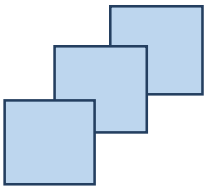
FIFOTRACK COMMAND LIST



Model: A600/A700

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Document History

Version	Revision Date	Author	Detail
V1.5	Nov 2, 2020	Vito Hu	Delete *B15* Add *C08*, *S09*, *S13*, *C10* Add ultrasonic sensor option in *B34*, *B80*, *B81*, *B82*
V1.4	Apr 25, 2019	Vito Hu	Modify *D05*, *D07* command: add *pho_num* field
V1.3	Dec 26, 2018	Vito Hu	Modify *B04* command: add *roam_accoff_tmr* and *roam_parking_tmr* fields
V1.2	Dec 12, 2018	Vito Hu	Add *B34*, *B98*, *B99* command Modify *B45* command Delete *D01*, *D02*, *D03*, *D04* command and Appendix B
V1.1	Aug 25, 2017	Vito Hu	Initial Version

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1 GPRS Command Format

GPRS uplink (i.e.: Data is sent from tracker to platform) command format:

$$<pack-len>,<ID>,<work-no>,<cmd-code>,<cmd-para>*<checksum>\r\n

GPRS downlink (i.e.: Data is sent form platform to tracker) command format:

##<pack-len>,<ID>,<work-no>,<cmd-code>,<cmd-para>*<checksum>\r\n

Remarks:

- Comma (,) is used to separate data fields, and it is necessary. There is no space before or after comma.
- pack-len: Package Length, decimal string format, the field of *pack-len* is {,*<ID>,<work-no>,<cmd-code>,<cmd-para>*}, be careful, comma(,) in front of *ID* included.
- ID: Tracker ID, default IMEI.
- work-no: working number, hexadecimal string format, cyclic accumulation from 1 to 0xFFFF.
- cmd-code: Command code, or specification of data type.
- cmd-para: parameter or description of *cmd-code*, which is described in the following chapters.
- checksum: checksum of package, 2 bytes hexadecimal string format, XOR of {*<pack-len>,<ID>,<work-no>,<cmd-code>,<cmd-para>*}.
- \r\n: End of package, i.e. <CR><LF>.
- Without specification, multi-byte binary data in *cmd-para* uses big endian format, i.e. Most Significant Byte first.

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2 SMS Command Format

Sending SMS (from mobile to tracker) command format:

<password>,<cmd-code>,<cmd-para>

Reply SMS (from tracker to mobile) data format:

<cmd-code>,<proc-result>

01 password: SMS password, 6 digits, default “000000”.

02 cmd-code: command code, the same as *cmd-code* field in GPRS command.

03 cmd-para: command parameter, the same as *cmd-para* field in GPRS command.

04 proc-result: command process result

OK – Succeed.

05 SMS command with invalid password, or with incorrect format, no reply will be sent.

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3 Serial port (COM) Command Format

Setting command format:

#<cmd-code>,<cmd-para><CR><LF>

Reply data format

#<cmd-code>,<proc-result><CR><LF>

cmd-code, cmd-para: the same as corresponding field of GPRS/SMS command.

proc-result: COM command procession result

OK – Succeed.

UNSUPPORT – Command not supported.

FAILED –Procession failed.

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4 Command Writing Specification

- Comma (,) is used to separate multi-field, there is no space before and after comma.
- For command with multi parameters, field(s) can be empty, the corresponding parameter is set to default.
- The following chapters describe *cmd-code* and *cmd-para*.
- The “Retrieve” row in the following chapters describes the corresponding query command.

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5 Command List

B00 – Setting GPRS Parameters	
Source	GPRS/COM/SMS
Description	B00,<svr_type>,<net_addr>,<net_port> 01 svr_type: server selection, 1--main server, 2--backup server; When the connection to main server cannot be reached, tracker will automatically connect to the backup server. This avoids data losses. 02 net_addr: server IP or domain. 03 net_port: server port.
Reply	B00,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B00,1, 47.88.35.165,10502 01 Set main server: IP-47.88.35.165, port-10502.
Retrieve	C04,B00,<svr_type> 01 svr_type: server selection, the same as *svr_type* field in setting command.

B01 – Setting GPRS APN Parameters	
Source	GPRS/COM/SMS
Description	B01,<apn_name>,<apn_usr>,<apn_pwd> 01 apn_name: APN name. 02 apn_usr: APN user name. 03 apn_pwd: APN password. 04 Leave *apn_usr*, *apn_pwd* field empty, if no APN username and APN password exist. 05 Contact to local ISP for APN detail.
Reply	B01,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B01,cmnet 01 Set APN name to “cmnet”, APN login username and password empty.
Retrieve	C04,B01

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B02 – Setting GPRS Link Protocol	
Source	GPRS/COM/SMS
Description	B02,<link_type> 01 link_type: Link protocol, value “TCP” or “UDP”. 02 default TCP protocol.
Reply	B02,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B02,TCP 01 Set link protocol to TCP.
Retrieve	C04,B02

B03 – Setting Tracking Time Interval	
Source	GPRS/COM/SMS
Description	B03,<basic_tmr>,<accoff_tmr>,<parking_tmr> 01 basic_tme: normal time interval, unit s. 02 accoff_tmr: time interval when ACC OFF, unit s, default 0s. 03 parking_tmr: time interval when parking, unit s, default 0s. 04 When both *accoff_tmr* and *parking_tmr* are set, *parking_tmr* will be ignored in actual usage.
Reply	B03,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B03,30 01 Set timing tracking interval to 30s, tracker uploads position data every 30s.
Retrieve	C04,B03

B04 – Setting Roaming Tracking Time Interval	
Source	GPRS/COM/SMS
Description	B04, <roam_basic_tmr>,<roam_accoff_tmr>,<roam_parking_tmr> 01 roam_basic_tmr: roaming time interval, unit s, default 0s. 02 roam_accoff_tmr: time interval when ACC OFF under roaming, unit s, default 0s. 03 roam_parking_tmr: time interval when parking under roaming, unit s, default 0s. 04 When both *roam_accoff_tmr* and *roam_parking_tmr* are set, *roam_parking_tmr* will

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	be ignored in actual usage. 02 When both *B03* and *B04* (*roam_basic_tmr* != 0) are set, tracker uses below logic for uploading: ⊙ When roaming detected, tracker uploads GPRS using *B04* setting, according to ACC, moving/parking status ⊙ For non-roaming condition, tracker uploads GPRS using *B03* setting, according to ACC, moving/parking status
Reply	B04,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B04,3600 01 Set timing tracking interval to 3600s while roaming. B04,3600,7200 01 Setting timing tracking interval to 3600s when ACC ON, 7200s when ACC off, under roaming status
Retrieve	C04,B04

B05 – Setting Distance Tracking Interval

Source	GPRS/COM/SMS
Description	B05,<basic_dst> 01 basic_dst: Distance tracking interval, unit meter. 02 Distance tracking is independent from timing tracking.
Reply	B05,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B05,100 01 Set distance tracking to 100m.
Retrieve	C04,B05

