

GH4000 SMS CONFIGURATION PROTOCOL

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Writing rules

- Default configuration password is <0000>;
- SMS message length 160 symbols;
- Each command in same message is separated by semicolon—(;);
- Configuration command from parameters must be separated by colon—(:);
- Configuration command's parameters must be separated by comma—(,);
- To clear Configuration command's string parameters value use—(~);
- SMS format in case of single message:
 - Last command must be RST;
- SMS format in case of multiple message:
 - Same configuration command parameters must be in same message;
 - Last message must end with RST command;
- Any character is accepted in the string parameters, except for:
 - Comma (,) – must be escaped as \,
 - Semicolon (;) – must be escaped as \;
 - Backslash (\) – must be escaped as \\
 - Tilde (~) is generally treated as 'clear value' sign, therefore must be also escaped as \~

Note! It could take up to two minutes until tracker accept new configuration, after RST command is send.

1 Device Configuration

1.1 General Configuration

Settings Group	Configuration command		
General	PSW:<password>;CFG1;GEN:<p1>,<p2>,<p3>;RST		
Action	Parameter	Value	Description
Device ID	<p1>	String	Device name or ID, Max 31 symbol, "GH4000" by default
N/A message	<p2>	String	Up to 15 characters "N/A" by default
Actuation by external power	<p3>	0 - 1	Enable – 1, Disable – 0. Default – 1.

1.2 Configuration of Periodical Tracking

Settings Group	Configuration command		
Periodical Tracking	PSW:<password>;CFG1;GPS:<p1>,<p2>,<p3>,<p4>,<p5>,<p6>,<p7>,<p8>,<p9>,<p10>,<p11>,<p12>,<p13>,<p14>,<p15>,<p16>;RST		
Action	Parameter	Value	Description
Enable GPS	<p1>	0 – 1	Enable – 1, Disable – 0. Default – 1.
GPS Position Timeout	<p2>	30 - 9999	Seconds. Default – 180.
GPS Logging Interval on move	<p3>	0 – 2.592.000	Seconds (max. 30 days). Default – 600.
Continues coordinates searching when device has external power	<p5>	0 – 1	Enable – 1, Disable – 0. Default – 1
Timeout before device changes saving mode	<p6>	0 – 65535	Default – 10
GPS Logging Interval on stop	<p7>	0 – 65535	Seconds (max. 30 days). Default – 600.
Static Navigation	<p8>	0 - 1	Enable – 1, Disable – 0. Default – 1

Enable Altitude filter	<p9>	0 - 1	Enable – 1, Disable – 0. Default – 0
Altitude filter min value	<p10>	-500 - 10000	Meters Default: 0
Altitude filter max value	<p11>	-500 - 10000	Meters Default: 10000
Enable Speed filter	<p12>	0 - 1	Enable – 1, Disable – 0. Default – 0
Speed filter min value	<p13>	0 - 255	km/h Default: 0
Speed filter max value	<p14>	0 - 255	km/h Default: 200
Enable PDOP filter	<p15>	0 - 1	Enable – 1, Disable – 0. Default – 0
PDOP filter max value	<p16>	1 - 40	Default: 10

1.3 Configuration of Periodical Tracking by SMS

Settings Group	Configuration command		
Periodical Tracking by SMS	PSW:<password>;CFG1;PTS:<p1>,<p2>,<p3>,<p4>;RST		
Action	Parameter	Value	Description
Enable Periodical tracking by SMS	<p1>	0 – 1	Enable – 1, Disable – 0. Default – 0.
SMS sending period	<p2>	30 – 65535	SMS sending interval in seconds. Default – 60.
SMS sending number	<p3>	Number	Phone number to send SMS messages. Min 3 length max 16 length.
SMS format	<p4>	0 – 9, 13 – 17	0 – None

