

FIFOTRACK COMMAND LIST

Model: Q3

Version: V1.8

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Document History

Version	Revision Date	Author	Detail
V1.8	Feb 20, 2024	Vito Hu	Modify <u>B23</u> command
V1.7	Oct 26, 2023	Vito Hu	Add <u>B78</u> command Add <u>pre-alm-delay</u> in <u>B35</u> , <u>B36</u> , <u>B76</u> command Add alarm code 53/54/55/56 in "Appendix A"
V1.6	Jul 10, 2023	Vito Hu	Add <u>S19</u> command Add <u>mode 3</u> in <u>B71</u> command
V1.5	May 15, 2023	Vito Hu	Add <u>pre-alarm-t</u> in <u>B76</u> command Add <u>S17</u> , <u>S21</u> command
V1.4	Feb 15, 2023	Vito Hu	Modify <u>B00</u> command Add <u>S20</u> command Modify Appendix A
V1.3	Nov 30, 2022	Vito Hu	Modify <u>B29</u> command, add <u>rom-level</u> field Add <u>B35</u> command, "Setting Tilt Detection" Modify <u>B36</u> title to "Setting Fall Down Detection" Modify <u>B70</u> command, add <u>long-key-voice</u> field Modify <u>B76</u> command Modify Appendix A
V1.2	Sep 30, 2022	Vito Hu	Modify <u>B32</u> command Delete <u>vol-change-disable</u> field in <u>B70</u> Add <u>num-se1</u> field in <u>B72</u>
V1.1	Sep 9, 2022	Vito Hu	Initial Version

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1 GPRS Command Format

GPRS uplink (i.e.: Data is sent from terminal 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 terminal) command format:

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

Remarks:

- ⊙ Comma (,) is used to separate data field, 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: Terminal 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 chapter.
- ⊙ 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". B10 command can be used to change password

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

03 cmd-para: command parameter, the same as cmd-para filed 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 filed of GPRS/SMS command.

proc-result: SMS command procession result

OK – Succeed.

UNSUPPORT – Command not supported.

FAILED –Procession failed.

4 Command Writing Specification

- ⦿ Comma (,) is used to separate multi-filed, there is no space before and after comma.
- ⦿ For command with multi parameters, filed(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 – Open/Close TCP Connection	
Source	GPRS/COM/SMS
Description	B00,<type>,<IP-domain>,<port> 01 type: 0 (Default)~Close TCP Connection; 1~Open TCP Connection 02 IP-domain: server IP or domain. 03 port: server port.
Reply	B00,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B00,0 01 Close TCP Connection, tracker will neither generate nor send GPRS package B00,0,47.88.35.165,10502 01 Close TCP Connection, tracker will neither generate nor send GPRS package B00,1,47.88.35.165,10502 01 Open TCP connection, and all generated data will be sent to remote server 47.88.35.165:10502
Retrieve	C04,B00

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 <i>apn_usr</i> and <i>apn_pwd</i> fields empty, if neither APN username nor APN password exists. 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

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,<moving_tmr>,<stop_tmr> 01 moving_tmr: time interval when moving, unit s, default 30s. When <u>moving_tmr==0</u> , tracking disabled for moving status. 02 stop_tmr: time interval when stop, unit s, default 30s. When <u>stop_tmr==0</u> , tracking disabled for stop status 03 When <u>stop_tmr</u> field empty, it is set to the same value as <u>moving_tmr</u>
Reply	B03,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B03,60 01 Set both <u>moving_tmr</u> and <u>stop_tmr</u> to 60s, tracker uploads position data every 60s. B03,60,0 01 Set <u>moving_tmr</u> to 60s, and <u>stop_tmr</u> to 0, tracker uploads data every 60s when moving, and stops uploading for stop status.
Retrieve	C04,B03

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.
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 <u>sos_num1</u> to 15698210011, <u>sos_num2</u> to empty, <u>sos_num3</u> to 15698210200.
Retrieve	C04,B11

B14 – Setting SMS Time Zone	
Source	GPRS/COM/SMS
Description	B14,<tzone> 01 tzone: time zone, range [-12, 12]. 02 Default value of <u>tzone</u> is 0. 03 When SMS time zone is set, all tracking/alarm SMS use <u>tzone</u> for date & time. 04 B14 setting doesn't affect date & time in GPRS package, which always 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

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

B19 – Setting Circle geo-fence

Source	GPRS/COM/SMS
Description	B19,<index>,<flag>,<radius>,<lat>,<lon> 01 index: fence index, value 1~4, i.e.: 4 geo-fence can be set at most. 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 radius: radius 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 <i>flag</i> , <i>radius</i> , <i>lat</i> , <i>lon</i> are empty, delete goe-fence specified by <i>index</i> ; When <i>index</i> =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	
Retrieve	C04,B19,<index> 01 index: fence index, value 1~4, the same as <i>index</i> field in setting command.

