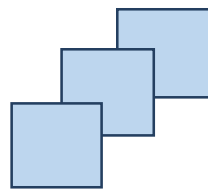


# FIFOTRACK COMMAND LIST




Model: A600/A700

Version: V1.2

[www.fifotrack.com](http://www.fifotrack.com)



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## Document History

Version	Revision Date	Author	Detail
V1.2	Dec 12, 2018	Vito Hu	Add <u>B34</u> , <u>B98</u> , <u>B99</u> command Modify <u>B45</u> command Delete <u>D01</u> , <u>D02</u> , <u>D03</u> , <u>D04</u> command and Appendix B
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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.

## 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.

## 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.



## 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.

## 5 Command List

B00 – Setting GPRS Parameters	
Source	GPRS/COM/SMS
Description	<p>B00,&lt;svr_type&gt;,&lt;net_addr&gt;,&lt;net_port&gt;</p> <p>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.</p> <p>02 net_addr: server IP or domain.</p> <p>03 net_port: server port.</p>
Reply	<p>B00,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>
Example	<p>B00,1, 47.88.35.165,10502</p> <p>01 Set main server: IP-47.88.35.165, port-10502.</p>
Retrieve	<p>C04,B00,&lt;svr_type&gt;</p> <p>01 svr_type: server selection, the same as <u>svr_type</u> field in setting command.</p>

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



<b>B02 – Setting GPRS Link Protocol</b>	
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

<b>B03 – Setting Tracking Time Interval</b>	
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 <u>accoff_tmr</u> and <u>parking_tmr</u> are set, <u>parking_tmr</u> 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

<b>B04 – Setting Roaming Tracking Time Interval</b>	
Source	GPRS/COM/SMS
Description	B04,<roam_tmr> 01 roam_tmr: roaming time interval, unit s, default 0s. 02 When both B03 and B04 are set, tracker uses <u>basic_tmr</u> and <u>roam_tmr</u> for data uploading under different network condition, <u>accoff_tmr</u> and <u>parking_tmr</u> are ignored.



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.
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 <u>course</u> is set to 0, direction change upload is disabled. 03 When driving direction change exceeds the setting value, tracker will upload a 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

<b>B08 – Setting Speeding Alarm</b>	
Source	GPRS/COM/SMS
Description	B08,<speeding>,<buz> 01 speeding: speed, unit km/h, range 0--300, default 0. 02 When <i>speeding</i> is set to 0, speeding alarm is disabled. 03 buz: 1—Enable buzzer when speeding; 0—Disable(default) 04 When <i>buz==1</i> , 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

<b>B10 – Setting SMS Password</b>	
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.
Retrieve	C04,B10

<b>B11 – Setting SOS Number</b>	
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.



	<p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>
Example	<p>B11,15698210011,,15698210200</p> <p>01 Set <u>sos_num1</u> to 15698210011, <u>sos_num2</u> to empty, <u>sos_num3</u> to 15698210200.</p>
Retrieve	C04,B11

## B12 – Output Control

Source	GPRS/COM/SMS
Description	<p>B12,&lt;index&gt;,&lt;action&gt;,&lt;safe_speed&gt;</p> <p>01 index: out port selection, value 1, 2, 3... etc..</p> <p>02 action: Output control, 0~output low level, 1~output high level.</p> <p>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.</p>
Reply	<p>B12,&lt;err_code&gt;</p> <p>01 err_code: error code.</p> <p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED –Processing failed.</p>
Example	<p>B12,1,1,20</p> <p>01 Set out-1 to output high level when speed less than 20km/h.</p>
Retrieve	UNSUPPORT

## B13 – Pulse Output Control

Source	GPRS/COM/SMS
Description	<p>B13,&lt;index&gt;,&lt;on_time&gt;,&lt;off_time&gt;,&lt;pls_cnt&gt;</p> <p>01 index: out port specification, value 1, 2, 3... etc..</p> <p>02 on_time: Duration of high level, unit ms.</p> <p>03 off_time: Duration of low level, unit ms.</p> <p>04 pls_cnt: Pulse number.</p>
Reply	<p>B13,&lt;err_code&gt;</p> <p>01 err_code: error code.</p> <p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED –Processing failed.</p>
Example	<p>B13,1,1000,1000,10</p> <p>01 Set out-1 to output 10 pulse, whose high level duration 1000ms, low level duration 1000ms.</p>



Retrieve	UNSUPPORT
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## B14 – Setting SMS Time Zone

