



**Find'n'Secure™**  
Automatic Tracking & Security Software

**EMBARC**  
Information Technology (P) Ltd.

# FS-65 USER MANUAL



**Embarc Information Technology Co. Pvt. Ltd**

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Thank you for purchasing FindnSecure GPS/GPRS Personal Tracker. Please read all Instructions carefully before operation, to ensure your complete understanding and to obtain the best possible performance from the unit.

## Table of contents

<b>1. Introduction to FS-65 Protocol</b>	4
<b>2. Version History</b>	5
<b>3. Scope of the Document</b>	6
3.1 Documents Conventions	6
3.2 AT Command Request/Response	6
3.3 Request and Response Transitions	7
3.4 Message Format	8
AT Command Request Message Format	5
AT Command Response Message Format	5
Asynchronous Position Message Format	6
Acknowledgement	8
Asynchronous Text Message Format	8
Error Response	8
Heartbeat Message	9
<b>4. AT Commands</b>	14
4.1 Network Communication Configuration	14
AT\$MODID Modem ID and Name	14
AT\$IMEI Read device IMEI number	15
AT\$CELLID Query 6 neighboring cell IDs	15
AT\$HOSTS Host IP addresses used for GPRS communications	16
AT\$DNS Set the DNS IP address(es)	17
AT\$IPTYPE GPRS TCP/UDP Packet Type Selection	18
AT\$PIN Set SIM PIN code	19
AT\$NETCFG Network Configuration	20
AT\$IP IP Query	21
AT\$APN Access Point Name Configuration	21
AT\$HB Heartbeat settings	22
AT\$SMSVIP List of SMS VIP Phone Numbers	23
AT\$MSGP Cell Phone to get position data	24
AT\$MSDST SMS Destination Address	25
AT\$MSGPRS Garbage SMS sent to Sever (GPRS)	26
4.2 System Configurations	27
AT\$REBOOT Reboot Device	27
AT\$RESET Reset Device	27

AT\$MIC Microphone gain setting	28
AT\$BATL Battery Low Setting	29
AT\$PWD User Password Setting	30
4.3 Position and Device Status Reporting	31
AT\$PDSR Position and Device Status Reporting Settings	31
AT\$GETPDS Get Position and Device Status	32
AT\$GPS1 Get First Log Date	33
GP<n> Short command for get current position	34
LOC Short command for send position, time and phone number to the server	34
Application Configuration	35
AT\$ALARM Remote Alarm Control	35
AT\$PKEY Power key characteristics	36
AT\$SKEY SOS key characteristics	37
AT\$GKEY Self Geo-Fence key characteristics	38
AT\$SOS SOS Report Configuration	39
AT\$GF GeoFence Alert Settings	40
AT\$SGF Configure Self Geo-Fence Zone	41
AT\$GPSS GPS Setting	42
AT\$MOTION Motion Detection settings	43
AT\$DOWN Man Down Detection settings	44
AT\$MSG Send message to SMSVIP	45
AT\$TEST To Read Major Status of Device	46
AT\$URL Specify User-defined web Link	47
AT\$PWON Send Power ON Message to the server	47
AT\$GPSMSG Send GPS Valid message to the server	48
AT\$ALT Altimeter calibration	49
AT\$AGPS Assisted Global Positioning System	50
<b>5. Appendices</b>	<b>51</b>
5.1 Message ID Description	51
5.2 LED Indications	52

# 1. Introduction to FS-65 Protocol

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This document describes the protocol of the FS-65 devices. Embarc information technology proprietary messaging protocol is used for all communications between the base and the device. This protocol incorporates error checking, message sequencing with full acknowledgement of received messages on request. The base station sends messages to the device and waits for an acknowledgement message from the device to indicate the status of the request. So this guide covers all protocol information you need to design and set up server applications incorporating the FS-65 devices.

## 2. Version History

GSM	Version	Whay's new	Firmware Version Required	Hardware Version Required
2009.05.05	0.0.1	Draft		
2009.06.11	0.0.2	Modify AT\$PDSR command		
		Modify AT\$GF command		
		Modify AT\$GPSS command		
		Add AT\$TEST command		
		Add AT\$MESSG command		
		Add AT\$URL command		
		Modify LED Indications		
2009.08.17	1.03	Modify AT\$MODID command Modify AT\$SGF command Modify GP short command Modify AT\$PDSR command Modify low power control Add AT\$GPS1 command Add AT\$PWON command Add AT\$IMEI command		
2009/8/19	1.0.4	Add Message ID Description		
2009/9/2	1.0.5	Add AT\$GPSMSG, AT\$PWON command		
2009/9/16	1.0.6	Add AT\$ALT, LOC command Modify AT\$MESSG Command Modify GP<n> Command		
2009/9/24	1.07	Add AT\$SMSPASS command Modify AT\$SOS command Modify AT\$SMSVIP command Modify AT\$RESET command		
2009/10/01	1.08	Remote OTA Modify AT\$PWD,AT\$ALT Modify ATMODID Up to 15 digit modem ID		
	1.09	Modify AT\$SKEY <PreAlarm Duration> Modify AT\$ALT		
2009/11/26	1.10	Modify AT\$GETPDS		
2009/11/26	1.11	Add AT\$AGPS and AT\$AGPSSET command		
2009/12/11	1.12	Add AT\$PDSR first data message ID		
2010/2/25	1.14	Modify AT\$HOSTS and remove AT\$PORT Add AT\$DNS command and function Add HB function Add AT\$SMSGP command		
2010/03/12	1.15	Add Note AT\$PDSR for Idle Mode		
2010/03/18	1.16	Modify LED Indications Modify AT\$AGPS		
2010/04/16	1.17	Modify AT\$PWON Add AT\$SMSGP		
2010/04/22	1.19	Add AT\$CELLID Add Power Off message ID		

# 3. Scope of the Document

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This document presents the AT Command Set for the FS-65 devices.

## 3.1 Document conventions

Convention	Description
< >	AT Request/Response Parameters are shown within the less than and greater than symbols.
[ ]	Optional parameters are shown between brackets. If optional parameters are not present, default values are used.
{ }	Represents a group of parameters defined elsewhere.
''	Arguments omitted by consecutive comments are equivalent to a parameter not being specified, indicating that the default value be used.

## 3.2 AT Command Request/Response

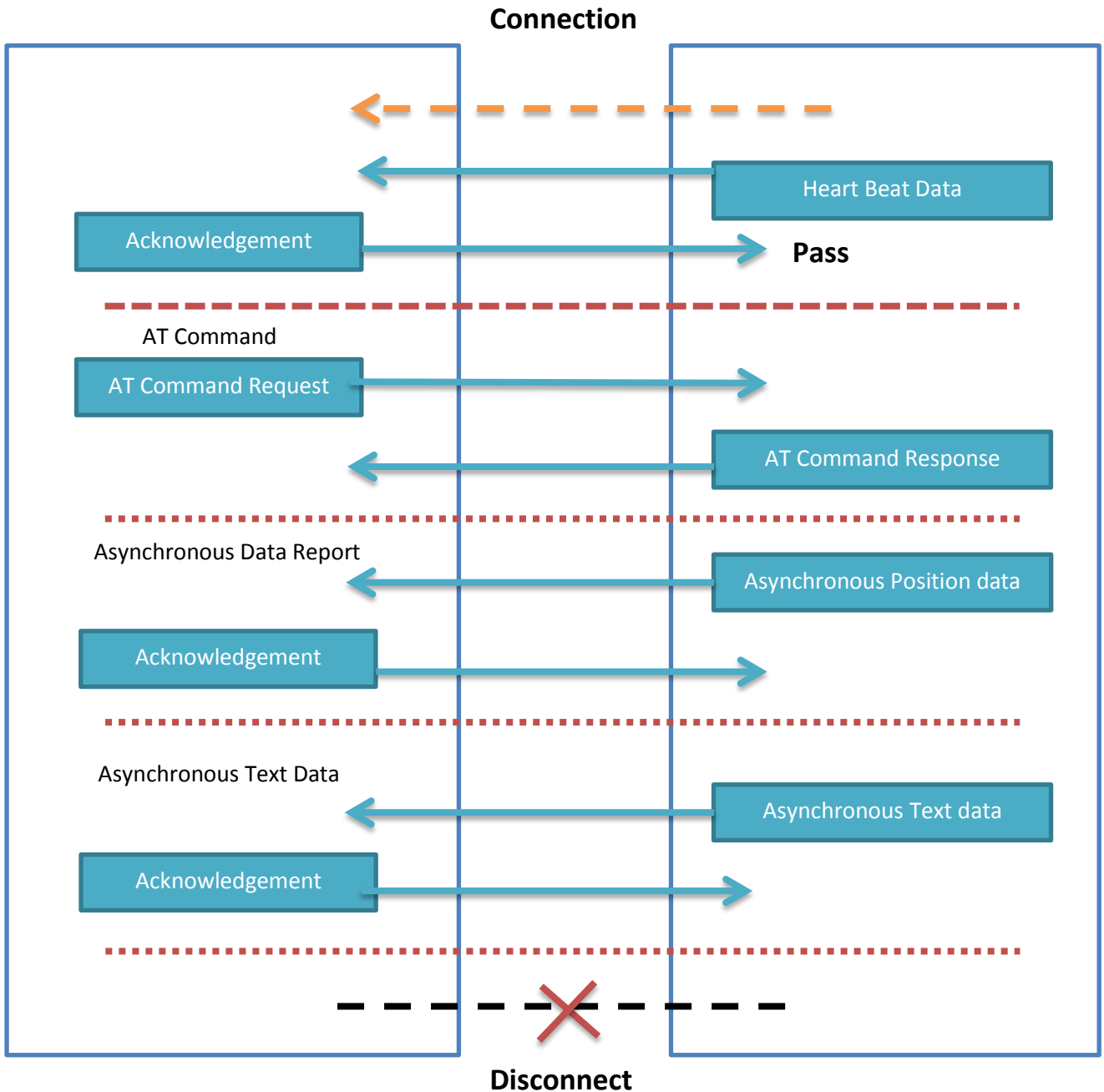
Each AT Command sent to the device shall be followed by a device response that may simply be the text "OK:COMMAND", "ER:COMMAND", or other response as specified in this requirements document.

