4G MV77G User Manual V1.0

Learn how to set up your new MiCODUS Tracker

1. Main Features


4G LTE+
2G GSM


GNSS+LBS


Remote Listen-in


RealtimeTracking


Historical Route Playback


Vibration Alarm


Low Voltage Alarm


Movement Alert

Panic Button


Geo-fence


Fast Charging Design

Ignition Detection

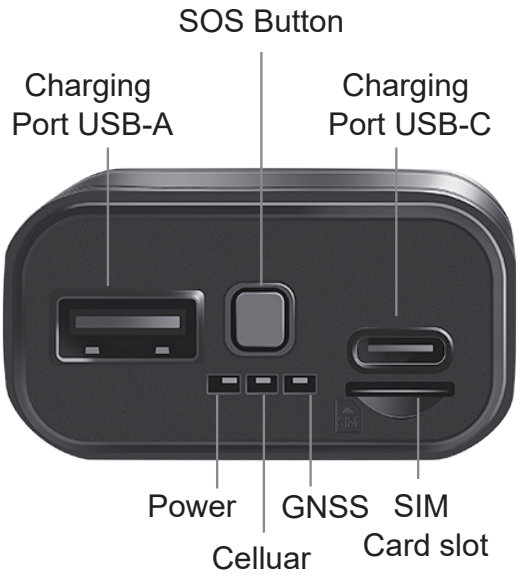

Overspeed Alarm

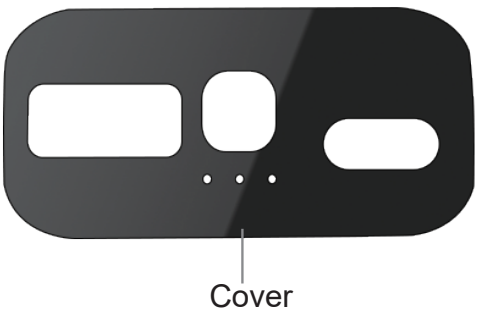

Pull Out Alarm

2.Specifications

Device Information	Model	MV77G
	Weight	41g
	Dimensions	85mm(L)*49.2mm(W)*26mm(H)
	Battery	Built-in 3.7V 50mAh Polymer Battery
Working Parameters	Working Voltage	9-32V DC
	Working Current	12V/65mA
	Sleep Current	12V/Average 10mA
	Working Temperature	-20°C - 75°C
	Working Humidity	10%-85%RH
Celluar Specifications	SIM Card	Nano SIM
	Celluar Antenna	Built-in, FPC
	Working Frequency	2G GSM/GPRS: 850/900/1800/1900MHz
		4G LTE CAT1:LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12 /B13/B18/B19/B20/B25/B26/B28/B66; LTE-TDD: B34/B38/B39/B40/B41
GNSS Specifications	GNSS	GPS+GLONASS
	GPS Frequency	L1: 1575.42±1.023MHz
	BDS Frequency	B1:1561.098±2.046MHz
	Satellite Channels	32
	Hot/Cold Start	<1s，<32s @ Open Sky
	GNSS Antenna	Built-in Ceramics GNSS Antenna, 25mm*25mm*2mm
	Positioning Type	GPS+GLONASS+LBS+AGPS
	Accuracy	Location accuracy: <10m（1σ）
		Timing accuracy: <30ns（1σ）
		Speed accuracy: <0.1m/s（1σ）
External Interfaces	Charging Port USB-A	DC: 5V 2A/9V 2A
	Charging Port USB-C	DC: 5V 2A/9V 2A
	SOS	Support

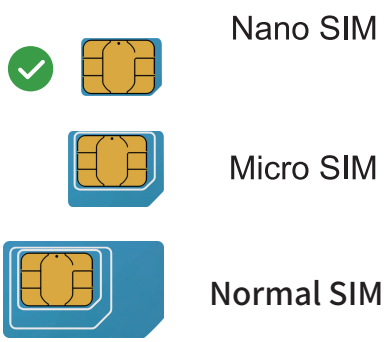
3.Product Stucture





4.How to manage the tracker to get online?

