FIFOTRACK COMMAND LIST

Model: Q2

Version: V1.7

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Document History

Version	Revision Date	Author	Detail
V1.7	Dec 15, 2022	Vito Hu	Modify *B29* command, add *rom-level* field Modify *B32* command Add *B35* command, "Setting Tilt Detection" Modify *B36* title to "Setting Fall Down Detection" Modify *B70* command, delete *vol-change-disable* field, add *long-key-voice* field Add *num-sel* field in *B72* Modify *B76* command Modify Appendix A
V1.6	July 29, 2022	Vito Hu	Add *B75* command
V1.5	June 28, 2022	Vito Hu	Add example to *B36* command
V1.4	May 31, 2022	Vito Hu	Add *vol-change-disable* field in *B70* command Add *B32*, *B74* command
V1.3	May 11, 2022	Vito Hu	Add *B73* command
V1.2	Mar 25, 2022	Vito Hu	Add *B36* command; Add 31 alarm code
V1.1	Aug 18, 2021	Vito Hu	Revision Version

Contents

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 – Setting GPRS Parameters	
Source	GPRS/COM/SMS
Description	B00,<IP-domain>,<remote-port> 01 IP-domain: server IP or domain. 02 remote-port: server port.
Reply	B00,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B00,47.88.35.165,10502 01 Set main server: IP-47.88.35.165, port-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 *apn_usr* and *apn_pwd* 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 *moving_tmr==0*, tracking disabled for moving status. 02 stop_tmr: time interval when stop, unit s, default 30s. When *stop_tmr==0*, tracking disabled for stop status 03 When *stop_tmr* field empty, it is set to the same value as *moving_tmr*
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 *moving_tmr* and *stop_tmr* to 60s, tracker uploads position data every 60s. B03,60,0 01 Set *moving_tmr* to 60s, and *stop_tmr* 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 *sos_num1* to 15698210011, *sos_num2* to empty, *sos_num3* 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 *tzone* is 0. 03 When SMS time zone is set, all tracking/alarm SMS use *tzone* 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>,<radium>,<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 radium: radium of circle geo-fence, unit meter. 04 lat: latitude of center point, decimal string format. 05 lon: longitude of center point, decimal string format. 06 When *flag*, *radium*, *lat*, *lon* are empty, delete goe-fence specified by *index*; When *index*=0 or empty, delete all.
Reply	B19,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	C04,B19,<index> 01 index: fence index, value 1~4, the same as *index* field in setting command.

B23 – Setting Alarm Action	
Source	GPRS/COM/SMS
Description	B23,<alm-code>,<GPRS><SMS><two-way-call><monitor-call> 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, set to 0 for actual usage. 05 monitor-call: Disable/enable SOS number dialing under monitor mode. 06 When both *two-way-call* and *monitor-call* are set, *monitor-call* is valid, while *two-way-call* ignored. 07 *two-way-call* or *monitor-call* is valid when SOS number set, refer to *B11* command for SOS number(s) setting.
Reply	B23,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B23,2,1101 01 Set action when SOS triggered: a Sending GPRS alarm data to platform. b Sending alarm SMS with *C01* format to SOS number. c Dial SOS numbers under monitor mode.
Retrieve	C04,B23,<alm-code> 01 alm-code: Alarm type, refer to *Appendix–A*. The same as *alm-code* field in setting command.

B26 – Setting Alarm SMS Head String	
Source	GPRS/COM/SMS
Description	B26,<alm-code>,<sms_string> 01 alm-code: Alarm type, refer to *Appendix –A*. 02 sms_string: SMS head string, 16 bytes length at most. 03 When send “B26” only, with *alm-code* and *sms_string* fields empty, set all head string to default 04 Refer to *Appendix-A* for default string.
Reply	B26,<err_code> 01 err_code: error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED –Processing failed.
Example	B26,2,HELP

	01 Set SMS head string of SOS to “HELP”.
Retrieve	C04,B26,<alm-code> 01 alm-code: Alarm type, refer to *Appendix –A*. The same as *alm-code* field in setting command.