### 3.3 Request and Response Transitions

Each AT command request send by the server to the device, there shall have a response from the device to the server. See the next section for the detailed message format.

Each Asynchronous message sent by the device to the host server via GPRS shall be followed by a binary acknowledgement as defined in the Message type section.

Each Asynchronous message sent by the device the SMS destination shall not be followed by an acknowledgement.



## 3.4 Message Format

Please note that all binary message formats are described as **Big-endian**.

### AT Command Request Message Format

Binary Format

Byte	Name	Size	Type	Description
0	Transaction ID	2	Unsigned Integer	16-bit transaction ID
2	Message Encoding	1	Unsigned Integer	0x01 - AT Command
3	Message Type	1	Unsigned Integer	0x00 - Request
4	Data Length	2	Unsigned Integer	Message data length
6	Message Data	Variable	Character String	AT Command Data

### AT Command Response Message Format

Binary Format

Byte	Name	Size	Type	Description
0	Transaction ID	2	Unsigned Integer	16-bit transaction ID
2	Message Encoding	1	Unsigned Integer	0x01 - AT Command
3	Message Type	1	Unsigned Integer	0x00 - Response
4	Data Length	2	Unsigned Integer	Message data length
6	Message Data	Variable	Character String	AT Response Data



## Asynchronous Position Message Format

ASCII Format for SMS

<Modem\_ID>, <GPS\_DateTime>,<Longitude>,<Latitude>,<Speed>,<Direction>,<Altitude>,  
<Satellites>,<Message ID>,0,0,0,0,<RTC\_DateTime>

Parameter	Format	Description
<Modem ID>		Modem ID (See <a href="#">AT\$MODID</a> command)
<GPS Date Time>	YYYYMMDDhhmmss	The latest valid GPS date and time YYYY : Year position was received. MM : Month position was received. DD : Day position was received. Hh : Hour position was received. Mm : Minute position was received. Ss : Second position was received.
<Longitude>		Longitude in decimal degrees
<Latitude>		Latitude in decimal degrees
<Speed>		Speed in decimal kilometer per hour
<Direction>		Direction in decimal degrees
<Altitude>		Altitude in meters
<Satellite>		Number of Satellites
<Message ID>		See <a href="#">Message ID Table</a>
<RTC Date Time>	YYYYMMDDhhmmss	The RTC (Real Time Clock) date and time YYYY : Year position was received. MM : Month position was received. DD : Day position was received. Hh : Hour position was received. Mm : Minute position was received. Ss : Second position was received.

## Binary Format

Byte	Name	Size	Type	Description
0	Transaction ID	2	Unsigned Integer	16-bit transaction ID
2	Message Encoding	1	Unsigned Integer	0x00 - Binary Position Data
3	Message Type	1	Unsigned Integer	0x02 - Asynchronous
4	Modem ID	8	Unsigned Integer	Modem ID or IMEI (64Bits)
12	Message Data	2	Unsigned Integer	See <a href="#">Message ID Table</a>
14	Data Length	2	Unsigned Integer	16-bit data length
16	GPS Hour	1	Unsigned Integer	0 to 23
17	GPS Minute	1	Unsigned Integer	0 to 59
18	GPS Seconds	1	Unsigned Integer	0 to 59
19	GPS Year	1	Unsigned Integer	0 to 99
20	GPS Month	1	Unsigned Integer	1 to 12
21	GPS Day	1	Unsigned Integer	1 to 31
22	Latitude	4	Signed Integer	0.00001 degree units
26	Longitude	4	Signed Integer	0.00001 degree units
30	Altitude	3	Signed Integer	Meters
33	Speed	2	Unsigned Integer	0.1 meters per second units
35	Direction	2	Unsigned Integer	0.1 degree units
37	Odometer	4	Unsigned Integer	0 (Not Used)
41	HDOP	1	Unsigned Integer	0.1 units
42	Satellites	1	Unsigned Integer	Number of Satellites Used
43	I/O Status	2	Unsigned Integer	0 (Not used)
45	Vehicle Status	1	Bit Mask	0 (Not used)
46	Analog Input1	2	Unsigned Integer	0 (Not used)
48	Analog Input2	2	Unsigned Integer	0 (Not used)
50	RTC Hour	1	Unsigned Integer	0 to 23
51	RTC Minute	1	Unsigned Integer	0 to 59
52	RTC Seconds	1	Unsigned Integer	0 to 59
53	RTC Year	1	Unsigned Integer	0 to 99
54	RTC Month	1	Unsigned Integer	0 to 12
55	RTC Day	1	Unsigned Integer	0 to 31
56	Pos Sending Hour	1	Unsigned Integer	0 to 23

57	Pos Sending Minute	1	Unsigned Integer	0 to 59
58	Pos Sending Seconds	1	Unsigned Integer	0 to 59
59	Pos Sending Year	1	Unsigned Integer	0 to 99
60	Pos Sending Month	1	Unsigned Integer	1 to 12
61	Pos Sending Day	1	Unsigned Integer	1 to 31

## Acknowledgement

The acknowledge message for Binary format is identical.

Byte	Name	Size	Type	Description
0	Transaction ID	2	Unsigned Integer	16-bit transaction ID
2	Message Encoding	1	Unsigned Integer	0x00 - Binary Data
3	Message Type	1	Unsigned Integer	0x03 - Acknowledge
4	Status Code	2	Unsigned Integer	0x0000 - Success 0x0000- Error

## Asynchronous Text Message Format

ASCII Format

Text data only without any other information.

Binary Format

Byte	Name	Size	Type	Description
0	Transaction ID	2	Unsigned Integer	16-bit transaction ID
2	Message Encoding	1	Unsigned Integer	0x02 - Text
3	Message Type	1	Unsigned Integer	0x02 - Asynchronous
4	Data Length	2	Unsigned Integer	16 - bit data length
6	Message Data	Variable	Character String	Text Message Data

## Error Response

Byte	Name	Size	Type	Description
0	Transaction ID	2	Unsigned Integer	16-bit transaction ID
2	Message Encoding	1	Unsigned Integer	0x01 - AT Command
3	Message Type	1	Unsigned Integer	0x04 - Error Response
4	Status	2	Unsigned Integer	0x0001 - General Error

## Heartbeat Message

Binary Format

Byte	Name	Size	Type	Description
0	Transaction ID	2	Unsigned Integer	16-bit transaction ID
2	Message Encoding	1	Unsigned Integer	0x00 - Binary Position Data
3	Message Type	1	Unsigned Integer	0x02 - Asynchronous
4	Modem ID	8	Unsigned Integer	Modem ID or IMEI (64Bits)
12	Message ID	2	Unsigned Integer	0xAB (Heartbeat Message ID)
14	Data Length	2	Unsigned Integer	16 - bit data length (6)
16	RTC Hour	1	Unsigned Integer	0 to 23
17	RTC Minute	1	Unsigned Integer	0 to 59
18	RTC Seconds	1	Unsigned Integer	0 to 59
19	RTC Year	1	Unsigned Integer	0 to 99
20	RTC Month	1	Unsigned Integer	1 to 12
21	RTC Day	1	Unsigned Integer	1 to 31

# 4. AT Commands

The following shows all Embarc Information Technology proprietary AT command for FS-65 devices. Please note that all parameters will be saved into the non-volatile memory of the device after issue any command.