			<p>1 – Undefined</p> <p>Undefined SMS format! IMEI: <imei>;</p> <p>2 – FIX!</p> <p>FIX! Name:<id>; Time:<local_time>; Fix:<fix_lat>,<fix_lon>; Alt:<fix_alt>; Sat:<fix_satellites>; CellId:<cell_id>; Angle:<fix_angle>; Speed:<fix_speed>;</p> <p>3 – SMS Track turned on!</p> <p>SMSTRACK turned ON! Name:<id>; Time:<local_time>;</p> <p>4 – SMS Track turned off!</p> <p>SMSTRACK turned OFF! Name:<id>; Time:<local_time>;</p> <p>5 – GEO!</p> <p>GEO! Name:<id>; Time:<local_time>; GeoZone:<geo>;</p> <p>6 – INF!</p> <p>INF! Name:<id>; Time:<local_time>; BatLvl:<bat_level>; OpId:<operator>; GSMSignLvl:<signal_level>; Prof:<current_file>; ExtPower:<power_ext>; IMEI:<imei>;</p> <p>7 – MN</p> <p>*MN60;<fix_lat>;<fix_lon>;</p> <p>8 – Alarm</p> <p>ALARM! Name:<id>; Time:<local_time>; Lat<fix_lat> Lon<fix_lon>; Sat:<fix_satellites>; CellId<cell_id>; BatLvl:<bat_level>; Cause:<alarm_on>;</p> <p>9 – Alarm turned off</p> <p>ALARM Turned OFF! Name:<id>; Time:<local_time>;</p> <p>13 – Call terminated</p> <p>Call Terminated! Name:<id>; Time:<local_time>;</p> <p>14 – Configuration changed</p> <p>Configuration changed! Name:<id>; Time:<local_time>; N<sms_id>;</p> <p>15 – Charge battery</p> <p>Charge BATTERY! Name:<id>; Time:<local_time>; Live:<up_time>; BatLvl:<bat_level>;</p> <p>16 – Cross!</p> <p>Cross! ID:<id>; Time:<local_time>; GeoZone:<geo_name>;<geo_cross>; Lat:<fix_lat>; Lon:<fix_lon>; CellId:<cell_id>;</p> <p>Default – 1.</p>
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1.4 Configuration of Man-Down options

Settings Group	Configuration command		
Man-down	PSW:<password>;CFG1;MD:<p1>,<p3>;RST		
Action	Parameter	Value	Description
Enable	<p1>	0 - 1	Enable – 1, Disable – 0.Default – 0.
Mode	<p3>	3,5	3 – Vertical, 5 – Horizontal

1.5 Configuration of Parking

Settings Group	Configuration command		
Parking	PSW:<password>;CFG1;PARK:<p1>;RST		
Action	Parameter	Value	Description
Parking	<p1>	200 - 65000	Radius of zone in meters. Default – 200.

1.6 Configuration of Alarm

Settings Group	Configuration command		
Alarm	PSW:<password>;CFG1;ALM:<p1>,<p2>,<p3>,<p4>;RST		
Action	Parameter	Value	Description
Alarm duration time	<p1>	1 – 2.592.000	Seconds. Default – 300.
Pre alarm delay	<p2>	0 – 65.535	Seconds. Default – 0.
Track Saving Period	<p3>	1 – 65.535	Seconds. Default – 5.
Method	<p4>	0,1,2,3	0 – Call, 1 – GPRS, 2 – GPRS or SMS, 3 – SMS, Default – 2.

1.7 Configuration of Send Alarm by GRPS

Settings Group	Configuration command		
Send Alarm By GRPS	PSW:<password>;CFG1;AM1:<p1>;RST		
Action	Parameter	Value	Description
GPRS Send Period	<p1>	0 – 65.535	Seconds. Default – 600

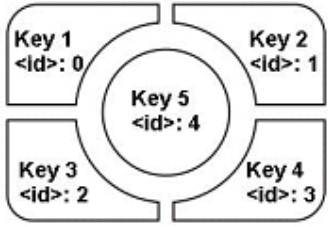
1.8 Configuration of Send Alarm by SMS

Settings Group	Configuration command		
Send Alarm By SMS	PSW:<password>;CFG1;AM2:<p1>,<p2>,<p3>,<p4>,<p5>,<p6>,<p7>;RST		
Action	Parameter	Value	Description
Period	<p1>	30 – 2592000	SMS sending period. Default – 60
Number	<p2> - <p6>	Number	Phone number to send SMS messages
SMS format	<p7>	0 – 9, 13 – 17	<ul style="list-style-type: none"> 0 – None 1 – Undefined 2 – FIX! 3 – SMS Track turned on! 4 – SMS Track turned off! 5 – GEO! 6 – INF! 7 – MN 8 – Alarm 9 – Alarm turned off 13 – Call terminated 14 – Configuration changed 15 – Charge battery 16 – Cross! 17 – Battery full Default – 2