B07 – Setting the Direction Change Upload

Source	GPRS/COM/SMS
Description	B07,<course> 01 course: direction change angle, unit degree, range 0--359, default 20. 02 When *course* is set to 0, direction change upload is disabled. 03 When driving direction change exceeds the setting value, tracker will upload a

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	position data for supplement.
Reply	B07,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B07,30 01 Set direction change angle to 30°.
Retrieve	C04,B07

B08 – Setting Speeding Alarm

Source	GPRS/COM/SMS
Description	B08,<speeding>,<buz> 01 speeding: speed, unit km/h, range 0--300, default 0. 02 When *speeding* is set to 0, speeding alarm is disabled. 03 buz: 1—Enable buzzer when speeding; 0—Disable(default) 04 When *buz==1*, tracker controls buzzer via OUT2, till speed returns to normal
Reply	B08,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B08,90 01 Set speed limit to 90km/h; Disable buzzer
Retrieve	C04,B08

B10 – Setting SMS Password

Source	GPRS/COM/SMS
Description	B10,<sms_pwd> 01 sms_pwd: SMS password, 6 digits, default “000000”.
Reply	B10,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B10,472627 01 Set SMS password to “472627”. B10,47262A 01 Invalid command, because SMS password needs to be a 6 digits string.

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Retrieve	C04,B10

B11 – Setting SOS Number

Source	GPRS/COM/SMS
Description	B11,<sos_num1>,<sos_num2>,<sos_num3> 01 sos_num1, 2, 3: SOS numbers to be set; 3 numbers can be set at most. 02 Refer to B23 for the function of SOS number(s).
Reply	B11,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B11,15698210011,,15698210200 01 Set *sos_num1* to 15698210011, *sos_num2* to empty, *sos_num3* to 15698210200.
Retrieve	C04,B11

B12 – Output Control

Source	GPRS/COM/SMS
Description	B12,<index>,<action>,<safe_speed> 01 index: out port selection, value 1, 2, 3… etc.. 02 action: Output control, 0~output low level, 1~output high level. 03 safe_speed: speed limit, unit km/h, range 1~300; when this parameter is set to 0, or this field is empty, output control takes effect immediately; Other value, set the speed limit for output control. When the driving speed is lower than the speed limit, the output control takes effect.
Reply	B12,<err_code> 01 err_code: error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED –Processing failed.
Example	B12,1,1,20 01 Set out-1 to output high level when speed less than 20km/h.
Retrieve	UNSUPPORT

B13 – Pulse Output Control

Source	GPRS/COM/SMS
Description	B13,<index>,<on_time>,<off_time>,<pls_cnt> 01 index: out port specification, value 1, 2, 3… etc..

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	02 on_time: Duration of high level, unit ms. 03 off_time: Duration of low level, unit ms. 04 pls_cnt: Pulse number.
Reply	B13,<err_code> 01 err_code: error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED –Processing failed.
Example	B13,1,1000,1000,10 01 Set out-1 to output 10 pulse, whose high level duration 1000ms, low level duration 1000ms.
Retrieve	UNSUPPORT

B14 – Setting SMS Time Zone

Source	GPRS/COM/SMS
Description	B14,<tzone> 01 tzone: time zone, range [-12, 12]. 02 Default value of *tzone* is 0. 03 When SMS time zone is set, all tracking/alarm SMS use *tzone* for date & time. 04 GPRS data uploading uses UTC-0 time zone.
Reply	B14,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B14,-8
Retrieve	C04,B14

B16 – Setting Initial Mileage

Source	GPRS/COM/SMS
Description	B16,<init_mile> 01 init_mile: initial mileage, unit meter, default 0m.
Reply	B16,<err_code> 01 err_code: error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED –Processing failed.
Example	B16 01 Set both initial mileage to 0
Retrieve	C04,B16

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	01 The retrieved value is current mileage, not the setting ones.

B17 – Clear Blind Data

Source	GPRS/COM/SMS
Description	B17,<data_type> 01 data_type: blind data type. 1 – GPRS Blind. 2 – SMS blind. 3 – Both GPRS and SMS blind.
Reply	B17,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B17,3 01 Clear both GPRS and SMS blind data.
Retrieve	UNSUPPORT

B18 – Setting in-port Working Mode

Source	GPRS/COM/SMS
Description	B18,<input>,<valid_mode> 01 input: in-port selection, 1--input1, 2--input2, etc.. 02 valid_mode: valid trigger mode, 0--low level valid, 1--high level valid. 03 This command is supported for INPUT3 and INPUT4.
Reply	B18,<err_code> 01 err_code: error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED –Processing failed.
Example	B18,3,1 01 Set IN3 to high level valid mode.
Retrieve	C04,B18,<input> 01 input: in-port selection, the same as *input* field in setting command.

B19 – Setting Circle geo-fence

Source	GPRS/COM/SMS
Description	B19,<index>,<flag>,<radium>,<lat>,<lon> 01 index: fence index, value 1~8, i.e.: 8 geo-fence can be set at most.

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	02 flag: alarm flag flag=1: Trigger alarm when exit fence. flag=2: Trigger alarm when enter fence. flag=3: Trigger alarm both enter and exit fence. 03 radium: radium of circle geo-fence, unit meter. 04 lat: latitude of center point, decimal string format. 05 lon: longitude of center point, decimal string format. 06 When *lat* and *lon* are empty, current latitude and longitude is used, while GPS valid signal is needed. 07 When *flag*, *radium*, *lat*, *lon* are empty, delete goe-fence specified by *index*; When *index*=0 or empty, delete all.
Reply	B19,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B19,1,3,200 01 Set the first circle geo-fence, centre point: current location, radium: 200m, output alarm when both enter and exit fence. B19,1 01 Delete 1# circle fence
Retrieve	C04,B19,<index> 01 index: fence index, value 1~8, the same as *index* field in setting command.

B21 – Setting Fatigue Driving

Source	GPRS/COM/SMS
Description	B21,<drowsy_time>,<rest_time> 01 drowsy_time: Fatigue driving time, unit s, default 14400s. 02 rest_time: Minimum rest time after fatigue driving, unit s, default 1200s. 03 When *drowsy_time* is set to 0, fatigue driving alarm is disabled. 04 The field *rest_time* can be empty, while the default value is used. 05 When *drowsy_time* and *rest_time* are empty, both values are set to default.
Reply	B21,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B21 01 Set fatigue driving time to the default value 14400s, and minimum rest time to the default value 1200s.
Retrieve	C04,B21

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B22 – Setting Maximum Parking Time	
Source	GPRS/COM/SMS
Description	B22,<time> 01 time: Maximum parking time, unit s, default 0s, i.e. parking overtime alarm is disabled. 02 When parking time exceeds preset value, a parking overtime alarm triggered. 03 When auto speed is 0, it is regards as parking.
Reply	B22,<err_code> 01 err_code: error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED –Processing failed.
Example	B22,1200 01 Set maximum parking time to 1200s.
Retrieve	C04,B22

B23 – Setting Alarm Action	
Source	GPRS/COM/SMS
Description	B23,<alm-code>,<GPRS><SMS><two-way-call><monitor-call><photo><AN-idx> 01 alm-code: Alarm type, refer to Appendix –A. 02 GPRS: Disable/enable GPRS uploading. 03 SMS: Disable/enable SMS to SOS number. 04 two-way-call: Disable/enable SOS number dialing under two-way conversation. 05 monitor-call: Disable/enable SOS number dialing under monitor mode. 06 photo: Disable/enable photographing, with resolution setting by *D07* command. 07 AN-idx: Complicated action, value 1~6, which corresponds to *AN-idx* field in *B24* command; AN is composed of a serial command sets, performing user define operations; Refer to *B24* command for detail. 08 When both *two-way-call* and *monitor-call* are set, *monitor-call* is valid, while *two-way-call* ignored. 09 *two-way-call* or *monitor-call* is valid when SOS number set, refer to *B11* command for SOS number(s) setting.
Reply	B23,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B23,2,110102 01 Set action when SOS triggered: a Sending GPRS alarm data to platform.

