MEITRACK T622 GPRS Protocol

Applicable Model: T622/T622G

Change History

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1 T622 Command Format

1.1 GPRS Command Format

The GPRS command format is as follows:

GPRS command sent from the server to the tracker	*@@<Data identifier><Data length>*,<IMEI>,*<Parameter table No.><Command type>,<Command><*Checksum>*\r\n
GPRS command sent from the tracker to the server	$$*<Data identifier><Data length>*,<IMEI>,*<Event code>,<Command/Error code><*Checksum>*\r\n
Command description	

- **@@**: Indicates the packet header sent from the server to the tracker; contains 2 characters.
- **Data identifier**: Contains 1 byte; hexadecimal; its value ranges from 0x41 to 0x7A. The data identifier in the reply command must be the same as that of the sending command. Otherwise, the command fails.
- A comma (,) is used to separate data characters. The character type is the American Standard Code for Information Interchange (ASCII). (Hexadecimal is represented as 0x2C.)
- **Data length**: Indicates the length of characters from the first comma (,) to \r\n. Decimal.
  Example: $$*<Data identifier><Data length>*,*<IMEI>,<Command type>,<Command><*Checksum>*\r\n
- **IMEI**: Indicates the tracker's IMEI number.
- **Parameter table No.**: **0** or null: All parameter tables need to be modified; **1**: The basic parameter table needs to be modified; **2**: Roaming parameter table 1 needs to be modified.
- **Command type**: Consists of letters and digits. For detail, see Chapter 3 "Command Details."
- Command: no more than 1,024 bytes.
- *****: Separates commands from checksums. **Checksum**: hexadecimal; 2 bytes; indicates the sum of all data packets (excluding the checksum and ending mark).
  Example: *$$<Data identifier><Data length>,<IMEI>,<Command type>,<Command><*Checksum>*\r\n
- **\r\n**: 2 bytes. The parameter is an ending character. The type is ASCII. (Hexadecimal value: 0x0d 0x0a)
- **$$**: Indicates the packet header sent from the tracker to the server; 2 bytes; hexadecimal: 0x24 0x24.

Multiple commands are separated by a comma (,). If commands are null, keep commas (,).

Note: If the tracker connects to a peripheral compatiable with FMS protocol, the data will be transmitted in CCC 0x0501 format; else data will be transmitted in AAA format.

1.2 Tracker Command Format

Data has two formats: AAA and CCC.

Data will be transmitted in AAA format when the tracker does not connect to a peripheral compatible with FMS protocol, which is as follows:

$$<Data identifier><Data length>,<IMEI>,AAA,<Event code><Latitude><Longitude><Date and time><Positioning status><Number of satellites><GSM signal strength><Speed><Direction><Horizontal dilution of precision (HDOP)><Altitude><Mileage><Total time><Base station info><I/O port status><Analog input value><Assisted event info>,<Customized data>,<Extended protocol version 3>,<Fuel percentage>,<Temperature sensor 1 value|Temperature sensor 2 value|……Temperature sensor n value>,<Max acceleration value>,<Max deceleration value>,<LLS fuel sensor 1+LLS fuel sensor temperature+LLS fuel sensor value *N*+LLS fuel sensor frequency|……LLS fuel sensor n+LLS fuel sensor temperature+LLS fuel sensor value *N*+LLS fuel sensor frequency><*Checksum>\r\n

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Descriptions about AAA format commands are as follows:

Parameter	Description	Example
$$	Indicates the GPRS data packet header sent from the tracker to the server. The header type is ASCII. (Hexadecimal: 0x24)	$$
Data identifier	Contains 1 byte. The type is the ASCII, and its parameter 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 1.5 "Event Code."	1 Event code 1: SOS Pressed
Latitude (-)yy.dddddd	Unit: degree 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.	22.756325 (indicates 22.756325°N) -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.	5

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	Decimal	Five GPS satellites are received.
GSM signal strength	Value: 0–31 Decimal	12 The signal strength is 12.
Speed	Decimal Unit: km/h Value range: 0–999	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	Decimal The value ranges from 0.5 to 99.9. The smaller the value is, the more the accuracy is. 0.5–1.0: Perfect 2–3: Wonderful 4–6: Good 7–8: Medium 9–20: Below average 21–99.9: Poor	5.0 The HDOP is 5.0.
Altitude	Decimal Unit: meter Value range: -9999 to 99999	118 The altitude is 118m.
Mileage	Indicates the total mileage. Decimal Unit: meter Value range: 0–4294967295. If the value exceeds the maximum value, it will be automatically cleared.	564870 The mileage is 564870m.
Run time	Indicates the total time. Decimal Unit: second Value range: 0–4294967295. If the value exceeds the maximum value, it will be automatically cleared.	2546321 The run time is 2546321 seconds.
Base station info	The base station information includes: MCC|MNC|LAC|CI MCC: indicates Mobile Country Code; decimal. MNC: indicates Mobile Network Code; decimal. LAC: indicates Location Area Code; contains 4 hexadecimal characters. CI: indicates the cell ID; contains 4 hexadecimal characters.	2G module: 460|0|E166|A08B
I/O port status	Contains 4 hexadecimal characters. Status values of eight input ports and eight output	0421 = 0000 0100 0010 0001

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		ports: Bits 0–7 correspond to status of output ports 1–8. Bits 8–15 correspond to status of input ports 1–8.	=b15----------b0
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:** T622: AD1/100 **Voltage formula of battery analog (AD4):** T622: AD4/100 **Voltage formula of external power supply (AD5):** T622: 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 info	iButton ID (Event 37)	Indicates iButton key's ID number. Contains 8 hexadecimal characters. Only available by GPRS event code 37.	42770680
	Picture name (Event 39)	Only available by GPRS event code 39.	0918101221_C2E03 **0918101221**: The photo was taken at 18 September, 10:12:21 a.m. **C2**: The camera 2 was used. **E03**: indicates event 3.
	Geo-fence number (Event 20 & 21)	Decimal Only available by GPRS event code 20 or 21.	2 Indicates geo-fence 2.
	Temperature sensor No. (Event 50 & 51)	The temperature sensor No. is set by command C40. Contains 2 hexadecimal characters.	08 Indicates temperature sensor 8.
	Mobileye alert (Event 93)	Hexadecimal 4 bytes 0: No alert is generated. 1: An alert is generated. Bit 0: forward collision warning Bit 1: urban forward collision warning	00000001 A forward collision warning is generarated.

