GPRS transport protocol

Letters in command can't be lowercase and Spaces.

1.The structure of commands send by center:

*XX,YYYYYYYYYY,CMD,HHMMSS,PARA1,PARA2,…#

In which:

* : Head of command

XX : Name of maker, Consists of two ASCII characters, such as HQ.

, : separator

YYYYYYYYYY : SN of terminal, is ten characters front of IMEI.

CMD : Command

HHMMSS : Time: hour/minute/second

PARA : Parameters

: End of command

2.The structure of commands send by terminal:

General information is also the login information if it contains the right position information.

*XX,YYYYYYYYYY,V1,HHMMSS,S,latitude,D,longitude,G,speed,direction,DDMMYY,vehicle_status#

The reply to center commands.

*XX,YYYYYYYYYY,V4,CMD,hhmmss,HHMMSS,S,latitude,D,longitude,G,speed,direction,DDMMYY,vehicle_status#

In which:

* : Head of command

XX : Name of maker

, : Separator

YYYYYYYYYY : SN of terminal

CMD : Confirmed command

Hhmmss : Time value in confirmed command.

HHMMSS : Time

S : Effective mark of data, ‘A’ stand of effective, ‘V’ stand of invalid.

Latitude : Latitude, format : DDFF.FFFF, DD : Degree（00 ~ 90）, FF.FFFF : minute (00.0000 ~ 59.9999), keep four decimal places.

D : latitude marks (N:north, S:south)

Longitude : longitude, format : DDDFF.FFFF, DDD : Degree（000 ~ 180）, FF.FFFF : minute (00.0000 ~ 59.9999), keep four decimal places.

G : longitude marks (E:east, W:west)

Speed : speed

Range of 000.00 ~ 999.99 knots, Keep two decimal places.

Speed maybe empty, as longitude,G,,direction, speed is 0.

Direction: Azimuth, north to 0 degrees, resolution 1 degrees, clockwise direction.

Direction maybe empty, as longitude,G,speed,, MMDDYY, azimuth is zero.

DDMMYY:day/month/year
vehicle_status: Vehicle state, four bytes, says the terminal parts state, vehicle parts state and alarm state, etc. Use ASCII character and hexadecimal values. Below are the meaning of each byte, use negative logic, bit=0 is effective. The table below:

Bit sequence	The first byte		The second byte		The third byte		The fourth byte	
0	0	Temperature	0	GPS receiver fault alarm	0	Door open	0	Theft alarm
1	0	Three input error password	1	reserves	0	Vehicle fortification	0	Robbery alarm
2	0	GPRS backed up	1	reserves	0	ACC off	0	overspeed speed
3	0	Vehicles in oil cut-off current state	0	Terminal by backup battery power supply	1	reserves	0	Illegal ignition alarm
4	0	Battery demolition	0	Battery removed	1	reserves	0	Entering alarm
5	0	High level sensor 1 is high	0	GPS antenna disconnect	0	engine	0	GPS antenna disconnect alarm
6	0	High level sensor 2 is high	0	GPS antenna short circuit	0	Custom alarm	0	GPS antenna short circuit alarm
7	0	Low level sensor 1 on	0	Low level sensor 2 on	0	overspeed	0	Out alarm

3.commands send by center

1) Positioning monitoring command D1

*XX,YYYYYYYYYY,D1,HHMMSS,interval,batch#

In which:

Interval: The interval produce upload records, value range of 1 ~ 65535, unit is the second.

Batch: The recording number of transferred batch , ranging from 1 to16, outside the range as 1.

batch = 1 as the real-time mode, when produce a record upload it, other value upload multiple records at the same time.

Reply V1 information when received the command.

2) Set the monitoring center SMS number S2

*XX,YYYYYYYYYY,S2,HHMMSS, mc_address#

In which:

mc_address: Monitoring center SMS number.

Send:

*HQ,0000000000,S2,130305,13823714888# ;

Reply :

*HQ,2020916012,V4,S2,130305,050315,A,2212.8745,N,11346.6574,E,14.28,028,220902,FFFFFBFF#

Terminal after receiving the instruction will immediately transmits confirmation information to the new monitoring center, the original monitoring center number no longer recognized. The monitoring center can not add 86 before the number.