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	b Sending alarm SMS with *C01* format to SOS number. c Dial SOS numbers under monitor mode. d Perform operations which is defined by *B24*
Retrieve	C04,B23,<alm-code> 01 alm-code: Alarm type, refer to Appendix–A. The same as *alm-code* field in setting command.

B24 – Setting Complicated Alarm Action

Source	GPRS/COM/SMS
Description	B24,<AN-idx>,'#oper-1',<delay_t>,'#oper-2',…. 01 The command defines complicated alarm action, "AN" for short; AN is used associated with B23 setting. When both *AN-idx* field in B23 command, and AN detail in B24 are set, operation can be performed then. 02 AN-idx: AN index, value 1~6, corresponds to 1~6 operation sets; It can be selected by *AN-idx* field in B23 command. 03 #oper-[1,2…]: Operation instruction, composed of a serial command(s). Maximum length of 64 bytes. 04 delay_t: Delay time between adjoining operation, unit second. It means, tracker performs operations defined by *opera-1*, delay *delay_t* seconds, then perform *opera-2* 05 The writing rule of B24: a Single quotes in front of and behind *oper-x* are needed, which is used to define operation start b *oper-x* is composed of commands sets, it is written in "Serial port (COM) Command Format". For example, '#B12,1,1' c *delay_t* is written in digital directly, there is no single quote in front or behind 06 The operation flow of AN action a Tracker detects alarm occurring. b Tracker checks whether *AN-idx* is selected in B23, and whether AN detail is set in B24. c When both B23 and B24 are set, tracker performs operation defined by B24.
Reply	B24,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B23,2,100003 B24,3,'#B12,1,1',3,'#B12,1,0' 01 Tracker will upload GPRS package, and perform AN3 when SOS detected. 02 When SOS detected, tracker uploads GPRS alarm package, set OUTPUT1 high level, delay 3s, and then set OUTPUT1 low level.
Retrieve	C04,B24,<AN-idx > 01 AN-idx: AN index, the same as *AN-idx* field in setting command

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B26 – Setting Alarm SMS Head String	
Source	GPRS/COM/SMS
Description	B26,<alm-code>,<sms_string> 01 alm-code: Alarm type, refer to Appendix –A. 02 sms_string: SMS head string, 16 bytes length at most. 03 Refer to Appendix-A for default string.
Reply	B26,<err_code> 01 err_code: error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED –Processing failed.
Example	B26,2,HELP 01 Set SMS head string of SOS to “HELP”.
Retrieve	C04,B26,<alm-code> 01 alm-code: Alarm type, refer to Appendix –A. The same as *alm-code* field in setting command.

B27 – Setting Parameters of Harsh Acceleration Alarm	
Source	GPRS/COM/SMS
Description	B27,<speed_var>,<time_lmt> 01 speed_var: maximum acceleration speed, unit km/h, default 0. 02 time_lmt: hard acceleration detection time, unit s, default 0. 03 Refer to Appendix –A for *alm-code* of harsh accelerate
Reply	B27,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B27,40,2 01 Set hard acceleration parameters: 40km/h speed variation within 2s.
Retrieve	C04,B27

B28 – Setting Parameters of Harsh Braking Alarm	
Source	GPRS/COM/SMS
Description	B28,<speed_var>,<time_lmt> 01 speed_var: maximum decrease speed, unit km/h, default 0. 02 time_lmt: hard braking detection time, unit s, default 0. 03 When driving speed decrease beyond *speed_var*, tracker triggers hard braking alarm.

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	04 Refer to Appendix –A for *alm-code* of harsh brake
Reply	B28,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	Refer to example in B27
Retrieve	C04,B28

B29 – Setting Sensitivity of Motion Sensor

Source	GPRS/COM/SMS
Description	B29,<level> 01 level: sensitivity of motion sensor, value [0, 10]; the smaller value, the higher sensitivity
Reply	B29,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B29,5
Retrieve	C04,B29

B31 – Setting SOS Number Attribute

Source	GPRS/COM/SMS
Description	B31,<sos-num>,<two-way-call>,<monitor>,<pos-sms> 01 Set SOS number attribute, refer to B11 command for SOS number setting. 02 sos-num: SOS index, value 1, 2, 3, which corresponds to SOS number set by B11 command. 03 two-way-call: attribute of two-way conversation. 04 monitor: attribute of monitor-mode conversation. 05 pos-sms: attribute of position SMS. 06 Description of attribute: two-way-call: tracker picks up incoming phone-call in two-way conversation mode. monitor: tracker picks up incoming phone-call in monitor mode. pos-sms: Tracker sends position SMS after incoming phone-call ends. Refer to C01 command for SMS format. 07 When both *two-way-call* and *monitor* are set, *monitor* is valid, i.e.: tracker picks up phone-call in monitor mode. 08 When the command string has only *sos-num* field, default attribute is set to

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	corresponding SOS number. 09 Default attribute of SOS number: *two-way-call* and *pos-sms*.
Reply	B31,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B31,1,1,1,1 01 Set attribute of the first SOS number: tracker automatically picks up incoming phone-call under monitor mode, reply a position SMS.
Retrieve	C04,B31,<sos-num> 01 sos-num: SOS index, value 1, 2, 3. The same as *sos-num* field in setting command.

B33 – Setting Maximum Idle Time

Source	GPRS/COM/SMS
Description	B33,<idle_time> 01 idle_time: maximum idle time, unit: s, default 0s. This parameter should be greater than 300s. 02 idle definition: ACC ON, but no speed, which means engine running under idle mode. 03 When idle mode detected, tracker starts idle time counter, and triggers Idling Alarm (*alm_code*=35), if counter exceeds *idle_time.*
Reply	B33,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B33,600 01 Set maximum idle time to 600s
Retrieve	C04,B33

B34 – Setting Voltage Range for AD Port

Source	GPRS/COM/SMS
Description	B34,<index>,<min_volt>,<max_volt>,<filter-option> 01 index: AD port index *index== 1/2*, AD1 or AD2 *index==3*, ultrasonic fuel sensor 02 min_volt: *index==1/2*: AD port voltage when external input is 0%, unit V *index==3*: minimum measuring range for ultrasonic sensor, unit mm 03 max_volt：