Source	GPRS/COM/SMS
Description	<p>B14,&lt;tzone&gt;</p> <p>01 tzone: time zone, range [-12, 12].</p> <p>02 Default value of <u>tzone</u> is 0.</p> <p>03 When SMS time zone is set, all tracking/alarm SMS use <u>tzone</u> for date &amp; time.</p> <p>04 GPRS data uploading uses UTC-0 time zone.</p>
Reply	<p>B14,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p style="padding-left: 40px;">OK – Succeed.</p> <p style="padding-left: 40px;">UNSUPPORT – Command not supported.</p> <p style="padding-left: 40px;">FAILED – Procession failed.</p>
Example	B14,-8
Retrieve	C04,B14

## B15 – Setting Sleep Mode

Source	GPRS/COM/SMS
Description	<p>B15,&lt;slp_mode&gt;,&lt;slp_wait_tmr&gt;</p> <p>01 slp_mode: sleep mode, 0—sleep is disabled, 1--normal sleep, 2--deep sleep.</p> <p>02 slp_wait_tmr: waiting time to sleep mode, unit s, default 300s.</p> <p>03 Normal sleep: turn off all the power except GSM module, terminal will be waked up by IO trigger, moving, incoming phone-call or SMS.</p> <p>04 Deep sleep: turn off all the power supply, can be waked up by IO trigger or moving only.</p>
Reply	<p>B15,&lt;err_code&gt;</p> <p>01 err_code: error code.</p> <p style="padding-left: 40px;">OK – Succeed.</p> <p style="padding-left: 40px;">UNSUPPORT – Command not supported.</p> <p style="padding-left: 40px;">FAILED –Processing failed.</p>
Example	<p>B15,1</p> <p>01 Enable normal sleep mode, and waiting time to sleep mode is the default 300s.</p>
Retrieve	C04,B15

## 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 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 <u>input</u> field in setting command.
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## B19 – Setting Circle geo-fence

Source	GPRS/COM/SMS
Description	<p>B19,&lt;index&gt;,&lt;flag&gt;,&lt;radius&gt;,&lt;lat&gt;,&lt;lon&gt;</p> <p>01 index: fence index, value 1~8, i.e.: 8 geo-fence can be set at most.</p> <p>02 flag: alarm flag</p> <p style="padding-left: 20px;">flag=1: Trigger alarm when exit fence.</p> <p style="padding-left: 20px;">flag=2: Trigger alarm when enter fence.</p> <p style="padding-left: 20px;">flag=3: Trigger alarm both enter and exit fence.</p> <p>03 radius: radius of circle geo-fence, unit meter.</p> <p>04 lat: latitude of center point, decimal string format.</p> <p>05 lon: longitude of center point, decimal string format.</p> <p>06 When <u>lat</u> and <u>lon</u> are empty, current latitude and longitude is used, while GPS valid signal is needed.</p> <p>07 When <u>flag</u>, <u>radius</u>, <u>lat</u>, <u>lon</u> are empty, delete goe-fence specified by <u>index</u>; When <u>index</u>=0 or empty, delete all.</p>
Reply	<p>B19,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p style="padding-left: 20px;">OK – Succeed.</p> <p style="padding-left: 20px;">UNSUPPORT – Command not supported.</p> <p style="padding-left: 20px;">FAILED – Procession failed.</p>
Example	<p>B19,1,3,200</p> <p>01 Set the first circle geo-fence, centre point: current location, radius: 200m, output alarm when both enter and exit fence.</p> <p>B19,1</p> <p>01 Delete 1# circle fence</p>
Retrieve	C04,B19,<index> 01 index: fence index, value 1~8, the same as <u>index</u> field in setting command.

## B21 – Setting Fatigue Driving

Source	GPRS/COM/SMS
Description	<p>B21,&lt;drowsy_time&gt;,&lt;rest_time&gt;</p> <p>01 drowsy_time: Fatigue driving time, unit s, default 14400s.</p> <p>02 rest_time: Minimum rest time after fatigue driving, unit s, default 1200s.</p> <p>03 When <u>drowsy_time</u> is set to 0, fatigue driving alarm is disabled.</p> <p>04 The field <u>rest_time</u> can be empty, while the default value is used.</p> <p>05 When <u>drowsy_time</u> and <u>rest_time</u> are empty, both values are set to default.</p>



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

## 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 <a href="#">D07</a> command. 07 AN-idx: Complicated action, value 1~6, which corresponds to <a href="#">AN-idx</a> field in <a href="#">B24</a> command; AN is composed of a serial command sets, performing user define operations; Refer to <a href="#">B24</a> command for detail. 08 When both <a href="#">two-way-call</a> and <a href="#">monitor-call</a> are set, <a href="#">monitor-call</a> is valid, while <a href="#">two-way-call</a> ignored.