1.9 Configuration of Send Alarm by Call

Settings Group	Configuration command		
Send Alarm By Call	PSW:<password>;CFG1;AM3:<p1>,<p2>,<p3>,<p4>,<p5>,<p6>,<p7>,<p8>,<p9>;RST		
Action	Parameter	Value	Description
No Answer time out	<p1>	Seconds	10 – 180s. Default – 30
Numbers	<p2> - <p6>	5 Numbers	Phone numbers to call
Time for conversation	<p7>	10 – 300s.	Default – 60.
Overtime	<p8>	0 – 300s.	Default – 60.
Time for alarm stop	<p9>	10 – 300s.	Default – 60.

1.10 Configuration of Keyboard

Settings Group	Configuration command		
Keyboard	PSW:<password>;CFG1;KEY<id>:<p1>,<p2>,<p3>,<p5>,<p6>;RST		
Action	Parameter	Value	Description
Keyboard ID	<id>	0 - 4	
Enable	<p1>	0 - 1	Disable – 0, Enable – 1.
Keyboard locking	<p2>	0 - 1	Disable – 0, Enable – 1.
Keyboard function	<p3>	0, 5, 20, 24, 30 - 32, 40, 50 - 54, 80, 81, 90 – 92, 100, 102, 104, 106, 108, 120, 122, 124, 126, 128.	No action - 0 Alarm on – 5 Alarm off – 20 Alarm Switch – 24 SMSTrack on – 30 SMStrack off – 31 SMStrack switch – 32 Send data thru GPRS – 40 NMEA on – 50 NMEA off – 51 NMEA switch – 52 Modem emulation on – 53 Modem emulation off – 54

			<p>Man Down on – 45</p> <p>Man Down off – 46</p> <p>Man Down switch – 47</p> <p>Power off – 80</p> <p>Reset – 81</p> <p>Parking on – 90</p> <p>Parking off – 91</p> <p>Parking switch – 92</p> <p>To call:</p> <p>100 – for key0</p> <p>102 – for key1</p> <p>104 – for key2</p> <p>106 – for key3</p> <p>108 – for key4</p> <p>SMS send:</p> <p>120 - for key0</p> <p>122 - for key1</p> <p>124 - for key2</p> <p>126 - for key3</p> <p>128 - for key4</p>
Incoming Call	<p5>	0, 64, 66	<p>0 - No action</p> <p>64 - Hang up</p> <p>66 - Normal Answer</p> <p>69 - Loud speaker switch</p>
Active Conversation	<p6>	0, 60 - 64, 69	<p>0 - No action</p> <p>60 - Audio volume up</p> <p>61 - Audio volume down</p> <p>62 - Mute on</p> <p>63 - Mute off</p> <p>64 - Hang up</p> <p>69 - Loud speaker switch</p>

1.11 Configuration of Keyboard timing

Settings Group	Configuration command		
Function Activation Times	PSW:<password>;CFG1;KT:<p1>.,<p3>;RST		
Action	Parameter	Value	Description
First_function	<p1>	100 – 15000 ms.	First function activation time. Default – 500.
Deactivation	<p3>	1000 – 15000 ms.	Button deactivation time. Default – 3000.

1.12 Configuration of GSM

Settings Group	Configuration command		
GSM	PSW:<password>;CFG1;GSM:<p1>,<p2>,<p3>;RST		
Action	Parameter	Value	Description
Enable GSM	<p1>	0 - 1	Disable – 0. Default – 1. Note: If GSM will be disabled, then SMS configuration will not work.
Minute Minder	<p2>	0 – 60 sec	Time. Default – 60.
Enable SPY	<p3>	0 - 1	Enable – 1, Disable – 0. Default – 0.