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<table>
<tr><td></td><td>
index==1/2: AD port voltage when external input is 100%, unit V
index==3: maximum measuring range for ultrasonic sensor, unit mm
04 filter-option: filter option for AD sample data; NOTE: For ultrasonic sensor, <u>filter-option</u> field ignored in actual usage
<u>filter-option</u>==0 (default): When external power exists, sample AD data and upload real-time; When external power disconnected, keeping the last sample value, and upload to server
<u>filter-option</u>==1: When ACC ON, sample AD data and upload real-time; When ACC OFF (maybe external power exists), keeping the last sample value, and upload to server
<u>filter-option</u>==2: upload AD sample data real-time, ignoring ACC and external power status
05 Default value for AD input
<table>
<tr><th>port</th><th>min_volt/V</th><th>max_volt/V</th><th>filter-option</th><th>Description</th></tr>
<tr><td>AD1</td><td>0</td><td>5</td><td>0</td><td>Get sample data according to external power status</td></tr>
<tr><td>AD2</td><td>0</td><td>0</td><td>0</td><td>Real-time get sample data and upload</td></tr>
</table>
</td></tr>
<tr><td>Reply</td><td>B34,<err_code>
01 err_code: procession error code.
OK – Succeed.
UNSUPPORT – Command not supported.
FAILED – Procession failed.</td></tr>
<tr><td>Example</td><td>B34,1,0,5.0
01 Setting voltage range of AD1 to [0,5]V, getting sample data when external power exist, keeping sample data when external power disconnected

B34,3,0,1000
01 Setting ultrasonic fuel sensor measuring range 0—1000mm</td></tr>
<tr><td>Retrieve</td><td>C04,B34,<index></td></tr>
</table>

B37 – Setting Digital Temperature Number

Source	GPRS/COM/SMS
Description	B37 01 Tracker supports multiple digital temperature sensors; When more than one sensors are installed, it is suggested to set sensor's number. 02 When only one sensor is installed, tracker uses default #1 as sensor's number 03 Method to set sensor's number: a Connect one sensor to tracker, send B37 command, tracker set sensor's number automatically, and reply setting result in command's reply b Disconnect the sensor, whose number has been set; Connect another sensor to tracker, use B37 command to set newly added sensor's number

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	c Repeat the operation above, if there are more sensor d NOTE: When setting sensor's number, only one sensor is allowed to connect to tracker 04 When sensors' numbers are set, tracker will arrange temperature data in the setting sequence 05 It is suggested to reset number, when some sensors are removed.
Reply	B37,<t_sensor_sn> 01 t_sensor_sn: Sensor's number which is set automatically [1,8] – Setting succeed, the value is the sensor's number [FULL] – The number of sensors exceed FAILED – Setting failed, error connection, or more than one sensor are connected
Example	
Retrieve	UNSUPPORT

B38 – Setting High/Low Temperature Alarm

Source	GPRS/COM/SMS
Description	B38,<t_sensor_sn>,<high_temp>,<low_temp> 01 t_sensor_sn: sensor's number, refer to B37 command; When one sensor is installed, t_sensor_sn==1 02 high_temp: High temperature threshold, unit ℃; If this field is empty, high temperature alarm is disabled. 03 low_temp: Low temperature threshold, unit ℃; If this field is empty, Low temperature alarm is disabled. 04 When *t_sensor_sn*, *high_temp*, *low_temp* fields are empty, all sensors' high/low temperature alarm are disabled. 05 Refer to Appendix-A for *alm-code* and *alm-para* of high/low temperature alarm
Reply	B38,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B38,1,-10,-20 01 Setting #1 sensor's parameters, high temperature threshold: -10℃, low temperature threshold: -20℃ B38,1,-10 01 Setting #1 sensor's parameters, high temperature threshold: -10℃, low temperature threshold: disable B38,1,,-20 01 Setting #1 sensor's parameters, high temperature threshold: disable, low temperature

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	threshold: -20℃ B38,1 01 Disable #1 sensor's high and low temperature alarm
Retrieve	C04,B38,<t_sensor_sn>

B39 – Delete Digital Temperature Sensor

Source	GPRS/COM/SMS
Description	B39,<t_sensor_sn> 01 When multiple sensors are installed, and some ones need to be removed, this command can be used. In actual usage, remove sensor first, then send B39 command 02 t_sensor_sn: sensor's number, refer to B37 command; When one sensor is installed, t_sensor_sn==1; When *t_sensor_sn* field is empty, remove all sensors
Reply	B39,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	UNSUPPORT

B40 – Retrieve Temperature Sensor Data

Source	GPRS/COM/SMS
Description	B40 01 The command is used for testing after installation. Tracker replies all sensors' data.
Reply	B40,<tsensor1_temp>|<tsensor2_temp>….|<tsensorN_temp> 01 The reply indicates the number of sensor, and sensors' data 02 N: The number of digital temperature sensor 03 tsensor[1,N]_temp: Temperature data, unit ℃; Data is arranged by the number set by B37; '|' is used to separate neighboring data
Example	
Retrieve	UNSUPPORT

B42 – Authorizing RFID/iButton Tag(s)

Source	GPRS/COM/SMS
Description	B42,<rfid_num1>,<rfid_num2>…<rfid_numN> 01 rfid_num[1,N]: RFID/iButton tag number to be authorized. For iButton tag, whose number is hexadecimal, use '#' in front

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	02 To authorize RFID/iButton tags in batches, send B42 only, with *rdid_num1, rfid_num2 … rfid_numN* empty. After parsed the command, tracker will regard all read RFID tags as authorized ones in 3 minutes. During this 3 minutes, tracker will not generate "Login", "Log Out" or "Illegal Login" alarm when tag(s) read. 03 Refer to Appendix A for *alm-code* of "Login", "Log Out" and "Illegal Login". 04 After authorized tag(s) set, tracker will generate "Login", "Log Out" or "Illegal Login" alarm when tag read; Refer to user guide for detail. 05 If no tag(s) authorized, tracker will not generate "Illegal Login".
Reply	B42,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B42,1234567,1234568,1234569 01 Authorize 3 RFID/iButton tags, whose number 1234567,1234568,1234569 B42,1234567,1234568,#1234569 01 Authorize 3 RFID/iButton tags, whose number 1234567,1234568,0x1234569 B42 01 Start batch tags authorizing, tracker regards tags, which are read in the following 3 minutes, as authorized ones.
Retrieve	UNSUPPORT

B43 – Delete Authorized RFID/iButton Tag(s)

Source	GPRS/COM/SMS
Description	B43,<ALL>/<rfid_num1>,<rfid_num2>…<rfid_numN> 01 rfid_num[1,N]: RFID/iButton tag number to be deleted. For iButton tag, whose number is hexadecimal, use '#' in front 02 B43,ALL: Delete all authorized tag(s). 03 To delete tags in batches, send B43 only, with *rfid_num1, rfid_num2…rfid_numN* empty, tracker will delete tags, which are read in 3 minutes. During this 3 minutes, tracker will not generate "Login", "Log Out" or "Illegal Login" alarm when tag(s) read.
Reply	B43,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B43,1234567,1234568,1234569 01 Delete 3 authorized RFID tags, whose number 1234567,1234568,1234569. B43,1234567,1234568,#1234569

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	01 Delete 3 authorized RFID tags, whose number 1234567,1234568,0x1234569. B43 01 Start batch operation, tracker delete tags, which are read in the following 3 minutes.
Retrieve	UNSUPPORT