	09 <u>two-way-call</u> or <u>monitor-call</u> is valid when SOS number set, refer to <u>B11</u> 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. b Sending alarm SMS with <u>C01</u> format to SOS number. c Dial SOS numbers under monitor mode. d Perform operations which is defined by <u>B24</u>
Retrieve	C04,B23,<alm-code> 01 alm-code: Alarm type, refer to Appendix–A. The same as <u>alm-code</u> field in setting command.

## B24 – Setting Complicated Alarm Action

Source	GPRS/COM/SMS
Description	<p>B24,&lt;AN-idx&gt;,'#oper-1',&lt;delay_t&gt;,'#oper-2',....</p> <p>01 The command defines complicated alarm action, “AN” for short; AN is used associated with B23 setting. When both <u>AN-idx</u> field in B23 command, and AN detail in B24 are set, operation can be performed then.</p> <p>02 AN-idx: AN index, value 1~6, corresponds to 1~6 operation sets; It can be selected by <u>AN-idx</u> field in B23 command.</p> <p>03 #oper-[1,2...]: Operation instruction, composed of a serial command(s). Maximum length of 64 bytes.</p> <p>04 delay_t: Delay time between adjoining operation, unit second. It means, tracker performs operations defined by <u>opera-1</u>, delay <u>delay t</u> seconds, then perform <u>opera-2</u></p> <p>05 The writing rule of B24:</p> <ul style="list-style-type: none"> <li>a Single quotes in front of and behind <u>oper-x</u> are needed, which is used to define operation start</li> <li>b <u>oper-x</u> is composed of commands sets, it is written in “Serial port (COM) Command Format”. For example, '#B12,1,1'</li> <li>c <u>delay t</u> is written in digital directly, there is no single quote in front or behind</li> </ul> <p>06 The operation flow of AN action</p> <ul style="list-style-type: none"> <li>a Tracker detects alarm occurring.</li> <li>b Tracker checks whether <u>AN-idx</u> is selected in B23, and whether AN detail is set in B24.</li> <li>c When both B23 and B24 are set, tracker performs operation defined by B24.</li> </ul>
Reply	B24,<err_code> 01 err_code: procession error code.



	<p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>
Example	<p>B23,2,100003</p> <p>B24,3,'#B12,1,1',3,'#B12,1,0'</p> <p>01 Tracker will upload GPRS package, and perform AN3 when SOS detected.</p> <p>02 When SOS detected, tracker uploads GPRS alarm package, set OUTPUT1 high level, delay 3s, and then set OUTPUT1 low level.</p>
Retrieve	<p>C04,B24,&lt;AN-idx &gt;</p> <p>01 AN-idx: AN index, the same as <u>AN-idx</u> field in setting command</p>

## B26 – Setting Alarm SMS Head String

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

## B27 – Setting Parameters of Harsh Acceleration Alarm

Source	GPRS/COM/SMS
Description	<p>B27,&lt;speed_var&gt;,&lt;time_lmt&gt;</p> <p>01 speed_var: maximum acceleration speed, unit km/h, default 0.</p> <p>02 time_lmt: hard acceleration detection time, unit s, default 0.</p> <p>03 Refer to Appendix –A for <u>alm-code</u> of harsh accelerate</p>
Reply	<p>B27,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>
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 <i>speed var</i> , tracker triggers hard braking alarm. 04 Refer to Appendix –A for <i>alm-code</i> 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.



	<p>04 monitor: attribute of monitor-mode conversation.</p> <p>05 pos-sms: attribute of position SMS.</p> <p>06 Description of attribute:</p> <p style="padding-left: 40px;">two-way-call: tracker picks up incoming phone-call in two-way conversation mode.</p> <p style="padding-left: 40px;">monitor: tracker picks up incoming phone-call in monitor mode.</p> <p style="padding-left: 40px;">pos-sms: Tracker sends position SMS after incoming phone-call ends. Refer to C01 command for SMS format.</p> <p>07 When both <u>two-way-call</u> and <u>monitor</u> are set, <u>monitor</u> is valid, i.e.: tracker picks up phone-call in monitor mode.</p> <p>08 When the command string has only <u>sos-num</u> field, default attribute is set to corresponding SOS number.</p> <p>09 Default attribute of SOS number: <u>two-way-call</u> and <u>pos-sms</u>.</p>
Reply	<p>B31,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p style="padding-left: 40px;">OK – Succeed.</p> <p style="padding-left: 40px;">UNSUPPORT – Command not supported.</p> <p style="padding-left: 40px;">FAILED – Procession failed.</p>
Example	<p>B31,1,1,1,1</p> <p>01 Set attribute of the first SOS number: tracker automatically picks up incoming phone-call under monitor mode, reply a position SMS.</p>
Retrieve	<p>C04,B31,&lt;sos-num&gt;</p> <p>01 sos-num: SOS index, value 1, 2, 3. The same as <u>sos-num</u> field in setting command.</p>