B29 – Setting Sensitivity of Motion Sensor

Source	GPRS/COM/SMS
Description	B29,<mov-stop-level>,<rom-level> 01 mov-stop-level: sensitivity of motion sensor, value [0, 100], default 10; the smaller value, the higher sensitivity 02 rom-level: sensitivity for reset-on-motion function, range [0,100], default 5; the smaller value, the higher sensitivity 03 *mov-stop-level* 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 *B11* command for SOS number setting. 02 sos-num-idx: SOS index, value 1, 2, 3, which corresponds to SOS number set by *B11* command. 03 two-way-call: attribute of two-way conversation. 04 monitor: attribute of monitor-mode conversation. 05 pos-sms: attribute of position SMS. 06 Description of 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 *C01* command for SMS format. 07 When both *two-way-call* and *monitor* are set, *monitor* is valid, i.e.: tracker picks up phone-call in monitor mode. 08 When the command string has only *sos-num-idx* field, default attribute is set to

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

B32 – Setting Conversation Volume

Source	GPRS/COM/SMS
Description	B32,<vol-spk>,<vol-mic>,<vol-fix> 01 The command is used to set self-defined volume for phone-call conversation 02 vol-spk: Self-defined speaker volume, unit %, range 0~100, default 0 03 vol-mic: Self-defined microphone gain, unit %, range 0~100, default 0 04 vol-fix: 0(default)~pressing CAL button can change conversation between default and self-defined; 1~Using the SPK/MIC volume set by *B32* command for conversation 05 Default volume: Speaker~70%, Microphone~70% 06 Due to hardware limitations, 17% change rate corresponds to one step for speaker, and 15% for microphone
Reply	B32,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B32,34,50,1 01 Set speaker volume to 34%, and microphone gain to 50%; Using the volume setting for all conversation, pressing CAL button cannot change volume
Retrieve	C04,B32

B35 – Setting Tilt Detection

Source	GPRS/COM/SMS
Description	B35,<enable>,<angle>,<pre-alarm-t>,<alarm-t>,<option>,<reset-angle> 01 enable: 0~Disable tilt detection (default); 1~Enable 02 angle: Angle of change to trigger "Tilt" alarm, unit degree, range [0°,90°], default 30° 03 pre-alarm-t: pre-alarm duration, unit second, default 30s, range [0,1000]. When tilt

	detected, tracker starts voice displaying to remind user 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 *alarm-t* expired 05 option: Optional function for "Tilt" alarm option==1: reset-on-motion, tracker stops pre-alarm and alarm trigger delay when shaking option==2: reset-on-angle, tracker stops pre-alarm and alarm trigger delay when angle change less than *reset-angle* option==3 (default): tracker stops pre-alarm and alarm trigger delay when both shaking and angle change less than *reset-angle* 06 reset-angle: Angle of change to stop pre-alarm and alarm trigger delay, valid when *option==2* or *option==3*, unit degree, default 15°, range [0,*angle*] 07 "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 *reset-angle*, 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-alarm-t>,<alarm-t>,<rst-on-motion>,<accl-level> 01 enable: 0~Disable fall down detection (default); 1~Enable 02 pre-alarm-t: pre-alarm duration, unit second, default 30s, range [0,1000]. When fall down detected, tracker starts voice displaying to remind user 03 alarm-t: Alarm trigger delay, unit second, default *alarm-t=pre-alarm-t*, range [0, *pre-alarm-t*]. After fall down detected, tracker does nothing but pre-alarm, and sends GPRS/SMS alarm package when *alarm-t* 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 *rst-on-motion*==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 "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

B70 – Setting the Functions to Button

Source	GPRS/COM/SMS
Description	B70,<hangup>,<pwroff-disable>,<long-key-voice> 01 hangup: 1~Press SOS button to hang up phone-call conversation; 0 (default)~Disable hang-up function of SOS button 02 pwroff-disable: 1~PWR button cannot be used to shut down device; 0 (default)~Long press PWR button can shut down device 03 long-key-voice: 1 (default)~Display voice when long press SOS and CAL button; 0~No voice displaying for long press SOS and CAL button
Reply	B70,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	C04,B70

