# Communication Protocol

**VER:V1.7_C**

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Contents

**All data in this protocol is in fixed format[Company*device ID*Content length*Content].The vendor identification is fixed to 2 byte,content length is ASSII code in 4 byte,and the high is in front with the low back,for example,FFFF represents the length of 65535.**

# 1.The terminal commands

## 1. Link remains

(1)

The terminal sends:

[CS*YYYYYYYYYY*LEN*LK]

Example:[SG*8800000015*0002*LK]

Platform reply:

[CS*YYYYYYYYYY*LEN*LK]

Example:[SG*8800000015*0002*LK]

Instruction:The link remains will send in every 5 minutes. If the terminal does not receive any the reply data, then it will reconnect in every 5 minutes.

(2)

The terminal sending:

[CS*YYYYYYYYYY*LEN*LK, steps, rolling times, the percentage of battery amount]

Example:[SG*8800000015*000D*LK, 50, 100, 100]

Platform reply:

[CS*YYYYYYYYYY*LEN*LK]

Example:[SG*8800000015*0002*LK]

Instruction :The link remains will send in every 5 minutes. If the terminal does not receive any the reply data, then it will reconnect in every 5 minutes. Both the above conditions are existed.

# 2.Location data reporting

The terminal sendig:

[CS*YYYYYYYYYY*LEN*UD, Location data(Appendix 1)]

Example:

[SG*8800000015*0087*UD, 220414, 134652, A, 22.571707, N, 113.8613968, E, 0.1, 0.0, 100, 7, 60, 90, 1000, 50, 0000, 4, 1, 460, 0, 9360, 4082, 131, 9360, 4092, 148, 9360, 4091, 143, 9360, 4153, 141]

Platform reply:

No

InstructionThe terminal will report loction and statement information according to the settings without the reply of platform.

## 3.Blind spot data transmission

The terminal sending:
[CS*YYYYYYYYYY*LEN*UD2,Location data(Appendix 1)]
Example:
[SG*8800000015*0088*UD2,220414,134652,A,22.571707,N,113.8613968,E,0.1,0.0,100,7,60,90,1000,50,0000,4,1,460,0,9360,4082,131,9360,4092,148,9360,4091,143,9360,4153,141]
The platform reply:
No
Instruction :Transport the reporting data when there is no landing on platform.

## 4.Alarming data reporting

The terminal sending:
[CS*YYYYYYYYYY*LEN*AL,location data(Appendix 1)]
Example:
[SG*8800000015*0087*AL,220414,134652,A,22.571707,N,113.8613968,E,0.1,0.0,100,7,60,90,1000,50,0001,4,1,460,0,9360,4082,131,9360,4092,148,9360,4091,143,9360,4153,141]
Platform reply:
[CS*YYYYYYYYYY*LEN*AL]
Example:[SG*8800000015*0002*AL]
Instruction:The terminal will send alarming information to platform when there is emergency.If the terminal does not get the reply ,it will reports on time until getting the alarming confirmation.

## 5.Address requesting commands

The terminal sending:
[CS*YYYYYYYYYY*LEN*WAD,Language,Location data(Appendix 1)]
Example:
[SG*8800000015*008B*WAD,CH,220414,134652,A,22.571707,N,113.8613968,E,0.1,0.0,100,7,60,90,1000,50,0001,4,1,460,0,9360,4082,131,9360,4092,148,9360,4091,143,9360,4153,141]
The terminal reply:
[CS*YYYYYYYYYY*LEN*RAD,location type,address data]
Example:[SG*8800000015*000C*RAD,GPS,Corresponding address and information]
Instruction: The terminal address requesting commands,among which the CN represnts chinese,EN represents English,the address data is GB232 code,the location types are GPS positioning and BASE positioning.

## 6.Request instruction of latitude and longitude

The terminal sending:
[CS*YYYYYYYYYY*LEN*WG,location data(Appendix 1)]
Example:
[SG*8800000015*0087*WG,220414,134652,A,22.571707,N,113.8613968,E,0.1,0.0,100,7,60,90,1000,50,0001,4,1,460,0,9360,4082,131,9360,4092,148,9360,4091,143,9360,4153,141]
The terminal reply:
[CS*YYYYYYYYYY*LEN*RG,location type,latitude,latitude identification ,longitude,longitude identification]
Example: [SG*8800000015*0021*RG,BASE,22.571707,N,113.8613968,E]
Instruction: Apply in the GPS unstated statement,and request latitude and longitude through the base station.