## B33 – Setting Maximum Idle Time

Source	GPRS/COM/SMS
Description	<p>B33,&lt;idle_time&gt;</p> <p>01 idle_time: maximum idle time, unit: s, default 0s. This parameter should be greater than 300s.</p> <p>02 idle definition: ACC ON, but no speed, which means engine running under idle mode.</p> <p>03 When idle mode detected, tracker starts idle time counter, and triggers <u>Idling Alarm</u> (<u>alm_code</u>=35), if counter exceeds <u>idle_time</u>.</p>
Reply	<p>B33,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p style="padding-left: 40px;">OK – Succeed.</p> <p style="padding-left: 40px;">UNSUPPORT – Command not supported.</p> <p style="padding-left: 40px;">FAILED – Procession failed.</p>
Example	<p>B33,600</p> <p>01 Set maximum idle time to 600s</p>
Retrieve	C04,B33

## B34 – Setting Voltage Range for AD Port

Source	GPRS/COM/SMS															
Description	<p>B34,&lt;index&gt;,&lt;min_volt&gt;,&lt;max_volt&gt;,&lt;filter-option&gt;</p> <p>01 index: AD port index, 1 or 2, which corresponds to AD1 and AD2</p> <p>02 min_volt: AD port voltage when external input is 0%, unit V</p> <p>03 max_volt: AD port voltage when external input is 100%, unit V</p> <p>04 filter-option: filter option for AD sample data</p> <p><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</p> <p><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</p> <p><u>filter-option</u>==2: upload AD sample data real-time, ignoring ACC and external power status</p> <p>05 Default value for AD input</p> <table border="1"> <thead> <tr> <th>port</th> <th>min_volt/V</th> <th>max_volt/V</th> <th>filter-option</th> <th>Description</th> </tr> </thead> <tbody> <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> </tbody> </table>	port	min_volt/V	max_volt/V	filter-option	Description	AD1	0	5	0	Get sample data according to external power status	AD2	0	0	0	Real-time get sample data and upload
port	min_volt/V	max_volt/V	filter-option	Description												
AD1	0	5	0	Get sample data according to external power status												
AD2	0	0	0	Real-time get sample data and upload												
Reply	<p>B34,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>															
Example	<p>B34,1,0,5.0</p> <p>01 Setting voltage range of AD1 to [0,5]V, getting sample data when external power exist, keeping sample data when external power disconnected</p>															
Retrieve	C04,B34,<index>															

## B37 – Setting Digital Temperature Number

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



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

### B38 – Setting High/Low Temperature Alarm

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





	01 Setting #1 sensor's parameters, high temperature threshold: disable, low temperature threshold: -20°C  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 <u>t_sensor_sn</u> 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 °C; 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



	<p>number is hexadecimal, use '#' in front</p> <p>02 To authorize RFID/iButton tags in batches, send B42 only, with <u>rdid_num1</u>, <u>rfid_num2 ... rfid_numN</u> 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.</p> <p>03 Refer to Appendix A for <u>alm-code</u> of "Login", "Log Out" and "Illegal Login".</p> <p>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.</p> <p>05 If no tag(s) authorized, tracker will not generate "Illegal Login".</p>
Reply	<p>B42,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>
Example	<p>B42,1234567,1234568,1234569</p> <p>01 Authorize 3 RFID/iButton tags, whose number 1234567,1234568,1234569</p> <p>B42,1234567,1234568,#1234569</p> <p>01 Authorize 3 RFID/iButton tags, whose number 1234567,1234568,0x1234569</p> <p>B42</p> <p>01 Start batch tags authorizing, tracker regards tags, which are read in the following 3 minutes, as authorized ones.</p>
Retrieve	UNSUPPORT

## B43 – Delete Authorized RFID/iButton Tag(s)

Source	GPRS/COM/SMS
Description	<p>B43,&lt;ALL&gt;/&lt;rfid_num1&gt;,&lt;rfid_num2&gt;...&lt;rfid_numN&gt;</p> <p>01 rfid_num[1,N]: RFID/iButton tag number to be deleted. For iButton tag, whose number is hexadecimal, use '#' in front</p> <p>02 B43,ALL: Delete all authorized tag(s).</p> <p>03 To delete tags in batches, send B43 only, with <u>rfid_num1</u>, <u>rfid_num2...rfid_numN</u> 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.</p>
Reply	<p>B43,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>
Example	<p>B43,1234567,1234568,1234569</p> <p>01 Delete 3 authorized RFID tags, whose number 1234567,1234568,1234569.</p>