3)Set the slave monitoring center SMS number S28

*XX,YYYYYYYYYY,S28,HHMMSS, mc_address2#

For example: *HQ,0000000000,S28,130305,13823714888# ;

Return the following information to master monitoring:

*HQ,2020916012,V4,S28,13823714888,130305,050315,A,2212.8745,N,11346.6574,E,14.28,028,220902,FFFFFBFF#

Terminal accepts the number issued commands, but the results will only return to the main center. Slave monitoring center SMS number can also be used to upgrade main center number.

4) Monitor command R8

*XX,YYYYYYYYYY,R8,HHMMSS,listen_address #

In which:

listen_address: Monitor number terminal calling.

In the monitoring is prohibited terminal return information:

*HQ,2020916012,V4,R8,ERROR,130305,050316,A,2212.8745,N,11346.6574,E,14.28,028,220902,FFFFFBFF#

Otherwise the terminal receives the command, automatic dial listen_address, center can be mounted a automatic recording device for recording monitoring content.

5) Set monitoring center GPRS server IP address, port number, network congestion alarm S23

*XX,YYYYYYYYYY,S23,HHMMSS,IP_addr,Port,Redial_Times #

IP_addr: GPRS server IP address

Port: GPRS server port number

Redial_Times: Redial times to GPRS server. value range of 5-254, if the value is less than 5, the value is automatically set to 5, if exceeded 255 the value mod 256.

For example:*HQ,0000000000,S23,130305,165,165,33,250,8800,5# ;

Terminal return:

*HQ,2020916012,V4,S23,165.165.33.250:8800,130305,050316,A,2212.8745,N,11346.6574,E,14.28,028,220902,FFFFFBFF#

Note: the IP address separator must be a comma, cannot use the dot, IP address and port number must separated by comma. If the IP address for all 0, disables the IP settings.

6) Set access point APN S24

*XX,YYYYYYYYYY,S24,HHMMSS,M,APN#

M: Effective mode

M=0: Virtual query

M=1 or other: setting the access point APN.

For example:

Center sends:

*HQ,0000000000,S24,130305,0,ABCD.BJ#

Terminal returns:

*HQ,2020916012,V4,S24,CMNET,130305,050316,A,2212.8745,N,11346.6574,E,14.28,028,220902,FFFFFBFF#

For example:

Center sends:

*HQ,0000000000,S24,130305,2,HQit.gd#

Terminal returns:

*HQ,2020916012,V4,S24,HQit.gd,130305,050316,A,2212.8745,N,11346.6574,E,14.28,028,220902,FFFFFBFF#

Received the order in the GPRS online state will hang up the connection and redial according to the new APN. Note: APN cannot be longer than 32 characters, characters can be " # ".

7) Clear alarm R7

*XX,YYYYYYYYYY,R7,HHMMSS #

For example:

Center sends:

*HQ, 000000,R7,130305#

Terminal received the order will clear all the alarm information, but does not send back information, monitoring system can be appended to send a single monitoring command to confirm whether have clear alarm.

8) Mileage query command S32

*XX,YYYYYYYYYY,S32,HHMMSS,M#

The command queries the mileage data.

M=0 : Mileage counter reset

M=1 or other: mileage enquiry

For example:

Center sends:

*HQ,000,S32,130305,1#

Terminal returns:

*HQ,2020916012,V4,S32,0000130502.35,130305,050316,A,2212.8745,N,11346.6574,E,14.28,028,220902,FFFFFBFF#

Upload mileage unit is knots. The maximum value is 9999999999.99.

9) Restore factory settings S25

*XX,YYYYYYYYYY,S25,HHMMSS#

For example:

Center sends:

*HQ,0000000000,S25,130305#

Terminal returns:

*HQ,2020916012,V4,S25,130305,050316,A,2212.8745,N,11346.6574,E,14.28,028,220902,FFFFFBFF#

10)Remote fortification command SCF

*XX,YYYYYYYYYY,SCF,HHMMSS,flag1,flag2#

fag1: Fortification and disarming flag 1, ‘0’ express fortification ‘1’ express disarming.

fag2: Fortification and disarming flag 2, ‘0’ express fortification ‘1’ express disarming.

For example:

*HQ,7893267561,SCF,181014,0,0# Fortification

*HQ,7893267561,SCF,181114,1,1# disarming

11) Restart command R1

*XX,YYYYYYYYYY,R1,HHMMSS #

For example:

*HQ, 000000,R1,130305#

Terminal received the order will be restart.