B23 – Setting Alarm Action

Source	GPRS/COM/SMS
Description	<p>B23,<alm-code>,<GPRS><sos1-sms><sos1-two-way><sos1-monitor>,<sos2-sms><sos2-two-way><sos2-monitor>,<sos3-sms><sos3-two-way><sos3-monitor></p> <p>01 alm-code: Alarm type, refer to <i>Appendix –A</i>.</p> <p>02 GPRS: 1~Enable GPRS uploading; 0~Disable</p> <p>03 <sosx-sms><sosx-two-way><sosx-monitor>: Action to SOS number. <i>x</i> range 1/2/3, which corresponds to #1/#2/#3 SOS number. SOS number can be set using <i>B11</i> command. Three groups of action supported, separated using comma (,). Each group has three options:</p> <p><i>sosx-sms</i>: 1~ Enable sending SMS to #x SOS number; 0~Disable</p> <p><i>sosx-two-way</i>: 1~ Enable dialing #x SOS number under two-way mode; 0~Disable</p> <p><i>sosx-monitor</i>: 1~Enable dialing #x SOS number under monitor mode; 0~Disable</p> <p>04 When both <i>sosx-two-way</i> and <i>sosx-monitor</i> are set, <i>sosx-monitor</i> is valid, while <i>sosx-two-way</i> ignored.</p> <p>05 If the field of #2 or #3 SOS number action is empty, use the same settings as #1 number. Refer to “Example”</p>
Reply	<p>B23,<err_code></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>B23,2,1101</p> <p>01 Set action for “SOS” alarm</p> <p>a Sending GPRS alarm data to server</p> <p>b Action to #1 SOS number: Sending alarm SMS; Monitoring dialing</p> <p>c Action to #2 SOS number: Sending alarm SMS; Monitoring dialing. (#2 field empty, use the same setting as #1 number)</p> <p>d Action to #3 SOS number: Sending alarm SMS; Monitoring dialing. (#3 field empty, use the same setting as #1 number)</p> <p>02 The command equals to “B23,2,1101,101,101”</p> <p>B23,25,1101,100</p> <p>01 Set action for “Tilt” alarm</p> <p>a Sending GPRS alarm data to server</p> <p>b Action to #1 SOS number: Sending alarm SMS; Monitoring dialing</p> <p>c Action to #2 SOS number: Sending alarm SMS;</p>

	<p>d Action to #3 SOS number: Sending alarm SMS; Monitoring dialing. (#3 field empty, use the same setting as #1 number)</p> <p>02 The command equals to “B23,25,1101,100,101”</p> <p>B23,31,1101,100,110</p> <p>01 Set action for “Fall Down” alarm</p> <p>a Sending GPRS alarm data to server</p> <p>b Action to #1 SOS number: Sending alarm SMS; Monitoring dialing</p> <p>c Action to #2 SOS number: Sending alarm SMS;</p> <p>d Action to #3 SOS number: Sending alarm SMS; Two-way dialing.</p>
Retrieve	<p>C04,B23,<alm-code></p> <p>01 alm-code: Alarm type, refer to Appendix-A. The same as alm-code field in setting command.</p>

B26 – Setting Alarm SMS Head String

Source	GPRS/COM/SMS
Description	<p>B26,<alm-code>,<sms_string></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 When send “B26” only, with alm-code and sms_string fields empty, set all head string to default</p> <p>04 Refer to Appendix-A for default string.</p>
Reply	<p>B26,<err_code></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,<alm-code></p> <p>01 alm-code: Alarm type, refer to Appendix -A. The same as alm-code field in setting command.</p>

B29 – Setting Sensitivity of Motion Sensor

Source	GPRS/COM/SMS
Description	<p>B29,<mov-stop-level>,<rom-level></p> <p>01 mov-stop-level: sensitivity of motion sensor, value [0, 100], default 10; the smaller value, the higher sensitivity</p> <p>02 rom-level: sensitivity for reset-on-motion function, range [0,100], default 5; the smaller value, the higher sensitivity</p>