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		Bit 2: pedestrian collision warning Bit 3: left lane departure warning Bit 4: right lane departure warning Bit 5: headway monitoring & warning Bit 6: speed limit indicator	
	System flag	System flag is only included in event 35 "Time Interval Tracking". Contains 4 bytes; hexadecimal (example: FEDCBA00) Descriptions about bits 0–31 are as follows: Bit 0: Whether to change the EEP2 parameter. When the value is **1**, the EEP2 parameter is changed. Bits 1–7: reserved. Bit 8: Whether to connect the FMS. When the value is **1**, the FMS is connected. Bit 9: Whether to enable the FMS function. When the value is **1**, the function is enabled. Bits 10–31: reserved.	00000001 The EEP2 parameter is modified.
Customized data		Reserved A separator still exists.	
Extended protocol version		Decimal 1–49: Used for all common Meitrack protocols.	3 The extended protocol version is 3.0.
Fuel percentage		Contains 4 hexadecimal characters. When the fuel sensor type is **0**, the sensor is not connected and the value is empty.	0E2E The fuel percentage is 36.30%.
Temperature sensor No. + Temperature value		Contains 6 hexadecimal characters. The first two characters are the temperature sensor No. The last four characters are the temperature value (actual temperature x 100; including the integer and decimal parts; -327.67°C to +327.67°C).	011A09|021A15|06FB2E There are 3 temperature sensors. Temperature sensor 1: 66.65°C Temperature sensor 2: 66.77°C Temperature sensor 6: -12.34°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.
LLS fuel sensor No.+LLS		Contains 12 hexadecimal characters.	021A037908A6|051E03A80

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fuel sensor temperature+LLS fuel sensor value *N*+LLS fuel sensor frequency	The first two characters indicate the LLS fuel sensor No. The ninth and eighth characters indicate the LLS fuel sensor temperature (-127°C to +127°C). The fourth to seventh characters indicate the LLS fuel sensor value *N* (0000–FFFF). The lowest four characters indicate the LLS fuel sensor frequency (0000–FFFF).	3FA There are 2 LLS fuel sensors. LLS fuel sensor 2: ● Temperature: 26°C ● Value *N*: 889 (hexadecimal: 0379) ● Frequency: 2214 (hexadecimal: 08A6) LLS fuel sensor 5: ● Temperature: 30°C ● Value *N*: 936 (hexadecimal: 03A8) ● Frequency: 1018 (hexadecimal: 03FA)
*	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

Data will be transmitted in CCC 0x0501 format when the tracker connects to a peripheral compatiable with FMS protocol, which is as follows:

$$<Data identifier><Data length>,<IMEI>,CCC,<Protocol version><Longitude and latitude packet length><Number of remaining cache><Longitude and latitude packet 1>……<Longitude and latitude packet n><*Checksum>\r\n

1.3 FMS Data Transmittion

1. Data will be transmitted in AAA format when the tracker does not connect to a peripheral compatible with FMS protocol.
2. Among event code 35 data of AAA format, when system flag bit 8 is **1** (a peripheral supporting FMS protocol is connected) and bit 9 is **1** (FMS functions supported), upon reception, the platform must send a CCB command to the tracker. Then the tracker starts to use CCC 0x0501 compression format to upload data. For details about the CCB command, see section 3.54 "Customizing AAA Collection Parameters – CCB."
3. At all times, upon reception of CCB command, the platform will reply **CCB,OK**.

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1.4 CCC 0x0501 Compression Format

Data will be transmitted in CCC format when the tracker connects to a peripheral compatiable with FMS protocol, which is as follows:

$$<Data identifier><Data length>,<IMEI>,CCC,<Protocol version><Longitude and latitude packet length><Number of remaining cache><Longitude and latitude packet 1>……<Longitude and latitude packet n><*Checksum>\r\n

Positioning data is uploaded in compession format (*N* records per a packet). The command format is as follows:

<Event code><Latitude,Longitude><Date and time><Positioning status><Number of satellites><GSM signal strength><Speed><Direction><HDOP><Altitude><Mileage><Total time><Base station info><I/O port status><Analog input value><Assisted event info><Fuel percentage><Temperature sensor 1……Temperature sensor 8><Max acceleration value><Max deceleration value><LLS fuel sensor 1+LLS fuel sensor temperature+LLS fuel sensor value *N*+LLS fuel sensor frequency……LLS fuel sensor 8+LLS fuel sensor temperature+LLS fuel sensor value *N*+LLS fuel sensor frequency><FMS data packets>

Note:

1. Symbols "<" ">", and "+" will not be present in actual data, only for documentation purpose only.
2. All data with multiple bytes is in little-endian format.
3. GPRS data length variety; used in conjunction with CCB command.
4. When device has buffer, each GPRS data will contain max 5 location packets, each packet is 214 bytes. When device has no buffer, each GPRS data has only 1 location packet.

Descriptions about GPRS packets from the tracker are as follows:

Parameter	Description	Example	Byte
$$	Indicates the GPRS data packet header sent from the tracker to the server. The header type is ASCII. (Hexadecimal: 0x24)	$$	2
Data identifier	Contains 1 byte. The type is the ASCII, and its parameter value ranges from 0x41 to 0x7A.	Q	1
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	1
IMEI	Indicates the tracker's IMEI number. The number type is ASCII. It has 15 digits generally.	353358017784062	15
Command type	Hexadecimal For details, see chapter 2 and chapter 3.	AAA	3
The following format is hexadecimal			
Protocol version	Little-endian	01 05	2

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	Fixed (0x0501)	Fixed (0x0501)	
Compressed packet length	Little-endian Each packet is fixed at 214 bytes	D6 00 Compressed packet length is 214	2
Number of remaining cache	Little-endian	01000000 The number of remaining cache is 1	4
Positioning data is uploaded in compession format (N records per a packet), the command format is as follows:			
Event code	8-bit unsigned For details, see section 1.5 "Event Code"	01 That is, event 1	1
Latitude	32-bit signed Accurate to 6 decimal places	E5 3B 5B 01 = 22756325 (indicates 22.756325°N) 8A 229D FE = -23256438 (indicates 23.256438°S)	4
Longitude	32-bit signed Accurate to 6 decimal places	92 FA D6 06 = 114752146 (indicates 114.752146°E) B3F627F9 = -114821453 (indicates 114.821453°W)	4
Date and time	32-bit unsigned Unit: second Start time: 1 January 2000	6E763702 Indicates 6 March 2001, 10:20:30 am	4
Positioning status	8-bit unsigned 01 = Valid 00 = Invalid	01 The GPS is valid.	1
Number of satellites	8-bit unsigned Indicates the number of received GPS satellites.	07 Seven GPS satellites are received.	1
GSM signal strength	8-bit unsigned Indicates the GSM signal strength; value: 0–31	11 The signal strength is 17.	1
Speed	16-bit unsigned Unit: km/h	3A00 The speed is 58 km/h.	2
Direction	16-bit unsigned Unit: degree When the value is **0**, the direction is due north. Value range: 0–359	2D 00 = 45 (indicates that the location is at northeast.) 5A 00 = 90 (indicates that the location is at due east.)	2
HDOP x10	16-bit unsigned Value range: 5–999 Unit: 1/10	4B 00 = 75 The HDOP is 7.5.	2
Altitude	16-bit signed	76 00	2