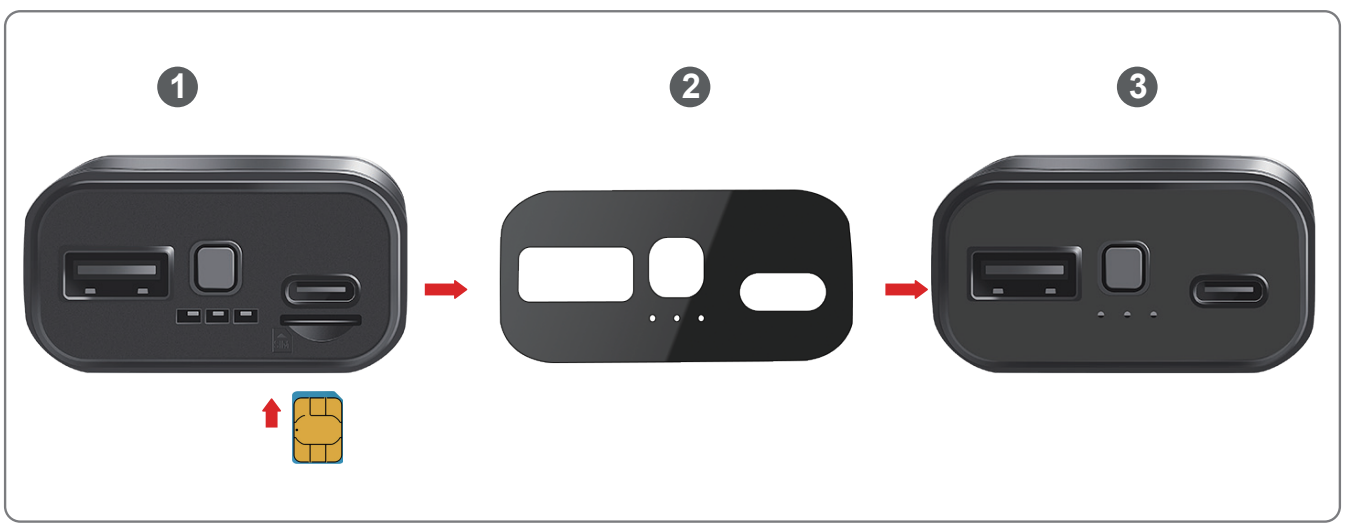
Step 1 SIM card requirements



Please get a suitable SIM card from your local place. The SIM card must meet below points:

- It must be compatible with the 4G LTE or 2G GSM network
- Please enable SMS, call, internet data traffic of the SIM card
- Enable the caller ID display feature
- Remove the PIN code
- Use Nano size SIM card for the tracker
- Please inquire the SIM card provider for the exact correct APN information

Step 2 SIM card installation



NOTE ⚠⚠⚠ : Please just stick the cover after you managed to get the device online!

Step 3 Configure APN

Please get the exact correct APN name from local SIM card provider.Take the tracker to a good signal place for operation and configure the APN for it as below:

SMS Command Format	Reply	Example	Note
APN,ApnName,User, Password#	SET APN OK	APN,orange, orange,orange#	If the SIM card has APN user and APN password, then use this command.
APN,ApnName#	SET APN OK	APN,internet#	If the SIM card operator ***doesn't*** have APN user and APN password, then please use this command.

Note: The APN information is very important, it must 100% correct to match with the sim card of the tracker, if you configured wrong APN, the tracker also will reply "SET APN ok" but it will can't get online!

Step 4 Indicator status description

LED	Event	State
POWER LED (RED)	Charging	Solid
CELL LED (YELLOW)	Searching for network	Flash every 1 second
	Network has been registered	Solid
	Device entered into sleep mode	Dark
	Led indicator switch is off	Dark
GPS LED (BLUE)	GPS is in fixing	Flash every 1 second
	GPS has fixed	Solid
	Device entered into sleep mode	Dark
	Led indicator switch is off	Dark

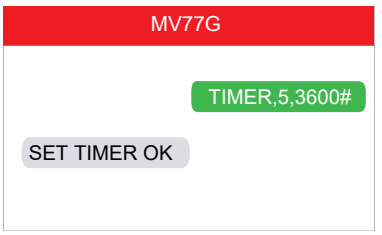
5. Package Content

GPS Main Unit	x 1
Cover	x 2
User Guide	x 1
Genuine Packing Box	x 1

6. Functions Explanation

a. Data Upload Time Interval Setting

For example:



* SMS command format: ***TIMER,T1,T2#***

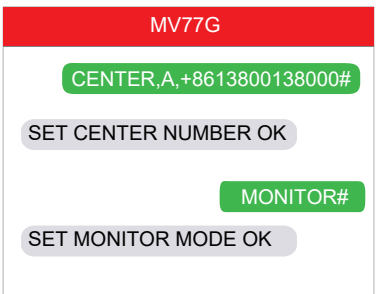
Example: TIMER,5,3600# (Means the tracker will upload data to tracking platform every 5 seconds under moving status and 3600 seconds under static status)