# 2.Send command on platform

## 1. Data uploading intervals settings

The terminal sending:
[CS*YYYYYYYYYY*LEN*UPLOAD,time intervals]
Example:[SG*8800000015*0009*UPLOAD,10]
The terminal reply:
[CS*YYYYYYYYYY*LEN*UPLOAD]
Example:[SG*8800000015*0006*UPLOAD]
Instruction:set the time intervals of the terminal reporting

## 2.Center number settings

The platform sending:
[CS*YYYYYYYYYY*LEN*CENTER,center number]
Example:[SG*8800000015*0012*CENTER,00000000000]
The terminal reply:
[CS*YYYYYYYYYY*LEN*CENTER]
Example:[SG*8800000015*0006*CENTER]
Instruction:Set the center number ,and send SMS commands by phone number.

## 3.Assistance number settings

The platform sending:
[CS*YYYYYYYYYY*LEN*SLAVE,assistance number]

Example:[SG*8800000015*0011*SLAVE,00000000000]

The terminal sending:

[CS*YYYYYYYYYY*LEN*SLAVE]

Example:[SG*8800000015*0005*SLAVE]

Instruction:Set the assistance center number ,and send SMS order by phone number.

## 4.Control password settings

The platform sending:

[CS*YYYYYYYYYY*LEN*PW,password]

Example:[SG*8800000015*0009*PW,111111]

The terminal reply:

[CS*YYYYYYYYYY*LEN*PW]

Example:[SG*8800000015*0002*PW]

Instruction:set the terminal password,and the non-center number needs to add password when sending order.

## 5.Dial calls

The platform sending:

[CS*YYYYYYYYYY*LEN*CALL,phone number]

Example:[SG*8800000015*0010*CALL,00000000000]

The terminal reply:

[CS*YYYYYYYYYY*LEN*CALL]

Example:[SG*8800000015*0004*CALL]

Instruction:Dial the corresponding phone number through this order.

## 6.Sending SMS

The platform sending:

[CS*YYYYYYYYYY*LEN*SMS,Message number,message contents]

Example:[SG*8800000015*001C*SMS,00000000000,123ABC How are you]

The terminal reply:

[CS*YYYYYYYYYY*LEN*SMS]

Example:[SG*8800000015*0003*SMS]

Instruction:Send SMS to corresponding phone number through this order,and the SMS content is sent in GB232 code.

## 7.Monitor

The platform sending:

[CS*YYYYYYYYYY*LEN*MONITOR]

Example:[SG*8800000015*0007*MONITOR]

The terminal reply:

[CS*YYYYYYYYYY*LEN*MONITOR]

Example:[SG*8800000015*0007*MONITOR]

Instruction :The terminal will dial the center number automatically.

## 8.SOS number settings

(1)Set the first SOS number

The platform sending:

[CS*YYYYYYYYYY*LEN*SOS1,phone number]

Example:[SG*8800000015*0010*SOS1,00000000000]

The terminal reply:

[CS*YYYYYYYYYY*LEN*SOS1]

Example:[SG*8800000015*0004*SOS1]

(2) Set the second SOS number

The platform sending:

[CS*YYYYYYYYYY*LEN*SOS2,phone number]

Example:[SG*8800000015*0010*SOS2,00000000000]

The terminal reply:

[CS*YYYYYYYYYY*LEN*SOS2]

Example:[SG*8800000015*0004*SOS2]

(3) Set the third SOS number

The platform sending:

[CS*YYYYYYYYYY*LEN*SOS3,Phone number]

Example:[SG*8800000015*0010*SOS3,00000000000]

The terminal reply:

[CS*YYYYYYYYYY*LEN*SOS3]

Example:[SG*8800000015*0004*SOS3]

(4)Set the forth SOS number

The platform sending:

[CS*YYYYYYYYYY*LEN*SOS,phone number,phone number,phone number]

Example :[SG*8800000015*0027*SOS,00000000000,00000000000,00000000000]

The terminal reply:

[CS*YYYYYYYYYY*LEN*SOS3]

Example:[SG*8800000015*0003*SOS]

Instruction:Set the SOS number,and send SMS and dial calls when there is emergency.

## 9.Remote upgrading

The platform sending:

[CS*YYYYYYYYYY*LEN*UPGRADE,URL address]

Example:[SG*8800000015*0039*UPGRADE,http://www.3g-elec.com/g29_updata/test/jt_ads.bin]

The terminal reply:

[CS*YYYYYYYYYY*LEN*UP]

Example:[SG*8800000015*0007*UPGRADE]

Instruction:Control the terminal remote upgrading.

## 10.IP Port settings

The platform sending:

[CS*YYYYYYYYYY*LEN*IP,IP or domain name,port]

Example:[SG*8800000015*0014*IP,113.81.229.9,5900]

The terminal reply:

The is no answer from the terminal to this order,disconnect the current connection directly and connect to new server.

Instruction:Set the IP and port connected to platform.