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		Unit: meter	The altitude is 118m.	
Mileage		32-bit unsigned Indicates the total mileage. Unit: meter	66 1F B8 F2 The mileage is 4072152934m.	4
Run time		32-bit unsigned Indicates the total time. Unit: second	66 1F B8 F2 The run time is 4072152934 seconds.	4
Base station info	MCC	16-bit unsigned Indicates Mobile Country Code.	CC 01 (MCC: 01CC)	2
	MNC	16-bit unsigned Indicates Mobile Network Code.	00 00 (MNC: 0000)	2
	LAC	16-bit unsigned Indicates Location Area Code.	66E1 (LAC: E166)	2
	CELL ID	32-bit unsigned Indicates the cell ID.	8B A0 00 10 (CELL ID: 1000A08B)	4
Output status		8-bit unsigned Status values of eight output ports Bits 0–7 correspond to status of output ports 1–8.	21 (MSB:0010 0001:LSB) Output ports 1 and 6 are high level.	1
Input status		8-bit unsigned Status values of eight input ports Bits 0–7 correspond to status of input ports 1–8.	04 (MSB:0000 0100:LSB) Input port 3 is high level.	1
Analog input value	AD1	16-bit unsigned Analog 1<AD1>	0000 DEC(0)	2
	AD2	16-bit unsigned Analog 2<AD2>	0000 DEC(0)	2
	AD3	16-bit unsigned Analog 3<AD3>	0000 DEC(0)	2
	AD4	16-bit unsigned Battery analog<AD4>	56 14 DEC(5206)	2
	AD5	16-bit unsigned External power analog<AD5>	22 02 DEC(546)	2
Assisted event info	Geo-fence number	2 of 32-bit unsigned Only available by GPRS event code 20 or 21.	02 00 00 00 00 00 00 00 Indicates geo-fence 2.	4x2
	RFID	2 of 32-bit unsigned Indicates the IC card identity code. Only available by GPRS event code 37.	D7 9D D1 0000 00 00 00 The RFID number is 13737431.	
	Vehicle theft trigger source	2 of 32-bit unsigned Only available by GPRS event code 58.	17 00 00 00 00 00 00 00 A vehicle theft alert is generated because the external power is cut off.	

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	System flag	System flag is only included in event 35 "Time Interval Tracking". 2 of 32-bit unsigned Only available by GPRS event code 35. Bit 0: Whether to change the EEP2 parameter. When the value is **1**, the EEP2 parameter is changed. Bits 1–7: reserved. Bit 8: Whether to connect the FMS. When the value is **1**, the FMS is connected. Bit 9: Whether to enable the FMS function. When the value is **1**, the function is enabled. Bits 10–31: reserved.	01 00 00 00 00 00 00 00 The parameter is modified.	
	Temperature sensor No.	2 of 32-bit unsigned Only available by GPRS event code 50 or 51.	07 00 00 00 00 00 00 00 Indicates temperature sensor 7.	
	Picture name	2 of 32-bit unsigned Only available by GPRS event code 39.	CB 0F 23 1901 1E 0C 00 (indicates the date and time, that is, 130513024323.) 0x19230FCB 0x000C1E01 (indicates C1E01) The picture name is **130513024323_C1E01.jpg**.	
Fuel percentage		16-bit unsigned Indicates the fuel percentage.	1E 24 The fuel percentage is 92.46%.	2
Temperature sensor		8 of 32-bit unsigned Up to 8 temperature sensors are supported. Each temperature sensor contains 4 bytes. Bits 0–7: indicates the sensor number. ● 00: The sensor is not registered. ● 0xFF: No sensor is installed. ● Other values: Valid sensor number. Bits 8–15: Reserved. Value: 0. Bits 16–23: indicates the interger part of a temperature value. Bits 24–31: indicates the decimal part of a temperature value.	01001234020012350300 1233FF000000FF000000 0 0001238FF000000040012 40 Data descriptions are as follows: Temperature sensor number: 01; temperature: 18.52°C. Temperaure sensor number: 02; temperature: 18.53°C. Temperature sensor number: 03;	4x8

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		temperature: 18.51°C. The temperature sensor is not numbered. The temperature is 18.56°C. Temperature sensor number: 04; temperature: 18.64°C. The remaining three sensors are not connected or detected.	
Max acceleration value	16-bit unsigned	01 00 The maximum acceleration value is 1mg.	2
Max deceleration value	16-bit unsigned	02 00 The maximum deceleration value is 2mg.	2
LLS fuel sensor No.+LLS fuel sensor temperature+LLS fuel sensor value *N*+LLS fuel sensor frequency	8-bit unsigned + 8 of 18-bit unsigned Bits 0–7: corresponding LLS fuel sensors 1–8 data Bits 8–15: LLS sensor number Bits 16–23: LLS fuel sensor temperature; signed Bits 24–31: low 8 bits of LLS fuel sensor value *N* Bits 32–39: high 8 bits of LLS fuel sensor value *N* Bits 40–47: low 8 bits of LLS fuel sensor frequency Bits 48–55: high 8 bits of LLS fuel sensor frequency	**7f01050201030502150302040603250303040404340203040505351500 2000 063925003600 074531005200000000000000** **7f: LLS fuel sensors 1–7 output data. LLS fuel sensor 8 does not output data.** **01: indicates the LLS fuel sensor number.** **05: The temperature of LLS fuel sensor 01 is 5°C.** **0201: Value *N* is 258.** **0305: The frequency is 1283 Hz.**	49
FMS data packets	For details, see section 3.54 "Customizing AAA Collection Parameters – CCB."		Length of CCB parameters
*	Separates commands from checksums. Contains 1 byte. ASCII (hexadecimal: 0x2A)	2A	1
Checksum	Contains 2 bytes. Hexadecimal The parameter indicates the sum of all	34 42	2

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

1.5 Event Code

Event Code	Event	Default SMS Header (At Most 16 Bytes)
1	**SOS Pressed**	SOS
2	**Input 2 Active**	Door Open
3	**Input 3 Active**	Ignition On
9	**Input 1 Inactive**	In1 Inactive
10	**Input 2 Inactive**	Door Close
11	**Input 3 Inactive**	Ignition Off
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	**RFID**	RFID
39	**Photo**	(only for GPRS)
41	**Stop Moving**	Stop moving

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42	**Start Moving**	Start Moving
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
70	**Reject Incoming Call**	/
78	**Impact**	Impact
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**	Out 1 Active
95	**Output 2 Active**	Out 2 Active
99	**Output 1 Inactive**	Out 1 Inactive
100	**Output 2 Inactive**	Out 2 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	**Enoygh Rest after fatigue**	Enoygh Rest

2 Command List

Command	Command Description
A10	Real-Time Location Query (GPRS)
A11	Setting a Heartbeat Packet Reporting Interval (GPRS)
A12	Tracking by Time Interval (GPRS)
A13	Setting the Cornering Report (GPRS)
A14	Tracking by Distance
A15	Setting the Parking Scheduled Tracking Function (GPRS)
A16	Enabling the Parking Scheduled Tracking Function (GPRS)
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

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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
B16	Setting the Detection Time of the Speeding Alert
B21	Setting the Anti-Theft Function
B31	Turning off the LED Indicator
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
B91	Setting SMS Event Characters
B99	Setting Event Authorization
C01	Output Control
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
C42	Reading the Temperature Sensor SN and Number
C43	Setting a Temperature Value for the High/Low Temperature Alert and Logical Name
C44	Reading Temperature Sensor Parameters
C46	Checking Temperature Sensor Parameters
C47	Setting Fuel Parameters
C48	Reading Fuel Parameters
C49	Setting the Fuel Theft Alert
C61	Transparently Transmitting Data over the Serial Port
C77	Disabling the Power-off Function of the Power Button
CCB	Customizing AAA Collection Parameters
CCC	Setting the Data Compression Format
D00	Obtaining a Picture
D01	Obtaining the Picture List
D02	Deleting a Picture
D03	Taking Photos on Demand
D10	Authorizing an RFID Card/iButton Key