T1 ranges 0/5~18000 or 0(seconds), upload interval when ACC ON, 0 means no upload, default is 10;

T2 ranges 0/5~18000 (seconds), upload interval when ACC OFF, default is 10;

b. Remote Listen-in Setting

For example:



Method 1:

1. Set up a center number(also means main control number) for the tracker via this command:

* SMS command format:

CENTER,A,center number#

For example: CENTER,A,+8613800138000# (This means the center number is +8613800138000, the tracker will just can be controlled by this number)

NOTE: Please remember to add the country code as prefix with the cellphone number!

2. Switch the device to monitor mode by this command:***MONITOR#***

3. Call the SIM number of the tracker from the center number, then the tracker will pick up the call automatically.

Method 2:

1. Set up a center number(also means main control number) for the tracker via this command:

For example:

* SMS command format:

CENTER,A,center number#

For example: CENTER,A,+8613800138000# (This means the center number is +8613800138000, the tracker will just can be controlled by this number)

2. Use the center number to send this SMS command:

CALLBACK,the voice monitor number#

For example: CALLBACK,+8613366669999# (This means the tracker will make a call to this number +8613366669999, then this number can pick up the call and monitor the voice)

C. Vibration Alert Setting

For example:

1. Please set up the SOS numbers for the tracker via this command:

* SMS command format: ***SOS,A,1st number, 2nd number,3rd number#***

For example:
SOS,A,+8613800138000,+8613800138001,+8613800138002#

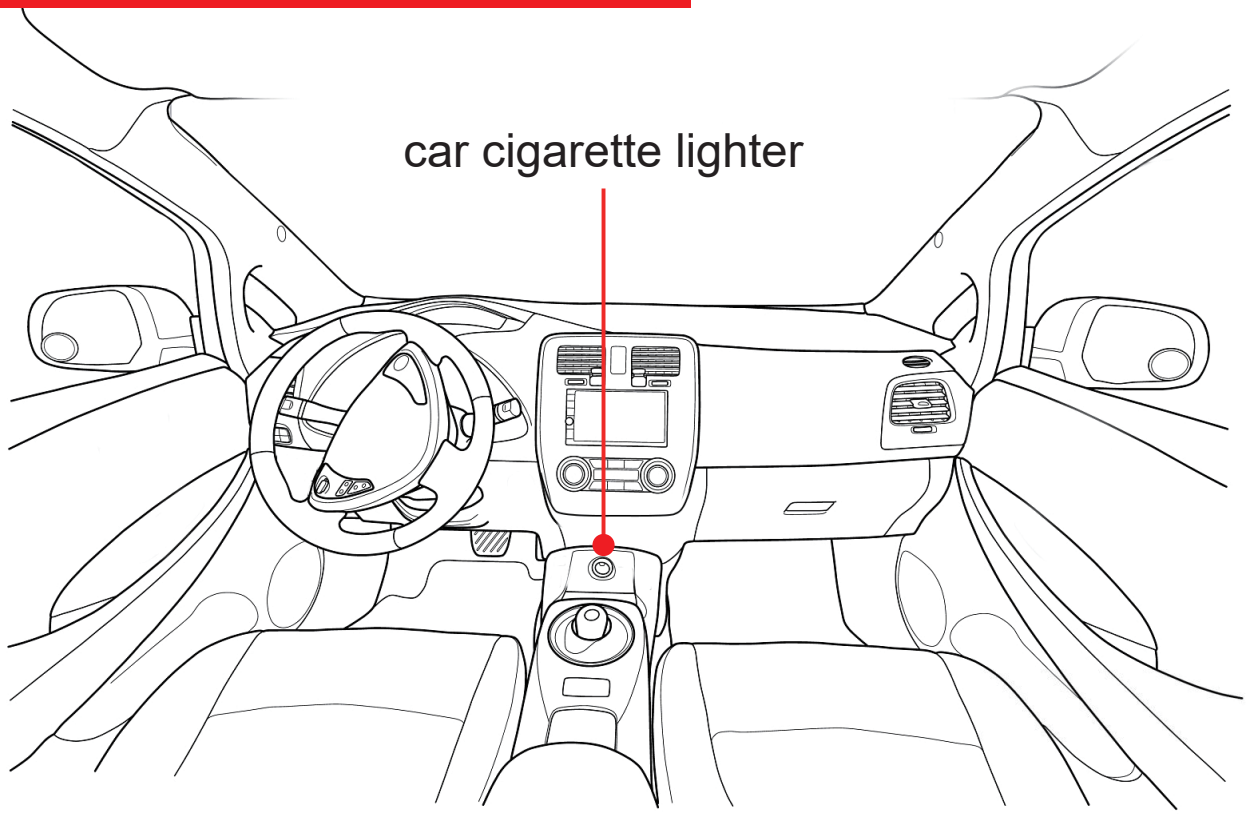
2. Enable the vibration alarm via this command:

* SMS command format: ***SENALM,A,M#***

For example: SENALM,ON,2# (Means the vibration alarm already been enabled and the alarm message will be sent via Server, SMS and Call)

A=ON/OFF, default: OFF;
M=0/1/2, way of alarming, 0 :GPRS only, 1: SMS+GPRS, 2: GPRS+SMS+phone call, default:1

7. Installation Recomendation



1) The decice should face up to the sky.
2) Metal therma barrier of heating layer of the windshield affects the signal.

8. Troubleshooting

Type	Use
Unable to connect to tracking platform	Check the APN and settings. Check whether the data service of SIM card is enabled. Check the balance of SIM card.
Tracker shows offline	Check whether external power is still connected. Check if the vehicle entered network blind area. Check the balance of SIM card.
Unable to locate	Make sure the top side facing upward without metallic things shielded. Make sure it's not in area with no satellite coverage.
Location drift	In area with poor GNSS signal (tall building around or basement), drifting may happen. Check whether vibration happens around to trigger the accelerator.
No command reply	Make sure command format is correct. Vehicle may be in network blind area. Make sure SIM card is well inserted and has SMS service.

9. Full SMS Commands List

Query Commands

Functions	Command Format	Explanation
Version Inquiry	VERSION#	Device Reply Example: ID:19172906549 IMEI:354188046912460 ICCID:898602A51314F1298017 VERSION:MV77G_V2.0.2 BUILD:2023-03-01 16:31:00
Parameter Inquiry	PARAM#	ID: ID number of the tracker IMEI: IMEI number of the APN: APN name,APN user,APN password, IP: Domain name and port number or IP address,port pumber TIMER: Moving upload interval; Static upload interval SPEEDLIMIT: The overspeed threshold ANGLERPT: Data uploading angle CENTER: Center number of the tracker SOS: SOS1,SOS2,SOS3 GMT: Time zone
Status Inquiry	STATUS#	**TRAFFIC:** ON/OFF **INTERNET:** CLOSED (No Network) FAILED (Connecting Network or Failure) SUCCESS (Connected to Network) **NET:** NONE (No celluar Signal), HIGH / MED / LOW (Signal Strength) , 18(Signal value) **GPS:** CLOSED (GPS Module Closed); FIXED,N (Positioned and satellite number); UNFIX,0 (Not Positioned yet) **SPEED:** The current speed of the tracker **ACC:** ON / OFF (ACC on or off) **POWER:** CONNECTED / DISCONNECTED (Power Connected or Disconnected), 12.5V (Vehicle battery voltage) **SENSOR:** ON/OFF (Sensor on or off), LEVEL: 3 (Sensitivity level 1-9) **STATE:** ARM (Arm or Disarm)
Latitude&Longitude Inquiry	WHERE#	LAT:N23.02930,LON:E114.32180,COURSE:0.00,SPEED:0.00KM/H,DATETIME:2015-05-23 14:39:11
Map URL Inquiry	URL#	http://map.google.com/?q=22.557868,113.935090 <0.0km/h 0.0> <2014-12-12 07:32:13> IMEI:354188047752402
Address Inquiry	POSITION#	NOTE: Reply message's language is determined by device's language setting, if get position content failed, device will reply Google Map location link.

Alarms Parameters	ALARM#	ID: ID number of device STATE: ARM(DISARM)(Defense status of device) SPEED: ON/OFF(alarm status); 30km/h(alarm value);alarm way SHIFT: ON/OFF(alarm status); 300m(alarm value);alarm way VIBRATE: ON/OFF(alarm status);3(sensitivity level);alarm way ACC: ON/OFF(alarm status); 0/1/2(0: ACC ON, 1: ACC OFF; 2: ACC ON&OFF) (alarm situation); alarm way ; ; POWER DOWN: ON/OFF(alarm status);alarm way PULL: ON/OFF(alarm status);20s(power-off time);30(acceleration value);alarm way LOW VOLTAGE: ON/OFF(alarm status);13.8v(low voltage limit value); alarm way NOTE: Alarm Ways: SERVER only, SMS+Server, Server+SMS+CALL
Check IMEI	IMEI#	DEVICE IMEI No. : 354188046912458