## 11.Factory data reset

The platform sending:

[CS*YYYYYYYYYY*LEN*FACTORY]

Example:[SG*8800000015*0007*FACTORY]

The terminal reply:

[CS*YYYYYYYYYY*LEN*FACTORY]

Example:[SG*8800000015*0007*FACTORY]

Instruction:The terminal will reset factory data.

## 12.Language and time area settings

The terminal sending:

[CS*YYYYYYYYYY*LEN*LZ,language ,Time Area]

Example:[SG*8800000015*0006*LZ,1,8]

The terminal reply:

[CS*YYYYYYYYYY*LEN*LZ]

Example:[SG*8800000015*0002*LZ]

Instruction:Set the language and time area.

## 13.Query the Google link

The platform sending:

[CS*YYYYYYYYYY*LEN*URL]

Example:[SG*5678901234*0003*URL]

The terminal reply:

[CS*YYYYYYYYYY*LEN*URL,Google link]

Example:[SG*5678901234*006B*URL,url:
http://maps.google.com.hk/maps?q=N22.571695,E113.861404
Locate date:2014-4-23
Locate time:18:16:59]

Instruction:Query the local URL address.

## 14.SOS message alarm switch

The platform sending:

[CS*YYYYYYYYYY*LEN*SOSSMS,0 or 1]

Example:[SG*5678901234*0008*SOSSMS,0]

The terminal reply:

[CS*YYYYYYYYYY*LEN*SOSSMS]

Example:[SG*5678901234*0006*SOSSMS]

Instruction: Set if sending SMS to SOS number when there is emergency(0:close,1:open)

## 15.Low-battery alarming swich

The platform sending:

[CS*YYYYYYYYYY*LEN*LOWBAT,0 or1]

Example:[SG*5678901234*0008*LOWBAT,1]

The terminal reply:

[CS*YYYYYYYYYY*LEN*LOWBAT]

Example:[SG*5678901234*0006*LOWBAT]

Instruction: Set if send SMS to the senter number when the battery amount is low.(0:close,1:open)

## 16.APN settings

The platfoem sending:

[CS*YYYYYYYYYY*LEN*APN,APN name ,User name,code,User data]

Example:[SG*5678901234*0011*APN,cmnet,,,46000]

The terminal reply:
[CS*YYYYYYYYYY*LEN*APN]
Example:[SG*5678901234*0003*APN]
Instruction: Set the terminal APN parameter.

## 17.SMS access settings

The platform sending:
[CS*YYYYYYYYYY*LEN*ANY,0 or 1]
Example:[SG*5678901234*0005*ANY,0]
The terminal reply:
[CS*YYYYYYYYYY*LEN*ANY]
Example:[SG*5678901234*0003*ANY]
Instruction:set the SMS control access.

## 18 Parameter query

The platform sending:
[CS*YYYYYYYYYY*LEN*TS]
Eaxample:[SG*5678901234*0002*TS]
The terminal reply:
[CS*YYYYYYYYYY*LEN*TS,The version number of software;Device ID; IME number;IP;port;The center number;assistance center number;SOS1 number;SOS2 number;SOS3 number;reporting intervals; battery amount; language;time area;satellite number;GSM signal strength;LED Switch;code;]
Instruction : Query the terminal parameter.
Example: [SG*5678901234*00FC*TS,ver:G29_BASE_V1.00_2014.04.24_09.47.23;
ID:SG*5678901234;
imei:1234SG*56789012345;
url:113.81.229.9;
port:5900;
center:;
slave:;
sos1:;
sos2:;
sos3:;
upload:30S;
work mode:1;
bat level:3;
language:1;
zone:8.00;
GPS:NO(0);

GPRS:OK(89);
LED:OFF;
pw:123456;
]

## 19.Version Query

The platform sending:
[CS*YYYYYYYYYY*LEN*VERNO]
Example:[SG*8800000015*0005*VERNO]
The terminal sending:
[CS*YYYYYYYYYY*LEN*VERNO,version number]
Example:[SG*8800000015*0028*VERNO,G29_BASE_V1.00_2014.04.23_17.46.49]
Instruction:Query the terminal software version.

## 20.Reboot

The platform sending:
[CS*YYYYYYYYYY*LEN*RESET]
Example:[SG*5678901234*0005*RESET]
The terminal reply:
[CS*YYYYYYYYYY*LEN*RESET]
Example:[SG*5678901234*0005*RESET]
Instruction:The terminal reboot.

## 21.Location order

The terminal sending:
[CS*YYYYYYYYYY*LEN*CR]
Example:[SG*5678901234*0002*CR]
The terminal reply:
[CS*YYYYYYYYYY*LEN*RESET]
Example:[SG*5678901234*0002*CR]
Instruction:Awake the terminal GPS mode immediately,and it will be in location statement for a while.

