

Alarm GPS Tracker GPRS Protocol#

V1.18#

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1. Status Data Report:

HEAD\$IMEI\$INDEX\$CMD\$TEXT\$END

Detail Explain	
HEAD	Fixed 2 bytes length, and use “PA” in this protocol as Head
\$	Separator, fixed length 1 byte
IMEI	Device ID code, Maximum 20bytes
INDEX	Serial NO., Unfixed Length, max 4 bytes, ASCII decimal “0~ 9999”,defined by Server
CMD	Fixed Length 2byte, value as “0 ~ 9,A ~ Z”
TEXT	Command contents, Unfixed Length, Maxim 117bytes
END	2 bytes, in this protocol use “AP”

Example Data:

PA\$353990030327618\$D#091117#020928#1#22.537222#114.020948#0.00#0.0#42.1#4183#011#1#101#Wsz-wl0
01#B0101940#C+3.0,-5.0,+2.0\$AP

Fields	Value	Length	Remard
Head	PA	2	
Separator	\$	1	
IMEI code	IMEI	Max 20	
Separator	\$	1	
Data Type Code	D	1	
Separator	#	1	
Date	YY/MM/DD	6	
Separator	#	1	
Time	HHMMSS	6	
Separator	#	1	
Fix Status	0/1	1	0:Invlid;1:Valid
Separator	#	1	
Latitude	Latitude	Unfixed Length	
Separator	#	1	
Longitude	Longitude	Unfixed Length	
Separator	#	1	
Speed	Speed	6	Unit: Km/H
Separator	#	1	
Heading	Direction	5	Unit: Degree。
Separator	#	1	
Altitude	Altitude	7	Unit: Meter

Separator	#	1	
Internal Battery level	Battery Level	4	Unit:mV
Separator	#	1	
GEO Area Alarm status	Area ID+Status	3	Area ID:1~99; Area Status:0 no alarm,1=Leave area,2=Enter area,
Separator	#	1	
Alarm Status	alarms	Unfixed Length(Hex)	1=Moving Alarm, 2=Shock alarm,3=Main power disconnected,4=speed over,5=Panic,6=Door pen,7=Ignition ON alarm,8=Ignition ON,9=Ignition Off, A=Low battery level,B=Crash occurred, C=Fire Alarm, D=Gas Leakage alarm,E=Intrusion alarm,F=Booth Open,10=Glass Broken
Separator	#	1	
System Status	ABC	3	A=Arm/Disarm status: 0, Disarm;1,Arm B=Door Status: 0=Close, 1=Open C=Ignition status: 0=Off, 1=ON
Separator	#		
Monitor-Task NO.	NNN...	Unfixed Length	Check as APPENDIX A
Separator	#	1	
Task Data	TT	Unfixed Length	
Separator	#	1	
Task Data	TT	Unfixed Length	
Separator	#	1	
Task Data	TT	Unfixed Length	
Separator	#		
	...		
Separator	\$	1	
End	AP	2	

Example

PA\$353990030327618\$D#091117#020928#1#22.537222#114.020948#0.00#0.0#42.1#4183#011#1#101#
Wsz-wl001#B0101940#C+3.0,-5.0,+2.0\$AP

IMEI NO.:353990030327618

Date:2009/11/17

Time:02:09:28

Position Fix: Valid

Latitude:22.537222
Longitude:114.020948
Speed:0.00 Km/H
Heading Direction:0.0
Altitude:42.1
Battery Level: 4183
GEO Alert: Area 1, Leave Alarm
Alarm Status: Moving Alarm
Arm, door close, Ignition On
Task No.:sz-wl001
Monitoring Task: Mileage
S/N:01
Mileage status: 0
Mileage Value: 1940KM
Monitoring Task: Acceleration
X:+3.0
Y:-5.0
Z:+2.0

Alarms Alerts Reply to Device Unit:

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
IMEI NO.	IMEI NO.	Max.20	
Separator	\$	1	
CMD	16	2	
Separator	\$	1	
End	AP	2	