Setting Commands

Functions	Command Format	Explanation
Change IMEI	IMEICHG, 354188046912460#	NEW IMEI No. : 354188046912460
Restore factory settings	FACTORY#	RESTORE FACTORY SETTINGS OK
Restart device	RESTART#	RESTARTING...1 MINUTE WILL BE OK
APN Setting	APN,Network name [,name,password]#	APN,CMNET# (if no name & Password) APN,internet,internet,internet# (if with name & Password)
Server Setting	If set with Domain Name: SERVER,1,Domain,Port#	SERVER,1,d.micodus.net,7700#
	If set with IP: SERVER,0,IP,Port#	SERVER,0,47.254.77.28,7700#
Internet Traffic Switch	TRAFFIC,ON#	OPEN TRAFFIC OK
	TRAFFIC,OFF#	CLOSE TRAFFIC OK
Time Zone Setting	GMT,Time zone orientation,Whole Time Zone[,Half Time Zone]#	GMT,E,8# (if no half time zone) GMT,W,9,30# (if has half time zone) NOTE: Parameter : E / W; 0 ~ 12; 0/15/30/45

Set the angle upload	ANGLEREP,X,A,B#	Example: ANGLEREP,ON,30,3# (Means the tracker will send a data supplement when the angle change exceeds 30 degrees and lasts for 3 seconds) X=ON/OFF, default：ON; A=5～180 degrees，diversion angle degree, default：30 degrees； B=2～5 seconds, detecting time, default：3 seconds,
	ANGLEREP,OFF#	CANCEL UPLOAD ANGLE OK
Mileage Statistics	MILEAGE,A,B#	Example: MILEAGE,ON,5000# (Means the initial mileage value is 5000KM) A=ON/OFF, On/Off mileage calculation, default: Off B=0～999999，Mileage initial value , unit：km ; default: 0, mileage return to zero
	MILEAGE#	Query current mileage
Add SOS Administrator Number	SOS,A,1st number, 2nd number,3rd number#	Set 3 numbers at a time: SOS,A,13800138000,13800138001,13800138002# Set the first numberseparately: SOS,A,13800138000# Set the second number separately: SOS,A,,13800138001# Means to set 3rd number separately: SOS,A,,,13800138002#
Delete SOS Administrator Number	SOS,D,1st number,2nd number,3rd number# or SOS,D,1,2,3#	Directly delete the number: SOS,D,13800138000# Delete 1st number: SOS,D,1# Delete 2nd number: SOS,D,2# Delete the 2nd and 3rd number: SOS,D,2,3#
Add Center Number	CENTER,A, center number#	Example: CENTER,A,+8613800138000# NOTE: Please remember to add the country code as prefix with the cellphone number!
Delete Center Number	CENTER,D#	DEL CENTER OK
Data Upload Time Interval	TIMER,T1,T2#	Example: TIMER,5,3600# (Means the tracker will upload data to tracking platform every 5 seconds under moving status and 3600 seconds under static status) T1 ranges 0/5~18000 or 0(seconds), upload interval under moving status, 0 means no upload, default is 10; T2 ranges 0/5~18000 (seconds), upload interval under static status, default is 10;
Heartbeat Packet Upload	HBT,time#	Example: HBT,3# (Means the tracker will send hearbeat data package to server very 3min to keep the network connected) Time: 1-60min, default 3min

Sensor Sensitivity	LEVEL,A#	Example: LEVEL,4# (Means shake sensor level is set to 4) A=1-9 NOTE: 1-9 is from week to strong vibration
Arm manually	ARM#	Set the device into arm mode
Disarm manually	DISARM#	Set the device out of arm mode
Auto Arm By ACC	ACCARM,ON,M#	Example: ACCARM,ON,60# (Means the tracker will enter into arm status automatically when the ACC off more than 60 seconds) Arm Time: M=5-1800s, default: 60s
	ACCARM,OFF#	Close auto arm function
Voice Monitor Mode	MONITOR#	NOTE: 1. Both center number and SOS numbers can monitor voice; 2. Before monitoring the voice around the device, the user must change the device to this monitor mode firstly.
Track Mode	TRACK#	NOTE: After used the voice monitor mode, user can switch the device back to track mode by this command.
Call Back	CALLBACK, Number for Voice Monitor#	Example: CALLBACK,+8613366669999# (Means the tracker will make call to this number +8613366669999,then this number +8613366669999 can pick up the call to monitor the voice) N: Number for Voice Monitoring NOTE:1.Please send this monitor command via the center number; 2. Any number can be set up to monitor the voice, the tracker will make a call to the number N and it will can pick up the call to monitor voice