	<p>B43,1234567,1234568,#1234569</p> <p>01 Delete 3 authorized RFID tags, whose number 1234567,1234568,0x1234569.</p> <p>B43</p> <p>01 Start batch operation, tracker delete tags, which are read in the following 3 minutes.</p>
Retrieve	UNSUPPORT

## B44 – Retrieve RFID/iButton Tag(s) Authorization

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

## B45 – RFID/iButton/Fingerprint Optional Function

Source	GPRS/COM/SMS
Description	<p>B45,&lt;acc-off-logout&gt;,&lt;buz-tip&gt;,&lt;acc-on-no-logout&gt;</p> <p>01 acc-off-logout: 1(default) – Force logout When ACC OFF; 0—Keeping login status when ACC OFF. After setting <u>acc-off-logout==1</u>, tracker will set current status to logout, and trigger “Log out” alarm when ACC OFF</p> <p>02 buz-tip: Enable/Disable buzzer function for reminder function; 1—Enable, 0—Disable. Tracker will beep for reminder under below condition:</p> <ul style="list-style-type: none"> <li>a Under logout status, when ACC ON, buzzer beeps to remind swiping card to log in</li> <li>b Log in, buzzer beeps once</li> <li>c Log out, buzzer beeps twice</li> </ul> <p>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.</p> <p><u>acc-on-no-logout==1</u>: Tracker does noting when swiping the same card, while generates “Log in” alarm when swiping different card, with new card ID in GPRS package</p> <p><u>acc-on-no-logout==0</u>: 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</p>
Reply	<p>B45,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p>



	<p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>
Example	
Retrieve	C04,B45

## B46 – Setting Passenger Mode for RFID/iButton/Fingerprint

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

## B80 – Setting Fuel Theft/Filling Alarm

Source	GPRS/COM/SMS
Description	<p>B80,&lt;ad-idx&gt;,&lt;theft-percentage&gt;,&lt;filling -percentage&gt;,&lt;use-acc&gt;</p> <p>01 The command is used for AD fuel sensor, such as AS10; Besides, it is valid on regular tank only at present.</p> <p>02 ad-idx: AD channel which connects to fuel sensor, value 1/2; If <u>ad-idx==0</u>, disable fuel theft/filling function.</p>



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

## B81 – Setting Fuel Level Alarm

Source	GPRS/COM/SMS
Description	<p>B81,&lt;ad-idx&gt;,&lt;low-percentage&gt;,&lt;high-percentage&gt;</p> <p>01 The command is used for AD fuel sensor, such as AS10; Besides, it is valid on regular tank only at present.</p> <p>02 ad-idx: AD channel which connects to fuel sensor, value 1/2; If <u>ad-idx==0</u>, disable fuel level detection.</p> <p>03 low-percentage: Percentage of low fuel level, unit %, tracker will send alarm when the fuel level is lower than the setting value. If <u>low-percentage==0</u> or field empty, disable low fuel level detection.</p> <p>04 high-percentage: Percentage of high fuel level, unit %, tracker will send alarm when the fuel level is higher than the setting value. If <u>high-percentage==0</u> or field empty, disable high fuel level detection.</p>
Reply	<p>B81,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>
Example	<p>B81,1,15,80</p> <p>01 Enable low and high fuel level detection calculated based on AD1</p> <p>02 When fuel level is lower than 15%, tracker sends alarm</p>



	03 When fuel level is higher than 80%, tracker sends alarm
Retrieve	C04,B81

## B82 – Enable/Disable Fuel Consumption Statistics

Source	GPRS/COM/SMS
Description	<p>B82,&lt;ad-idx&gt;,&lt;use-acc&gt;,&lt;add-theft&gt;,&lt;clear&gt;</p> <p>01 The command is used for AD fuel sensor, such as AS10; Besides, it is valid on regular tank only at present.</p> <p>02 ad-idx: AD channel which connects to fuel sensor, value 1/2; If <u>ad-idx=0</u>, disable fuel consumption statistics.</p> <p>03 use-acc: Whether tracker connects to ACC or not. To get better calculation result, it is suggested to connect IN2 to ACC. If <u>use-acc</u> field empty, by default, it is regarded that ACC connected.</p> <p>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.</p> <p>05 clear: 0—Keep current fuel consumption data unchanged; 1—Clear current consumption data, and calculated from 0</p> <p>06 After fuel consumption statistics enabled, fuel consumption data is packed in <u>fuel consume</u> field in GPRS protocol.</p>
Reply	<p>B82,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p style="padding-left: 40px;">OK – Succeed.</p> <p style="padding-left: 40px;">UNSUPPORT – Command not supported.</p> <p style="padding-left: 40px;">FAILED – Procession failed.</p>
Example	<p>B82,1,1,1,1</p> <p>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.</p>
Retrieve	<p>C04,B82</p> <p>Reply: B82,&lt;ad-idx&gt;,&lt;use-acc&gt;,&lt;add-theft&gt;</p>