Example Reply

Alert:PA\$IMEI\$16\$AP
PA\$353990030327618\$16\$AP

2. GPRS functionality Commands:

HEAD\$INDEX\$CMD\$TEXT\$END

Detail Explain	
HEAD	Fixed 2 bytes length, and use “PA” in this protocol as Head
\$	Separator, fixed length 1 byte
INDEX	Serial NO., Unfixed Length, max 4 bytes, ASCII decimal “0~ 9999”,defined by Server
CMD	Fixed Length 2byte, value as “0 ~ 9,A ~ Z”

TEXT	Command contents, Unfixed Length, maximum 117bytes Note: Part of command has no “text” existed
END	2 bytes, in this protocol use “AP”

1) Login (register)/Hands Check/Quit (Disconnection) with Server

- Login to Server (Device Unit to Server)

PA\$353990030327618\$20\$AP

Head	PA	2
Separator	\$	1
IMEI	IMEI NO.<Device ID>	Max.20
Separator	\$	1
CMD code	20	2
Separator	\$	1
End	AP	2

Server Response:

PA\$353990030327618\$20\$AP

- Hands check (heart beat)

Every 10minutes the device will send the heat-beat data pack to server.

PA\$353990030327618\$22\$AP

<Server response same data as reply>

- Disconnect with server (Quit)

PA\$353990030327618\$21\$AP

<No reply from server>

2) Real time Track Once

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	1	Max.4	
Separator	\$	1	
CMD	01	2	
Separator	\$	1	
Content	G/L	1	Fixed Length Constant characters G: query gps co-ordinates L: query cellID

Separator	\$	1	
End	AP	2	

Example

Query gps coordinates:PA\$1\$01\$G\$AP

Query LBS CellID:PA\$1\$01\$L\$AP

Example Reply

Coordinates reply:

PA\$13400010001\$1\$01\$091117#020928#1#22.537222#114.020948#0.00#0.0#42.1#4183#011#8#011#Wsz-wl001#B0101940#C+3.0,-5.0,+2.0\$AP

13400010001 <IMEI No.>

\$1 <CMD SN>

\$01 <CMD Code>

\$091117

#020928

#1

#22.537222

#114.020948

#0.00

#0.0

#42.1

#4183

#011 <GEO Area Status>

#8 <alarm Status>

#011 <Disarm/Door open/Ignition ON>

#Wsz-wl001 <Monitoring task number>

#B0101940

#C+3.0,-5.0,+2.0\$AP <Same definition as status Data report>

LBS cell ID reply:

PA\$353990030327618\$1\$01\$27bd#0e09#596\$AP

3) Modify Data report Time Interval

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	2	Max.4	
Separator	\$	1	
CMD	02	2	
Separator	\$	1	
Content	0/1	1	0: Disable 1: Enable
	#	1	Separator
	Hour/Minute/Seconds	6	Time interval, Hex Value

End	AP	2	
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Example

Enable timing report by every 10seconds:

PA\$2\$02\$1#00000A\$AP

Disable Timing report:

PA\$2\$02\$0#000000\$AP

Example Reply

PA\$353990030327618\$2\$02\$AP

4) Start Voice Listen-in

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	5	Max.4	
Separator	\$	1	
CMD	05	2	
Separator	\$	1	
Content	Tel NO.	Max.24	Need input + country code
Separator	\$	1	
End	AP	2	

Example

PA\$5\$05\$15019417604\$AP

Example Reply

No Reply

5) Modify/Query Server IP/Port NO.

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	7	Max.4	
Separator	\$	1	
CMD	09	2	
Separator	\$	1	
Content	IP Address	Max.15	Format:AAA.BBB.CCC.DDD Example:211.154.142.55
	#	1	Separator
	Service Port	Max.5	
Separator	\$	1	
End	AP	2	

Example

PA\$7\$09\$211.154.142.55#9000\$AP

Example Reply

PA\$353990030327618\$7\$09\$AP

Query IP/Port Command Code:

PA\$8\$10\$2\$AP

Device Unit Reply Data:

PA\$353990030327618\$8\$10\$CMNET###211.154.142.55#9000\$AP

<PA\$IMEI\$INDEX\$CMD\$APN#apnName#apnPass#IP#PORT\$AP>

6) Remotely reboot Device Unit

Command Code:

PA\$9\$11\$AP

Device Unit replies:

PA\$353990030327618\$9\$11\$AP

7) Setup/Cancel GEO Fencing Areas

- **Setup:**

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	10	Max.4	
Separator	\$	1	
CMD	12	2	
Separator	\$	1	
Content	1	1	1:Rectangular 2: Circular 3:Polygon
	#	1	Separator
	Area ID	Max.2	1~9, (Rectangle /Polygon) <=9
	#	1	Separator
	Bottom Left: Latitude	Max.9	
	#	1	Separator
	Bottom-Left: Longitude	Max.10	
	#	1	Separator
	Top Right: Latitude	Max.9	
	#	1	Separator
	Top-right: Longitude	Max.10	
Separator	\$	1	
End	AP	2	

Example

GEO Area1 setup:

PA\$10\$12\$1#1#22.12345#113.12345#22.54321#113.54321\$AP

Example Reply

PA\$353990030327618\$10\$12\$AP

Remark

Mobile target moved out of setup area will trigger the alarm. And if the target always outside the area, the alarm status will keep always in the data.

Cancel:

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	10	Max.4	
Separator	\$	1	
CMD	13	2	
Separator	\$	1	
Content	Area ID	Max.2	1~12
Separator	\$	1	
End	AP	2	

Example

Cancel Area 1:PA\$10\$13\$1\$AP

Example Reply

PA\$353990030327618\$10\$13\$AP

Remark

After the cancel, device will stop to detect this area and removed the area ID in the device

8) Speed Limit setup

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	10	Max.4	
Separator	\$	1	
CMD	14	2	
Separator	\$	1	
Content	Speed	Max.250	Unit: Km/H
Separator	\$	1	
End	AP	2	

Example

PA\$10\$14\$40\$AP

Example Reply

PA\$353990030327618\$10\$14\$AP

9) Recover Device Unit to be factory setting

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	10	Max.4	
Separator	\$	1	
CMD	15	2	
Separator	\$	1	
End	AP	2	

Example

PA\$10\$15\$AP

Example Reply

PA\$353990030327618\$10\$15\$AP

Remark

After device receive recover command, it will reboot once

10) Remote Cut-off/Disable Immobilizer

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	17	Max.4	
Separator	\$	1	
CMD	18	2	18: Disable 19: enable Cut-off
Separator	\$	1	
End	AP	2	

Example

PA\$17\$18\$AP

Example Reply

PA\$353990030327618\$17\$18\$AP

11) Arm/Disarm

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
S/N	17	Max.4	
Separator	\$	1	
CMD	24	2	24: Arm; 25: Disarm
Separator	\$	1	
End	AP	2	

Example

PA\$17\$24\$AP

Example Reply

PA\$353990030327618\$17\$24\$AP

12) Reset Mileage Value

Field	Value	Length(Byte)	Remark
Head	PA	2	
Separator	\$	1	
SN	17	Max 4	
Separator	\$	1	
CMD	31	2	
Separator	\$	1	
Initial Mileage Value		Unfixed Length	Unit: KM
Separator	\$	1	
End	AP	2	

Example

PA\$17\$31\$6000\$AP

Example Reply from Device Unit

PA\$353990030327618\$17\$31\$AP

APPENDIX A**● Monitoring Task No.**

Filed	Value	Length	Remark
Task No.	W	1	Task Identification code
	Task No.	Unfixed length	Since Monitoring task No is variable, could be Dispatch Job No, ordering No. so length is unfixed. We defined as current application as Wsz-wl001

●Task Data Definition

Filed	Value	Length	Remark
Fuel Level	A	1	Fuel level Task Code
	SN	2	0^40

	Level status	1	=0: remain fuel level =3: fuel sensor malfunction
	Level	2	
Mileage	B	1	Mileage Task Code
	SN	2	
	Mileage Status	1	0=Accurate 1=Around
	Mileage	Unfixed Length	Current Mileage, Unit KM
Acceleration Value	C	1	Acceleration Task Code
	X Axial	5	+9.0
	Separator	1	,
	Y Axial	5	-5.0
	Separator	1	,
	Z axial	5	+12.0