## 4.1 Network Communication Configuration

AT\$MODID	Modem ID and Name
Description	This command sets the Modem ID and Modem name
Syntax	<b>Write</b> Command: AT\$MODID=<Modem ID>,<Modem Name>  <b>Read</b> Command: AT\$MODID?
Parameters	<Modem ID>      Up to 15 digit modem ID. This number must be resolvable to a 64 bit unsigned integer. It can be specified as either a decimal number or hexadecimal number. If specified as a hexadecimal number, the hexadecimal digits shall be prefixed with "0x" indicating that the following digits are hexadecimal.  <Modem ID>      Up to 30 chars string.
Return Value	<b>Write</b> Command: OK:MODID  <b>Read</b> Command: \$MODID=<Modem ID>,<Modem Name> OK  <b>Error</b> Response: ER:MODID
Example	AT\$MODID=1010000001,User Name OK:MODID  AT\$MODID? \$MODID=1010000001,User Name OK
Note	The modem name will only be presented on SMS message defined in SMSVIP format. It will not be used in Binary/ASCII format to server site.

AT\$IMEI	Read device IMEI number
Description	Execute this command to read the IMEI (International Mobile station Equipment Identity) of the unit
Syntax	<b>Read Command:</b> AT\$IMEI?
Parameters	<IMEI Number>            Up to 20 digit modem ID.
Return Value	Read Command:  \$IMEI=<IMEI Number> OK  Error Response: ER:IMEI
Example	AT\$IMEI?  \$IMEI=355117003358879 OK
Note	

AT\$CELLID	Query 6 neighboring cell IDs
Description	This command is used to query connected and 6 neighboring cell IDs.
Syntax	<b>Read Command:</b> AT\$CELLID?
Parameters	<cellid>                    Cell id
Return Value	Read Command: \$CELLID= <main cellid>,<cellid>,<cellid>,<cellid>,<cellid>,<cellid>,<cellid> OK : CELLID  Error Response: ER : CELLID
Example	\$CELLID=4f20,3758,4f35,5aac,2b12,fd9,2b13 OK : CELLID

AT\$HOSTS	Host IP addresses used for GPRS communication								
Description	Up to 2 host IP addresses may be defined for TCP/UDP connection. The server host with the lowest index number is of highest priority for establishing a TCP/UDP connection. The host connection will be changed to the next host index when GPRS fail to send messages after each retry.								
Syntax	<p><b>Write Command:</b> AT\$HOSTS=&lt;Index&gt;,&lt;FQDN&gt;,&lt;Host Address&gt;,&lt;Port&gt;</p> <p><b>Read Command:</b> AT\$HOSTS?</p>								
Parameters	<table border="0"> <tr> <td>&lt;Index&gt;</td> <td>Index of Host in List</td> </tr> <tr> <td>&lt;FQDN&gt;</td> <td>Specify if the Host Address is in IP or FQDN format 0 – Specify IP address as the Host Address 1 – Specify FQDN (e.g. track.findnsecure.com) as the Host Address</td> </tr> <tr> <td>&lt;Host Address&gt;</td> <td>IP address of the host</td> </tr> <tr> <td>&lt;Port&gt;</td> <td>TCP/UDP port (0 ~65535)</td> </tr> </table>	<Index>	Index of Host in List	<FQDN>	Specify if the Host Address is in IP or FQDN format 0 – Specify IP address as the Host Address 1 – Specify FQDN (e.g. track.findnsecure.com) as the Host Address	<Host Address>	IP address of the host	<Port>	TCP/UDP port (0 ~65535)
<Index>	Index of Host in List								
<FQDN>	Specify if the Host Address is in IP or FQDN format 0 – Specify IP address as the Host Address 1 – Specify FQDN (e.g. track.findnsecure.com) as the Host Address								
<Host Address>	IP address of the host								
<Port>	TCP/UDP port (0 ~65535)								
Return Value	<p>Write Command: OK HOSTS</p> <p>Read Command: \$HOSTS=1,&lt;FQDN&gt;,&lt;Host Address&gt;,&lt;Port&gt;. \$HOSTS=2,&lt;FQDN&gt;,&lt;Host Address&gt;,&lt;Port&gt; OK HOSTS</p> <p>Error Response: ER : HOSTS</p>								
Example	<p>AT\$HOSTS=1,0,123.45.67.89,5000 OK : HOSTS</p> <p>AT\$ HOSTS? \$HOSTS=1,0,123.45.67.89,5000 \$HOSTS=2,1, track.findnsecure.com,6000 OK</p>								
Note									



AT\$DNS	Set the DNS IP address(es)
Description	This command is used to set the DNS address(es) when using FQDN as the Host Address.
Syntax	<b>Write Command:</b> AT\$DNS=<Primary DNS IP>,<Secondary DNS IP>  <b>Read Command:</b> AT\$DNS?
Parameters	<Primary DNS IP>      Set the IP address for primary DNS  <Secondary DNS IP>    Set the IP address for secondary DNS
Return Value	<b>Write Command:</b> OK : DNS  <b>Read Command:</b> \$DNS=<Primary DNS IP>,<Secondary DNS IP> OK  <b>Error Response:</b> ER : DNS
Example	AT\$DNS=168.95.1.1,168.95.192.1 OK : DNS

AT\$IPTYPE	GPRS TCP/UDP Packet Type Selection
Description	This command specifies the GPRS IP type used for host communication. The <Acknowledge> parameter is used to determine whether or not to wait acknowledge for each asynchronous message. The <Acknowledge> function is under developing and not workable for current firmware version.
Syntax	<b>Write Command:</b> AT\$IPTYPE=<Type>  <b>Read Command:</b> AT\$IPTYPE?
Parameters	<Type>                    0 – UDP 1 - TCP
Return Value	Write Command: OK : IPTYPE  Read Command: \$IPTYPE=<Type> OK  Error Response: ER : IPTYPE
Example	AT\$IPTYPE=1 OK : IPTYPE  AT\$IPTYPE? \$IPTYPE=1 OK
Note	

AT\$PIN	Set SIM PIN code
Description	This command is used to set PIN code for the SIM card. When the device start to register to the cellular network, the device will send this PIN code to unlock the SIM card and start to register to the cellular network.
Syntax	<b>Write Command:</b> AT\$IPIN=<PIN Code>  <b>Read Command:</b> AT\$PIN?
Parameters	<PIN Code>                      PIN code for the SIM Card. (4 chars string.)
Return Value	Write Command: OK : PIN  Read Command: \$PIN=<PIN Code> OK  Error Response: ER : PIN
Example	AT\$PIN=0000 OK : PIN  AT\$PIN? \$PIN=1 OK
Note	

AT\$NETCFG	Network Configuration
Description	This command is used to set/query specific property of the communication network.
Syntax	<p><b>Write Command:</b> AT\$NETCFG=&lt;Roaming Allowed&gt;,&lt;SMS/GPRS Auto switch&gt;</p> <p><b>Read Command:</b> AT\$NETCFG?</p>
Parameters	<p>&lt; Roaming Allowed &gt;</p> <ul style="list-style-type: none"> <li>0 – All communication allowed under roaming mode</li> <li>1 – Only SMS allowed under roaming mode</li> <li>2 – Only GPRS allowed under roaming mode</li> <li>3 – No communication allowed under roaming mode</li> </ul> <p>&lt;SMS/GPRS Auto switch&gt;</p> <ul style="list-style-type: none"> <li>0 – Disable auto switch</li> <li>1 – Auto switch between SMS and GPRS reporting when GPRS network is available or not.</li> </ul>
Return Value	<p>Write Command: OK:NETCFG</p> <p>Read Command: \$NETCFG=&lt;Roaming Allowed&gt;,&lt;SMS/GPRS Auto switch&gt; OK</p> <p>Error Response: ER:NETCFG</p>
Example	<p>AT\$NETCFG=3,0 OK:NETCFG</p> <p>AT\$NETCFG? \$NETCFG=3,0 OK</p>
Note	