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D11	Authorizing RFID Cards/iButton Keys in Batches
D12	Checking RFID/iButton Authorization
D13	Reading an Authorized RFID/iButton
D14	Deleting an Authorized RFID Card/iButton
D15	Deleting Authorized RFID Cards/iButton Keys in Batches
D16	Checking the Checksum of the Authorized RFID/iButton Database
D71	Setting GPS Data Filtering
D72	Setting Output Triggering
D73	Allocating GPRS Cache and GPS LOG Storage Space
D74	Sending the Destination to the Garmin Navigator
D75	Sending Messages from the Garmin Navigator
D76	Sending Messages to the Garmin Navigator
D77	Obtaining Garmin Navigator Info
D78	Setting Harsh Acceleration and Braking Parameters
E91	Reading Device's Firmware Version and SN
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 (GPRS) – 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.
Applicable Model	T622
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 (GPRS) – A11

GPRS Sending	A11,*Interval*
GPRS Reply	A11,OK
Description	The heartbeat packet function is used to keep the Transmission Control Protocol (TCP)

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	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.
Applicable Model	T622
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 (GPRS) – 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.
Applicable Model	T622
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 (GPRS) – 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**.
Applicable Model	T622
Example	

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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.
Applicable Model	T622
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 (GPRS) – 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 (GPRS) – 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.
Applicable Model	T622

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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 (GPRS) – 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
Applicable Model	T622
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, you must ensure: 1. ACC detection is connected to input 3; 2. 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, see commands D10–D15.
Applicable Model	T622
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*

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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.
Applicable Model	T622
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
Applicable Model	T622
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.
Applicable Model	T622
Example	
GPRS Sending	@@S43,353358017784062,A23,67.203.13.26,8800*F0
GPRS Reply	$$S28,353358017784062,A23,OK*01\r\n

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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.
Applicable Model	T622
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.
Applicable Model	T622
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. 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.
Applicable Model	T622
Example	
GPRS Sending	@@V49,353358017784062,A72,13844444444,13855555555*55\r\n

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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.).
Applicable Model	T622
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.
Applicable Model	T622
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*

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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.
Applicable Model	T622
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*,*IN Geo-fence alert*,*OUT 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. IN Geo-fence alert = 0: function disabled. IN Geo-fence alert = 1: function enabled. Out Geo-fence alert = 0: function disabled. Out Geo-fence alert = 1: function enabled.
Applicable Model	T622
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*

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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.
Applicable Model	T622
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.
Applicable Model	T622
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 duration*
GPRS Reply	B08,OK
Description	When the tracker's vibration duration 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 duration. Otherwise, the towing alert function is unavailable. Vibration duration = 0: function disabled (default). Vibration duration = [1…255]: function enabled. Unit: second.
Applicable Model	T622
Example	
GPRS Sending	@@I27,353358017784062,B08,3*CB\r\n

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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.
Applicable Model	T622
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.
Applicable Model	T622
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.)

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	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.
Applicable Model	T622
Example	
GPRS Sending	@@I94,353358017784062,B11,1,22.526922,114.052695,22.526946,114.056232,22.523720,114.053521,1,1*D5\r\
GPRS Reply	$$I28,353358017784062,B11,OK*F5\r\n

3.25 Setting the Idling Alert – B14

GPRS Sending	B14,Time (second),Speed (km/h),time
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. Time: Temporarily empty, reserved function 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.
Applicable Model	T622
Example	
GPRS Sending	@@I31,353358017784062,B14,60,5,*83\r\n
GPRS Reply	$$I28,353358017784062,B14,OK*F8\r\n

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3.26 Setting Driver Fatigue Parameters – B15

GPRS Sending	B15,Consecutive driving time (min),Reserved value,Rest time (min),Related to speed
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.
Applicable Model	T622
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 Detection Time of the Speeding Alert – B16

GPRS Sending	B16,T1,T2
GPRS Reply	B16,OK
Description	T1: Indicates the detection time of a speeding alert. Value range: 1–30000; unit: second. T2: Indicates the detection time of normal speed recovery. (For some customized products, this parameter may not exist.) Value range: 1–30000; unit: second. If you want to read the parameter, send B16.
Applicable Model	T622
Example	
GPRS Sending	@@I31,353358017784062,B16,10,10*80\r\n
GPRS Reply	$$I28,353358017784062,B16,OK*FA\r\n

3.28 Setting the Anti-Theft Function – B21

GPRS Sending	B21,*Status*
GPRS Reply	B21,OK
Description	Status = 1: function enabled (default). Status = 0: function disabled.

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Applicable Model	T622
Example	
GPRS Sending	@@C27,353358017784062,B21,1*BE\r\n
GPRS Reply	$$C28,353358017784062,B21,OK*F0\r\n

3.29 Turning off the LED Indicator – B31

GPRS Sending	B31,A
GPRS Reply	B31,OK
Description	When A is **00**, the tracker's indicator is turned on (default). You can query the device's running status according to the indicator status. When A is **10**, the tracker's indicator is turned off.
Applicable Model	T622
Example	
GPRS Sending	@@J28,353358017784062,B31,10*F7\r\n
GPRS Reply	$$J28,353358017784062,B31,OK*F8\r\n

3.30 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.
Applicable Model	T622
Example	
GPRS Sending	@@N28,353358017784062,B34,60*03\r\n
GPRS Reply	$$N28,353358017784062,B34,OK*FF\r\n

3.31 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.
Applicable Model	T622
Example	
GPRS Sending	@@O29,353358017784062,B35,480*3C\r\n

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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).*

3.32 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.
Applicable Model	T622
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).*

3.33 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.
Applicable Model	T622
Example	
GPRS Sending	@@P27,353358017784062,B37,1*D2\r\n
GPRS Reply	$$P28,353358017784062,B37,OK*04\r\n

3.34 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.
Applicable Model	T622
Example	
GPRS Sending	@@P30,353358017784062,B38,1180*66\r\n

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GPRS Reply	$$P28,353358017784062,B38,OK*05\r\n

3.35 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.
Applicable Model	T622
Example	
GPRS Sending	@@U27,353358017784062,B60,1*D3\r\n
GPRS Reply	$$U28,353358017784062,B60,OK*05\r\n

3.36 Setting SMS Event Characters – B91

GPRS Sending	B91,*SMS event code*,*SMS header*
GPRS Reply	B91,OK
Description	Header: a maximum of 16 bytes
Applicable Model	T622
Example	
GPRS Sending	@@R31,353358017784062,B91,1,SOS*F0\r\n
GPRS Reply	$$R28,353358017784062,B91,OK*06\r\n *After you press the SOS button (input 1), the tracker will send an SMS alert whose header is SOS to a preset authorized phone number.*

3.37 Setting a Photographing Event Flag – B96

GPRS Sending	B96,*Photographing event flag*
GPRS Reply	B96,OK
Description	Set one or multiple photographing events. When a preset event ocuurs, a photo is taken and then saved in the Micro SD card. By default, after you press the SOS button, a photo will be taken and then saved into the Micro SD card. You can use command D00/D01 to read photos.
Applicable Model	T622
Example	
GPRS Sending	@@A42,353358017784062,B96,0000000000000001*95\r\n
GPRS Reply	$$A28,353358017784062,B96,OK*FA\r\n