1.13 Call IN authorization

Settings Group	Configuration command		
Call In	PSW:<password>;CFG1;CIA:<p1>,<p2>,<p3>,<p4>,<p5>,<p6>,<p7>,<p8>,<p9>,<p10>,<p11>;RST		
Action	Parameter	Value	Description
Enable CIA	<p1>	0 - 1	Enable – 1, Disable – 0. Default – 0.
Numbers	<p2> - <p11>	Empty field or number i.e. +37069911111	+ <international code> <phone no.> The maximum length of a phone number (including + symbol) is 16.

1.14 Auto Answer function

Settings Group	Configuration command		
Auto Answer	PSW:<password>;CFG1;AA:<p1>;RST		
Action	Parameter	Value	Description
Number of calls	<p1>	0,1,2,3,5,8	Number of rings before Auto Answer. Default – 0. 0 – Auto answer off 1 – Auto Answer after one ring 2 – Auto Answer after two rings 3 – Auto Answer after three rings 5 – Auto Answer after five rings 8 – Auto Answer after eight rings

1.15 Configuration of Action On Call

Settings Group	Configuration command		
Action On Call	PSW:<password>;CFG1;AOC<n>:<p1>,<p2>;RST n – number of set up AOC		
Action	Parameter	Value	Description
Function	<p1>	7, 20, 24, 30, 31, 40, 75, 80, 81, 90, 91, 110, 111, 112, 113, 114, 130, 131, 132, 133, 134	7 – Alarm on 20 – Alarm off 24 – Alarm Switch 30 – SMS Track on 31 – SMS Track off 40 – Send data thru GPRS 75 – Spy 80 – Power off 81 – Reset 90 – Parking on 91 – Parking off To Call Id: 110 – for first function 111 – for second function 112 – for 3th function 113 – for 4th function 114 – for 5th function Send SMS: 130 – for first function 131 – for second function

			<p>132 – for 3th function</p> <p>133 – for 4th function</p> <p>134 – for 5th function</p>
Activation Phone Number	<p2>	<p>Empty field or number</p> <p>i.e. +37069911111</p>	<p>+ <international code> <phone no.> The maximum length of a phone number (including + symbol) is 16.</p>

1.16 Configuration of SMS functionality and Security

Settings Group	Configuration command		
SMS	PSW:<password>;CFG1;SMS:<p1>, <p2>,<p3>,<p4>,<p5>,<p6>,<p7>;RST		
Action	Parameter	Value	Description
SMS send in roaming	<p1>	0 - 1	Disable - 0, Request only - 1. Default - 0.
Enable Security	<p2>	0 - 1	Disable - 0, Enable - 1. Default - 0.
Sms phone no.	<p3> - <p7>	Empty field or number i.e. +37069911111	+ <international code> <phone no.> You can define up to 3 phone numbers. The maximum length of a phone number (including + symbol) is 16.

1.17 Configuration of Connections & Data (GPRS)

Settings Group	Configuration command		
GPRS	PSW:<password>;CFG1;GPRS:<p1>,<p2>,<p3>,<p4>,<p5>,<p6>,<p7>;RST		
Action	Parameter	Value	Description
Enable GPRS	<p1>	0 - 1	Enable - 1, Disable - 0. Default - 0.
Hold Server Connection Alive	<p2>	0 - 1	Enable - 1, Disable - 0. Default - 0.
GPRS Send Period on move	<p3>	0 - 86400 s	Data sending period. Default - 300.
GPRS Send Period on stop	<p4>	0 - 86400 s	Data sending period. Default - 300.
Roaming	<p5>	0 - 1	0 - Request only, 1- Enable. Default - 0.
Data order	<p6>	0 - 1	Data sending order. Newest - 1, Oldest - 0 Default - 0.