AT\$IP	IP Query
Description	This command is used to query the device for its local IP address. This IP address is valid when GPRS connection is established.
Syntax	<b>Read Command:</b> AT\$IP?
Parameters	<Local IP> IP Address assigned to the device.
Return Value	<b>Read Command:</b> \$IP=<Local IP> OK
Example	AT\$IP? \$IP=10.2.16.250 OK

AT\$APN	Access Point Name Configuration
Description	This command is used to set or query the device for its APN (Access Point Name) and authorization information for GPRS connection. These information are provided by GPRS service operator.
Syntax	<b>Write Command:</b> AT\$APN=<APN>,<User Name>,<Password> OK : APN  <b>Read Command:</b> AT\$APN?
Parameters	<APN> Access Point Name (Up to 36 chars string.) <User Name> GPRS login user name (Up to 31 chars string.) <Password> GPRS login password (Up to 31 chars string.)
Return Value	<b>Write Command:</b> OK:APN  <b>Read Command:</b> \$APN=<APN>,<User Name>,<Password> OK  Error Response: ER:APN
Example	AT\$IP? \$IP=10.2.16.250 OK
Note	

AT\$HB	Heartbeat settings	
Description	This command is used to enable/disable Heartbeat message to help maintain the GPRS session between the device and the server.	
Syntax	<b>Write Command:</b> AT\$HB=<Period>,<Force>  <b>Read Command:</b> AT\$HB?	
Parameters	<Period> <User Name> <Password>  <Forced>	Time Period in seconds between Heartbeats transmits. Setting the Period to 0 disables the Heartbeat. First heartbeat will be sent when the time after the last communications from the device exceeds the specified period of time. (0 – 65535) 0 – Heart beat response is NOT required. 1 – Heart beat response from server is REQUIRED.
Return Value	<b>Write Command:</b> OK:HB  <b>Read Command:</b> \$HB=<Period>,<Forced> OK  <b>Error Response:</b> ER:HB	
Example	AT\$HB=60, 1 OK:HB	
Note		

AT\$SMSVIP	List of SMS VIP Phone Numbers								
Description	This command is used to set or query up to 4 SMS addresses for reporting and only accept SMS command which coming from the phone numbers in this list. If this list is not set, the device will accept all incoming SMS command from any phone number.								
Syntax	<p><b>Write Command:</b> AT\$SMSVIP=&lt;Index&gt;,&lt;Authorized Address&gt;, &lt;Event Report&gt;,&lt;MSGType&gt;</p> <p><b>Read Command:</b> AT\$SMSVIP?</p>								
Parameters	<table border="0"> <tr> <td data-bbox="432 443 794 477">&lt;Index&gt;</td> <td data-bbox="794 443 1513 477">Index of SMS Address (1 to 4)</td> </tr> <tr> <td data-bbox="432 477 794 577">&lt; Authorized Address &gt;</td> <td data-bbox="794 477 1513 577">Authorized phone numbers(Up to 20 digit phone number) to execute command and report by SMS (up to 4 numbers)</td> </tr> <tr> <td data-bbox="432 577 794 723">&lt;Forced&gt;</td> <td data-bbox="794 577 1513 723">           Bit 0 : SOS report.            Bit 1 : Geo-Fence report.            Bit 2 : Self Geo-Fence report.            Bit 3 : Low Power report.            Bit 4 : Tracking report.         </td> </tr> <tr> <td data-bbox="432 723 794 882">&lt;MSGType&gt;</td> <td data-bbox="794 723 1513 882">           Bit 5 : Man down report.            Bit 0 ; The text format sent to SMS Destination Address number            Bit 1 : The text format sent to SMS VIP numbers            Bit 2 : Google map URL.            Bit 3 : User defined URL address            ( Defined by command of "AT\$URL")            Bit 4 : Garmin PeerPoint Mssage Format         </td> </tr> </table>	<Index>	Index of SMS Address (1 to 4)	< Authorized Address >	Authorized phone numbers(Up to 20 digit phone number) to execute command and report by SMS (up to 4 numbers)	<Forced>	Bit 0 : SOS report. Bit 1 : Geo-Fence report. Bit 2 : Self Geo-Fence report. Bit 3 : Low Power report. Bit 4 : Tracking report.	<MSGType>	Bit 5 : Man down report. Bit 0 ; The text format sent to SMS Destination Address number Bit 1 : The text format sent to SMS VIP numbers Bit 2 : Google map URL. Bit 3 : User defined URL address ( Defined by command of "AT\$URL") Bit 4 : Garmin PeerPoint Mssage Format
<Index>	Index of SMS Address (1 to 4)								
< Authorized Address >	Authorized phone numbers(Up to 20 digit phone number) to execute command and report by SMS (up to 4 numbers)								
<Forced>	Bit 0 : SOS report. Bit 1 : Geo-Fence report. Bit 2 : Self Geo-Fence report. Bit 3 : Low Power report. Bit 4 : Tracking report.								
<MSGType>	Bit 5 : Man down report. Bit 0 ; The text format sent to SMS Destination Address number Bit 1 : The text format sent to SMS VIP numbers Bit 2 : Google map URL. Bit 3 : User defined URL address ( Defined by command of "AT\$URL") Bit 4 : Garmin PeerPoint Mssage Format								
Return Value	<p><b>Write Command:</b> OK</p> <p><b>Read Command:</b> \$SMSVIP=&lt;Index&gt;,&lt;Authorized Address&gt;, &lt;Event Report&gt;,&lt;MSGType&gt;OK</p> <p><b>Error Response:</b> ER:SMSVIP</p>								
Example	<pre>AT\$SMSVIP=1,+91123456789,3,4 OK:SMSVIP  AT\$SMSVIP? \$SMSVIP=1,+91123456789,3,4 OK</pre>								
Note									

AT\$MSGP	Cell Phone to get position data
Description	This command specifies the SMSVIP Phone number used. The function is the same of Call in mode, it's only used to cell in mode function not ready.
Syntax	<p><b>Write Command:</b> AT\$MSGP=&lt;Index&gt;,&lt;Mode&gt;</p> <p><b>Read Command:</b> AT\$MSGP?</p>
Parameters	<p>&lt;Index&gt;                      Phone number index for SMSVIP( 1~4 )</p> <p>&lt;Mode&gt;                        0 : OFF</p> <p>                                  1 : Wiretap only</p> <p>                                  2 : IVR only</p> <p>                                  3 : SMS only</p> <p>                                  4 : Wiretap and SMS</p> <p>                                  5 : IVR and SMS</p> <p>                                  6 : Send information to server</p> <p>                                  7 : Wiretap and Send information to server</p>
Return Value	<p><b>Write Command:</b> OK:MSGP</p> <p><b>Read Command:</b> \$MSGP=&lt;Index&gt;,&lt;Mode&gt; OK</p> <p><b>Error Response:</b> ER:MSGP</p>
Example	<p>AT\$ MSGP =1, 1 OK: MSGP</p> <p>AT\$MSGP? \$MSGP=1, 1 OK</p>
Note	



AT\$SMSDST	SMS Destination Address
Description	This command specifies the SMS Destination Address that shall be used to sent alert data from the device via SMS.
Syntax	<b>Write Command:</b> AT\$SMSDST=<Address>  <b>Read Command:</b> AT\$SMSDST?
Parameters	<Address>                      Phone number or SMS short code (Up to 20 digit phone number)
Return Value	<b>Write Command:</b> OK:SMSDST  <b>Read Command:</b> \$SMSDST=<Address> OK  <b>Error Response:</b> ER:SMSDST
Example	AT\$SMSDST=+91123456789 OK:SMSDST  AT\$SMSDST? \$SMSDST=+91123456789 OK
Note	