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3.38 Reading a Photographing Event Flag – B97

GPRS Sending	B97
GPRS Reply	B97,*Photographing event flag*
Description	To know which event has enabled the function for taking photos.
Applicable Model	T622
Example	
GPRS Sending	@@C25,353358017784062,B97*6C\r\n
GPRS Reply	$$C42,353358017784062,B97,0000000000000001*60\r\n

3.39 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*] B99,<OUT1>/<5>,<*Operation code*>, [*Event code 1*]……[*Event code n*] B99,<OUT2>/<6>,<*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*] B99,<OUT1>/<5>,<*Operation code*>, [*Event code 1*]……[*Event code n*] B99,<OUT2>/<6>,<*Operation code*>, [*Event code 1*]……[*Event code n*]
Description	Fields SMS, CALL, CAMERA, GPRS, BUZZER, OUT1, and OUT2 can be presented by 0–6 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.
Applicable Model	T622

Example

GPRS Sending	@@B34,863070010825791,B99,gprs,get*BC\r\n

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GPRS Reply	$$B33,863070010825791,B99,1,17,18*B5\r\n

3.40 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 takes 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 takes 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.
Applicable Model	T622
Example	
GPRS Sending	@@M34,353358017784062,C01,20,10122*18\r\n
GPRS Reply	$$M28,353358017784062,C01,OK*F9\r\n

3.41 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.
Applicable Model	T622

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Example	
GPRS Sending	@@f47,353358017784062,C02,0,15360853789,Meitrack*B1\r\n
GPRS Reply	$$f28,353358017784062,C02,OK*13\r\n

3.42 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.
Applicable Model	T622
Example	
GPRS Sending	@@f27,353358017784062,C03,0*E1\r\n
GPRS Reply	$$f28,353358017784062,C03,OK*14\r\n

3.43 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.

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	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.
Applicable Model	T622
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

3.44 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.
Applicable Model	T622
Example	
GPRS Sending	@@n28,012896001078259,C41,01*19\r\n
GPRS Reply	$$n30,012896001078259,C41,01,1*37\r\n

3.45 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.
Applicable Model	T622
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

3.46 Setting a Temperature Value for the High/Low Temperature Alert and Logical Name – C43

GPRS Sending	C43,*Number 1/SN1/High temperature value 1/Low temperature value 1/High*

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	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.
Applicable Model	T622
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

3.47 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

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	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.
Applicable Model	T622
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 00000000000000000000002(1BD5#040000W00000000000000000000000 00000000000000000000000000000000000000000000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000000 00000000000000000000000000000000000000000000000000000000000000000 000000000000000000*1E\r\n

3.48 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.
Applicable Model	T622
Example	
GPRS Sending	@@i25,012896001078259,C46*89\r\n
GPRS Reply	$$i28,012896001078259,C46,12_*F1\r\n

3.49 Setting Fuel Parameters – C47

GPRS Sending	C47,*Sensor type*,*Alert percentage upper limit*,*Alert percentage lower limit*
GPRS Reply	C47,OK
Description	Sensor type: 0, 1, 2, and 3 ● **0** indicates that any fuel sensor is not connected. ● **1** indicates that a C-type fuel sensor is connected (AD2). ● **2** indicates that a R-type fuel sensor is connected (AD2). ● **3** indicates that a V-type fuel sensor is connected (AD2). For the MVT600 and T1, the AD2 connects to the fuel sensor by default. Alert percentage upper limit: When the value is **0**, the alert is cleared. When the value is not 0, GPRS and SMS event flags 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 is cleared. When the value is

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	not 0, GPRS and SMS event flags take effect automatically. When the fuel percentage is lower than or equal to the value, an alert is generate, and the alert event code is 53. If you want to modify a parameter, other parameters must be left blank and separators (,) must be remained. If you only send the C47 command, all parameters are initialized to 0 and they are decimal characters. R-type fuel sensor: resistance output fuel sensor C-type fuel sensor: capacitance output fuel sensor V-type fuel sensor: voltage output fuel sensor Fuel sensors A53 and A54 are the V type of fuel sensor.
Applicable Model	T622
Example	
GPRS Sending	@@f33,353358017784062,C47,2,90,10*0A\r\n
GPRS Reply	$$f28,353358017784062,C47,OK*1C\r\n

3.50 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 set by C47. These parameters are decimal.
Applicable Model	T622
Example	
GPRS Sending	@@c25,353358017784062,C48*89\r\n
GPRS Reply	$$c33,353358017784062,C48,2,90,10*D0\r\n

3.51 Setting the Fuel Theft Alert – C49

GPRS Sending	C49,*Time for fuel check*,*Percent of fuel decrease*
GPRS Reply	C49,OK
Description	Time for fuel check = 0: function disabled. Time for fuel check = [1…255]: function enabled. Decimal; unit: minute; default value: 3. Percent of fuel decrease = 0: function disabled. Percent of fuel decrease = [1…100]: function enabled. Decimal; default value: 2. By default, the percent of fuel decrease is 2% within 3 minutes, a fuel theft alert will be generated (for example: **C49,3,2**). Note: The percent of fuel decrease must be over two times larger than the percent of fuel sensor accuracy. For example, if the fuel sensor accuracy is 10 mm and its height is 500 mm, the recommended percent of fuel decrease is 4% (10/500 x 2).
Applicable Model	T622
Example	
GPRS Sending	@@c29,353358017784062,C49,3,2*4B\r\n
GPRS Reply	$$c28,353358017784062,C49,ok*5B\r\n

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3.52 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.
Applicable Model	T622
Example	
GPRS Sending	@@\50,868998031589050,C61,20121114235959,,01,1234*44
GPRS Reply	$$\31,868998031589050,C61,20190717060702,1,1234*0D

3.53 Disabling the Power-off Function of the Power Button – C77

GPRS Sending	C77,X
GPRS Reply	C77,OK
Description	X: Whether to disable the power-off function of the power button. X = 1: You can turn off the device by power button. X = 0: You cannot turn off the device by power button.
Applicable Model	T622
Example	
GPRS Sending	@@P27,353358017784062,C77,1*D1\r\n
GPRS Reply	$$P28,353358017784062,C77,OK*03\r\n

3.54 Customizing AAA Collection Parameters – CCB

GPRS Sending	CCB
GPRS Reply	CCB,*Parameter 1 character string/Parameter 1 type/Parameter 1 byte/Parameter 1 multiple/…/Parameter N character string/Parameter N type/Parameter N byte/Parameter N multiple*
Description	1. Parameter N character string: indicates any characters in this command, excluding symbol "/". If you want to use symbol "/", replace it with symbol "\". There are the following two forms of character strings: ● Character string without "0x": Used for debugging. The character strings are not defined and can be queried from historical data only. ● Character string with "0x": Used for standard program. There are 4