## B90 – Reset Tracker or Module

Source	GPRS/COM/SMS
Description	<p>B90,&lt; select &gt;</p> <p>01 select: option</p> <p style="padding-left: 40px;">=1: Reset tracker.</p> <p style="padding-left: 40px;">=2: Reset GPS module.</p> <p style="padding-left: 40px;">=3: Reset GSM module.</p> <p style="padding-left: 40px;">=4: Reset F18</p>



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

## B98 – Setting Lower Power Parameters

Source	GPRS/COM/SMS									
Description	<p>B98,&lt;low_pwr_v&gt;,&lt;low_recovery_v&gt;,&lt;control&gt;</p> <p>01 The command is used to set the parameters of low external power alarm</p> <p>02 low_pwr_v: Low power alarm voltage, unit V; When external power input is lower than <u>low_pwr_v</u>, tracker sends “Low Ext-Power” alarm, and cuts off power supply if <u>control</u>==1, in order to protect auto battery.</p> <p>03 low_recovery_v: External power recovery voltage, unit V; When external power input is higher than <u>low_recovery_v</u>, it is regards that external power is normal; tracker clears “Low Ext-Power” flag, and restore external power supply if <u>control</u>==1.</p> <p>04 control: 1—cut off external power supply when external input is lower than <u>low_pwr_v</u>, and restore supply when external input higher than <u>low_recovery_v</u>, it is used to protect auto battery; 0(default)—Disable auto battery protection.</p> <p>05 It is suggested to set parameters which (<u>low_recovery_v</u> – <u>low_pwr_v</u>) &gt;= 0.5V</p> <p>06 Default settings for 12V or 24V auto battery, as below table:</p> <table border="1" data-bbox="448 1518 1278 1648"> <thead> <tr> <th></th> <th>low_pwr_v</th> <th>low_recovery_v</th> </tr> </thead> <tbody> <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> </tbody> </table> <p>07 The command is suitable for A700 only, while A600 doesn't support</p>		low_pwr_v	low_recovery_v	12V Auto Battery	11.5V	12.5V	24V Auto Battery	23.5V	24.5V
	low_pwr_v	low_recovery_v								
12V Auto Battery	11.5V	12.5V								
24V Auto Battery	23.5V	24.5V								
Reply	<p>B98,&lt;err_code&gt;</p> <p>01 err_code: procession error code.</p> <p>OK – Succeed.</p> <p>UNSUPPORT – Command not supported.</p> <p>FAILED – Procession failed.</p>									
Example	<p>B98,11.5,12.5</p> <p>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.</p>									