AT\$MSGPRS	Garbage SMS sent to Sever (GPRS)
Description	This command control that garbage SMS will sent to SMSDST or Sever (GPRS)
Syntax	<p><b>Write</b> Command: AT\$MSGPRS=&lt;Mode&gt;</p> <p><b>Read</b> Command: AT\$MSGPRS?</p>
Parameters	<p>&lt;Mode&gt;                      0 – Sent to SMSDST (SMS)                                      1 – Sent to Sever (GPRS)</p>
Return Value	<p><b>Write</b> Command: OK:MSGPRS</p> <p><b>Read</b> Command: \$MSGPRS=&lt;Mode&gt; OK</p> <p><b>Error</b> Response: ER:MSGPRS</p>
Example	<p>AT\$ MSGPRS =1 OK: MSGPRS</p> <p>AT\$ MSGPRS? \$ MSGPRS =1 OK</p>

## 4.2 System Configurations

AT\$REBOOT	Reboot Device
Description	This command is use to restart the device. The device will be reset after receiving the reboot command for 10 seconds to allow time to acknowledge the request. The parameter settings will not be erased after this reboot.
Syntax	<b>Write Command:</b> AT\$REBOOT OK:REBOOT
Parameters	
Return Value	<b>Write Command:</b> OK:REBOOT
Example	AT\$REBOOT OK
Note	

AT\$RESET	Reset Device
Description	This command is use to reset all parameters to manufactory default settings.
Syntax	<b>Write Command:</b> AT\$RESET=<Option>
Parameters	<Option> 0 – Reset all parameters to manufactory default and clear all data queue. 1 – Reset all parameters to manufactory default 2 – Clear GPRS and SMS report queue.
Return Value	<b>Write Command:</b> OK:RESET  <b>Error Response:</b> ER:RESET
Example	AT\$RESET=0 OK:RESET
Note	

AT\$MIC	Microphone gain setting
Description	This command is used to set microphone gain for voice wiretapping.
Syntax	<b>Write</b> Command: AT\$MIC=<Gain Level>  <b>Read</b> Command: AT\$MIC?
Parameters	<Gain Level>                      Set the Microphone Gain Level (0...15) ( +1.5dB/per)
Return Value	<b>Write</b> Command: OK:MIC  <b>Read</b> Command: \$MIC=<Gain Level> OK  <b>Error</b> Response: ER:MIC
Example	AT\$MIC=10 OK:MIC
Note	

AT\$BATL	Battery Low Setting
Description	This command is used to set battery low characteristics.
Syntax	<b>Write Command:</b> AT\$BATL=<Destination>,<Shut Down Duration> <b>Read Command:</b> AT\$BATL?
Parameters	<Destination>            0 – Disable battery low event Bit0: Logging Bit1: Transmit GPRS Bit2: Transmit SMS <Shut Down Duration>    Duration in minutes after battery low is detected, the device will be turn off automatically. (1...5) <Battery Voltage>        Battery voltage reading only.
Return Value	<b>Write Command:</b> OK:BATL  <b>Read Command:</b> \$BATL =<Destination>,<Shut Down Duration>,< battery voltage > OK  <b>Error Response:</b> ER:BATL
Example	AT\$BATL=7,5,4.12 OK:BATL

AT\$PWD	User Password Setting
Description	This command is used to set user password for IVR authorization.
Syntax	<b>Write</b> Command: AT\$PWD=<Old Password>,<New Password>
Parameters	<Password>                      Up to 4 digit password
Return Value	<b>Write</b> Command: OK:PWD  <b>Error</b> Response: ER:PWD
Example	AT\$PWD=1234,4567 OK:PWD

### 4.3 Position and Device Status Reporting

AT\$PDSR	Position and Device Status Reporting Settings
Description	Position and data shall be reported when the device is moving. Reporting shall be based upon satisfying a minimum time requirement and minimum distance requirement
Syntax	<p><b>Write Command:</b>            AT\$PDSR=&lt;Mode&gt;,&lt;Min. Time&gt;,&lt;Min. Distance&gt;,&lt;Destination&gt;,&lt;Time Multiplier&gt;,&lt;IgnoreGPS&gt;</p> <p><b>Read Command:</b>            AT\$PDSR?</p>
Parameters	<p>&lt;Mode&gt;                    0 – Disable                                          Bit 0 – Time Mode                                          Bit 1 – Distance Mode</p> <p>&lt;Min. Time&gt;                Minimum Time in seconds that must elapse before reporting next position. (0 – 255)</p> <p>&lt;Min. Distance&gt;            Minimum Distance in meters that must be traveled before reporting next position. (10 – 50000)</p> <p>&lt;Destination&gt;              Bit 0 – Log to Data Queue                                          Bit 1 – Transmit GPRS                                          Bit 2 – Transmit SMS</p> <p>&lt;Time Multiplier&gt;         1 – The PDSR Log and GPRS messages will be sent according to the &lt;Min. Time&gt; setting.                                          N – The PDSR Log messages will be performed according to the &lt;Min. Time&gt; setting, the PDSR GPRS messages will be sent according to &lt;Min. Time&gt; times multiplied n. (1 – 65535)</p> <p>&lt;Ignore GPS&gt;                0 – Continuously tracking regardless of GPS signal.                                          1 – Ignore tracking report by no GPS signal</p>
Return Value	<p><b>Write Command</b>            OK:PDSR</p> <p><b>Read Command:</b>            \$PDSR=&lt;Mode&gt;,&lt;Min. Time&gt;,&lt;Min. Distance&gt;,&lt;Destination&gt;,&lt;Time Multiplier&gt;,&lt;IgnoreGPS&gt;            OK</p> <p><b>Error Response:</b>            ER:PDSR</p>
Example	<p>Tracking every 30 seconds through GPRS            AT\$PDSR=1,30,0,2,1,0            OK:PDSR</p> <p>Tracking every 60 seconds through GPRS and Logging every 15 seconds            AT\$PDSR=1,15,0,3,4,0            OK:PDSR</p>
Note	<ol style="list-style-type: none"> <li>1. If &lt;Mode&gt; is 3 and both &lt;Min. Time&gt; and &lt;Min. Distance&gt; parameters are set, the position and data are only reported if both the minimum amount of time has elapsed and the minimum distance has been traveled.</li> <li>2. AT\$PDSR=1,0            Modem will always idle</li> <li>3. the modem into idle mode when &lt;Min. Time&gt;*&lt;Time Multiplier&gt; more than or equal to 300.</li> </ol>

AT\$GETPDS	Get Position and Device Status
Description	This command is used to get current position or history log data.
Syntax	<b>Write Command:</b> AT\$GETPDS=<Option>[,<Duration>,<Year>,<Month>,<Day>,<Hour>,<Minute>]
Parameters	<p>&lt;Duration&gt; Duration in minutes of points to retrieve. If no date and time is specified, points retrieved should be for the last duration of time. If time and date is specified, then the duration beginning at the specified date and time should be retrieved. (0 to 10000)</p> <p>&lt;Year&gt; Year at which to retrieve position and device status. (0 to 99)</p> <p>&lt;Month&gt; Month at which to retrieve position and device status. (1 to 12)</p> <p>&lt;Day&gt; Day at which to retrieve position and device status. (1 to 31)</p> <p>&lt;Hour&gt; Hour at which to retrieve position and device status. (0 to 23)</p> <p>&lt;Minute&gt; Minute at which to retrieve position and device status. (0 to 59)</p>
Return Value	<p><b>Write Command:</b> Asynchronous Position Message</p> <p><b>Error Response:</b> ER:GETPDS</p>
Example	<pre>AT\$GETPDS 1010000001,20090201135233,121.64624,25.06213,10,187,40,8,0,0,0 OK:GETPDS  AT\$GETPDS=5 1010000001,20090201135230,121.64624,25.06213,10,187,40,8,0,0,0 1010000001,20090201135330,121.64624,25.06213,10,187,40,8,0,0,0 1010000001,20090201135430,121.64624,25.06213,10,187,40,8,0,0,0 1010000001,20090201135530,121.64624,25.06213,10,187,40,8,0,0,0 1010000001,20090201135630,121.64624,25.06213,10,187,40,8,0,0,0 OK:GETPDS</pre>
Note	



AT\$GPS1	Get First Log Date
Description	This command is used to get first history log data.
Syntax	<b>Read Command:</b> AT\$GPS1
Parameters	None
Return Value	<b>Read Command:</b> \$GPS1=<Modem ID>,<Date Time> OK:GPS1  <b>Error Response:</b> ER:GPS1
Example	AT\$GPS1 \$GPS1 =123456789,20090201135233 OK:GPS1
Note	

