

MT90/GVT380/GVT500 Communication Protocol

I Command Format

Command format are as follows:

Format 1:

FACID,<password(Max:16bytes)>,<command>,<data>;

Format 2:

FACID,<password(Max:16bytes)>,<command>,<data>;<command>,<data>;<and so on>

Note:

Do NOT input '<' and '>' when writing a command.

The semicolon at the end of command can be omitted.

Use format 2, you can set multiple parameters in one step, this function is very useful.

The yellow part means more **<command>,<data>;** you can input.

Item	Specification
FACID	5 bytes. It means the header of the command format.
password	Max 16 bytes. Only the right password can be used in command format. If less than 16 bytes, device will complement on right side automatically.
command	Please refer to the command list below.
data	The parameters of command. Each parameter is divided by comma.
;	1 byte, it is the ending character and in hex code (0x3B in hex code).

II Command List

Num.	Command	Definition
1	DEFAULT	Go back to default settings
2	RESTART	Restart device
3	PASSWORD	Change password
4	AUTHORIZE	Set authorized numbers
5	LOC	Track by Interval
6	GPRS	Upload GPRS data
7	TIME ZONE	Set time zone
8	SMS	SMS format
9	SDCARD	Write/Read SD card
10	QUERY	Query the status of device
11	OV	Over-speed alarm
12	VIB	Vibration alarm
13	MOVE	Movement alarm
14	GEOFENCE	Geo-fence alarm

III Command Details

1. DEFAULT

Command:	FACID,123456,DEFAULT;
Description:	Set all settings to be default settings.
Note:	Default password is 123456 and same for the following examples.

2. RESTART

Command:	FACID,123456,RESTART;
Description:	Restart the device, but doesn't change any settings.
Note:	Nothing!

3. PASSWORD

Command:	FACID,123456,PASSWORD,v= ;
Description:	Change the old password "123456" to
Note:	New password equals or less than 16 bytes.

4. AUTHORIZE

Command:	FACID,123456,AUTHORIZE,CENTER= ,1= ,2= ,3= ,4= ,5= ;
Description:	Set the center number and authorized numbers. CENTER= center number 1= first authorized number 2= second authorized number ...
Note:	Number means phone number Max five authorized numbers Just want to set two authorized number: FACID,123456,AUTHORIZE,CENTER= ,1= ,2= ;

5. LOC

Command:	FACID,123456,LOC,I= ,T= ,L= ;
Description:	Sent the GPS data to authorized numbers or sever automatically. I= Interval(must greater than zero) T= Times(0~999, 999 means infinite) L= Distance(condition to sent GPS data, unit is meter)
Note:	when set L=100 , device will not sent GPS data if the distance from latest location to adjacent location is less than 100 m.

6. GPRS

Command:	FACID,123456,GPRS,ADDR= ,PORT= ,NAME= ,PASS= ,APN= , ID= ,MODE= ,HBE= ,HBN= ,HBI= ,HBT= ,HBR= ;
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Description:	Set the parameters relate to GPRS. ADDR= IP or website of server PORT= port of server NAME= available name PASS= correct password APN= access point name ID= identifier MODE=1/0 use UDP/TCP protocol HBE=1/0 activate/deactivate heart-beat packet HBN= text content of heart-beat packet HBI= interval time of heat-beat packet HBT= total times of heat-beat packet HBR=1/0 restart device or not
Note:	Heart-beat packet" is used to keep the GPRS connection constantly

7. TIME ZONE

Command:	FACID,123456,TIME ZONE,V= ;
Description:	Set time zone of local place.
Note:	Nothing!

8. SMS

Command:	FACID,123456,SMS,TEXT/LINK;
Description:	Set format of SMS. TEXT default format LINK Google link format
Note:	Nothing!

9. SDCARD

Command:	FACID,123456,SDCARD,LOG= ,READ= ,TEST;
Description:	LOG=1/0 write GPS data to SD card or not READ=1/0 read GPS data from SD card or not
Note:	Nothing!

10. QUERY

Command:	FACID,123456,QUERY,STATUS/LINK;
Description:	STATUS inquires the parameters of device LINK to get a SMS with Google link
Note:	Nothing!

11. OV

Command:	FACID,123456,OV,L= ;
Description:	Set the limited speed.
Note:	Unit is Km/h.

12. VIB

Command:	FACID,123456,VIB,L= ;
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Description:	Set the vibration alarm. L= 0~10(0 is to turn off function, 1~10 means the sensitivity of vibration-sensor, 1 is min and 10 is max)
Note:	Nothing!

13. MOVE

Command:	FACID,123456,MOVE,L= ;
Description:	When the tracker moves out of a preset circle scope, it will send an alarm to authorized numbers or server. L= the radius of a preset circle scope
Note:	The center of circle scope is the latest point.

14. GEOFENCE

Command:	FACID,123456,GEOFENCE,1=114.000000e/22.600000n,2=113.800000e/22.400000n;
Description:	When the tracker moves out of or moves in a preset square scope, it will send an alarm to authorized numbers or server. 1= top left corner of the Geo-fence 2= bottom right corner of the Geo-fence
Note:	Nothing!