	03 <i>mov-stop-level</i> is used for the judgment of Moving/Stop, “No Movement” detection 04 rom-level is used for reset-on-motion in “Tilt”/”Fall Down” function
Reply	B29,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B29,20
Retrieve	C04,B29

B31 – Setting SOS Number Attribute

Source	GPRS/COM/SMS
Description	B31,<sos-num-idx>,<two-way-call>,<monitor>,<pos-sms> 01 Set SOS number attribute, refer to <u>B11</u> command for SOS number setting. 02 sos-num-idx: SOS index, value 1, 2, 3, which corresponds to SOS number set by <u>B11</u> 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 attributes: two-way-call: Pressing SOS button to pick up incoming phone-call in two-way conversation mode. monitor: tracker automatically picks up incoming phone-call in monitor mode. pos-sms: Tracker sends position SMS after incoming phone-call ends. Refer to <u>C01</u> command for SMS format. 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. 08 When the command string has only <u>sos-num-idx</u> field, default attribute is set to corresponding SOS number. 09 Default attribute of SOS number: <u>two-way-call</u> and <u>pos-sms</u> .
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 <u>sos-num</u> field in setting command.

B32 – Setting Conversation Volume	
Source	GPRS/COM/SMS
Description	<p>B32,<vol-spk>,<vol-mic>,<vol-fix></p> <p>01 The command is used to set self-defined volume for phone-call conversation</p> <p>02 vol-spk: Self-defined speaker volume, unit %, range 0~100, default 0</p> <p>03 vol-mic: Self-defined microphone gain, unit %, range 0~100, default 0</p> <p>04 vol-fix: 0(default)~pressing CAL button can change conversation between default and self-defined; 1~Using the SPK/MIC volume set by <u>B32</u> command for conversation</p> <p>05 Default volume: Speaker~40%, Microphone~63%</p> <p>06 Due to hardware limitations, 17% change rate corresponds to one step for speaker, and 13% for microphone</p>
Reply	<p>B32,<err_code></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>B32,34,50,1</p> <p>01 Set speaker volume to 34%, and microphone gain to 50%; Using the volume setting for all conversation, pressing CAL button cannot change volume</p>
Retrieve	C04,B32

B35 – Setting Tilt Detection	
Source	GPRS/COM/SMS
Description	<p>B35,<enable>,<angle>,<pre-alm-t>,<alarm-t>,<option>,<reset-angle>,<pre-alm-delay></p> <p>01 enable: 0~Disable tilt detection (default); 1~Enable</p> <p>02 angle: Angle of change to trigger “Tilt” alarm, unit degree, range [0°,90°], default 30°</p> <p>03 pre-alm-t: pre-alarm duration, unit second, default 30s, range [0,1000].</p> <p>04 alarm-t: Alarm trigger delay, unit second, default 30s. After tilt detected, tracker do nothing but pre-alarm, and sends GPRS/SMS alarm package when <u>alarm-t</u> expired</p> <p>05 option: Optional function for “Tilt” alarm</p> <p><u>option==1</u>: reset-on-motion, tracker stops pre-alarm and alarm trigger delay when shaking</p> <p><u>option==2</u>: reset-on-angle, tracker stops pre-alarm and alarm trigger delay when angle change less than <u>reset-angle</u></p> <p><u>option==3</u> (default): tracker stops pre-alarm and alarm trigger delay when shaking or angle change less than <u>reset-angle</u></p> <p>06 reset-angle: Angle of change to stop pre-alarm and alarm trigger delay, valid when <u>option==2</u> or <u>option==3</u>, unit degree, default 15°, range [0,<u>angle</u>]</p> <p>07 pre-alm-delay: pre-alarm delay, unit second, default 0.</p> <p>08 pre-alarm definition: When tilt detected, tracker keeps silent for <u>pre-alm-delay</u> seconds, and then starts voice displaying, to remind user, for <u>pre-alm-t</u> seconds</p>

	09 "Tilt" alarm code 25. Refer to Appendix-A for more detail
Reply	B35,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B35,1,30,30,20,3 01 Enable tilt detection, when angle change large than 30°, tracker starts pre-alarm (voice displaying) for 30s, and delay 20s to send out "Tilt" alarm (GPRS/SMS/Call) 02 Enable reset-on-motion and reset-on-angle, during the pre-alarm period, angle changes less than <i>reset-angle</i> , shaking/walking/pressing SOS button will cancel pre-alarm and alarm trigger delay
Retrieve	C04,B35