B71 – Setting GPS/WIFI Order

Source	GPRS/COM/SMS
Description	B71,<mode> 01 Device supports two methods for positioning, GPS and WIFI, and *B71* command is used to set the order of use 02 mode: positioning mode, default *mode==0*, description as below *mode==0*: Mandatory use GPS for all time, device uses GPS to get positioning information, and uploads to server whether GPS fixed or not. *mode==1*: Device uses GPS first, and switch to WIFI for positioning when GPS failed *mode==2*: Device uses WIFI first, and switch to GPS for positioning when no WIFI AP got

	03 Device uploads unfixed GPS package to server when neither GPS nor WIFI positioning succeed
Reply	B71,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	C04,B71

B72 – Setting Reminder Mode for Incoming Phone-call

Source	GPRS/COM/SMS
Description	B72,<incall-note>,<num-sel> 01 When phone-call incoming, device can remind user by voice ringing or vibration 02 incall-note: Reminder mode *incall-note==0*: No reminder for incoming phone-call *incall-note==1*: ringing *incall-note==2*: vibration *incall-note==3* (default): Both ringing and vibration 03 num-sel: Set incoming phone number type num-sel==0: Only SOS and Favorite contact num-sel==1: All number 04 Conversation mode

SOS number (Set with *B11*)	Monitor or two-way, set with *B31*
Favorite contact(Set with *B75*)	Two-way
Other numbers	Two-way

Reply	B72,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	
Retrieve	C04,B72

B73 – Setting SOS Dial Interval

Source	GPRS/COM/SMS
Description	B73,<sos-interval> 01 For some phones, voicemail answers incoming call when no person picks it up. It may cause device NO dialing the next SOS number. *B73* command can be used to avoid this situation.

	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. 03 Setting proper *sos-interval* according to actual situation.
Reply	B73,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
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 *contact-no* 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> 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 **s**tart **h**our and **s**tart **m**inute, 24-hour format, separated using ':' 04 nm1-eh:nm1-em: No movement #1 **e**nd **h**our and **e**nd **m**inute, 24-hour format, separated using ':' 05 nm2-tmr, nm2-sh:nm2-sm, nm2-eh:nm2-em: The same as no movement #1 06 wday: week day selected, one or more combinations in below table, default 1234567

wday	Week day
1	Monday
2	Tuesday
3	Wednesday
4	Thursday
5	Friday
6	Saturday
7	Sunday

	07 When only *nm1-tmr* field specified, enable no movement detection for all time, and every day 08 "No Movement" alarm code 22. Refer to Appendix-A for more detail
Reply	B76,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	B76,3600,10:30,12:40,7200,22:20,7:40,12345 01 Enable no movement detection for Monday ~ Friday 02 when the cumulative time of no movement is larger than 3600s during 10:30~12:40, and 7200s during 22:20~7:40, tracker sends out "No Movement" alarm B76,3600,10:30,12:40,7200,22:20,7:40 01 Enable no movement detection for Monday ~ Sunday 02 when the cumulative time of no movement is larger than 3600s during 10:30~12:40, and 7200s during 22:20~7:40, tracker sends out "No Movement" alarm B76,7200 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

Retrieve	C04,B76

B90 – Restart Tracker or Module

Source	GPRS/COM/SMS
Description	B90,<select> 01 select: option *select==1*: 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, *led-on*=1.
Reply	B94,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported.

	FAILED – Procession failed.
Example	B94 01 Set LED to default: turn on.
Retrieve	C04,B94

B99 – OTA using FTP Server

Source	GPRS/COM/SMS
Description	B99,<file_name>,<option>,<ftp_address>,<ftp_port>,<ftp_loginid>,<ftp_loginpwd>,<apn>,<apn_name>,<apn_pwd> 01 file_name: file name for OTA, should be "xxx.bin" format 02 option: option for OTA, when the field empty, using default setting

option	Description
0(default)	Normal OTA, tracker check whether *file_name* match current version or not
1	Mandatory OTA, tracker doesn't check *file_name*