GP<n>	Short command for get current position
Description	This command is used for get current position by using SMS. The position message will response to the command sender.
Syntax	<b>Write Command:</b> GP<n>
Parameters	<p>&lt;n&gt;</p> <ul style="list-style-type: none"> <li>1 – Text SMS Format</li> <li>2 – Google Map</li> <li>3 – URL</li> <li>4 – Gamin™ PeerPoint Format</li> <li>9 –Standard</li> </ul>
Example	GP1

LOC	Short command for send position, time and phone number to the server
Description	This command is used for send position by using SMS.
Syntax	<b>Write Command:</b> LOC Send to server message \$MSG=255,"<Modem ID>,<GPS YYYYMMDDHHMMSS>, <Longitude>,<Latitude>,<Speed>,<Heading>,<Altitude>, <Sat Used>,<Message ID>,<RTC YYYYMMDDHHMMSS>"," <Phone Number>
Parameters	
Example	\$MSG=255,"123456789,20090101000000,25.16,121.45,0,0,0,0,5, 20090101000000",0912345678

AT\$ALARM	Remote Alarm Control
Description	This command is used to send alarm remotely.
Syntax	<p><b>Write Command:</b> AT\$ALARM=&lt;Alarm Method&gt;,&lt;Alarm Duration&gt;,&lt;Alarm Repeat Cycle&gt;</p> <p><b>Read Command:</b> AT\$ ALARM?</p>
Parameters	<p>&lt;Alarm Method&gt;            1 – Vibrator                                   2 – Buzzer</p> <p>&lt; Alarm Duration&gt;        Duration in milliseconds to set alarm ON. A value of 0 indicates the alarm is ON constantly. (0...65535)</p> <p>&lt; Repeat Cycle &gt;         Number of times to repeat the alarm by &lt;Alarm duration&gt;. A value 0 indicates forever alarm. (0...255)</p>
Return Value	<p><b>Write Command:</b> OK:ALARM</p> <p><b>Read Command:</b> \$ALARM=&lt;Alarm Method&gt;,&lt;Alarm Duration&gt;,&lt;Alarm Repeat Cycle&gt; OK</p> <p><b>Error Response:</b> ER:ALARM</p>
Example	<p>AT\$ ALARM =2,2000,10 OK:ALARM</p> <p>AT\$ ALARM? \$ ALARM =2,2000,10 OK</p>
Note	

AT\$PKEY	Power key characteristics
Description	This command is used to set power ON/OFF button characteristics. If the “Disable Power Key” feature is selected, the device will turn on automatically when the battery is inserted and cannot be turned off by press power key.
Syntax	<p><b>Write Command:</b> AT\$PKEY=&lt;Press Duration&gt;,&lt;PreAlarm Method&gt;</p> <p><b>Read Command:</b> AT\$PKEY?</p>
Parameters	<p>&lt;Press Duration&gt;            Duration in seconds for power button press to power on/off the device. (Default = 2) (0...255)</p> <p>&lt;PreAlarm Method&gt;           0 – Disable Power key. 0 – Vibrator 1 – Buzzer (Default)</p>
Return Value	<p><b>Write Command:</b> OK:PKEY</p> <p><b>Read Command:</b> \$PKEY=&lt;Press Duration&gt;,&lt;PreAlarm Method&gt; OK</p> <p><b>Error Response:</b> ER:PKEY</p>
Example	<p>AT\$PKEY=2,1 OK:PKEY</p> <p>AT\$PKEY? \$PKEY=2,1 OK</p>
Note	

AT\$SKEY	SOS key characteristics	
Description	This command is used to set SOS button characteristics.	
Syntax	<b>Write Command:</b> AT\$SKEY=<Press Duration>,<PreAlarm Duration>,<PreAlarm Method>  <b>Read Command:</b> AT\$SKEY?	
Parameters	<Press Duration>	Duration in seconds for SOS button press to trigger SOS event. (Default = 2) (0...255)
	<PreAlarm Duration>	0 – Disable SOS key. Alarm duration in seconds. The SOS event will be sent after this duration and the SOS event can be cancelled by pressing Geo-fence key within this duration. (0...150)
	<PreAlarm Method>	0 – Disable SOS pre-alarm. 0 – Vibrator (Default) 1 – Buzzer
Return Value	<b>Write Command:</b> OK:SKEY  <b>Read Command:</b> \$SKEY=<Press Duration>,<PreAlarm Duration>,<PreAlarm Method> OK  <b>Error Response:</b> ER:SKEY	
Example	AT\$SKEY=2,10,0 OK:SKEY  AT\$SKEY? \$SKEY=2,10,0 OK	
Note		

AT\$GKEY	Self Geo-Fence key characteristics	
Description	This command is used to set Self Geo-Fence button characteristics.	
Syntax	<b>Write Command:</b> AT\$GKEY=<Press Duration>,<PreAlarm Method>  <b>Read Command:</b> AT\$GKEY?	
Parameters	<Press Duration>	Duration in seconds for Self Geo-Fence button press to set or unset the self Geo-Fence of the device. (Default = 2) <sup>i</sup> (0...255)
	<PreAlarm Method>	0 – Disable Self Geo-Fence function. 0 – Vibrator 1 – Buzzer (Default)
Return Value	<b>Write Command:</b> OK:GKEY  <b>Read Command:</b> \$GKEY=<Press Duration>,<PreAlarm Method> OK  <b>Error Response:</b> ER:GKEY	
Example	AT\$GKEY=2,10,0 OK:GKEY  AT\$GKEY? \$GKEY=2,10,0 OK	
Note		

AT\$SOS	SOS Report Configuration
Description	This command is used to set SOS report characteristics.
Syntax	<p><b>Write</b> Command: AT\$SOS=&lt;Tracking Enable&gt;,&lt;Destination&gt;,&lt;Acknowledge Mode&gt;,&lt;Acknowledge Method&gt;</p> <p><b>Read</b> Command: AT\$ SOS?</p> <p><b>Action</b> Command: AT\$SOS Stop SOS Tracing.</p>
Parameters	<p>&lt;Tracking Enable&gt;      0 – Disable SOS tracking. 1 – Enable SOS tracking, The tracking interval is depending on the Update Interval of the AT\$GPSS command setting. 2 – when SOS event enable, the system don't into sleep. GPS and GSM module always power on.</p> <p>&lt;Destination&gt;          Bit0: Logging Bit1: Transmit GPRS Bit2: Transmit SMS</p> <p>&lt;Acknowledge Mode&gt;    0 – No acknowledge required. Bit0: Acknowledge when report send Bit1: Acknowledge when received server response.</p> <p>&lt;Acknowledge Method&gt; 0 – Vibrator 1 – Buzzer</p>
Return Value	<p><b>Write</b> Command: OK:SOS</p> <p><b>Read</b> Command: \$SOS=&lt;Tracking Enable&gt;,&lt;Destination&gt;,&lt;Acknowledge Mode&gt;,&lt;Acknowledge Method&gt; OK</p> <p><b>Error</b> Response: ER:SOS</p>
Example	<p>AT\$ SOS =1,7,0,0 OK:SOS</p> <p>AT\$ SOS? \$ SOS =1,7,0,0 OK</p>
Note	