Data saving to memory	<p7>	0 – 2	Data saving to memory options. Last location when GPS fix unavailable – 2, Always – 1, When location available only – 0 Default – 0.
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1.18 Configuration of Connections & Data (APN)

Settings Group	Configuration command		
APN	PSW:<password>;CFG1;APN<n>:<p1>,<p2>,<p3>,<p4>;RST <n>=[0..3]		
Action	Parameter	Value	Description
Authentication type	<p1>	0 - 2	0 – None, 1 – PAP, 2 – CHAP
Access Point Name	<p2>	Empty field – „~“	Max. 31 characters
APN Username	<p3>	Empty field – „~“	Max. 31 characters
APN Password	<p4>	Empty field – „~“	Max. 31 characters

1.19 Configuration of Connections & Data (Server)

Settings Group	Configuration command		
Server	PSW:<password>;CFG1;SERV:<p1>,<p2>,<p3>;RST		
Action	Parameter	Value	Description
Server IP Address or WWW address	<p1>	0.0.0.0 or DNS	Numbers. Default – 0.
Server Port	<p2>	0 – 65535	Numbers. Default – 0.
Protocol	<p3>	0 – 1	0- TCP; 1- UDP. Default – 0.

1.20 Configuration of Notifications

Settings Group	Configuration command		
Notifications	PSW:<password>;CFG1;NTFY:<p1>,<p2>,<p3>,<p4>,<p5>,<p6>,<p7>,<p8>,<p9>,<p10>,<p11>,<p12>,<p13>,<p14>,<p15>,<p16>,<p17>,<p18>,<p19>,<p20>;RST		
Action	Parameter	Value	Description
Ring Level	<p1>	0 – 100	Ringer level
Speaker Level	<p2>	0 – 100	Device speaker volume level
Melody	<p3>	0 – 8	Melody number
Incoming SMS	<p4>	0, 2	0 – Disable 2 – Enable audio 4 – Vibrator 6 – Audio & Vibrator
Outgoing SMS	<p5>	0, 2	0 – Disable 2 – Enable audio 4 – Vibrator 6 – Audio & Vibrator
PreAlarm	<p6>	0, 2	0 – Disable 2 – Enable audio
Alarm	<p7>	0, 7	0 – Disable 1 – Led 2 – Audio 3 – Led & Audio 4 – Vibrator 5 – Led & Vibrator 6 – Audio & Vibrator 7 – Led, Audio & Vibrator

Incoming Call	<p8>	0, 7	<ul style="list-style-type: none"> 0 – Disable 1 – Led 2 – Audio 3 – Led & Audio 4 – Vibrator 5 – Led & Vibrator 6 – Audio & Vibrator 7 – Led, Audio & Vibrator
Outgoing Call	<p9>	0 – 7	<ul style="list-style-type: none"> 0 – Disable 1 – Led 2 – Audio 3 – Led & Audio 4 – Vibrator 5 – Led & Vibrator 6 – Audio & Vibrator 7 – Led, Audio & Vibrator
Full Battery	<p10>	1, 9	<ul style="list-style-type: none"> 0 – Disable 1 – Led 2 – Audio 3 – Led & Audio 4 – Vibrator 5 – Led & Vibrator 6 – Audio & Vibrator 7 – Led, Audio & Vibrator 8 – SMS 9 – Led & SMS 10 – Audio & SMS 11 – Led, Audio & SMS 12 – Vibrator & SMS 13 – Led, Vibrator & SMS 14 – Audio, Vibrator & SMS 15 – Led, Audio, Vibrator & SMS
Low Battery	<p11>	0, 8	<ul style="list-style-type: none"> 0 – Disable 1 – Led 2 – Audio 3 – Led & Audio 4 – Vibrator 5 – Led & Vibrator 6 – Audio & Vibrator 7 – Led, Audio & Vibrator