03 ftp_address: FTP server address, default 47.88.17.17
04 ftp_port: FTP server port, default 21
05 ftp_loginid, ftp_loginpwd: FTP login user-name and password, when fields empty, using default account on 47.88.17.17
06 apn, apn_name, apn_pwd: APN setting for FTP connection, default, tracker using the same setting as *B01* command
07 After *B99* command received, tracker matches *file_name* to current firmware version, and starts OTA according to result
08 During OTA operation, tracker will disconnect from tracking server, stop timing uploading/photographing.
09 The timeout for FTP OTA is 15mins, when exceed, tracker will restart automatically, and connect to tracking server
10 External power connection is needed during OTA operation, it is used for tracking reboot after OTA finished

Reply	B99,<err_str> 01 err_str: Error code, string format "Invalid BIN file, <ver>" – *file_name* doesn't match current firmware version, while *ver* is the current firmware version "No ext-pwr, Please Plug-in Charging Cable" – External power disconnect "The Same Version" – file_name has the same version to current firmware version "B99,OK" – OTA start
Example	B99,Q2-V1.02.bin 01 Start OTA, tracker will connect to 47.88.17.17:21, using default FTP account for file download B99,Q2-V1.02.bin,1,120.24.95.123,9208,klone,klone@@2017

	01 Start OTA, tracker will connect to *120.24.95.123:9208*, and upgrade to "*Q2-V1.02.bin*" 02 The login name and password of FTP server is "*klone*" and "*klone@@2017*"
Retrieve	

C01 – Retrieve Position Information

Source	COM/SMS/GPRS
Description	C01 01 After command is set, tracker sends a position message. 02 When alarm detected, tracker sends alarm SMS with C01 format automatically, to all SOS number(s). 03 When command is sent via GPRS, tracker replies normal position data.
Reply	When command is sent via GPRS, the replied data is normal position package. When command is sent via SMS/COM <sms_string_head>,yyyy-MM-dd hh:mm:ss,<gps_fix>, http://maps.google.com/maps?q=<Latitude>,<Longitude>&t=m a sms_string_head: SMS head string, for normal position data, sms_*string_head* is empty; for alarm data, refer to *Appendix-A* for default string. B yyyy-MM-dd hh:mm:ss: current date & time, which is effected by *B14* command setting. 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> 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 06 base_int, stop_int: GPRS uploading interval, which is the same as *B03* setting

	07 Moving/STOP: Current motion status, string, value “Moving” or “STOP” 08 mode: WIFI/GPS positioning mode, refer to *B71* command for detail 09 cache-num: Saved GPRS blind data num, which Is not sent, and will be sent when GPRS connected
Example	Command: C06 Reply: C06,863921032078944,173.212.241.52:10502,TCP;APN:CMNET,,;BAT:3.93V;B03:30,600;Stop;B71:0;Cache:0
Retrieve	UNSUPPORT

S09 – Setting GPRS Heartbeat Interval

Source	GPRS/COM/SMS
Description	S09,<moving-interval>,<stop-interval> 01 Heartbeat package is independent from normal GPRS position one 02 moving-interval: Heartbeat interval for moving status, unit s, default 0s 03 stop interval: Heartbeat interval for stop status, unit s, default 0s 04 When *moving-interval==0* or *stop-interval==0*, heartbeat disabled for corresponding status 05 When *stop-interval* field empty, *stop-interval* is set to the same value as *moving-interval* 03 Heartbeat data will not be saved to blind buffer; When new heartbeat package generated, old and unsent one will be discarded
Reply	S09,<err_code> 01 err_code: procession error code. OK – Succeed. UNSUPPORT – Command not supported. FAILED – Procession failed.
Example	S09,60 01 Set both *moving-interval* and *stop-interval* to 60s, tracker uploads heartbeat every 60s for all time S09,60,0 01 Set *moving-interval* to 60s, and *stop-interval* to 0s, tracker uploads heartbeat every 60s when moving, and stops uploading for stop status
Retrieve	C04,S09

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
2	NULL	Input1 active	SOS
17	NULL	Internal battery low	Low Battery
22	NULL	No Movement Alarm	No Movement
25	NULL	Tilt/Man Down	Tilt
31	NULL	Fall Down	Fall Down
33	NULL	Exit geo-fence	Exit Fence
34	NULL	Enter geo-fence	Enter Fence