AT\$SOS	GeoFence Alert Settings																
Description	This command is used to set/query GeoFence settings.																
Syntax	<p><b>Write Command:</b>  AT\$GF=&lt;Index&gt;,0, &lt;Latitude&gt;,&lt;Longitude&gt;,&lt;Entry Radius&gt;,&lt;Exit Radius&gt;,&lt;Destination&gt; , &lt;Delay&gt;,&lt; GeoFence Name &gt;,&lt;ReportType&gt;</p> <p><b>Read Command:</b>  AT\$GF? Reads all GeoFence Settings  AT\$GF =&lt;Index&gt; Reads selected GeoFence Setting</p>																
Parameters	<Index> <Geofence Type> <Latitude> <Longitude> <Entry Radius> <Exit Radius> <Destination> <Delay> <GeoFence Name>	Index of GeoFence. (Range is 1 to 10) 0 – Circular GeoFence Type Latitude of Circular GeoFence center Longitude of Circular GeoFence center Radius in meters of circle used to detect entry of the device into the GeoFence. (0...65535) Radius in meters of circle used to detect exit of the device from the GeoFence. (0...65535) Bit0: Logging Bit1: Transmit GPRS Bit2: Transmit SMS Qualifying delay in seconds. Duration of time that must elapse after transitioning state before accepting the new state. (0...65535) GeoFence Name (Up to 10 chars string.) 0 – Disable GeoFence Bit0: Entry GeoFence Bit1: Exit GeoFence															
Return Value	<p><b>Write Command:</b>  OK:GF</p> <p><b>Read Command:</b>  \$GF=&lt;Index&gt;,0, &lt;Latitude&gt;,&lt;Longitude&gt;,&lt;Entry Radius&gt;,&lt;Exit Radius&gt;,&lt;Destination&gt; , &lt;Delay&gt;,&lt; GeoFence Name &gt;,&lt;ReportType&gt;  OK</p> <p><b>Error Response:</b>  ER:GF</p>																
Example	AT\$GF=1,0,-99.13009,19.41048,1000,1200,7,10,Maxico City,1 OK:GF																
Note	Geo Fence Report Format: <b>Asynchronous Position Message</b> + <GeoFence Index> <p><b>ASCII Format:</b></p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Format</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>GeoFence Index</td> <td>##</td> <td>1 to 10</td> </tr> </tbody> </table> <p><b>Binary Format:</b></p> <table border="1"> <thead> <tr> <th>Name</th> <th>Size</th> <th>Type</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>GeoFence Index</td> <td>1</td> <td>Unsigned</td> <td>1 to 10</td> </tr> </tbody> </table>			Parameter	Format	Description	GeoFence Index	##	1 to 10	Name	Size	Type	Description	GeoFence Index	1	Unsigned	1 to 10
Parameter	Format	Description															
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Name	Size	Type	Description														
GeoFence Index	1	Unsigned	1 to 10														



AT\$SGF	Configure Self Geo-Fence Zone
Description	This command is used to set/query the Self Geo-Fence zone settings.
Syntax	<p><b>Write</b> Command: AT\$SGF=&lt;Radius&gt;,&lt;Delay&gt;,&lt;Destination&gt;</p> <p><b>Read</b> Command: AT\$SGF?</p>
Parameters	<p>&lt;Radius&gt; Radius in meters of circle used to detect exit from Self Geo-Fence. (0...65535)</p> <p>&lt;Delay&gt; Qualifying delay in seconds. Duration of time that must elapse after transitioning out of zone before accepting an out of zone state change and causing an alert.(0...65535)</p> <p>&lt;Destination&gt; Bit0: Logging Bit1: Transmit GPRS Bit2: Transmit SMS</p> <p>&lt;Latitude&gt; Latitude of Self Geo-Fence. (Read)</p> <p>&lt;Longitude&gt; Longitude of Self Geo-Fence. (Read)</p>
Return Value	<p><b>Write</b> Command: OK:SGF</p> <p><b>Read</b> Command: \$SGF=&lt;Radius&gt;,&lt;Delay&gt;,&lt;Destination&gt;,&lt;Latitude&gt;,&lt;Longitude&gt; OK</p> <p><b>Error</b> Response: ER:SGF</p>
Example	<p>AT\$SGF=500,10,3 OK:SGF</p> <p>AT\$SGF? \$SGF=500,10,3,25.23512,121.13225 OK</p>
Note	

AT\$GPSS	GPS Setting
Description	This command is used to set GPS characteristics.
Syntax	<b>Write Command:</b> AT\$GPSS=< GPS Timeout >,< GPS update mode >,< GPS update interval >  <b>Read Command:</b> AT\$GPSS?
Parameters	<GPS Timeout>                    Time period in seconds that must elapse with no GPS lock indicating a GPS failure. (30...300)  <GPS update mode>                0 – Disable coordinates auto update. Bit 0 – Update coordinates by motion detect Bit 1 – Update coordinates by time interval  <GPS update interval>            Time period in seconds that GPS update coordinates. (60...3600)
Return Value	<b>Write Command:</b> OK:GPSS  <b>Read Command:</b> AT\$GPSS=< GPS Timeout >,< GPS update mode >,< GPS update interval > OK  <b>Error Response:</b> ER:GPSS
Example	AT\$GPSS=45,3,120 OK:GPSS
Note	

AT\$MOTION	Motion Detection settings										
Description	This command is used to set/query motion threshold settings. Motion is described as normal movement of a device as determined by a G sensor.										
Syntax	<b>Write Command:</b> AT\$MOTION=< Detection Enable>,<Threshold Setting>,< Motion Debounce Time>,<Motion Detect Duration>,<No Motion Detect Duration> <b>Read Command:</b> AT\$MOTION?										
Parameters	<table border="0"> <tr> <td>&lt;Detection Enable&gt;</td> <td>0 – Disable motion detect. (Default) 1 – Enable motion detect.</td> </tr> <tr> <td>&lt;Threshold Setting&gt;</td> <td>The g-force threshold setting that must be exceeded in order to be considered in motion. (0-127) where force is equal to N * 72mG. (Default = 15)</td> </tr> <tr> <td>&lt;Motion Debounce Time&gt;</td> <td>Duration of physical impact that must be sustained in order to be considered a motion impact. (0-255) where time is N * 10ms. (Default = 100)</td> </tr> <tr> <td>&lt;Motion Detect Duration&gt;</td> <td>Duration at which motion must be sustained to indicate motion has been detected. (0-255) seconds. (Default = 5)</td> </tr> <tr> <td>&lt;No Motion Detect Duration&gt;</td> <td>Duration at which no motion must be sustained to indicate device is no longer in motion. (0-255) seconds. (Default = 5)</td> </tr> </table>	<Detection Enable>	0 – Disable motion detect. (Default) 1 – Enable motion detect.	<Threshold Setting>	The g-force threshold setting that must be exceeded in order to be considered in motion. (0-127) where force is equal to N * 72mG. (Default = 15)	<Motion Debounce Time>	Duration of physical impact that must be sustained in order to be considered a motion impact. (0-255) where time is N * 10ms. (Default = 100)	<Motion Detect Duration>	Duration at which motion must be sustained to indicate motion has been detected. (0-255) seconds. (Default = 5)	<No Motion Detect Duration>	Duration at which no motion must be sustained to indicate device is no longer in motion. (0-255) seconds. (Default = 5)
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<No Motion Detect Duration>	Duration at which no motion must be sustained to indicate device is no longer in motion. (0-255) seconds. (Default = 5)										
Return Value	<b>Write Command:</b> OK:MOTION  <b>Read Command:</b> \$MOTION=< Detection Enable>,<Threshold Setting>,< Motion Debounce Time>,<Motion Detect Duration>,<No Motion Detect Duration> OK  <b>Error Response:</b> ER:MOTION										
Example	AT\$MOTION=1,15,100,5,5 OK:MOTION										
Note											

AT\$DOWN	Man Down Detection settings
Description	This command is used to set/query man down threshold settings. Man down is described as an abrupt change in velocity as might be experienced during a wreck.
Syntax	<p><b>Write</b> Command: AT\$DOWN=&lt;Trigger Mode&gt;,&lt;Detect Threshold &gt;,&lt;Detect Duration&gt;</p> <p><b>Read</b> Command: AT\$DOWN?</p>
Parameters	<p>&lt;Trigger Mode&gt;            0 – Disable man down detection. (Default)                                   Bit 0: Man down detect under power ON mode.                                   Bit 1: Man down detect under power OFF mode.</p> <p>&lt;Detect Threshold &gt;        The g-force threshold setting that must be exceeded in order to be considered an impact.                                   (0-127) where force is equal to N * 72mG.</p> <p>&lt;Detect Duration&gt;            Duration at which impact must be sustained to indicate impact has been detected.                                   (0-255) where time is N * 10ms.</p>
Return Value	<p><b>Write</b> Command: OK:DOWN</p> <p><b>Read</b> Command: \$DOWN=&lt;Trigger Mode&gt;,&lt;Detect Threshold &gt;,&lt;Detect Duration&gt; OK</p> <p><b>Error</b> Response: ER:DOWN</p>
Example	AT\$DOWN=3,15,1 OK:DOWN
Note	