B36 – Setting Fall Down Detection

Source	GPRS/COM/SMS
Description	B36,<enable>,<pre-alm-t>,<alarm-t>,<rst-on-motion>,<accl-level>,<pre-alm-delay> 01 enable: 0~Disable fall down detection (default); 1~Enable 02 pre-alm-t: pre-alarm duration, unit second, default 30s, range [0,1000]. 03 alarm-t: Alarm trigger delay, unit second. After fall down detected, tracker does nothing but pre-alarm, and sends GPRS/SMS alarm package when <i>alarm-t</i> expired 04 rst-on-motion: reset-on-motion. Shake to cancel pre-alarm and alarm trigger delay; After cancelled, voice displaying will be stopped, and NO GPRS/SMS alarm package sent; When <i>rst-on-motion</i> =1, NO pre-alarm voice display, nor fall down alarm triggered under continuous moving or walking status 05 accl-level: Acceleration level for fall down detection, default 55, range [20,60] 06 pre-alm-delay: pre-alarm delay, unit second, default 0. 07 pre-alarm definition: When "Fall Down" detected, tracker keeps silent for <i>pre-alm-delay</i> seconds, and then starts voice displaying, to remind user, for <i>pre-alm-t</i> seconds 08 "Fall Down" alarm code 31. Refer to Appendix-A for more detail
Reply	B36,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B36,1,30,20,1 01 Enable fall down detection, after fall down detected, tracker starts voice displaying to remind user. It will send out GPRS/SMS alarm package after 20s, but will continue voice displaying till 30s time is up. During the pre-alarm period, shaking/walking/pressing SOS button will cancel pre-alarm and alarm trigger delay

Retrieve	C04,B36
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B70 – Setting the Functions to Button

Source	GPRS/COM/SMS
Description	<p>B70,<hangup>,<pwroff-disable>,<long-key-voice></p> <p>01 hangup: 1~Press SOS button to hang up phone-call conversation; 0 (default)~Disable hang-up function of SOS button</p> <p>02 pwroff-disable: 1~PWR button cannot be used to shut down device; 0 (default)~Long press PWR button can shut down device</p> <p>03 long-key-voice: 1 (default)~Display voice when long press SOS or CAL button; 0~No voice displaying for long press SOS and CAL button</p>
Reply	<p>B70,<err_code></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,B70

B71 – Setting GPS/WIFI Order

Source	GPRS/COM/SMS
Description	<p>B71,<mode></p> <p>01 Device supports two methods for positioning, GPS and WIFI, and <u>B71</u> command is used to set the order of use</p> <p>02 mode: positioning mode, default <u>mode==0</u>, description as below</p> <p><u>mode==0</u>: Mandatory use GPS for all time, device uses GPS to get positioning information, and uploads to server whether GPS fixed or not.</p> <p><u>mode==1</u>: Device uses GPS first, and switch to WIFI for positioning when GPS failed</p> <p><u>mode==2</u>: Device uses WIFI first, and switch to GPS for positioning when no WIFI AP got</p> <p><u>mode==3</u>: Device always uses the last GPS information for uploading</p> <p>03 Device uploads unfixed GPS package to server when neither GPS nor WIFI positioning succeed</p>
Reply	<p>B71,<err_code></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,B71

B72 – Setting Reminder Mode for Incoming Phone-call							
Source	GPRS/COM/SMS						
Description	<p>B72,<incall-note>,<num-sel></p> <p>01 When phone-call incoming, device can remind user by voice ringing or vibration</p> <p>02 incall-note: Reminder mode</p> <p><u>incall-note==0</u>: No reminder for incoming phone-call</p> <p><u>incall-note==1</u>: ringing</p> <p><u>incall-note==2</u>: vibration</p> <p><u>incall-note==3</u> (default): Both ringing and vibration</p> <p>03 num-sel: Set incoming phone number type</p> <p>num-sel==0: Only SOS and Favorite contact</p> <p>num-sel==1: All number</p> <p>04 Conversation mode</p> <table border="1" data-bbox="448 831 1399 958"> <tr> <td>SOS number (Set with <u>B11</u>)</td> <td>Monitor or two-way, set with <u>B31</u></td> </tr> <tr> <td>Favorite contact(Set with <u>B75</u>)</td> <td>Two-way</td> </tr> <tr> <td>Other numbers</td> <td>Two-way</td> </tr> </table>	SOS number (Set with <u>B11</u>)	Monitor or two-way, set with <u>B31</u>	Favorite contact(Set with <u>B75</u>)	Two-way	Other numbers	Two-way
SOS number (Set with <u>B11</u>)	Monitor or two-way, set with <u>B31</u>						
Favorite contact(Set with <u>B75</u>)	Two-way						
Other numbers	Two-way						
Reply	<p>B72,<err_code></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,B72						