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	hexadecimal characters next to "0x". The character strings are defined. For details, see Chapter 4 "FMS Data Analysis" 2. Parameter N type: ● 0: unsigned; little-endian ● 1: signed; little-endian ● 2: character string 3. Parameter N type: value range: 1, 2, 4, & [4…255]. When parameter *N* consists of 1, 2 or 4 bytes, it is hexadecimal values. When parameter *N* consists of at least 4 bytes, it is ASCII values. 4. Parameter N multiple: indicates 10^y. The value of index **y** ranges from 0 to 5. For example, the value of index **y** is 2, the parameter uploaded increases 100 times. The value received divided by 100 is the actual value. 5. The CCB command works with the CCC 0x0501 compression format. When the tracker connects to the platform, the platform will send the CCB command or the tracker responds using the CCB command. It means that the tracker will upload data in CCC 0x0501 compression format and the data will include some parameters in the CCB command. 6. CCB customized parameters are a part of CCC parameters. CCB data with multiple bytes is in little-endian format.
Applicable Model	T622
Example	
GPRS Sending	CCB,Wheel based speed/1/2/2/Cluth switch/1/0/…/Engine temperature/2/0
GPRS Reply	CCB,ok

3.55 Setting the Data Compression Format – CCC

GPRS Sending	CCC,*Quantity of deleted data*
GPRS Reply	CCC,*<AAA compression protocol version><AAA longitude and latitude packet length><Number of remaining cache><AAA longitude and latitude packet 1>……<AAA longitude and latitude packet n>*
Description	1. AAA compression protocol version: contains 2 bytes; hexadecimal; little-endian. 2. AAA longitude and latitude packet length: indicates the packet length of the specific protocol version; contains 2 bytes; hexadecimal; little-endian. 3. Number of remaining cache: indicates the quantity of GPRS data stored in the cache, including the quantity of data sent now; contains 4 bytes; hexadecimal; little-endian. 4. Quantity of deleted data: decimal; big-endian. After receiving CCC compressed packets from the tracker, the platform will send a command to confirm. Then these compressed packets stored in the tracker will be automatically deleted. For example, command **CCC,6**. It means that the platform has receiving 6 pieces of compressed GPRS data and the data in the tracker will be automatically deleted. 5. AAA longitude and latitude packet: little-endian. Longitude and latitude packet size varies according to tracker models. For details about the compression format, see

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	section 1.2 "Tracker Command Format." 6. N: contains 1024 bytes; indicates the quantity of compressed GPRS data; depends on tracker's compression ability. 7. How to transmit CCC data: When the tracker is online, the platform sends **CCC**. It means that the tracker needs to send cache data in CCC format. If no cache data is stored in the tracker, set the quantiy of cache data to **0** and then upload data in the following CCC format: **$$A794,011691002310418,CCC,<*Compression protocol version*><*AAA longitude and latitude packet length*><0>*D5**. If there are multiple pieces of cache data, data will be uploaded in CCC compression format. After receiving data from the tracker, data will be decompressed and the data identifier will be stored. If *N* (data identifier) pieces of data is compressed successfully, the platform will send **CCC,*N*** to confirm data receiving. Then the tracker will confirm whether the data identifier in the reply command is the same as that of the sending commanding. If yes, cache data in the tracker will be deleted and then continue to upload the remanings.
Applicable Model	T622
Example	
GPRS Reply	When scheduled event 35 is generated, the tracker will sent the following information to the server: $$U86,369800013320014,CCC,020134000100000023418757019B5FCC06EA3E3C1A010A1F000000000900370099C1080005AB0E00CC0100009227890E02001300A801000000000000*A4\r\n

3.56 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	Before obtaining a picture from the tracker, use the D01 command to obtain the picture list. File name: Got from the tracker memory card. The file name is unique. Picture data packet start number: indicates the start sequence number of a picture package. The minimum value is **0**, indicating that you read the picture from the first picture package. A picture can be divided into multiple packages. Number of picture data packages: indicates the number of packets of a picture. The minimum number is **1**. Current picture data packet number: which picture packet is sent. Picture data: hexadecimal. After all picture data is obtained, a picture will be composed automatically. Note: When the tracker receives the D00 command, eight picture packets will be uploaded consecutively. After 2 seconds, the server sends the D00 command to obtain picture data packets from the ninth picture data packet.
Applicable Model	T622

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Example	
GPRS Sending	@@O48,353358017784062,D00,0215080432_C2E03.jpg,0*DB\r\n
GPRS Reply	The example cannot be displayed because of hexadecimal characters.

3.57 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**, you can obtain the picture list from the first picture package. When the value is **4**, you can obtain the picture list from the fifth picture package. Number of picture data packets: indicates the number of packets of a picture. The minimum number is **1**.
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

3.58 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. You can delete multiple pictures. Picture names are separated by |.
Applicable Model	T622
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

3.59 Taking Photos on Demand – D03

GPRS Sending	D03,Camera number,Picture name,
GPRS Reply	D03, OK

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Description	Camera number: The minimum value is **1**, indicating the first camera. The maximum value depends on the number of cameras connected to the tracker. The maximum value is generally **2**. Picture name: indicates the name of a picture.
Applicable Model	T622
Example	
GPRS Sending	@@D46,353358017784062,D03,1,camera_picture.jpg*21\r\n
GPRS Reply	$$D28,353358017784062,D03,OK*F3\r\n

3.60 Authorizing an RFID Card/iButton Key – D10

GPRS Sending	D10,RFID(1),RFID(2),…,RFID(n)
GPRS Reply	D10, OK
Description	RFID (n): indicates the authorized RFID card number. The value ranges from 1 to 4294967295. Decimal. A maximum of 50 RFID cards can be authorized at a time.
Applicable Model	T622
Example	
GPRS Sending	@@f43,353358017784062,D10,13737431,13737461*17\r\n
GPRS Reply	$$f28,353358017784062,D10,OK*13\r\n

3.61 Authorizing RFID Cards/iButton Keys in Batches – D11

GPRS Sending	D11,*RFID card start number*,n
GPRS Reply	D11, OK
Description	RFID card start number: The value ranges from 1 to 4294967295. Decimal. n: indicates the number of batch-authorized RFID cards. Decimal. The maximum value is **128**.
Applicable Model	T622
Example	
GPRS Sending	@@e36,353358017784062,D11,13737431,1*AA\r\n
GPRS Reply	$$e28,353358017784062,D11,OK*13\r\n

3.62 Checking RFID/iButton Authorization – D12

GPRS Sending	D12,RFID/iButton
GPRS Reply	D12, n
Description	RFID: ranges from 1 to 4294967295. Decimal. n: When **n** is **0**, the RFID is not authorized.
Applicable Model	T622
Example	
GPRS Sending	@@C34,353358017784062,D12,13737431*2A\r\n

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GPRS Reply	$$C27,353358017784062,D12,0*87\r\n

3.63 Reading an Authorized RFID/iButton – D13

GPRS Sending	D13,*RFID packet start number/iButton number*
GPRS Reply	D13,*Number of RFID packets*,*Current RFID packet number*,RFID(1)RFID(2)…RFID(n)
Description	RFID packet start number: indicates the start sequence number of the RFID packet. The minimum value is **0**. For example, when the value is **0**, you can obtain the package list from the first RFID packet. When the value is **4**, you obtain the package list from the fifth RFID packet. Number of RFID packets: indicates the number of authorized RFID packets. One RFID packet contains a maximum of 100 RFID card numbers. The minimum value is **0**. RFID (n): has eight hexadecimal characters.
Applicable Model	T622
Example	
GPRS Sending	@@w27,353358017784062,D13,0*F4\r\n
GPRS Reply	The example cannot be displayed because of hexadecimal characters.

