4G MV880G PRO User Manual V1.0

Learn how to set up your new MiCODUS Tracker

1. Main Features


4G LTE+
2G GSM


GNSS+LBS


Realtime
Tracking


Historical Route
Playback


Vibration
Alarm


Waterproof
IP67


Big Ceramic
Antenna


Remote
OTA Upgrade


Geo-fence


Power
Disconnect Alarm

Engine On/
OFF Alarm


Battery low
voltage alarm


Overspeed
Alarm


Remotely
Cut Off Fuel

ACC Status
Detection

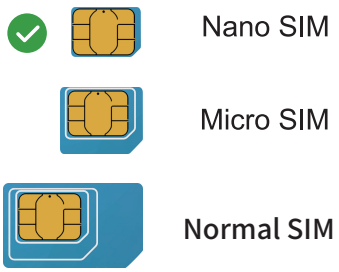

Blind Area
Data Storage

2.Specifications

Device Information	Model	MV880G PRO
	Weight	116g
	Dimensions	58*21*70mm
	Battery	NI-MH battery AAAAA200T*3 3.6V 200mAh
Working Parameters	Working Voltage	9-95V DC
	Working Current	12V/Average 34.90mA
	Sleep Current	12V/Average 5.98mA
	Working Temperature	-20°C - 75°C
	Working Humidity	10%-85%RH
	Built-in Memory	720pcs GPS data can be stored at network blind area
Celluar Specifications	SIM Card	Nano SIM
	Celluar Antenna	Built-in, FPC
	Communication Module Model	SIMCOM A7670G
	Working Frequency	2G GSM/GPRS: 850/900/1800/1900MHz
		4G LTE-FDD： B1/B2/B3/B4/B5/B7/B8/B20/B28/B66 LTE-TDD： B34/B38/B39/B40/B41
GNSS Specifications	Positioning Module Model	Beken Corporation BK1661
	GNSS Antenna	Built-in Ceramics GNSS Antenna, 35mm*35mm*4mm
	GNSS	L1 Bands: GPS L1, Beidou B1, GLONASS G1
	GPS Frequency	L1: 1575.42±1.023MHz
	BDS Frequency	B1:1561.098±2.046MHz
	Satellite Channels	120
	Hot/Cold Start	<1s，<28s @ Open Sky
	Positioning Type	GNSS+BDS+LBS+AGPS
	Accuracy	Location accuracy: <1.5mCEP
		AGPS First positioning time< 1.5 s
		Timing accuracy: <30ns（1σ）
		Speed accuracy: <0.1m/s（1σ）

3.How to manage the tracker to get online?

Step 1 SIM card requirements

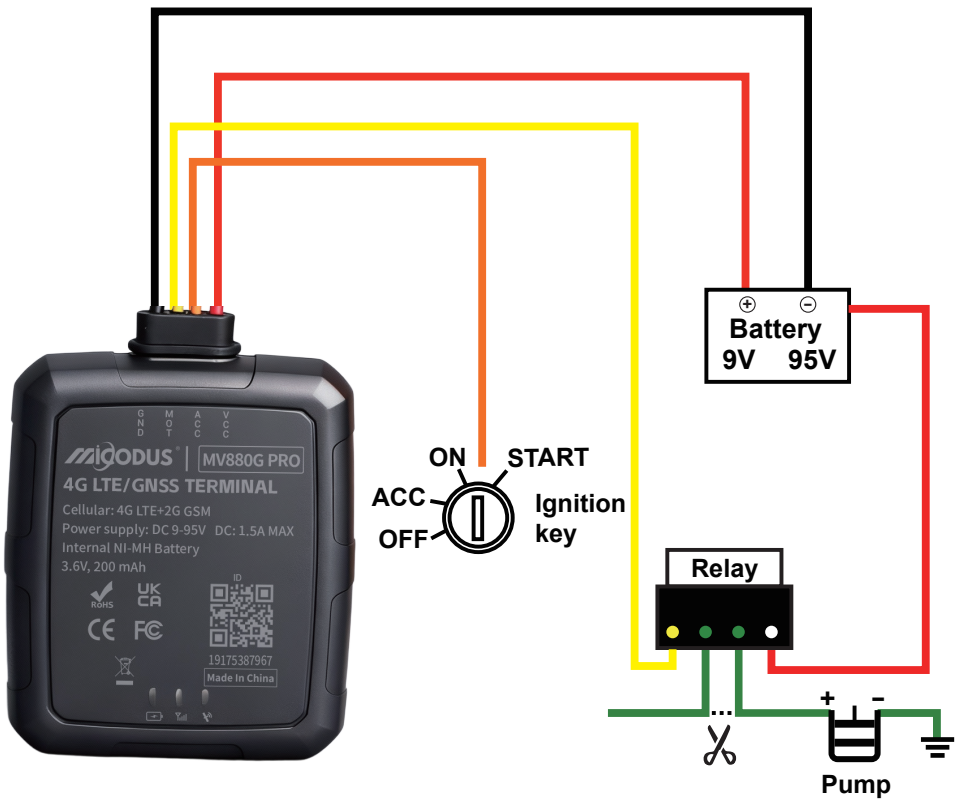


Please get a suitable SIM card from your local place. The SIM card must meet below points:

- 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

Step 3 Wiring



NOTE ⚠⚠⚠ : After installed SIM card correctly , it is very important to connect the tracker with external power no less than 12V for power supply before operation!