B73 – Setting SOS Dial Interval	
Source	GPRS/COM/SMS
Description	<p>B73,<sos-interval></p> <p>01 For some phones, voicemail answers incoming call when no person picks it up. It may cause device NO dialing the next SOS number. <u>B73</u> command can be used to avoid this situation.</p> <p>02 sos-interval: Interval of dialing SOS number, unit second, default 0. When the interval time arrived, device hangs up the current number, and dials the next one.</p> <p>03 Setting proper <u>sos-interval</u> according to actual situation.</p>
Reply	<p>B73,<err_code></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,B73

B74 – Setting Auto Answer	
Source	GPRS/COM/SMS
Description	B74,<auto-answer> 01 Default, pressing CAL button to answer the incoming phone-call; B74 command is used to enable auto answer 02 auto-answer: 0 (default)~Disable auto answer, it is needed to press CAL button to answer the incoming phone-call; 1~Enable auto answer, tracker answers the incoming call after ringing once
Reply	B74,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	C04,B74

B75 – Setting Favorite Contact	
Source	GPRS/COM/SMS
Description	B75,<contact-no> 01 contact-no: Favorite contact phone number 02 After <u>contact-no</u> set, long press CAL button to start dialing
Reply	B75,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	C04,B75

B76 – Setting No Movement Alarm	
Source	GPRS/COM/SMS
Description	B76,<nm1-tmr>,<nm1-sh:nm1-sm>,<nm1-eh:nm1-em>,<nm2-tmr>,<nm2-sh:nm2-sm>,<nm2-eh:nm2-em>,<wday>,<pre-alm-t>,<pre-alm-delay> 01 nm1: “No Movement #1”; nm2: “No Movement #2” 02 nm1-tmr: No movement #1 duration time, unit second, default 0 03 nm1-sh:nm1-sm: No movement #1 start hour and start minute , 24-hour format, separated using ‘:’ 04 nm1-eh:nm1-em: No movement #1 end hour and end minute , 24-hour format,

	<p>separated using ‘:’</p> <p>05 nm2-tmr, nm2-sh:nm2-sm, nm2-eh:nm2-em: The same as no movement #1</p> <p>06 wday: week day selected, one or more combinations in below table, default 1234567</p> <table border="1" data-bbox="507 315 1094 663"> <thead> <tr> <th>wday</th> <th>Week day</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Monday</td> </tr> <tr> <td>2</td> <td>Tuesday</td> </tr> <tr> <td>3</td> <td>Wednesday</td> </tr> <tr> <td>4</td> <td>Thursday</td> </tr> <tr> <td>5</td> <td>Friday</td> </tr> <tr> <td>6</td> <td>Saturday</td> </tr> <tr> <td>7</td> <td>Sunday</td> </tr> </tbody> </table> <p>07 pre-alm-t: pre-alarm duration for no movement alarm, unit second, range [6,+∞), default 0. During pre-alarm, tracker starts voice displaying to remind user, shaking or short-press-sos to cancel pre-alarm. “No Movement” alarm GPRS/SMS data package sent as below description: <u>pre-alm-t == 0</u>: data package sent immediately after no movement detected <u>pre-alm-t != 0</u>: Firstly, tracker keeps silent for <u>pre-alm-delay</u> seconds, and then starts pre-alarm (voice displaying) for <u>pre-alm-t</u> seconds; Tracker sends data package after <u>pre-alm-t</u> expired</p> <p>08 pre-alm-delay: pre-alarm delay, unit second, default 0.</p> <p>09 When only <u>nm1-tmr</u> field specified, enable no movement detection for all time, and every day</p> <p>10 When tracker is in charging, no movement detection will be paused temporarily, till charging cable removed</p> <p>11 “No Movement” alarm code 22. Refer to <u>Appendix-A</u> for more detail</p>	wday	Week day	1	Monday	2	Tuesday	3	Wednesday	4	Thursday	5	Friday	6	Saturday	7	Sunday
wday	Week day																
1	Monday																
2	Tuesday																
3	Wednesday																
4	Thursday																
5	Friday																
6	Saturday																
7	Sunday																
<p>Reply</p>	<p>B76,<err_code></p> <p>01 err_code: procession error code.</p> <p> OK – Succeed.</p> <p> UNSUPPORT – Command not supported.</p> <p> FAILED – Procession failed.</p>																
<p>Example</p>	<p>B76,3600,10:30,12:40,7200,22:20,7:40,12345</p> <p>01 Enable no movement detection for Monday ~ Friday</p> <p>02 when the cumulative time of no movement is larger than 3600s during 10:30~12:40, or larger than 7200s during 22:20~7:40, tracker sends out “No Movement” alarm</p> <p>B76,3600,10:30,12:40,7200,22:20,7:40,12345,30</p> <p>01 Enable no movement detection for Monday ~ Friday</p> <p>02 when the cumulative time of no movement is larger than 3600s during 10:30~12:40, or larger than 7200s during 22:20~7:40, tracker starts 30s voice displaying, sends out “No Movement” alarm when expired</p> <p>B76,3600,10:30,12:40,7200,22:20,7:40</p> <p>01 Enable no movement detection for Monday ~ Sunday</p> <p>02 when the cumulative time of no movement is larger than 3600s during 10:30~12:40,</p>																