B44 – Retrieve RFID/iButton Tag(s) Authorization

Source	GPRS/COM/SMS
Description	B44,<rfid_num1>,<rfid_num2>…<rfid_numN> 01 rfid_num[1,N]: RFID/iButton tag number to be retrieved. For iButton tag, whose number is hexadecimal, use '#' in front 02 Maximally, five tags are support in the retrieving operation
Reply	B44,<rfid_num1>:<aut1>,<rfid_num2>:<aut2>,….<rfid_numN>:<autN> 01 rfid_num[1,N]: RFID/iButton tag number to be retrieved. 02 aut[1,N]: Authorization status, 0~unauthorized, 1~ authorized
Example	
Retrieve	UNSUPPORT

B45 – RFID/iButton/Fingerprint Optional Function

Source	GPRS/COM/SMS
Description	B45,<acc-off-logout>,<buz-tip>,<acc-on-no-logout> 01 acc-off-logout: 1(default) – Force logout When ACC OFF; 0—Keeping login status when ACC OFF. After setting *acc-off-logout==1*, tracker will set current status to logout, and trigger "Log out" alarm when ACC OFF 02 buz-tip: Enable/Disable buzzer function for reminder function; 1—Enable, 0—Disable. Tracker will beep for reminder under below condition: a Under logout status, when ACC ON, buzzer beeps to remind swiping card to log in b Log in, buzzer beeps once c Log out, buzzer beeps twice 05 acc-on-no-logout: 1 (default) – Tracker keeps login status during ACC ON period; 0—Tracker will generate logout alarm even under ACC ON condition. *acc-on-no-logout==1*: Tracker does noting when swiping the same card, while generates "Log in" alarm when swiping different card, with new card ID in GPRS package *acc-on-no-logout==0*: Tracker generates "Log out" alarm when swiping the same card, while generates "Log out" alarm with old card ID, "Log in" alarm with new ID
Reply	B45,<err_code> 01 err_code: procession error code. OK – Succeed.

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	UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	C04,B45

B46 – Setting Passenger Mode for RFID/iButton/Fingerprint

Source	GPRS/COM/SMS
Description	B46,<enable>,<filter-tmr>,<keeping-tmr> 01 Tracker supports two working mode, driver management and passenger mode, when using RFID/iButton/finger. *B46* command is use to set passenger mode. 02 enable: 0~Disable(default); 1~Enable 03 filter-tmr: filtering time for repeating swiping, unit s, default 0s. During this period, tag ID will be uploaded once till *filter-tmr* timeout. When *filter-tmr==0*, no filtration to repeating tag ID 04 keeping-tmr: tag ID keeping time, unit s; During this period, tag ID will be uploaded within each GPRS package; when *keeping-tmr==0*, tag ID will be uploaded once 05 Working process of passenger mode a After tag swiped, tracker sends normal GPRS position data with tag ID during *keeping-tmr* period. And tag ID will be empty after *keeping-tmr* seconds b When the same tag swiped repeatedly, tracker distinguishes as one during *filter-tmr* second, and keeps sending GPRS package with tag ID during *keeping-tmr* seconds 06 When setting passenger mode, GPRS data package is normal position one after tag swiped.
Reply	B46,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	C04,B46

B80 – Setting Fuel Theft/Filling Alarm

Source	GPRS/COM/SMS
Description	B80,<ad-idx>,<theft-percentage>,<filling -percentage>,<use-acc> 01 The command is used for AD fuel sensor or ultrasonic fuel sensor; Besides, it is valid on regular tank only at present. 02 ad-idx: *ad-idx==0*, disable fuel theft/filling function *ad-idx==1/2*: AD channel which connects to AD fuel sensor

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	ad-idx==3: ultrasonic fuel sensor 03 theft-percentage: Fuel theft percentage, unit %, tracker will send alarm when the fuel level decrement exceeds the setting value. If *theft-percentage==0* or field empty, disable fuel theft alarm. 04 filling-percentage: Fuel filling percentage, unit %, tracker will send alarm when the fuel level increment exceeds the setting value. If *filling-percentage==0* or filed empty, disable fuel filling alarm. 05 use-acc: Whether tracker connects to ACC or not. To get better calculation result, it is suggested to connect IN2 to ACC. If *use-acc* field empty, by default, it is regarded that ACC connected.
Reply	B80,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B80,1,5 01 Enable fuel theft alarm calculated based on AD1; When fuel level decrement exceed 5%, tracker sends theft alarm 02 Disable fuel filling alarm 03 IN2 connects to ACC B80,3,10,25,1 01 Setting 10% theft alarm, 25% filling alarm for ultrasonic fuel sensor
Retrieve	C04,B80

B81 – Setting Fuel Level Alarm

Source	GPRS/COM/SMS
Description	B81,<ad-idx>,<low-percentage>,<high-percentage> 01 The command is used for AD fuel sensor or ultrasonic fuel sensor; Besides, it is valid on regular tank only at present. 02 ad-idx: *ad-idx==0*, disable fuel level detecting function *ad-idx==1/2*: AD channel which connects to AD fuel sensor *ad-idx==3*: ultrasonic fuel sensor 03 low-percentage: Percentage of low fuel level, unit %, tracker will send alarm when the fuel level is lower than the setting value. If *low-percentage==0* or field empty, disable low fuel level detection. 04 high-percentage: Percentage of high fuel level, unit %, tracker will send alarm when the fuel level is higher than the setting value. If *high-percentage==0* or filed empty, disable high fuel level detection.
Reply	B81,<err_code> 01 err_code: procession error code.

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	OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B81,1,15,80 01 Enable low and high fuel level detection calculated based on AD1 02 When fuel level is lower than 15%, tracker sends alarm 03 When fuel level is higher than 80%, tracker sends alarm B81,3,10,85 01 Setting 10% low level alarm, 85% high level alarm for ultrasonic fuel sensor
Retrieve	C04,B81

B82 – Enable/Disable Fuel Consumption Statistics

Source	GPRS/COM/SMS
Description	B82,<ad-idx>,<use-acc>,<add-theft>,<clear> 01 The command is used for AD fuel sensor or ultrasonic fuel sensor; Besides, it is valid on regular tank only at present. 02 ad-idx: *ad-idx==0*, disable fuel consumption statistics *ad-idx==1/2*: AD channel which connects to AD fuel sensor *ad-idx==3*: ultrasonic fuel sensor 03 use-acc: Whether tracker connects to ACC or not. To get better calculation result, it is suggested to connect IN2 to ACC. If *use-acc* field empty, by default, it is regarded that ACC connected. 04 add-theft: 1-- The amount of oil reduced by theft is added to total fuel consumption (default); 0-- The amount of oil reduced by theft is excluded from total fuel consumption. 05 clear: 0—Keep current fuel consumption data unchanged; 1—Clear current consumption data, and calculated from 0 06 After fuel consumption statistics enabled, fuel consumption data is packed in *fuel_consume* field in GPRS protocol.
Reply	B82,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B82,1,1,1,1 01 Enable fuel consumption statistics calculated based on AD1; tracker connects to ACC via IN2; All amount, including fuel theft amount, will be statistics into total consumption; After commands sent, tracker clear current consumption data, and re-calculates from 0. B82,3,1,1,1

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	01 Enable fuel consumption statistics for ultrasonic fuel sensor
Retrieve	C04,B82 Reply: B82,<ad-idx>,<use-acc>,<add-theft>

B90 – Reset Tracker or Module

Source	GPRS/COM/SMS
Description	B90,< select > 01 select: option =1: Reset tracker. =2: Reset GPS module. =3: Reset GSM module. =4: Reset F18
Reply	B90,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B90,1 01 Reset tracker.
Retrieve	UNSUPPORT

B91 – Setting Parameters to Default

Source	GPRS/COM/SMS
Description	B91 01 After command is set, all system parameters (except SMS password) are set to default.
Reply	B91,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B91
Retrieve	UNSUPPORT

B94 – Turn on/off LED Display

Source	GPRS/COM/SMS
Description	B94,<led-on> 01 led-on: 1--turn on LED(default); 0--turn off LED.