AT\$MSG	Send message to SMSVIP								
Description	To execute this command for sending free text message from base station to P1 tracking asset; since P1 receive the MSG message, it will forward "Text Message" content to phone number according to "Index of SMSVIP"								
Syntax	<p><b>Write Command:</b> AT\$MSG=&lt;Index of SMSVIP&gt;,&lt; Text Message &gt;,&lt;Phone Number&gt;</p> <p><b>Read Command:</b> AT\$MSG?</p>								
Parameters	<table border="0"> <tr> <td>&lt; Index of SMSVIP &gt;</td> <td>SMSVIP number Index</td> </tr> <tr> <td>&lt;255&gt;</td> <td>LOC Command used</td> </tr> <tr> <td>&lt; Text Message &gt;</td> <td>The free message string (The max length is 140 characters)</td> </tr> <tr> <td>Phone number</td> <td>Phone number string</td> </tr> </table>	< Index of SMSVIP >	SMSVIP number Index	<255>	LOC Command used	< Text Message >	The free message string (The max length is 140 characters)	Phone number	Phone number string
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<255>	LOC Command used								
< Text Message >	The free message string (The max length is 140 characters)								
Phone number	Phone number string								
Return Value	<p><b>Write Command:</b> OK:MSG</p> <p><b>Error Response:</b> ER:MSG</p>								
Example	AT\$MSG=255,"This Command is used by LOC Message",0912345678 OK:MSG								
Note									

AT\$TEST	To Read Major Status of Device
Description	Execute this command to process unit's hardware diagnostic function
Syntax	<b>Action Command:</b> AT\$TEST
Parameters	<p>&lt;FW&gt;                      The firmware version of P1</p> <p>&lt;IMEI&gt;                     The IMEI number of GSM Modem</p> <p>&lt;GPS Satellite&gt;            0 : GPS is OFF                                   1 : GPS is ON, and with valid data                                   2 : GPS is ON, but with invalid data</p> <p>&lt;GPRS Status&gt;             0 : GPRS is Disconnected                                   1 : GPRS is Connecting                                   2 : GPRS connection is Ready                                   3 : GPRS is Closing</p> <p>&lt;BAT Status&gt;                The current battery voltage level.</p>
Return Value	<p>Response: \$TEST=&lt;FW&gt;,&lt;IMEI&gt;,&lt;GPS Satellite&gt;,&lt;GPRS Status&gt;,&lt;BAT Status&gt; OK</p> <p><b>Error Response:</b> ERROR</p>
Example	AT\$TEST=1.00Rev.00,7,5,3.87 OK
Note	

AT\$URL	Specify User-defined web Link
Description	To Set a User-defined Web Link for Map Address Converting and Mapping process.
Syntax	<b>Write Command:</b> AT\$URL=<URL> <b>Read Command:</b> AT\$URL?
Parameters	<URL>
Return Value	<b>Write Command:</b> OK:URL <b>Error Response:</b> ER:URL
Example	AT\$URL=http://WWW.FINDNSECURE.COM/?map?-ll OK
Note	

AT\$PWON	Send Power ON Message to the server						
Description	Send message to the server						
Syntax	<b>Write Command:</b> AT\$PWON=<Mode>,<Destination>,<Switch> <b>Read Command:</b> AT\$PWON?						
Parameters	<table border="0"> <tr> <td>&lt;Mode&gt;</td> <td>0 : Disable Function 1 : Enable Function</td> </tr> <tr> <td>&lt;Destination&gt;</td> <td>Bit 0 – Log to Data Queue Bit 1 – Transmit GPRS Bit 2 – Transmit SMS</td> </tr> <tr> <td>&lt;Switch&gt;</td> <td>Bit 0 – Power On Bit 1 – Power Off</td> </tr> </table>	<Mode>	0 : Disable Function 1 : Enable Function	<Destination>	Bit 0 – Log to Data Queue Bit 1 – Transmit GPRS Bit 2 – Transmit SMS	<Switch>	Bit 0 – Power On Bit 1 – Power Off
<Mode>	0 : Disable Function 1 : Enable Function						
<Destination>	Bit 0 – Log to Data Queue Bit 1 – Transmit GPRS Bit 2 – Transmit SMS						
<Switch>	Bit 0 – Power On Bit 1 – Power Off						
Return Value	Response: \$PWON=<Mode>,<Destination>,<Switch> OK:PWON <b>Error Response:</b> ER:PWON						
Example	AT\$URL=http://WWW.FINDNSECURE.COM/?map?-ll OK						
Note							

AT\$GPSMSG		Send GPS Valid message to the server
Description	Send GPS valid message to the server	
Syntax	<b>Write Command:</b> AT\$PGPSMSG=<Mode>,<Destination>  <b>Read Command:</b> AT\$GPSMSG?	
Parameters	<Mode>  <Destination>	0 : Disable Function 1 : Enable Function Bit 0 – Log to Data Queue Bit 1 – Transmit GPRS Bit 2 – Transmit SMS
Return Value	Response: \$GPSMSG=<Mode>,<Destination> OK  <b>Error Response:</b> ER:GPSMSG	
Example	AT\$GPSMSG=1,7 OK:GPSMSG	
Note		



AT\$ALT	Altimeter calibration	
Description	Altimeter calibration command.	
Syntax	<b>Write Command:</b> AT\$ALT=<Mode>,[Calibrate],[Height],[Pressure]  <b>Read Command:</b> AT\$ALT?	
Parameters	<Mode>  [Calibrate mode]  [Height] [Pressure]	0 : Disable Altimeter (GPS Only) 1 : Enable Altimeter 0: Altimeter not calibrate 1: Calibrate altimeter by GPS 2: Calibrate altimeter by Height 3: Calibrate altimeter by Pressure -500 ~ 11000 300 ~ 1100
Return Value	Response: \$Altitude=<Mode>,[Calibrate],[Hight],[Pressure] OK  <b>Error Response:</b> ER:ALT	
Example	AT\$ALT=0 OK:ALT  AT\$ALT=1,0 OK:ALT  AT\$ALT=1,1 OK:ALT  AT\$ALT=1,2,100 OK:ALT  AT\$ALT=1,3,100,1000 OK:ALT	
Note		

AT\$AGPS	Assisted Global Positioning System	
Description	This command is setting local position to get the satellite data when using AGPS function.	
Syntax	<b>Write Command:</b> AT\$AGPS=<Mode><Latitude>,<Longitude>,<Update Time>  <b>Read Command:</b> AT\$AGPS?	
Parameters	<Mode>  <Latitude> <Longitude> <Update Time>	0 : Disable AGPS Function 1 : Enable AGPS Function Local address of latitude ( -179.0000 ~ 179.9999 ) Local address of longitude ( -90.0000 ~ 90.9999 ) 2~4 ( unit : hour)
Return Value	<b>Write Command:</b> OK:AGPS  <b>Read Command:</b> \$AGPS=<Latitude>,<Longitude> OK  <b>Error Response:</b> ER:AGPS	
Example	AT\$APGS=1,25.06,121.64,2 OK:AGPS  AT\$AGPS? \$AGPS=1,25.06,121.64,2 OK	
Note		

# 5. Appendices

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## 5.1 Message ID Description

Message ID (Heximal)	Message ID (Decimal)	Description	Remark
0X0000	0	Get position	
0X0001	1	Log position	
0X0002	2	Tracking position	AT\$PDSR
0X0003	3	GPS	AT\$GSPMSG
0X0004	4	Power ON message	AT\$PWON
0X0005	5	First PDSR data message	
0X0007	7	SOS Alert	
0X000D	13	Power Alert	
0X0016	22	Power OFF message	AT\$PWON
0X0021	33	GETPDS from SMSVIP index 1	
0X0022	34	GETPDS from SMSVIP index 2	
0X0023	35	GETPDS from SMSVIP index 3	
0X0024	36	GETPDS from SMSVIP index 4	
0X00A4	164	GeoFence Entry Alert	
0X00A5	165	GeoFence Exit Alert	
0X00A8	168	Battery Power Low Alert	
0X00AB	171	Heartbeat (Binary Format)	
0X00AE	174	Self Geo-Fence Alert	
0X00B4	180	Man down Detection Alert	

## 5.2 LED Indication

Charger Status	Chager LED (Red/Green)
Battery Charging	Solid Red
Battery Charge Complete	Solid Green

GSM Status	GSM LED (Blue)
Power OFF	Off
Acquiring	64ms ON/800ms OFF
Registered	64ms ON/3000ms OFF

GPS Status	GPS LED (Yellow)
GPS OFF	Off
Acquiring	Flash Yellow (once/3second)
Fixed	Hold Yellow (10 second)