	<p>or larger than 7200s during 22:20~7:40, tracker sends out “No Movement” alarm</p> <p>B76,7200</p> <p>01 Enable no movement detection for all time, and every day, when the cumulative time of no movement is larger than 7200s, tracker sends out “No Movement” alarm</p>
Retrieve	C04,B76

B78 – Setting Power Related Alarm

Source	GPRS/COM/SMS
Description	<p>B78,<en-pwr-on-alm>,<en-pwr-off-alm>,<en-chg-on-alm>,<en-chg-off-alm></p> <p>01 en-pwr-on-alm: 0 (Default)~Disable device’s power on alarm 1~Enabel power on alarm</p> <p>02 en-pwr-off-alm: 0 (Default)~Disable device’s power off alarm 1~Enabel power off alarm</p> <p>03 en-chg-on-alm: 0 (Default)~Disable device’s charging on alarm 1~Enabel charging on alarm</p> <p>04 en-chg-off-alm: 0 (Default)~Disable device’s charging off alarm 1~Enabel charging off alarm</p> <p>05 Power ON definition: Long-press PWR key to ON device</p> <p>06 Power OFF definition: Long-press PWR key to OFF device/Battery exhausted OFF</p> <p>07 Charging ON/OFF definition: Place device ON charger/Remove device from charger</p> <p>08 Power ON/OFF alarm code 53/54; Charging ON/OFF alarm code 55/56. Refer to “<i>Appendix A</i>”.</p> <p>09 Default, device uploads GPRS package if power related alarm detected. Uploading mode is set by <u>S19</u> command.</p> <p>10 Using <u>B23</u> command to add/delete more actions for power related alarm</p>
Reply	<p>B78,<err_code></p> <p>01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.</p>
Example	<p>B78,1</p> <p>01 Enable power ON alarm</p> <p>02 Disable power OFF/Charging ON/Charging OFF alarm</p> <p>B78,1,0,1</p> <p>01 Enable power ON/Charging ON alarm</p> <p>02 Disable pwer OFF/Charging OFF alarm</p>

Retrieve	C04,B78
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B90 – Restart Tracker or Module

Source	GPRS/COM/SMS
Description	B90,<select> 01 select: option <i>select==1</i> : Restart device.
Reply	B90,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B90,1 01 Restart device.
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, 0–turn off LED. 02 Default, <i>led-on=1</i> .
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