3.64 Deleting an Authorized RFID Card/iButton – D14

GPRS Sending	D14,RFID(1),RFID(2),…,RFID(n)
GPRS Reply	D14, OK
Description	RFID (n): indicates the RFID to be deleted. The value ranges from 1 to 4294967295. Decimal. A maximum of 50 RFID cards can be deleted at a time. One SMS (including protocols) cannot exceed 140 bytes.
Applicable Model	T622
Example	
GPRS Sending	@@Q34,353358017784062,D14,13723455*3B\r\n
GPRS Reply	$$Q28,353358017784062,D14,OK*02\r\n

3.65 Deleting Authorized RFID Cards/iButton Keys in Batches – D15

GPRS Sending	D15,*RFID card start number*,n
GPRS Reply	D15, OK
Description	RFID card start number: ranges from 1 to 4294967295. Decimal. n: indicates the number of RFID cards to be deleted in batches. Decimal. The maximum value is **128**. When the card 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.
Applicable Model	T622
Example	

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GPRS Sending	@@K36,353358017784062,D15,13723455,3*97\r\n
GPRS Reply	$$K28,353358017784062,D15,OK*FD\r\n

3.66 Checking the Checksum of the Authorized RFID/iButton Database – D16

GPRS Sending	D16
GPRS Reply	D15, XOR
Description	This command is used to check whether the existing authorized RFID database is consistent with that recorded in the server. When the tracker receives the D16 command, the XOR result of all authorized RFIDs is regarded as the database checksum for responding. After the server receives the checksum, compare with the XOR result of all authorized RFIDs recorded in the server. If the result is the same, the existing authorized RFID database is consistent with that recorded in the server. Otherwise, data errors occur in the authorized RFID database.
Applicable Model	T622
Example	
GPRS Sending	@@u25,353358017784062,D16*97\r\n
GPRS Reply	$$u28,353358017784062,D16,18*F7\r\n

3.67 Setting GPS Data Filtering – D71

GPRS Sending	D71,X,Y1,Y2,Y3,Y4
GPRS Reply	D71,OK/<*Error code*>
Description	**X**: Whether to enable the GPS data filtering function. **1**: Enable the function. **0**: Disable the function (default). **Y1**: indicates the minimum value of the driving speed. Value range: 0–999 km/h. **Y2**: indicates the maximum value of the driving speed. Value range: 0–999 km/h. **Y3**: indicates the number of satellites. Value range: 0–99. When the number of satellites is greater than **Y3**, GPS data will be updated. **Y4**: indicates the positioning accuracy. Unit: x10. Value range: 0–999. When the positioning accuracy value is less than **Y4**, GPS data will be updated. Note: When the GPS data filtering function is enabled, all conditions of Y1, Y2, Y3 and Y4 have to be met in order to update the GPS data.
Applicable Model	T622
Example	
GPRS Sending	@@I40,865328022075252,0D71,1,5,255,4,0.4*38\r\n
GPRS Reply	$$I28,865328022075252,D71,OK*F8\r\n

3.68 Setting Output Triggering – D72

GPRS Sending	D72,X,Y1,Y2,Y3,Y4
GPRS Reply	D72,OK/<*Error code*>

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Description	**X**: Select an output port. **1**: output 1. **2**: output 2. **Y1**: indicates the output time when an event is triggered. Unit: 10 ms. Value range: 0–4294967295. **Y2**: Value: 0, 1, and 2. ● **0**: Output high level. ● **1**: Output low level (default). ● **2**: Output PWM wave. **Y3**: indicates the PWM duty cycle. Value range: 0–100. **Y4**: indicates the PWM period. Unit: μs. Value range: 2000–50000000.
Applicable Model	T622
Example	
GPRS Sending	@@s42,865328022075252,0D72,1,100,0,0,10000*B0\r\n
GPRS Reply	$$s28,865328022075252,D72,OK*23\r\n

3.69 Allocating GPRS Cache and GPS LOG Storage Space – D73

GPRS Sending	D73,X,Y
GPRS Reply	D73,OK/<*Error code*>
Description	**X**: Set the storage percentage of GPRS cache. Decimal in percentage. **Y**: Set the storage percentage of GPS logs. Decimal in percentage. The sum of X and Y must be 100.
Applicable Model	T622
Example	
GPRS Sending	@@Q32,865328022075252,0D73,50,50*C1\r\n
GPRS Reply	$$Q28,865328022075252,D73,OK*02\r\n

3.70 Sending the Destination to the Garmin Navigator – D74

GPRS Sending	D74,X1,X2,X3,X4,X5,X6
GPRS Reply	D74,OK/<*Error code*>
Description	X1: indicates the time when a message generates; 32-bit unsigned integer; hexadecimal X2: indicates the message ID, which is unique; hexadecimal; contains up to 8 characters. If the message ID already exists, the command fails to be sent. X3: indicates the latitude; 32-bit signed; hexadecimal; accurate to 6 decimal places. X4: indicates the longitude; 32-bit signed; hexadecimal; accurate to 6 decimal places. X5: indicates the destination; Unicode hexadecimal character string; contains up to 398 characters (199 bytes). X6: indicates the serial port number of the Garmin navigator. X6 = 1: serial port 1; X6 = 2: serial port 2.
Applicable Model	T622
Example	
GPRS Sending	@@O73,866699027509340,D74,302480F5,00000000,015787A6,06CC5FBB,F5456B00,02*11\r\n

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GPRS Reply	$$O28,866699027509340,D74,2*15\r\n

3.71 Sending Messages from the Garmin Navigator – D75

GPRS Sending	D75,X1,X2,X3,X4,X5,X6,X7,X8
GPRS Reply	D75,OK/*<Error code>*
Description	X1: indicates the time when a message generates; 32-bit unsigned integer; X2: indicates the latitude; 32-bit signed; hexadecimal; accurate to 6 decimal places. X3: indicates the longitude; 32-bit signed; hexadecimal; accurate to 6 decimal places. X4: indicates the message ID sent from the platform to the Garmin navigator. X5: indicates the message length; contains 1 byte; hexadecimal. X6: indicates the message ID sent from the Garmin navigator to the platform; hexadecimal; contains up to 16 characters. X7: indicates the message to be sent; Unicode hexadecimal character string; contains up to 398 characters (199 bytes). X8: indicates the serial port number of the Garmin navigator. X8 = 1: serial port 1; X8 = 2: serial port 2.
Applicable Model	T622
Example	
GPRS Sending	$$l105,866699027509340,D75,302480F5,015787A6,06CC5FBB,03335C8B,08,000000AD,00420068006700680067006800 74,02*FF\r\n
GPRS Reply	@@l28,866699027509340,D75,OK*68\r\n

3.72 Sending Messages to the Garmin Navigator – D76

GPRS Sending	D76,X1,X2,X3,X4,X5
GPRS Reply	D76,OK/*<Error code>*
Description	X1: indicates the time when a message generates; 32-bit unsigned integer; X2: indicates the message length; hexadecimal X3: indicates the message ID; hexadecimal; contains up to 16 characters. If the message ID already exists, the command fails to be sent. X4: indicates the message to be sent; Unicode hexadecimal character string; contains up to 398 characters (199 bytes). X5: indicates the serial port number of the Garmin navigator. X5 = 1: serial port 1; X5 = 2: serial port 2.
Applicable Model	T622
Example	
GPRS Sending	@@n85,866699027509340,D76,30245BED,8,0191E7B6,00460053004400460053004600 4400530046,2*B6\r\n
GPRS Reply	$$n28,866699027509340,D76,OK*33\r\n