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	02 Default, *led-on*=1.
Reply	B94,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B94 01 Set LED to default: turn on.
Retrieve	C04,B94

B96 – Enable/Disable Vibration Alarm

Source	GPRS/COM/SMS
Description	B96,<enable>,<option> 01 enable: 0~Disable vibration alarm(default); 1~enable vibration alarm 02 option: Detection option for vibration alarm *option*==0: Trigger alarm when vibration detected and ACC OFF(default) *option*==1: Trigger alarm when vibration detected 03 Using B29 command to set sensitivity of motion sensor
Reply	B96,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B96,1 01 Enable vibration alarm
Retrieve	C04,B96

B98 – Setting Lower Power Parameters

Source	GPRS/COM/SMS

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<table>
<tr><td>Description</td><td>B98,<low_pwr_v>,<low_recovery_v>,<control>
01 The command is used to set the parameters of low external power alarm
02 low_pwr_v: Low power alarm voltage, unit V; When external power input is lower than low_pwr_v, tracker sends “Low Ext-Power” alarm, and cuts off power supply if control==1, in order to protect auto battery.
03 low_recovery_v: External power recovery voltage, unit V; When external power input is higher than low_recovery_v, it is regards that external power is normal; tracker clears “Low Ext-Power” flag, and restore external power supply if control==1.
04 control: 1—cut off external power supply when external input is lower than low_pwr_v, and restore supply when external input higher than low_recovery_v, it is used to protect auto battery; 0(default)—Disable auto battery protection.
05 It is suggested to set parameters which (low_recovery_v – low_pwr_v) >= 0.5V
06 Default settings for 12V or 24V auto battery, as below table:
<table>
<tr><th></th><th>low_pwr_v</th><th>low_recovery_v</th></tr>
<tr><td>12V Auto Battery</td><td>11.5V</td><td>12.5V</td></tr>
<tr><td>24V Auto Battery</td><td>23.5V</td><td>24.5V</td></tr>
</table>
07 The command is suitable for A700 only, while A600 doesn’t support</td></tr>
<tr><td>Reply</td><td>B98,<err_code>
01 err_code: procession error code.
OK – Succeed.
UNSUPPORT – Command not supported.
FAILED – Procession failed.</td></tr>
<tr><td>Example</td><td>B98,11.5,12.5
01 Setting low external threshold to 11.5V, and recovery voltage to 12.5V, auto battery protection is disabled, tracker is always powered from external supply.

B98,0,0,1
01 Setting adaptive low external parameters, tracker judges voltage automatically, and cuts off when low external input.</td></tr>
<tr><td>Retrieve</td><td>C04,B98</td></tr>
</table>

B99 – OTA using FTP Server

<table>
<tr><td>Source</td><td>GPRS/COM/SMS</td></tr>
<tr><td>Description</td><td>B99,<file_name>,<option>,<ftp_address>,<ftp_port>,<ftp_loginid>,<ftp_loginpwd>,<apn>,<apn_name>,<apn_pwd>
01 file_name: file name for OTA, should be “xxx.bin” format
02 option: option for OTA, when the field empty, using default setting
<table>
<tr><th>option</th><th>Description</th></tr>
<tr><td>0(default)</td><td>Normal OTA, tracker check whether file_name match current version or not</td></tr>
<tr><td>1</td><td>Mandatory OTA, tracker doesn’t check file_name</td></tr>
</table>
03 ftp_address: FTP server address, default 47.88.17.17</td></tr>
</table>

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	04 ftp_port: FTP server port, default 21 05 ftp_loginid, ftp_loginpwd: FTP login user-name and password, when fields empty, using default account on 47.88.17.17 06 apn, apn_name, apn_pwd: APN setting for FTP connection, default, tracker using the same setting as *B01* command 07 After *B99* command received, tracker matches *file_name* to current firmware version, and starts OTA according to result 08 During OTA operation, tracker will disconnect from tracking server, stop timing uploading/photographing. 09 The timeout for FTP OTA is 15mins, when exceed, tracker will restart automatically, and connect to tracking server 10 External power connection is needed during OTA operation, it is used for tracking reboot after OTA finished
Reply	B99,<err_str> 01 err_str: Error code, string format "Invalid BIN file" - *file_name* doesn't match current firmware version "No ext-pwr, Please Connect in 15mins" – External power disconnect "The Same Version" – file_name has the same version to current firmware version "OK" – OTA start
Example	B99,600-V1.07.bin 01 Start OTA, tracker will connect to 47.88.17.17:21, using default FTP account for file download B99, 600-V1.07.bin,1, 120.24.95.123,9208,klone,klone@@2017 01 Start OTA, tracker will connect to *120.24.95.123:9208*, and upgrade to "*600-V1.07.bin*" 02 The login name and password of FTP server is "*klone*" and "*klone@@2017*"
Retrieve	

C01 – Retrieve Position Information

Source	COM/SMS/GPRS
Description	C01 01 After command is set, tracker sends a position message. 02 When alarm detected, tracker sends alarm SMS with C01 format automatically, to all SOS number(s). 03 When command is sent via GPRS, tracker replies normal position data.
Reply	When command is sent via GPRS, the replied data is normal position package. When command is sent via SMS/COM <string_head>,yyyy-MM-dd hh:mm:ss, <spd>KM/h,<gprs_st>,<gps_fix>,EXPW:<PST> http://maps.google.com/maps?f=q&hl=en&q=loc:<Latitude>,<Longitude>

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	a string_head: SMS head string, for normal position data, *string_head* is empty, for alarm data, refer to Appendix-A for default string. b yyyy-MM-dd hh:mm:ss: current date & time, which is effected by B14 command setting. c spd: current speed, unit km/h. d gprs_st: GPRS link status, value: “Connected” or “Disconnected”. e gps_fix: GPS signal status, ‘A’-fixed, ‘V’-not fixed. f PST: Status of ext-power input, “ON” -- ext-power is connected, “OFF” -- ext-power is disconnected. g Latitude, Longitude: Latitude and longitude of last position point.
Example	C01
Retrieve	UNSUPPORT