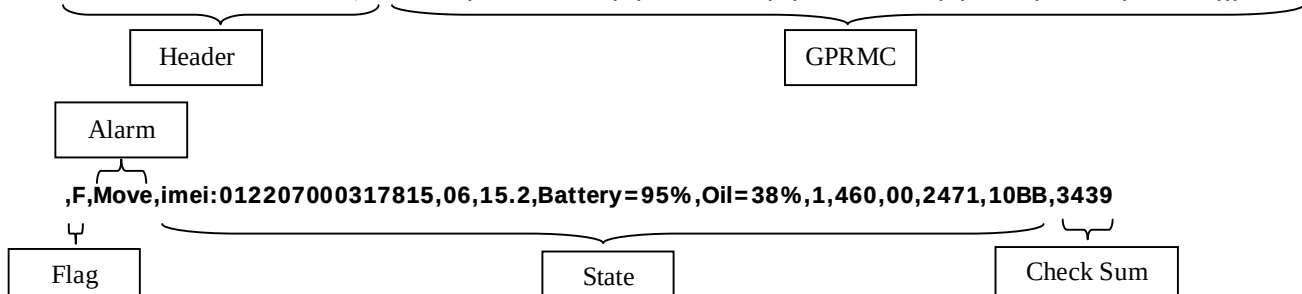
IV GPRS Data

Data format: <Header> <GPRMC>, <Flag>, <Alarm>, <State>, <Check Sum>

Note: Data does not include "<" and ">".

Example:

R:STX100929134000002 ?GPRMC,155730.320,A,2231.9050,N,11404.0281,E,41.99,268.70,171110,,,A*56



(1) Header includes:

R:STX<ID(16 bytes)>0x02(in ASCII)<Length(1 bytes)>

Example: STX1009209134000002 ?

Note:

Parameter	Description	Example
R:STX	Fixed character	
ID	Identifier of device, max:16 bytes, device will add space on the right side automatically if not full.	100929134000002 <space> <space> 16 bytes
0x02	Fixed hexadecimal number	

Length	Sum of following characters	0x85(in ASCII)
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(2) GPRMC includes:

hhmmss.dd,S,xxmm.dddd,<N|S>,yyymm.dddd,<E|W>,s.s,h.h,ddmmyy,d.d,<E|W>,D*HH

Example: 134829.486,A,2232.6083,N,11404.8137,E, 58.31,309.62,010809,,, *1A

Note:

Parameter	Description	Example
hhmmss.dd	UTC time hh = hours; mm = minutes; ss = seconds; dd = decimal part of seconds	13:48:29.486
S	GPS status indicator, A = valid, V = invalid	A=Valid
xxmm.dddd	Latitude xx = degrees; mm = minutes; dddd = decimal part of minutes	22 deg. 32.6083 min.
<N S>	Either character N or character S N = North, S = South	N = North
yyymm.dddd	Longitude yyy = degrees; mm = minutes; dddd = decimal part of minutes	114 deg. 04.8137 min.
<E W>	Either character E or character W E = East, W = West	E = East
s.s	Speed, in unit of knot. (1 knot = 1.852 km)	58.31 Knots
h.h	Heading, in unit of degree	309.62 deg.
ddmmyy	Date dd = date; mm = month' yy = year	01,08,09
d.d	Magnetic variation	Normally blank
D	Either character W or character E W = West ,E=East	Normally blank
*	checksum delimiter:	In case there would be one more comma (,) prior to *, GPRMC is still to be ended by `*`.
<E W>	Either character E or character W E = East, W = West	W = West
HH	Checksum	1A

(3) Flag: GPS status indicator, A = valid, V = invalid.

(4) Alarm includes:

<Alarm>

Example: Move

Note: Alarm table as below.

Alarm name	Description
Move	Device moves out of a preset circle scope.
Geo	Device moves out of a preset square scope.
OverSpeed	Device's speed is more than the limited speed.
Help	SOS button is pressed.
VIB	Device detects enough strength of vibration.
LowBattery	Device has no enough power.

(4) State includes:

<IMEI>,<Num>,<Altitude>,<Battery>,<Oil>,<Charger Flag>,<MCC>,<MNC>,<LAC>,<Cell ID>

Example: imei:012207000317815,06,15.2,Battery=95%,Oil=38%,1,460,00,2471

Note:

Parameter	Description	Example
IMEI	International Mobile Equipment Identity	imei: 012207000317815
Num	Number of valid satellite when getting the latest GPS data	06
Altitude	Value of altitude, unit is m.	15.2
Battery	Percentage of surplus battery	Battery=95%
Oil	Percentage of surplus oil	Oil=38%
Charger Flag	The status of charging, 1 means device is charging now.	1
MCC	Mobile Country Code	460
MNC	Mobile Network Code	00
LAC	Location Area Code	2471

(5) Check Sum is the sum of all data in ASCII.

Example: 3439