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3.73 Obtaining Garmin Navigator Info – D77

GPRS Sending	D77,Y1
GPRS Reply	D77,X1,X2,X3,X4,X5,X6
Description	X1: indicate the estimate time of arrival; 32-bit unsigned integer; X2: indicates the message ID; hexadecimal; contains up to 8 characters. X3: indicates the remaining mileage; hexadecimal; contains up to 8 characters; unit: meter. X4: indicates the latitude where the Garmin navigator is located; 32-bit signed; hexadecimal; accurate to 6 decimal places. X5: indicates the longitude where the Garmin navigator is located; 32-bit signed; hexadecimal; accurate to 6 decimal places. X6: indicates the serial port number of the Garmin navigator. X6 = 1: serial port 1; X6 = 2: serial port 2. Y1: indicates the serial port number of the Garmin navigator. Y1 = 1: serial port 1; Y1 = 2: serial port 2. Note: This command is available only when the Garmin navigator is working.
Applicable Model	T622
Example	
GPRS Sending	@@O28,866699027509340,D77,2*15\r\n
GPRS Reply	$$O73,866699027509340,D77,FFFFFFFF,00000000,FFFFFFFF,F5456B00,F5456B00,02*11\r\n

3.74 Setting Harsh Acceleration and Braking Parameters – D78

GPRS Sending	D78,X1,X2,Y1,Y2
GPRS Reply	D78,OK/<*Error code*>
Description	X1: indicates the threshold of the harsh acceleration alert; decimal; unit: mG; value range: [90…1000]; default value: 100. X2: indicates the time when the harsh acceleration alert lasts; unit: 10 ms; value range: [30…300]; default value: 40. Y1: indicates the threshold of the harsh braking alert; unit: mG; value range: [-1500…-100]; default value: -200. Y2: indicates the time when the harsh braking alert lasts; unit: 10 ms; value range: [30…300]; default value: 65. If you want to query these parameters, send **D78** only.
Applicable Model	T622
Example	
GPRS Sending	@@B41,865328022075252,0D78,100,40,-200,65*64\r\n
GPRS Reply	$$B28,865328022075252,D78,OK*F8\r\n

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3.75 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.
Applicable Model	T622
Example	
GPRS Sending	@@W25,353358017784062,E91*7D\r\n
GPRS Reply	$$W38,353358017784062,FWV1.00,12345678*1C\r\n

3.76 Restarting the GSM and GPS Modules – F00

GPRS Sending	F01,GSM,GPS
GPRS Reply	F00,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.
Applicable Model	T622
Example	
GPRS Sending	@@j29,353358017784062,F00,1,1*45\r\n
GPRS Reply	$$j28,353358017784062,F00,OK*18\r\n

3.77 Restarting the GSM Module – F01

GPRS Sending	F01
GPRS Reply	F01,OK
Description	Restart the GSM module.
Applicable Model	T622
Example	
GPRS Sending	@@j25,353358017784062,F01*88\r\n
GPRS Reply	$$j28,353358017784062,F01,OK*19\r\n

3.78 Restarting the GPS Module – F02

GPRS Sending	F02
GPRS Reply	F02,OK
Description	Restart the GPS module.
Applicable Model	T622
Example	
GPRS Sending	@@Z25,353358017784062,F02*79\r\n
GPRS Reply	$$Z28,353358017784062,F02,OK*0A\r\n

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3.79 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.
Applicable Model	T622
Example	
GPRS Sending	@@D40,353358017784062,F08,0,4825000*51\r\n
GPRS Reply	$$D28,353358017784062,F08,OK*FA\r\n

3.80 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.
Applicable Model	T622
Example	
GPRS Sending	@@E27,353358017784062,F09,1*CA\r\n
GPRS Reply	$$E28,353358017784062,F09,OK*FC\r\n

3.81 Restoring Initial Settings – F11

GPRS Sending	F11
GPRS Reply	F11,OK
Description	Restore initial settings except the SMS password.
Applicable Model	T622
Example	
GPRS Sending	@@[25,353358017784062,F11*7A\r\n
GPRS Reply	$$[28,353358017784062,F11,OK*0B\r\n

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4 FMS Data Analysis

No.	Character String	Field Description	Data Analysis
1	0XA001	Vehicle speed (wheel based)(KM/H)	15 00 The vehicle speed is 21 km/h.
2	0XA002	Vehicle speed (from tachograph)(KM/H)	23 00 The vehicle speed is 35 km/h.
3	0XA003	Vehicle control state	Bit 0: clutch switch. Bit 0 = 1: pedal pressed; bit 0 = 0: pedal released. Bit 1: tachograph performance. Bit 1 = 1: performance analysis; bit 1 = 0: normal performance. Bit 2: parking brake switch. Bit 2 = 1: Apply the brake; bit 2 = 0: Do not apply the brake. Bit 3: cruise control. Bit 3 = 1: switched on; bit 3 = 0: switched off. Bits 4–7: reserved.
4	0XA004	Accelerator pedal position(%)	12 You press down 18% of accelerator pedal of your vehicle.
5	0XA005	Total fuel used(L)	01 02 00 00 The total fuel consumption is 513L.
6	0XA006	Engine speed(rpm)	12 04 The engine rotational speed is 1042rpm.
7	0XA007	Total engine hours(h)	12 34 00 01 The total engine run time is 1679054.6 hours.
8	0XA008	High resolution vehicle distance(m)	11 22 00 00 The total mileage is 8721m.
9	0XA009	Engine coolant temperature(deg C)	12 00 The engine coolant temperature is 18°C.
10	0XA00A	Fuel level(%)	23 The fuel level left is 35%.
11	0XA00B	Actual engine torque(%)	12 The engine torque is 18%.
12	0XA00C	Ambient Air Temperature(deg C)	12 00 The ambient temperature is 18°C.
13	0XA00D	High Resolution Engine Total Fuel Used(L)	12 00 01 00 The total fuel consumption is 65.554L.
14	0XA00E	Load at current speed(%)	12 The torque is 18%.
15	0XA00F	Engine Fuel Rate(L/H)	12 00 02 00

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			The fuel consumption rate is 1310.90 L/H.
16	0XA010	Axle weight(kg)	12 34 00 00 The axle weight is 1333.0 kg.
17	0XA011	Service distance(km)	22 30 00 00 The service distance is 12322 km.
18	0XA012	Instantaneous Fuel Economy	12 56 00 00 The instantaneous fuel consumption is 22.034 KM/L.
20	0XA0A0	Status engine brake	Reserved
21	0XA0A1	Engine Oil Temperature(deg C)	Reserved
22	0XA0A2	Engine Fuel Temperature(deg C)	Reserved
23	0XA0A3	Total Vehicle Hours(h)	Reserved
24	0XA0A4	Trip Distance(km)	Reserved
25	0XA0A5	Engine Trip Fuel(L)	Reserved
26	0XA0A6	Percent Clutch Slip(%)	Reserved

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