C02 – Retrieve Firmware/Hardware Version, SN, IMEI

Source	GPRS/COM/SMS
Description	C02
Reply	Uploading data format: C02,<IMEI>,<SN>,<fw_ver>,<hw_ver> 01 IMEI: IMEI of tracker. 02 SN: Serial number of tracker. 03 fw_ver: Firmware version. 04 hw_ver: Hardware version.
Example	C02
Retrieve	UNSUPPORT

C03 – Retrieve Supply Power Status

Source	GPRS/COM/SMS
Description	C03
Reply	Uploading data format: C03,<extp_v>,<bat_v>,<bat_percentage> 01 extp_v: Voltage of ext-power, unit V. 02 bat_v: Voltage of internal battery. 03 bat_percentage: Percentage of internal battery capacity.
Example	C03
Retrieve	UNSUPPORT

C04 – Retrieve Parameter Setting

Source	GPRS/COM/SMS

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Description	C04,<cmd-code>,<query_para> 01 cmd-code: Command code to be retrieved. 02 query_para: Query parameter; refer to chapters above for detail.
Reply	C04,<cmd>,<cmd-para> 01 cmd-code: The same as sending command. 02 cmd-para: Retrieved parameter string, the same format as setting command described in the above chapters.
Example	Refer to chapters above.
Retrieve	UNSUPPORT

C05 – Retrieve Installation Status of Ultrasonic Fuel Sensor

Source	GPRS/COM/SMS
Description	C05 01 The command is used to retrieve the status of ultrasonic fuel sensor after installation
Reply	C05,<rt_level>,<install-status> 01 rt_level: Current fuel level read from fuel sensor, unit mm 02 install-status: Installation status, string, OK – Installation OK ERROR – No probe installed, or tracker cannot read sensor message Probe Disconnect – The connection of probe lost Probe Unstable – Probe unstable Low Power – Low power supply for fuel sensor Detection Signal Blind – Signal blind, fuel level is too low to be detected
Example	Refer to chapters above.
Retrieve	UNSUPPORT

C06 – Retrieve Basic Information of Tracker

Source	GPRS/COM/SMS
Description	C06 01 Retrieve basic information of tracker in batch 02 The command is commonly used for GPRS linkage lost debug
Reply	C06,<GID>,<ip>:<port>,<TCP/UDP>;APN:<apn>,<apn_user>,<apn_pwd>;EXT:<ext_p>,BAT:<bat_v>;B03:<base_int> ,<accoff_int>,<ns_int>;<ACC ON/OFF>,<Moving/STOP> 01 GID: Tracker ID for GPRS data, default IMEI 02 ip, port: Server setting in tracker 03 TCP/UDP: Transport protocol setting, string, value “TCP” / “UDP” 04 apn, apn_user, apn_pwd: APN setting in tracker 05 ext_p: Voltage of external power supply, unit V 06 bat_v: Voltage of internal battery, unit V 07 base_int, accoff_int, ns_int: GPRS uploading interval for normal situation, for ACC OFF,

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	for parking status, which is the same as B03 setting 08 ACC ON/OFF: Current ACC status, string, value “ACC ON” / “ACC OFF” 09 Moving/STOP: Current motion status, string, value “Moving” / “STOP”
Example	Command: C06 Reply: C06,861694033095389,47.88.35.165:10502,TCP;APN:CMNET,,;EXT:12.00V,BAT:4.17V;B03:100,0,0,ACC OFF,Stop
Retrieve	UNSUPPORT

C08 – Retrieving AD voltage

Source	GPRS/COM/SMS
Description	C08,<rt-data> 01 The command is used to retrieve voltage on AD port. 02 rt-data: 1(default)—Tracker reply real-time voltage; 0—Tracker does smooth filtration, and then replies 03 Different for *rt-data* *rt-data==1*: Voltage is related to sensor itself, when sensor signal is stable, sending C08 command for retrieving, and the result would be true *rt-data==0*: Voltage is related not only to sensor itself, but to working environment (e.g. fuel sensor voltage on running vehicle). Tracker needs at least 1min to sample enough data, does smooth filtration. There could have some error to true voltage. 04 The result of *C08* reply is actual voltage on AD port, which isn’t effected by *B34* command setting
Reply	C08,<AD1>:<ad1-voltage>,<AD2>:<ad2-voltage>….<And>:<and-voltage> 01 adx-voltage: Voltage on ADx, unit V
Example	Command: C08 Reply: C08,AD1:4.32,AD2:4.36
Retrieve	UNSUPPORT

C10 – Retrieving Device Name on RS232 Port

Source	GPRS/COM/SMS
Description	C10
Reply	C10,<com1-dev-name>;<com2-dev-name>;<com3-dev-name>;<com4-dev-name> 01 *com-dev-name* as below

dev-name	Device Type
Camera	Camera
RFID	RFID Reader

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	TUB01	Ultrasonic Fuel Sensor
	fingerprint	fingerprint
	Unknown	Unknown Device
	NONE	No device Installed
Example		
Retrieve	UNSUPPORT	

D05 – Photographing

Source	GPRS/SMS/COM
Description	D05, <resolution>,<cam_id>,<pho_num> 01 resolution: Photo resolution, definition as below, default 3 1: 160*128 2: 320*240 3: 640*480 02 cam_id: Camera ID, value 1~4, multiple ID can be set in this parameter; If *cam_id* field is empty, all cameras are selected, maximally, 4 cameras supported, whose camera ID is 1#, 2#, 3#, 4#. 03 pho_num: photo numbers to be taken, when *pho_num==0* or the field empty, one photo will be taken by default 04 When multiple cameras selected, firstly, tracker will take photo one by one, and then upload image information, which is described in the "Reply" column.
Reply	D05, <date-time>,<lat>,<lon>,<cam_id>,<snap_src>,<pic_fmt>,<pic_size>,<pic_id> 01 After photograph finished (including command control, timing, alarm triggering), tracker will upload *D05* package to server, to indicate the information of photo. 02 GMT0 date & time, in format: YYMMDDHHmmss; Data & Time when photographing a YY: year, value (year – 2000), 2 characters b MM: month, value range 1--12, 2 characters c DD: day, value range 1--31, 2 characters d HH: hour, value range 0--23, 2 characters e mm: minute, value range 0--59, 2 characters f ss: second, value range 0--59, 2 characters 03 lat/lon: Latitude/Longitude when photographing 04 cam_id: Camera ID, which takes photo, value 1~4 05 snap_src: Event source of taking photograph 0: Command 1: Timing photographing 2 Alarm Trigger, this field indicates alarm code (refer to Appendix A). Command *B23* can be used to set enable/disable alarm photographing 06 pic_fmt: Photograph format, as below,

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	1: JPG/JPEG 2: BMP 3: PNG 07 pic_size: photo size, decimal string format, unit byte 08 pic_id: Photo ID, the unique identifier to photo, hexadecimal string format, server can use *pic_id* to fetch or re-fetch photo's data 09 After D05 package uploaded, tracker waits for *D06* package from server, and re-sends D05 package every 30s if *D06* not received. 10 The procedure of photographing, as below:

Step	Tracker	Server
1	Taking photo	Do nothing
2	Uploading D05, which including photo's information	Parsing D05; Sends D06 to fetch data, using *pic_size* and *pic_id*
3	Sending photo data via D06	Parsing D06, saving photo data; Re-sends D06, till all *pic_size* bytes retrieved.