B99 – OTA using FTP Server

Source	GPRS/COM/SMS						
Description	<p>B99,<file_name>,<option>,<ftp_address>,<ftp_port>,<ftp_loginid>,<ftp_loginpwd>,<apn>,<apn_name>,<apn_pwd></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"> <thead> <tr> <th>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.</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,<err_str></p> <p>01 err_str: Error code, string format</p> <p>“Invalid BIN file, <ver>” – <u>file_name</u> doesn’t match current firmware version, while <u>ver</u> is the current firmware version</p> <p>“No ext-pwr, Please Plug-in Charging Cable” – External power disconnect</p> <p>“The Same Version” – file_name has the same version to current firmware version</p> <p>“B99,OK” – OTA start</p>						
Example	<p>B99,Q3-V1.02.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,Q3-V1.02.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>Q3-V1.02.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	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 <sms_string_head>,yyyy-MM-dd hh:mm:ss,<gps_fix>, <a href="http://maps.google.com/maps?q=<Latitude>,<Longitude>&t=m">http://maps.google.com/maps?q=<Latitude>,<Longitude>&t=m a sms_string_head: SMS head string, for normal position data, sms <u>string head</u> is empty; for alarm data, refer to <u>Appendix-A</u> for default string. B yyyy-MM-dd hh:mm:ss: current date & time, which is effected by <u>B14</u> command setting. E gps_fix: GPS signal status, 'A'-fixed, 'V'-not fixed. G Latitude, Longitude: Latitude and longitude of last position point.
Example	Command: C01 Reply: 2021-06-29 06:12:50,V, http://maps.google.com/maps?q=22.643138,114.018001&t=m
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,<bat_v>,<bat_percentage>[,charging] 01 bat_v: Voltage of internal battery. 02 bat_percentage: Percentage of internal battery capacity. 03 charging: The field is used to indicate the charging status. When charging cable plug-in, this field is “Charging”; When cable plug-out, the field is empty
Example	C03 Reply: C03,3.80,50%,Charging
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

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>;BAT:<bat_v>;B03:<base_int>,<stop_int>;<Moving/STOP>;B71:<mode>;Cache:<cache-num>;Fall:<motion-det-st> 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” or “UDP” 04 apn, apn_user, apn_pwd: APN setting in tracker, which can be set using B01 command 05 bat_v: Voltage of internal battery, unit V

	<p>06 base_int, stop_int: GPRS uploading interval, which is the same as <u>B03</u> setting</p> <p>07 Moving/STOP: Current motion status, string, value "Moving" or "STOP"</p> <p>08 mode: WIFI/GPS positioning mode, refer to <u>B71</u> command for detail</p> <p>09 cache-num: Saved GPRS blind data num, which is not sent, and will be sent when GPRS connected</p> <p>10 motion-det-st: Status of "Fall Down"/"Tilt"/"No Movement" detection, value "No Set"/"Enable"/"Disable". Short press CAL button twice to toggle enable/disable "Fall Down"/"Tilt"/"No Movement" detection</p> <p>"No Set": None of "Fall Down"/"Tilt"/"No Movement" set</p> <p>"Enable": At least one of "Fall Down"/"Tilt"/"No Movement" set, and enabled by short press CAL button twice</p> <p>"Disable": At least one of "Fall Down"/"Tilt"/"No Movement" set, and disabled by short press CAL button twice</p>
Example	<p>Command: C06</p> <p>Reply:</p> <p>C06,863921032078944,173.212.241.52:10502,TCP;APN:CMNET,,;BAT:3.93V;B03:30,600;S top;B71:0;Cache:0</p>
Retrieve	UNSUPPORT

S09 – Setting GPRS Heartbeat Interval	
Source	GPRS/COM/SMS
Description	<p>S09,<moving-interval>,<stop-interval></p> <p>01 Heartbeat package is independent from normal GPRS position one</p> <p>02 moving-interval: Heartbeat interval for moving status, unit s, default 0s</p> <p>03 stop interval: Heartbeat interval for stop status, unit s, default 0s</p> <p>04 When <u>moving-interval</u>==0 or <u>stop-interval</u>==0, heartbeat disabled for corresponding status</p> <p>05 When <u>stop-interval</u> field empty, <u>stop-interval</u> is set to the same value as <u>moving-interval</u></p> <p>03 Heartbeat data will not be saved to blind buffer; When new heartbeat package generated, old and unsent one will be discarded</p>
Reply	<p>S09,<err_code></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>S09,60</p> <p>01 Set both <u>moving-interval</u> and <u>stop-interval</u> to 60s, tracker uploads heartbeat every 60s for all time</p> <p>S09,60,0</p> <p>01 Set <u>moving-interval</u> to 60s, and <u>stop-interval</u> to 0s, tracker uploads heartbeat every</p>

	60s when moving, and stops uploading for stop status
Retrieve	C04,S09

S17 – Download Audio File from FTP Server

Source	GPRS/COM/SMS
Description	S17,<file_name>,<ftp_address>,<ftp_port>,<ftp_loginid>,<ftp_loginpwd> 01 file_name: Full Audio file name to be download, case sensitivity 02 ftp_address: FTP server address, default 47.88.17.17 03 ftp_port: FTP server port, default 21 04 ftp_loginid, ftp_loginpwd: FTP login user-name and password, when fields empty, using default account on 47.88.17.17
Reply	S17,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	S17, CustRingTone.wav 01 Download “CustRingTone.wav” from 47.88.17.17:21 server
Retrieve	C04,S17,<file_name> 01 Verify whether <u>file_name</u> exists, if yes, display it