## 22.Bluetooth control order

The terminal sending:
[CS*YYYYYYYYYY*LEN*BT,open or close(1,0)]
Example:[SG*5678901234*0004*BT,1]
The terminal reply:

[CS*YYYYYYYYYY*LEN*RESET]

Example:[SG*5678901234*0002*BT]

Instruction:Control the Bluetooth switch,1 is open ,0 is close.

## 23.The working time area directive

The platform sending:

[CS*YYYYYYYYYY*LEN*WORK,working time area]

Example:[SG*5678901234*0019*WORK,6-9,11-13,13-15,17-19]

The terminal reply:

[CS*YYYYYYYYYY*LEN*RESET]

Example:[SG*5678901234*0004*WORK]

Instruction :Set the working time area,and separate every area by comma.

## 24.The working time settings order

The paltform sending:

[CS*YYYYYYYYYY*LEN*WORKTIME,working time]

Example:[SG*5678901234*000A*WORKTIME,3]

The terminal reply:

[CS*YYYYYYYYYY*LEN*RESET]

Example:[SG*5678901234*0008*WORKTIME]

Instruction:Set the terminal working time ,and the unit is minutes.

## 25.Shutdown order

The platform sending:

[CS*YYYYYYYYYY*LEN*POWEROFF]

Example:[SG*5678901234*0008*POWEROFF]

The terminal reply:

[CS*YYYYYYYYYY*LEN*RESET]

Example:[SG*5678901234*0008* POWEROFF]

Instruction:Shutdown function.

## 26.Watch -taking-off alarming

The platform sending:

[CS*YYYYYYYYYY*LEN*REMOVE,0 or 1]

Example:[SG*5678901234*0008*REMOVE,1]

The terminal reply:

[CS*YYYYYYYYYY*LEN*REMOVE]

Example:[SG*5678901234*0006*REMOVE]

Instruction:Taking off alarming function.

## 27.Pulse query

The platform sending:

[CS*YYYYYYYYYY*LEN*PULSE]

Example:[SG*5678901234*0005*PULSE]

The terminal reply:

[CS*YYYYYYYYYY*LEN*PULSE,pulse beating number]

Example:[SG*5678901234*0008*PULSE,72]

Instruction:Pulse query

# 三.Appendix

## Appendix 1:Location data instruction

| Name | Example(ASII code) | Instruction |
|---|---|---|
| Date | 120414 | (day month year)2014 year 4 month 12 day |
| Time | 101930 | (Time minute seconds)10 hour 19 minute 30 seconds |
| If position function or not | A | A:Position V:No position |
| Latitude | 22.564025 | Definite in DD.DDDDDD format,The latitude is :22.564025. |
| Latitude identification | N | N represent North latitude ,S represents South latitude. |
| Longitude | 113.242329 | Definite in DDD.DDDDDD format ,The longitude is :113.242329. |
| Longitude | E | E represents east longitude ,W represents west longitude |
| Speed | 5.21 | 5.21miles/hour. |
| Direction | 152 | The direction is in 152 degree. |
| Alititude | 100 | The unit is meter |
| Satellite | 9 | Represent the satellite number |
| GSM signal strength | 100 | Means the current GSM signal strength (0-100) |
| Battery | 90 | Means the current battery grade percentage. |
| Pedometer | 1000 | The steps is 1000 |
| Rolling times | 50 | Rolling number is 50 times. |
| The terminal statement | 00000000 | Represents in Hexadecimal string,and the meaning isas following:The high 16bit is alarming,the low 16 bit is statement. |

| | | |
|---|---|---|
| | | Bit(from 0) Meaning(1 effective)<br>0 Low-battery<br>1 Out of fence<br>2 In fence<br>3 Bracelet statement<br>16 SOS alarming<br>17 Low-battery alarming<br>18 Out of fence alarming<br>19 In fence alarming<br>20 Watch-take-off alarming |
| Base station number | 4 | Report the station number,0 is no reporting |
| Connect to station ta | 1 | GSM time delay |
| MCC country code | 460 | 460 represents china |
| MNC network number | 02 | 02 represents china mobile |
| The area code to connect base station | 10133 | Area code |
| Serial number to connect base station | 5173 | Base station serial code |
| The signal strength | 100 | Signal strength |
| The nearby station1 area code | 10133 | Area code |
| The nearby station 1 serial number | 5173 | Station serial number |
| The nearby base station 1 signal strength | 100 | Signal strength |
| The nearby station2 area code | 10133 | Area code |
| The nearby station 2 serial number | 5173 | Station serial number |
| The nearby base station 2 signal strength | 100 | Signal strength |
| The nearby station3 area code | 10133 | Area code |
| The nearby station 3 serial number | 5173 | Station serial number |
| The nearby base station 3 signal strength | 100 | Signal strength |