Example	D05,2,1 01 Take photo using 1# camera, resolution 2 (i.e. 320*240) D05,3,123,2 01 Taking photo using 1#, 2#, and 3#, resolution 3 (i.e. 640*480), each camera takes 2 photos (6 photos in total will be taken)
Retrieve	UNSUPPORT

D06 – Retrieve Photo Data

Source	GPRS
Description	D06,<pic_id>,<offset>,<size> 01 After photograph finished (including command control, timing, alarm triggering), tracker will upload *D05* package to server, to indicate the information of photo; Server sends *D06* command to retrieve photo data. 02 pic_id: Photo ID, the unique identifier to photo, hexadecimal string format. This field is the same as *pic_id* from tracker's *D05* package 03 offset: Photo data offset, decimal string format, rage [0,*pic_size*) 04 size: Data size to be retrieved, decimal string format, unit byte, range(0,1024]
Reply	D06, <pic_id>,<offset>,<size>,<pic_data> 01 When *D06* package received, tracker searches photo using *pic_id*, and sends data to server 02 pic_id: Photo ID, the only identifier to photo, hexadecimal string format. It is the same as *pic_id* from server's *D06* package. 03 offset: Photo data offset, decimal string format. It is the same as *offset* from server's *D06* package. 04 size: The size of *pic_data*, decimal string format, unit byte

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	05 pic_data: Photo data, HEX
Example	
Retrieve	UNSUPPORT

D07 – Timing Photographing

Source	GPRS/SMS/COM
Description	D07, <interval>,<resolution>,<cam_id_list>,<pho_num> 01 interval: Timing interval, unit second, range [180, +∞]; If *interval==0*, disable timing photographing function; Setting proper *interval* according to camera number connected to tracker. 02 resolution: Photo resolution, refer to *D05* command for detail. 03 cam_id_list: Camera ID list, value 1~4, multiple ID list is supported. If this field is empty, all cameras are selected. 04 pho_num: photo numbers to be taken, when *pho_num==0* or the field empty, one photo will be taken by default 05 When timing photographing enabled, tracker takes photo when time counter arrived, and uploads *D05* package, which contains photo's information, to server; Server sends *D06* command to retrieve data after receives *D05* package.
Reply	D07,OK
Example	D07,3600,2,12 01 Enable timing photographing, tracker takes photo using 1# and 2# camera, with resolution 320*240, every 3600s. D07,0 01 Disable timing photographing function
Retrieve	C04,D07

S09 – Setting GPRS Heartbeat Interval

Source	GPRS/COM/SMS
Description	S09,<acc-on-interval>,<acc-off-interval> 01 Heartbeat package is independent from normal GPRS position one 02 acc-on-interval, acc-off-interval: Heartbeat interval for ACC ON and ACC OFF, unit: s; default *acc-on-interval==0*, *acc-off-interval==0*, which means heartbeat disabled 03 When *acc-on-interval* or *acc-off-interval* is set to 0, heartbeat disabled for corresponding ACC status 03 Heartbeat data will not be saved to blind buffer; When new heartbeat package generated, old and unsent one will be discarded
Reply	S09,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported.

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	FAILED – Procession failed.
Example	S09,180,300 01 Setting heartbeat interval to 180s for ACC ON, and 300s for ACC OFF S09,0,300 01 Setting heartbeat interval to 300s for ACC OFF, and disable heartbeat for ACC ON S09 01 Disable heartbeat for both ACC ON and ACC OFF
Retrieve	C04,S09

S13 – Switching A02 Package Format

Source	GPRS/COM/SMS
Description	S13,<type>,<tmrout>,<re-send-cnt> 01 Tracker supports two GPRS package format, *A01* and *A02*; *S13* command is used to switch the format 02 type: Package format select, 0—*A01* format, 1—*A02* format *A01* format: normal package format, no acknowledge needed from server *A02* format: uolpad-acknowledge format, tracker wait for acknowledge for uploading confirmation; Re-send package if no acknowledge received 03 tmrout: re-send timeout, unit s, default 60s; After *A02* package uploaded, tracker re-sends the same package after *tmrout* seconds if no acknowledge received 04 re-send-cnt: Maximum package re-sending times; Tracker aborts package when exceeds *re-send-cnt* times; default 0, which means package will be uploaded always 05 *tmrout*, *re-send-cnt* valid under *A02* mode
Reply	S13,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	S13,1 01 Enable A02 format, tmrout and re-send-cnt use default setting (tmrout==60, re-send-cnt==0) 02 Tracker will upload package every 60s always if no acknowledge received
Retrieve	C04,S13

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Appendix A - Alarm Code and Alarm Parameter

The following table describes the relationship of *alm-code* and *alm-para* in GPS Position/Alarm data:

alm-code	alm-para	Description	SMS Head String
1	NULL	Distance tracking	Distance
2	NULL	Input1 active	SOS
3	NULL	Input1 inactive	IN1 Inactive
4	NULL	Input2 active	IN2
5	NULL	Input2 inactive	IN2 Inactive
6	NULL	Input3 active	IN3
7	NULL	Input3 inactive	IN3 Inactive
8	NULL	Input4 active	IN4
9	NULL	Input4 inactive	IN4 Inactive
14	Ext-power voltage, unit V	Ext-power low	Low Ext-Power
15	NULL	Ext-power lost	Ext-Power Cut
16	NULL	Ext-power re-connect	Ext-Power On
17	Battery voltage, unit V	Internal battery low	Low Battery
18	NULL	Speeding alarm	Speeding
20	NULL	GPS antenna cut	GPS Antenna Cut
21	NULL	Vibration Alarm	Vibration Alarm
23	NULL	Harsh accelerate	Harsh Accelerate
24	NULL	Harsh braking	Harsh Braking
25	NULL	Enter sleep	Enter Sleep
26	NULL	Exit sleep	Wake Up
27	NULL	Fatigue driving	Fatigue Driving
28	NULL	Fatigue relieve	Fatigue Relieve
29	NULL	Parking overtime	Parking Overtime
30	NULL	GSM Jamming	GSM Jamming
32	NULL	GPS jamming	GPS Jamming
33	Hexadecimal character: bit[7:4]: geo-fence type: 0 - Circle fence 1 - Polygon fence bit[3:0]: index of fence	Exit geo-fence	Exit Fence
34	The same as “Exit Fence”	Enter geo-fence	Enter Fence
35	NULL	Idling Alarm	Idling Alarm
37	NULL	Login	Login
38	NULL	Log Out	Log Out
39	NULL	Illegal Login	Illegal Login
40	sn	High Temperature	High Temperature

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	sn: Digital temperature sensor's number, refer to B37		
41	sn sn: Digital temperature sensor's number, refer to B37	Low Temperature	Low Temperature
43	com_port com_port: COM port number	COM Port Communication Error	COM Port Error
44	NULL	Fuel Theft Alarm	Fuel Theft
45	NULL	Fuel Filling Alarm	Fuel Filling
46	NULL	Low Fuel Level Alarm	Fuel Level Low
47	NULL	High Fuel Level Alarm	Fuel Level High

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