Step 4 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 5 Indicator status description

LED	Event	State
CELL LED (YELLOW)	Searching for network	Flash every 1 second
	Network has been registered	Solid
GPS LED (BLUE)	GPS is in fixing	Flash every 1 second
	GPS has fixed	Solid
ALL LED	Device is working but stopped more than 5min	ALL LED TURN OFF
	Device has not been turn on	
	Device ran out of battery	

4. Package Content

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

5. Functions Explanation

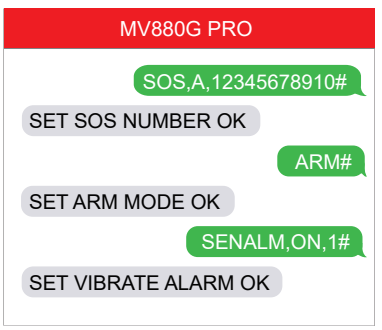
a. Vibration Alert:

This vibration alert function just work under stationary status. How to use this function:

* Configure SOS numbers for the tracker by this sms command: ***SOS,A,1st number,2nd number,3rd number#***
  3 SOS numbers supports at the most
* Enable the device to enter into arm mode by this sms command: ***ARM#***
* Conifgure the alarm ways by this sms command: ***SENALM,[A][,M]#***

  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
* Keep the device under stationary status more than 5min to let it enter into sleep arm mode;
* Vibrate the device then the tracker will send the vibration alarm messages

For example:



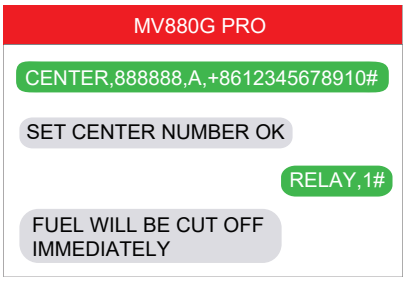
b. Cut Off Fuel/Resume Fuel

* Set center number by this sms command:
  CENTER,password,A,center number#

* Send this sms command from the center number:
  RELAY,A#

  A=0/1/2; (0: Resume Fuel; 1: Cut Off Fuel Immediately;
  2: Cut Off Fuel Safely)

For example:



c. Engine Start and Flameout Alarm

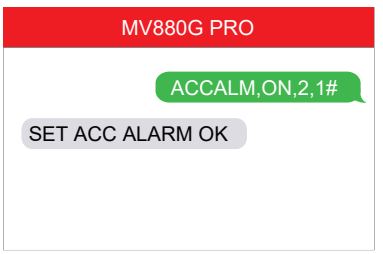
* Command format: **ACCALM,A,B,M#**

A=ON/OFF, Default: ON;

B: 0/1/2; 0: ACC ON Alarm; 1: ACC OFF Alarm; 2: ACC ON&OFF Alarm; Default:2

M: 0/1/2 (way of alarm): 0 : Server only,
1: SMS+Server, 2: SMS+Server+Call, Default:1;

For example:

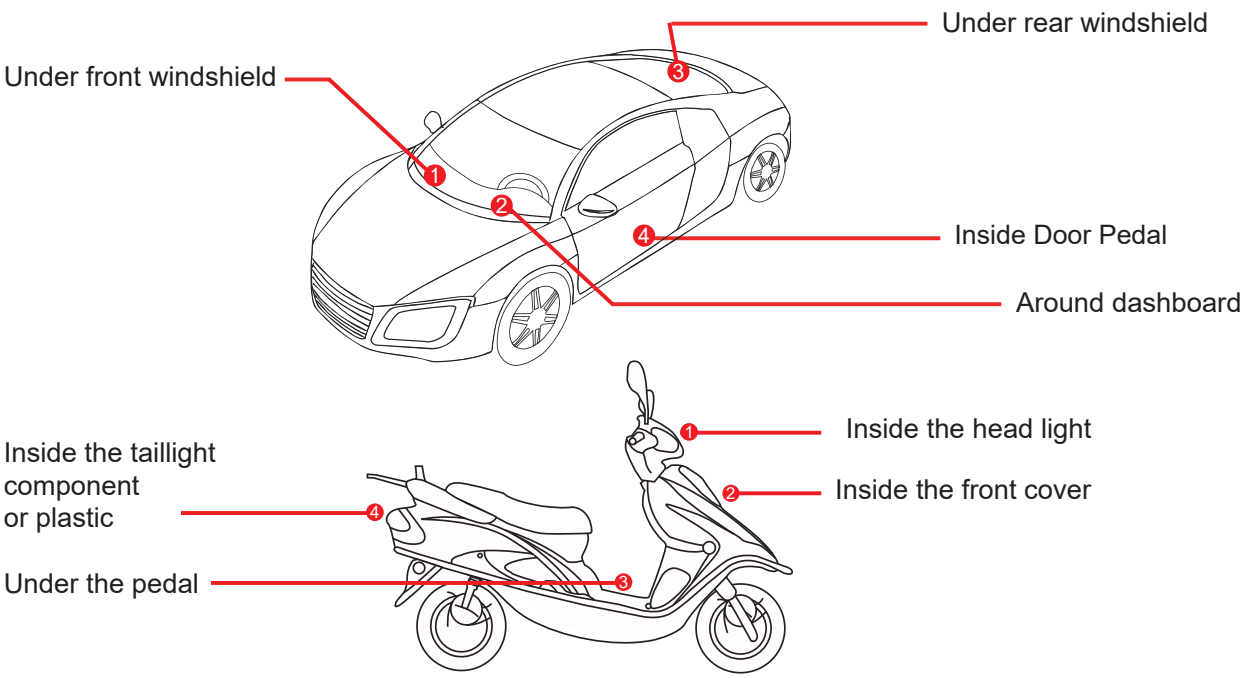


For example: ACCALM,ON,2,1#
This means once the device detects engine start and engine flameout it will send alarm message via server and sms.

6. 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.

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. Full SMS Commands List

Setting Commands

Functions	Command Format	Explanation
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#
Check IMEI	IMEI#	DEVICE IMEI No. : 0123456789
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

Internet Traffic Switch	TRAFFIC,ON#	OPEN TRAFFIC OK
	TRAFFIC,OFF#	CLOSE TRAFFIC OK
Time Zone Setting	GMT,A,B,C#	Example:GMT,E,8# (Means East +8 zone, no half time zone) GMT,W,9,30# (Means West -9.5 zone, has half time zone) A: E / W, E: East time zone, W: West time zone B: 0 ~ 12; whole time zone C: 0/15/30/45, half time zone
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 enable the mileage statistics feature, the mileage initial 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
	MIELEAGE#	Query current mileage
Sensor Sensitivity	LEVEL,A#	Example: LEVEL,2# (Means set up the shake sensor level to 2) NOTE: A：Sensitivity Level 1-9 (1-9 is from week to strong vibration)
Data Upload Time Interval	TIMER,T1,T2#	Example: TIMER,5,180# (Means the tracker will upload data every 5s when ACC is on and 180s when ACC is off) 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;
Heartbeat Packet Upload	HBT,time#	Example: HBT,3# (Means the tracker will send heartbeat data package to server every 3 min for connection maintenance) NOTE: Range :1-60min, default 3min.
Arm manually	ARM#	Set the device into arm mode
Disarm manually	DISARM#	Set the device out of arm mode

Add SOS Administrator Number	SOS,A,1st number,2nd number, 3rd number#	Example: 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#	Example: 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,password,A, center number#	Example: CENTER,888888,A,+8613800138000# Note: Please set up the center number with the country code as prefix!
Delete Center Number	CENTER,password,D#	Example: CENTER,888888,D#
Set the instruction password	PWD,password,ON#	Enable instruction password successfully!
	PWD,password,OFF#	Cancel instruction password successfully!
Change the instruction password	PWDCHG,[A],[B]#	A=old password, six digitals, digital range: 0-9, default: 888888; B=new password, six digitals, digital range: 0-9
Reset password	RSTPWD,A#	A=ID Number, ID number of the device;
Data Upload Time Zone Setting	DATAGMT,Time zone orientation,Whole Time Zone [,Half Time Zone]#	DATAGMT,E,8# (if no half time zone) DATAGMT,W,9,30# (if has half time zone) NOTE: Parameter : E / W; 0 ~ 12; 0/15/30/45
Cut Off / Resume Fuel	RELAY,A#	A=1/2; 1: Enable relay immediately 2: Enable relay safely For Example: 1. RELAY,1# A is set to 1, the relay command will be executed immediately. 2. RELAY,2# A is set to 2, the relay command will be executed safely. The vehicle is safe only when the speed is lower than 20km/h if GPS is fixed, or the vehicle is stationary if GPS is not fixed.
	RELAY,0#	RESUME FUEL OK