Alarm Commands

Functions	Command Format	Explanation
Overspeed Alarm Setting	SPEED,A,B,M#	Example: SPEED,ON,120,1# (Means the speed limit is 120km/h and the alarm way is via SMS and Server) A=ON/OFF, open or close over speed alarm, default: OFF B=1～255(km/h), speed limit, default: 100(km/h); M=0/1/2, way of alarm, 0 : SERVER only, 1: SERVER+SMS, 2: SERVER+SMS+CALL; default: 1
	SPEED,OFF#	CANCEL OVERSPEED ALARM OK

Vibration Alarm Setting	SENALM,A,M#	Example: SENALM,ON,2# (Means the vibration alarm already been enabled and the alarm message will be sent via Server, SMS and Call) A=ON/OFF, default: OFF; M=0/1/2, way of alarming, 0 :GPRS only, 1: SMS+GPRS, 2: GPRS+SMS+phone call, default:1
	SENALM,OFF#	CANEL VIBRATE ALARM OK
Shift Alarm Setting	SHIFT,A,B,M#	Example: SHIFT,ON,100,1# (Means Setting 100 meters shift alarm range, when the ignition turned off, vehicle's 100 meters' shift will trigger the alarm.) A=ON/OFF; default:ON B=Shift Distance (Range: 100-9999m) M=0/1/2; way of alarm, 0 : GPRS only, 1: SMS+GPRS, 2: GPRS+SMS+CALL, default:1
	SHIFT,OFF#	CANCEL SHIFT ALARM OK
ACC Status Change Alarm	ACCALM,A,B,C,D,M#	Example: ACCALM,ON,0,13.5,12,2#(Means the tracker will send alarm message out via Server, SMS and Call when the engine is start) A=ON/OFF, Default: ON; B: 0/1/2; 0: ACC ON Alarm; 1: ACC OFF Alarm; 2: ACC ON&OFF Alarm; Default:2 C=Voltage threshold of ACC ON (Scope: 9-95V, supports decimals) D= Voltage threshold of ACC OFF (Scope: 9-95V, supports decimals) M: 0/1/2 (way of alarm): 0 : Server only, 1: SMS+Server, 2: SMS+Server+Call, Default:1;
	ACCALM,OFF#	Cancel ACC alarm function
Power Disconnect Alarm	LVALM,A,B,M#	Example: LVALM,ON,13.2# (Means when the voltage of the car battery is lower than 13V, the tracker will send alarm message via Server, SMS and Call) A=ON/OFF, default: ON; B=9-95V (Low Voltage Threshold Value, Supports decimals such as 13.5v) M=0/1/2, way of alarming, 0: Server only, 1: Server+SMS, 2: Server+SMS+Call,default:1;
	LVALM,OFF#	Close power disconnect alarm
Low Voltage Alarm Setting	LVALM,A,B,M#	Example: LVALM,ON,13.2# (Means when the voltage of the car battery is lower than 13V, the tracker will send alarm message via Server, SMS and Call) A=ON/OFF, default: ON; B=9-95V (Low Voltage Threshold Value) M=0/1/2, way of alarming, 0: Server only, 1: Server+SMS, 2: Server+SMS+Call,default:1;
	LVALM,OFF#	CANCEL LOW VOLTAGE ALARM OK

SOS Alarm	SOSALM,A,M#	Example: SOSALM,ON,2# (This means the SOS alarm will be sent via server, SMS and call) A=ON/OFF, default ON; M=0/1/2, ways of alarming, 0: Server only, 1: SMS+Server, 2 : SMS+Server+Call, default: 2;
	SOSALM,OFF#	Close SOS alarm function
Device Pulled Out Alarm	PULLALM,X,M,T#	Example: PULLALM,ON,2,20# X=ON/OFF, ON= Turn ON the pull out alarm, by default ON; M= alarm reporting mode, M=0 SERVER only; M=1 SMS+SERVER,M=2 GPRS+SMS+CALL; Default: 1 T= Power-off detection time, range: 2-60 seconds, default 20 seconds;

10. Any Questions?

E-mail: support@micodus.com
Skype: MiCODUS

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