S19 – Setting Alarm Data Sending Mode

Source	GPRS/COM/SMS
Description	S19,<gprs-mode>,<sms-mode> 01 <u>gprs-mode</u> : GPRS alarm data sending mode <u>gprs-mode==0</u> (default) ~ when alarm detected, tracker sends #1 GPRS data with last GPS information; Starts GPS module, and sends #2 GPRS data when GPS fixed. #1 and #2 data have the same alarm code, data-time <u>gprs-mode==1</u> ~ tracker sends #1 GPRS data with last GPS information <u>gprs-mode==2</u> ~ tracker starts GPS module, and sends #2 data when GPS fixed 02 <u>sms-mode</u> : SMS alarm data sending mode <u>sms-mode==0</u> (default) ~ tracker starts GPS module, and sends alarm SMS when GPS fixed <u>sms-mode==1</u> ~ tracker sends alarm SMS with last GPS information, starts GPS module, and sends another SMS when GPS fixed. Both SMS has the same alarm tip and the same date-time <u>sms-mode==2</u> ~ tracker sends alarm SMS with last GPS information
Reply	S19,<err_code> 01 err_code: procession error code. OK – Succeed.

	UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	C04,S19

S20 – Setting Backup APN Parameters

Source	GPRS/COM/SMS
Description	S20,<bkp_apn_name>,<bkp_apn_usr>,<bkp_apn_pwd> 01 bkp_apn_name: Backup APN name. 02 bkp_apn_usr: Backup APN user name. 03 bkp_apn_pwd: Backup APN password. 04 Backup APN may be used under roam status
Reply	S20,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	

S21 – Setting WiFi MAC White List

Source	GPRS/COM/SMS
Description	S21,<action>,<mac> 01 action: <i>action == 0</i> : delete WiFi MAC, if <i>mac=="ALL"</i> , delete all MAC <i>action == 1</i> : Add WiFi MAC 02 mac: WiFi MAC to be deleted or added. Tracker supports up to 10 MACs 03 If white list not empty, trackers uploads scanned WiFi MACs which are in the list
Reply	S21,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	S21,0,ALL 01 Delete ALL MACs, white list is empty S21,0,4a:94:63:8c:1f:9c,7a:bd:b0:4c:02:44,ca:45:64:7a:3b:ff,9e:ce:ed:16:b1:0e 01 Delete 4 MACs, which are: 4a:94:63:8c:1f:9c 7a:bd:b0:4c:02:44

	ca:45:64:7a:3b:ff 9e:ce:ed:16:b1:0e S21,1,4a:94:63:8c:1f:9c,7a:bd:b0:4c:02:44,ca:45:64:7a:3b:ff,9e:ce:ed:16:b1:0e 01 Add 4 MACs, which are: 4a:94:63:8c:1f:9c 7a:bd:b0:4c:02:44 ca:45:64:7a:3b:ff 9e:ce:ed:16:b1:0e
Retrieve	C04,S21

Appendix A – Alarm code and alarm parameter

Below table describes the detailed information of supported alarm

alm-code	Default Action	Description	SMS Head String
2	GPRS, SMS, Two-way-call	SOS	SOS
17	GPRS	Internal battery low	Low Battery
22	GPRS	No Movement Alarm	No Movement
25	GPRS	Tilt/Man Down	Tilt
31	GPRS	Fall Down	Fall Down
33	GPRS	Exit geo-fence	Exit Fence
34	GPRS	Enter geo-fence	Enter Fence
53	GPRS	Device Power ON	Power ON
54	GPRS	Device Power OFF	Power OFF
55	GPRS	Charging ON	Charging ON
56	GPRS	Charging OFF	Charging OFF

NOTE:

- “Default Action”: Default action when alarm triggered;
- “GPRS”: Tracker uploads GPRS package when alarm triggered
- “SMS”: Tracker sends SMS to SOS number(s) when alarm triggered
- “Two-way-call”: Tracker dials all SOS numbers when alarm triggered

Alarm action can be modified by using B23 command

“SMS Head String”: Alarm SMS head string, can be modified by using B26 command