			<p>8 – SMS</p> <p>9 – Led & SMS</p> <p>10 – Audio & SMS</p> <p>11 – Led, Audio & SMS</p> <p>12 – Vibrator & SMS</p> <p>13 – Led, Vibrator & SMS</p> <p>14 – Audio, Vibrator & SMS</p> <p>15 – Led, Audio, Vibrator & SMS</p>
Low battery indication	<p12>	0,3	<p>0 – disable</p> <p>3 – Led & Audio</p>
Battery notification by sms	<p15>	0 – 100	<p>Battery charge level 0 – 100.</p> <p>Default – 40 (%).</p>
Low Battery indication value	<p16>	0 – 100	<p>Battery charge level 0-100 (%).</p> <p>Default – 30(%).</p>
SMS number	<p17>	<p>Empty field or number</p> <p>i.e. +37069911111</p>	<p>+ <international code> <phone no.> You can define up to 3 phone numbers. The maximum length of a phone number (including + symbol) is 16.</p>
Bat notif. Interval	<p18>	60 – 65535	<p>Battery level notification interval in seconds.</p> <p>Default – 900.</p>
SMS format Bat Full	<p19>	0 – 9, 13 – 17	<p>0 – None</p> <p>1 – Undefined</p> <p>2 – FIX!</p> <p>3 – SMS Track turned on!</p> <p>4 – SMS Track turned off!</p> <p>5 – GEO!</p> <p>6 – INF!</p> <p>7 – MN</p> <p>8 – Alarm</p> <p>9 – Alarm turned off</p> <p>13 – Call terminated</p> <p>14 – Configuration changed</p> <p>15 – Charge battery</p> <p>16 – Cross!</p> <p>17 – Battery full</p> <p>Default – 17</p>
SMS format Bat Low	<p20>	0 – 100	<p>0 – None</p> <p>1 – Undefined</p> <p>2 – FIX!</p> <p>3 – SMS Track turned on!</p>

			4 – SMS Track turned off! 5 – GEO! 6 – INF! 7 – MN 8 – Alarm 9 – Alarm turned off 13 – Call terminated 14 – Configuration changed 15 – Charge battery 16 – Cross! 17 – Battery full Default – 15
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1.21 Configuration of Date and Time

Settings Group	Configuration command		
Date and Time	PSW:<password>;CFG1;TIME:<p1>,<p2>;RST		
Action	Parameter	Value	Description
Change Time Zone (Daylight Saving Disabled)	<p1>	-12 up to +13	i.e. 3.5 is GMT +3:30 (Tehran). Default – 0.
Change Time Format	<p2>	String %Y.%m.%d %H:%M:%S	%Y – year, %m – Month, %d – Day, %H: – hour, %M: – Minutes, %S – Seconds. Up to 63 characters.

1.22 Configuration of daylight saving

Settings Group	Configuration command		
Daylight saving	PSW:<password>;CFG1;DLS:<p1>,<p2>,<p3>,<p4>;RST		
Action	Parameter	Value	Description
Day light saving	<p1>	0 – 1	Enable – 1, Disable – 0, Default – 0.
Delta	<p2>	0-24	Time difference Default – 0
Start date	<p3>	Date	Date to start daylight saving

End date	<p4>	Date	Date to end daylight saving
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1.23 Configuration of Call Table

Settings Group	Configuration command		
	PSW:<password>;CFG1;CT:<p1>,<p2>,<p3>;RST		
Action	Parameter	Value	Description
Id number	<p1>	0, 2, 4, 6, 8	Call Id number: 0 – for key0 or for first function 2 – for key1 or for second function 4 – for key2 or for 3th function 6 – for key3 or for 4th function 8 – for key4 or for 5th function
Call type Format	<p2>	0 – 1	0 – Normal, 1 - Spy
Phone Number	<p3>	Phone Number	max Length 16 digits

1.24 Configuration of SMS Table

Settings Group	Configuration command		
	PSW:<password>;CFG1;ST:<p1>,<p2>,...<p5>;RST		
Action	Parameter	Value	Description
Id number	<p1>	0, 2, 4, 6, 8	SMS Id number: 0 – for key0 or for first function 2 – for key1 or for second function 4 – for key2 or for 3th function 6 – for key3 or for 4th function 8 – for key4 or for 5th function
Sms format Id	<p2>	0 – 9, 13 – 16	0 – None 1 – Undefined 2 – FIX! 3 – SMS Track turned on! 4 – SMS Track turned off! 5 – GEO! 6 – INF! 7 – MN 8 – Alarm 9 – Alarm turned off 13 – Call terminated 14 – Configuration changed 15 – Charge battery

			16 – Cross!
Phone Number	<p5>	Phone Number	max Length 16