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

B99 – OTA using FTP Server							
Source	GPRS/COM/SMS						
Description	<p>B99,&lt;file_name&gt;,&lt;option&gt;,&lt;ftp_address&gt;,&lt;ftp_port&gt;,&lt;ftp_loginid&gt;,&lt;ftp_loginpwd&gt;,&lt;apn&gt;,&lt;apn_name&gt;,&lt;apn_pwd&gt;</p> <p>01 file_name: file name for OTA, should be “xxx.bin” format</p> <p>02 option: option for OTA, when the field empty, using default setting</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">option</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0(default)</td> <td>Normal OTA, tracker check whether <u>file_name</u> match current version or not</td> </tr> <tr> <td>1</td> <td>Mandatory OTA, tracker doesn't check <u>file_name</u></td> </tr> </tbody> </table> <p>03 ftp_address: FTP server address, default 47.88.17.17</p> <p>04 ftp_port: FTP server port, default 21</p> <p>05 ftp_loginid, ftp_loginpwd: FTP login user-name and password, when fields empty, using default account on 47.88.17.17</p> <p>06 apn, apn_name, apn_pwd: APN setting for FTP connection, default, tracker using the same setting as <u>B01</u> command</p> <p>07 After <u>B99</u> command received, tracker matches <u>file_name</u> to current firmware version, and starts OTA according to result</p> <p>08 During OTA operation, tracker will disconnect from tracking server, stop timing uploading/photographing.</p> <p>09 The timeout for FTP OTA is 15mins, when exceed, tracker will restart automatically, and connect to tracking server</p> <p>10 External power connection is needed during OTA operation, it is used for tracking reboot after OTA finished</p>	option	Description	0(default)	Normal OTA, tracker check whether <u>file_name</u> match current version or not	1	Mandatory OTA, tracker doesn't check <u>file_name</u>
option	Description						
0(default)	Normal OTA, tracker check whether <u>file_name</u> match current version or not						
1	Mandatory OTA, tracker doesn't check <u>file_name</u>						
Reply	<p>B99,&lt;err_str&gt;</p> <p>01 err_str: Error code, string format</p> <p style="padding-left: 40px;">“Invalid BIN file” - <u>file_name</u> doesn't match current firmware version</p> <p style="padding-left: 40px;">“No ext-pwr, Please Connect in 15mins” – External power disconnect</p> <p style="padding-left: 40px;">“The Same Version” – file_name has the same version to current firmware version</p> <p style="padding-left: 40px;">“OK” – OTA start</p>						
Example	<p>B99,600-V1.07.bin</p> <p>01 Start OTA, tracker will connect to 47.88.17.17:21, using default FTP account for file download</p> <p>B99, 600-V1.07.bin,1, 120.24.95.123,9208,klone,klone@@2017</p>						



	01 Start OTA, tracker will connect to <u>120.24.95.123:9208</u> , and upgrade to " <u>600-V1.07.bin</u> "
	02 The login name and password of FTP server is " <u>klone</u> " and " <u>klone@@2017</u> "
Retrieve	

## C01 – Retrieve Position Information

Source	COM/SMS/GPRS
Description	<p>C01</p> <p>01 After command is set, tracker sends a position message.</p> <p>02 When alarm detected, tracker sends alarm SMS with C01 format automatically, to all SOS number(s).</p> <p>03 When command is sent via GPRS, tracker replies normal position data.</p>
Reply	<p>When command is sent via GPRS, the replied data is normal position package.</p> <p>When command is sent via SMS/COM</p> <p>&lt;string_head&gt;,yyyy-MM-dd hh:mm:ss, &lt;spd&gt;KM/h,&lt;gprs_st&gt;,&lt;gps_fix&gt;,EXPW:&lt;PST&gt;  <a href="http://maps.google.com/maps?f=q&amp;hl=en&amp;q=loc:&lt;Latitude&gt;,&lt;Longitude&gt;">http://maps.google.com/maps?f=q&amp;hl=en&amp;q=loc:&lt;Latitude&gt;,&lt;Longitude&gt;</a></p> <p>a string_head: SMS head string, for normal position data, <u>string_head</u> is empty, for alarm data, refer to Appendix-A for default string.</p> <p>b yyyy-MM-dd hh:mm:ss: current date &amp; time, which is effected by B14 command setting.</p> <p>c spd: current speed, unit km/h.</p> <p>d gprs_st: GPRS link status, value: "Connected" or "Disconnected".</p> <p>e gps_fix: GPS signal status, 'A'-fixed, 'V'-not fixed.</p> <p>f PST: Status of ext-power input, "ON" -- ext-power is connected, "OFF" -- ext-power is disconnected.</p> <p>g Latitude, Longitude: Latitude and longitude of last position point.</p>
Example	C01
Retrieve	UNSUPPORT

## C02 – Retrieve Firmware/Hardware Version, SN, IMEI

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

Retrieve	UNSUPPORT
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### 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
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, 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

## D05 – Photographing

Source	GPRS/SMS/COM
Description	D05, <resolution>,<cam_id> 01 resolution: Photo resolution, definition as below, default 2 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 <i>cam_id</i> field is empty, all cameras are selected, maximally, 4 cameras supported, whose camera ID is 1#, 2#, 3#, 4#. 03 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),



