



MV901N User Manual V1.0

Learn how to set up your new MiCODUS Tracker

1. Main Features



Compact Size



Waterproof
IP67



9-80V Wide
Working Voltage



Realtime Tracking
On Google Maps



History Route
Playback



ACC Status
Detection



Overspeed
Alarm



Power Disconnect
Alarm



Engine Start
Alarm



Geo-fence



Remotely Cut Off
/Resume Fuel

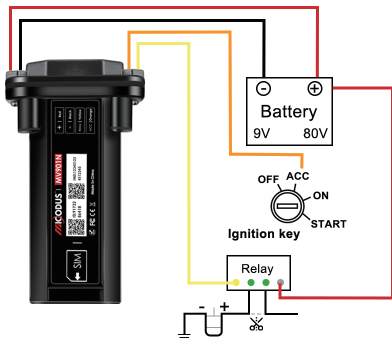


Lifetime Free
Tracking Platform

2.Specifications

Device Information	Model	MV901N
	Weight	62.5g
	Dimensions	91mm(L) * 52mm(W) * 20mm(H)
	Backup Battery Working Time	1-2 hours
Working Parameters	Working Voltage	9-80V DC
	Working Current	4V/Average 45mA
	Sleep Current	4V/less than 5mA
	Battery Capacity	3.7V 180mAh Li-ion Battery
	Working Temperature	-20°C - 55°C
	Working Humidity	10%-85%RH non-condensing
Cellular Specifications	Working Frequency	2G GSM 850/900/1800/1900MHz
	SIM Card	Normal SIM
	Cellular Antenna	Built-in
GNSS Specifications	Positioning Type	GPS+BEIDOU+LBS
	GPS Antenna	Built-in
	Cold Start	≤32 Seconds
	Hot Start	≤1 Second
	Tracking Sensitivity	-162 dBm
	GPS Channels	64
	Position Accuracy	5-10m

3.Wiring diagram



How to Install the SIM Card



1.Unscrew the screw and open the lip



2.Plug-in SIM card (SIM card not include)

4. Activate Device

Install the SIM card via the correct direction as below:



Nano SIM



Micro SIM



Normal SIM

LED	Event	State
POWER LED (RED)	Charging	Solid
	Charger inserted and battery has been fully charged	Dark
	Charger has not been inserted	Dark
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	

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 be 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!

5. Package Content

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

6. Functions Explanation

a. Engine Start/Flameout Alarm

* **First Step:**

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.

* **Second Step:**

Configure the alarm ways via

this SMS command: **ACCALM,ON,A#**

Alarm ways: A=0/1/2 (0 : Platform only, 1: SMS+Platform, 2: Platform+SMS+CALL, Default:1)

For example:

The screenshot shows an SMS interface with a red header bar containing 'MV901N'. The messages are as follows:

- Green bubble: SOS_A,12345678910#
- Grey bubble: SET SOS NUMBER OK
- Green bubble: ACCALM,ON,1#
- Grey bubble: SET WAY OF ALARMING OK

b. 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#**

* Configure 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

For example:

The screenshot shows an SMS interface with a red header bar containing 'MV901N'. The messages are as follows:

- Green bubble: SOS_A,12345678910#
- Grey bubble: SET SOS NUMBER OK
- Green bubble: ARM#
- Grey bubble: SET ARM MODE OK
- Green bubble: SENALM,ON,1#
- Grey bubble: SET VIBRATE ALARM OK

7. Applications



Car Rental



Private Car



Truck



Motorcycle

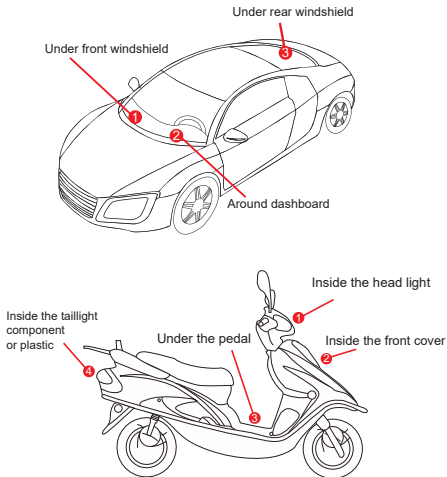


Fleet Management



Electric Car

8. Installation Recommendation



- 1) The device should face up to the sky.
- 2) Metal thermal barrier of heating layer of the windshield affects the signal.

9. 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 servi.