Inquiry Commands

Functions	Command Format	Explanation
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
Version Inquiry	VERSION#	Device Reply Example: ID:9301074948 IMEI:354188046912460 ICCID:898602A51314F1298017 VERSION:MV930G_V2.0.2 BUILD:OCT 19 2016 16:31:00
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.
Status Inquiry	STATUS#	**BATTERY:** XX% (Built-in Battery Power Percent) **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:** 30KM/H **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)
Alarms Parameters	ALARM#	ID: 19172012644 (ID number of device) STATE: ARM(DISARM)(Defense status of device) BUZZERALM: ON/OFF(alarm status) 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 LOW VOLTAGE: ON/OFF(alarm status);alarm way NOTE: Alarm Ways: 0/1/2 (0 : SERVER only, 1: SMS+GPRS, 2 : GPRS+SMS+CALL)

Parameter Inquiry	PARAM#	Device Reply Example: ID:9301074948 IMEI:861157040411486 APN:CMNET IP:47.254.77.28:7700 TIMER:10,180 SPEEDLIMIT: 120km/h ANGLERPT: 30' CENTER: 13428768257 SOS:13267052361,13488888888,13599999999 GMT:E8.00

Alarm Commands

Functions	Command Format	Explanation
Vibration Alarm Setting	SENALM,A,M#	Example: SENALM,ON,2# (Means enable the vibration alarm, and the alarm message will be sent via SMS, server and call once it is triggered) A=ON/OFF, default: OFF; M=0/1/2, way of alarming, 0 : Serveronly, 1: SMS+Server, 2 : SMS+Server+Call, default:2
	SENALM,OFF#	CANEL VIBRATE ALARM OK
Overspeed Alarm Setting	SPEED,A,B,M#	Example: SPEED,ON,100,1# (When the speed of the tracker exceeds 100km/h it will send alarm message via SMS and server) A=ON/OFF, enable or cancel 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: SMS+Server, 2: SMS+Server+Call default: 1.
	SPEED,OFF#	CANCEL OVERSPEED ALARM OK
Signal Jamming Alarm	SIGJAMALM,A,M#	Example: SIGJAMALM,ON,1# (When detected signal jamming the device will alarm via SMS and server) A=ON/OFF, enable or cancel signal jamming alarm, default: OFF M=0/1/2, way of alarm, 0 : Server only, 1: SMS+Server, 2: SMS+Server+Call default: 1.
	SIGJAMALM,OFF#	CANCEL SIGJAMALM OK
Auto Arm By ACC	ACCARM,ON,M#	Example: ACCARM,ON,60# (Means when the engine turned to off status, the tracker will enter into arm status automatically after 60s) Arm Time: M=5-1800s, default: 60s
	ACCARM,OFF#	Close auto arm function
ACC Status Change Alarm	ACCALM,A,B,M#	Example: ACCALM,ON,2,2# (Means enable this alarm type, tracker will send alarm message via SMS, server and call when engine start and flameout) A=ON/OFF, Default: ON; B: 0/1/2; 0: ACC ON Alarm; 1: ACC OFF Alarm; 2: ACC ON&OFF Alarm; Default:2 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

Shift Alarm Setting	SHIFT,A,B,M#	Example: SHIFT,ON,300,1# (Means Setting 300 meters shift alarm range, when the ignition turned off, vehicle's 300 meters' shift will trigger the alarm, the alarm message will be sent via SMS and server) A=ON/OFF; default:ON B=Shift Distance (Range: 100-9999m) M=0/1/2; way of alarm, 0 : Server only, 1: SMS+Server, 2: Server+SMS+CALL, default:1
	SHIFT,OFF#	CANCEL SHIFT ALARM OK
Power Disconnect Alarm	PWRALM,A,M#	Example: PWRALM,ON,1# (Means when the external power disconnect the tracker will send alarm message via SMS and server) A=ON/OFF, default ON; M=0/1/2, ways of alarming, 0: Serveronly, 1: SMS+Server, 2 : SMS+Server+Call, default:2;
	PWRALM,OFF#	Close power disconnect alarm
Low Voltage Alarm Setting	LVALM,A,B,M#	Example: LVALM,ON,11.2V,1# (Means once the external power voltage is less than 11.5v the tracker will send alarm message out via SMS and server) A=ON/OFF, default: ON; B=9-95 V, Low voltage threshold, can be a decimal, such as 12.5 V M=0/1/2, way of alarming, 0: GPRS only, 1: SMS+GPRS, 2: SMS+GPRS+Call,default:1
	LVALM,OFF#	CANCEL LOW VOLTAGE ALARM OK

9. Any Questions?

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

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