n
GPRS Reply	$$K28,353358017784062,D15,OK*FD\r\n

3.60 Checking the Checksum of the Authorized iButton ID Database – D16

GPRS Sending	D16
GPRS Reply	D15,XOR
Description	This command is used to check whether the existing authorized iButton ID database is consistent with that recorded in the server. When the tracker receives the D16 command, the XOR result of all authorized iButton ID numbers is regarded as the database checksum for responding. After the server receives the checksum, compare with the XOR result of all authorized iButton ID numbers recorded in the server. If the result is the same, the existing authorized iButton ID database is consistent with that recorded in the server. Otherwise, data errors occur in the authorized iButton ID database.
Example	
GPRS Sending	@@u25,353358017784062,D16*97\r\n
GPRS Reply	$$u28,353358017784062,D16,18*F7\r\n

3.61 Setting Harsh Acceleration and Harsh Braking Parameters – D79

GPRS Sending	D79,X,Y
GPRS Reply	D79,OK/<*Error code*>
Description	X: indicates the harsh acceleration alert value. Decimal; unit: mG; value range: [90…1000]; default value: 150. Y: indicates the harsh braking alert value. Decimal; unit: mG; value range: [-1500…-100]; default value: -180. Harsh acceleration level: ● Level 1: 150 ● Level 2: 170

	● Level 3: 200 ● Level 4: 230 ● Level 5: 250 ● Level 6: 280 ● Level 7: 300 ● Level 8: 320 ● Level 9: 350 ● Level 10: 400 Harsh braking level: ● Level 1: -180 ● Level 2: -200 ● Level 3: -250 ● Level 4: -300 ● Level 5: -350 ● Level 6: -400 ● Level 7: -450 ● Level 8: -500 ● Level 9: -550 ● Level 10: -600 The higher the level is, the lower the alert probability is. Note: When you install the tracker, the direction and angle of the tracker and vehicle should be consistent. And ensure that the tracker is installed firmly.
Example	
GPRS Sending	@@Q34,865328022075252,D79,150,-180*2B\r\n
GPRS Reply	$$Q28,865328022075252,D79,OK*08\r\n

3.62 Setting Harsh Cornering Parameters – D80

GPRS Sending	D80,X1,X2,X3,X4,Y1,Y2,Y3,Y4
GPRS Reply	D80,OK/<*Error code*>
Description	X: indicates the Sharp Left Turn parameter. Y: indicates the Sharp Right Turn parameter. X1 or Y1: indicates the acceleration value while accelerating. Unit: mG; value range: [10…3000]. X2 or Y2: indicates the time while accelerating. Unit: ms; value range: [10…1000]. X3 or Y3: indicates the acceleration value while braking. Unit: mG; value range: [-3000…-10]. X4 or Y4: indicates the time while braking. Unit: ms; value range: [10…1000]. To set Sharp Left Turn and Sharp Right Turn alerts, you only need to set the parameter values of **X3** and **Y3**, and other parameter values remain unchanged (X1 & Y1: 150; X2 & Y2: 80; X4 & Y4: 80). The levels of **X3** and **Y3** parameters are as follows: ● Level 1: -110 ● Level 2: -150

	• Level 3: -200 • Level 4: -250 • Level 5: -280 • Level 6: -310 • Level 7: -350 • Level 8: -390 • Level 9: -450 • Level 10: -500 The higher the level is, the lower the alert probability is. Note: When you install the tracker, the direction and angle of the tracker and vehicle should be consistent. And ensure that the tracker is installed firmly.
Example	
GPRS Sending	@@Q55,865328022075252,D80,150,80,-110,80,150,80,-110,80*1C\r\n
GPRS Reply	$$Q28,865328022075252,D80,OK*00\r\n

3.63 Reading Device's Firmware Version and SN – E91

GPRS Sending	E91
GPRS Reply	E91,*Version*,*SN*
Description	Read the tracker's firmware version and SN.
Example	
GPRS Sending	@@W25,353358017784062,E91*7D\r\n
GPRS Reply	$$W38,353358017784062,FWV1.00,12345678*1C\r\n

3.64 Restarting the GSM and GPS Modules – F00

GPRS Sending	F01,GSM,GPS
GPRS Reply	F01,OK
Description	GSM: The parameter value is **0** or **1**. **0**: no action. **1**: Restart the GSM module. GPS: The parameter value is **0** or **1**. **0**: no action. **1**: Restart the GPS module.
Example	
GPRS Sending	@@j29,353358017784062,F00,1,1*45\r\n
GPRS Reply	$$j28,353358017784062,F00,OK*18\r\n

3.65 Restarting the GSM Module – F01

GPRS Sending	F01
GPRS Reply	F01,OK
Description	Restart the GSM module.
Example	
GPRS Sending	@@j25,353358017784062,F01*88\r\n
GPRS Reply	$$j28,353358017784062,F01,OK*19\r\n

3.66 Restarting the GPS Module – F02

GPRS Sending	F02
GPRS Reply	F02,OK
Description	Restart the GPS module.
Example	
GPRS Sending	@@Z25,353358017784062,F02*79\r\n
GPRS Reply	$$Z28,353358017784062,F02,OK*0A\r\n

3.67 Setting the Mileage and Run Time – F08

GPRS Sending	F08,*Run time*,*Mileage*
GPRS Reply	F08,OK
Description	Run time: ● Value range: [0…4294967295] ● Decimal ● Unit: second If you do not want to set the parameter, leave it blank. Mileage: ● Value range: [0…4294967295] ● Decimal ● Unit: meter If you do not want to set the parameter, leave it blank.
Example	
GPRS Sending	@@D40,353358017784062,F08,0,4825000*51\r\n
GPRS Reply	$$D28,353358017784062,F08,OK*FA\r\n

3.68 Deleting SMS/GPRS Cache Data – F09

GPRS Sending	F09,*Number*
GPRS Reply	F09,OK
Description	If the number is **1**, SMS cache data to be sent is deleted. If the number is **2**, GPRS cache data to be sent is deleted. If the number is **3**, SMS and GPRS cache data to be sent is deleted.
Example	
GPRS Sending	@@E27,353358017784062,F09,1*CA\r\n
GPRS Reply	$$E28,353358017784062,F09,OK*FC\r\n

3.69 Restoring Initial Settings – F11

GPRS Sending	F11

GPRS Reply	F11,OK
Description	Restore initial settings except the SMS password.
Example	
GPRS Sending	@@[25,353358017784062,F11*7A\r\n
GPRS Reply	$$[28,353358017784062,F11,OK*0B\r\n

If you have any questions, do not hesitate to email us at info@meitrack.com.