	<p>tracker will upload D05 package to server, to indicate the information of photo.</p> <p>02 GMT0 date &amp; time, in format: YYMMDDHHmmss; Data &amp; Time when photographing</p> <p>a YY: year, value (year – 2000), 2 characters</p> <p>b MM: month, value range 1--12, 2 characters</p> <p>c DD: day, value range 1--31, 2 characters</p> <p>d HH: hour, value range 0--23, 2 characters</p> <p>e mm: minute, value range 0--59, 2 characters</p> <p>f ss: second, value range 0--59, 2 characters</p> <p>03 lat/lon: Latitude/Longitude when photographing</p> <p>04 cam_id: Camera ID, which takes photo, value 1~4</p> <p>05 snap_src: Event source of taking photograph</p> <p>0: Command</p> <p>1: Timing photographing</p> <p>2 Alarm Trigger, this field indicates alarm code (refer to Appendix A). Command B23 can be used to set enable/disable alarm photographing</p> <p>06 pic_fmt: Photograph format, as below,</p> <p>1: JPG/JPEG</p> <p>2: BMP</p> <p>3: PNG</p> <p>07 pic_size: photo size, decimal string format, unit byte</p> <p>08 pic_id: Photo ID, the unique identifier to photo, hexadecimal string format, server can use <u>pic_id</u> to fetch or re-fetch photo's data</p> <p>09 After D05 package uploaded, tracker waits for D06 package from server, and re-sends D05 package every 30s if D06 not received.</p> <p>10 The procedure of photographing, as below:</p> <table border="1"> <thead> <tr> <th>Step</th> <th>Tracker</th> <th>Server</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Taking photo</td> <td>Do nothing</td> </tr> <tr> <td>2</td> <td>Uploading D05, which including photo's information</td> <td>Parsing D05; Sends D06 to fetch data, using <u>pic_size</u> and <u>pic_id</u></td> </tr> <tr> <td>3</td> <td>Sending photo data via D06</td> <td>Parsing D06, saving photo data; Re-sends D06, till all <u>pic_size</u> bytes retrieved.</td> </tr> </tbody> </table>	Step	Tracker	Server	1	Taking photo	Do nothing	2	Uploading D05, which including photo's information	Parsing D05; Sends D06 to fetch data, using <u>pic_size</u> and <u>pic_id</u>	3	Sending photo data via D06	Parsing D06, saving photo data; Re-sends D06, till all <u>pic_size</u> bytes retrieved.
Step	Tracker	Server											
1	Taking photo	Do nothing											
2	Uploading D05, which including photo's information	Parsing D05; Sends D06 to fetch data, using <u>pic_size</u> and <u>pic_id</u>											
3	Sending photo data via D06	Parsing D06, saving photo data; Re-sends D06, till all <u>pic_size</u> bytes retrieved.											
Example	<p>D05,2,1</p> <p>01 Take photo using 1# camera, resolution 2 (i.e. 320*240)</p> <p>D05,3,123</p> <p>01 Taking photo using 1#, 2#, and 3#, resolution 3 (i.e. 640*480)</p>												
Retrieve	UNSUPPORT												

D06 – Retrieve Photo Data	
Source	GPRS
Description	D06,<pic_id>,<offset>,<size>



	<p>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.</p> <p>02 <u>pic_id</u>: Photo ID, the unique identifier to photo, hexadecimal string format. This field is the same as <u>pic_id</u> from tracker's D05 package</p> <p>03 <u>offset</u>: Photo data offset, decimal string format, range [0,<u>pic_size</u>)</p> <p>04 <u>size</u>: Data size to be retrieved, decimal string format, unit byte, range(0,1024]</p>
Reply	<p>D06, &lt;pic_id&gt;,&lt;offset&gt;,&lt;size&gt;,&lt;pic_data&gt;</p> <p>01 When D06 package received, tracker searches photo using <u>pic_id</u>, and sends data to server</p> <p>02 <u>pic_id</u>: Photo ID, the only identifier to photo, hexadecimal string format. It is the same as <u>pic_id</u> from server's D06 package.</p> <p>03 <u>offset</u>: Photo data offset, decimal string format. It is the same as <u>offset</u> from server's D06 package.</p> <p>04 <u>size</u>: The size of <u>pic_data</u>, decimal string format, unit byte</p> <p>05 <u>pic_data</u>: Photo data</p>
Example	
Retrieve	UNSUPPORT

## D07 – Timing Photographing

Source	GPRS/SMS/COM
Description	<p>D07, &lt;interval&gt;,&lt;resolution&gt;,&lt;cam_id_list&gt;</p> <p>01 interval: Timing interval, unit second, range [900, +∞]; If <u>interval</u>=0, disable timing photographing function</p> <p>02 resolution: Photo resolution, refer to D05 command for detail.</p> <p>03 <u>cam_id_list</u>: Camera ID list, value 1~4, multiple ID list is supported. If this field is empty, all cameras are selected.</p> <p>04 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.</p>
Reply	D07,OK
Example	<p>D07,3600,2,12</p> <p>01 Enable timing photographing, tracker takes photo using 1# and 2# camera, with resolution 320*240, every 3600s.</p> <p>D07,0</p> <p>01 Disable timing photographing function</p>
Retrieve	C04,D07

## 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



	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