10. Full SMS Commands List

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#
Revise the instruction password	PASSWORD,[A],[B]#	A=old password, six digitals, digital range: 0-9, default: 000000; B=new password, six digitals, digital range: 0-9
Check IMEI	IMEI#	
Restore factory settings	FACTORY#	
Restart device	RESET#	

Functions	Command Format	Explanation
Internet Traffic Switch	TRAFFIC,ON#	
	TRAFFIC,OFF#	
Version Inquiry	VERSION#	
Parameter Inquiry	PARAM#	
Check All Alarms Status	ALARM#	
Status Inquiry	STATUS#	<p>BATTERY: XX% (Built-in Battery Power Percent)</p> <p>NET: CLOSED (No Network) FAILED (Connecting Network or Failure) SUCCESS(Connected to Network),</p> <p>NONE (No GSM Signal)</p> <p>HIGH / MED / LOW (Signal Strength)</p> <p>GPS: CLOSED (GPS Module Closed) FIXED, N(Positioned and satellite number) UNFIX, 0 (Not Positioned yet)</p> <p>ANGLE: 20 (the data upload angle)</p> <p>SENSOR: ON/OFF (the status of the shake sensor)</p> <p>LEVEL: 3 (the sensitivity of the shake sensor)</p> <p>STATE: ARM/DISARM (the defense status of the device)</p>
Alarms Parameters	ALARM#	<p>ID: 19172012644 (ID number of device)</p> <p>STATE: ARM(DISARM)(Defense status of device)</p> <p>SPEED: ON/OFF(alarm status); 30km/h(alarm value); 0/1/2(alarm way)</p> <p>SHIFT: ON/OFF(alarm status); 300m(alarm value); 0/1/2(alarm way)</p> <p>VIBRATE: ON/OFF(alarm status);3(sensitivity level); 0/1/2(alarm way)</p> <p>ACC: ON/OFF(alarm status); 0/1/2(alarm way) ; 0/1/2(0: ACC ON&OFF, 1: ACC ON; 2: ACC OFF) (alarm situation) ;</p> <p>POWER DOWN: ON/OFF(alarm status);2 (alarm way)</p> <p>NOTE: Alarm Ways: 0/1/2 (0 :GPRS only, 1: SMS+GPRS, 2 : GPRS+SMS+phone call)</p>
Latitude&Longitude Inquiry	WHERE#	
Map URL Inquiry	URL#	
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.
Time Zone Setting	GMT,Time zone orientation,Whole Time Zone[,Half Time Zone]#	<p>GMT,E,8# (if no half time zone)</p> <p>GMT,W,9,30# (if has half time zone)</p> <p>NOTE: Parameter : E / W; 0 ~ 12; 0/15/30/45</p>

Functions	Command Format	Explanation
Set The Angle Upload	ANGLEREP,[X][,A][,B]#	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#	
Mileage Statistics	MILEAGE,[A],[B]#	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,13800138000,1380013800 1,13800138002# Set the first number separately: 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#	CENTER,A,13800138000# NOTE: Center number is only used for cutting off power & oil, it can only be set by SOS Administrator when using this command by SMS.
Delete Center Number	CENTER,D#	
Data Upload Time Interval	TIMER,T1,T2#	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#	HBT,3# NOTE: Range :1-60min, default 3min.
Sensor Sensitivity	LEVEL,A#	LEVEL,2# NOTE: A: Sensitivity Level 1-9 (1-9 is from weak to strong vibration)
Arm Manually	ARM#	Set the device into arm mode

Functions	Command Format	Explanation
Disarm manually	DISARM#	Set the device out of arm mode
Overspeed Alarm Setting	SPEED,[A][B][C]#	A=ON/OFF, open or close over speed alarm, default: OFF B=1~255(km/h), speed limit, default: 100(km/h); C=0/1, way of alarm, 0: GPRS only, 1: SMS+GPRS, default:1.
	SPEED,OFF#	
Vibration Alarm Setting	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:2
	SENALM,OFF#	
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#	
Auto Arm By ACC	ACCARM,ON,M#	Arm Time: M=5-1800s, default: 60s
	ACCARM,OFF#	Close auto arm function
ACC Status Change Alarm	ACCALM,ON,A#	Alarm Ways: A=0/1/2; way of alarm, 0: GPRS only, 1: SMS+GPRS, 2: GPRS+SMS+CALL, default:1
	ACCALM,OFF#	Cancel ACC alarm function
Power Disconnect Alarm	PWRALM,A,B#	A=ON/OFF, default ON; B=0/1/2/3, ways of alarming, 0: GPRS only, 1: SMS+GPRS, 2: GPRS+SMS+phone call, 3: GPRS+ call, default:2;
	PWRALM,OFF#	Close power disconnect alarm

11. Any Questions?

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