



MV501G User Manual V2.0

Learn how to set up your new MiCODUS Tracker



1. Main Features



4G+2G



Real-time
Tracking



Historical Route
Playback



900mAh



Cut Off Fuel/
Resume Fuel



SOS



Voice Monitor



Geo-fence



Overspeed
Alarm



Vibration
Alarm



Movement
Alarm



Engine On/
OFF Alarm



Cut Wire
Alarm



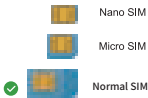
Temperature Sensor
Fuel Sensor
Camera

2.Specifications

Device Information	Model	MV501G
	Weight	150g
	Dimensions	107mm(L) * 51mm(W) * 20mm(H)
	Charging Time	Around 7 hours
Working Parameters	Battery Working Time	Tracking Mode:3- 4 Days
	Working Voltage	DC 9-95V
	Working Current	4V/Average 45mA
	Sleep Current	4V/less than 5mA
	Battery Capacity	3.7V 900mAh Lion Polymer battery
	Working Temperature	-20℃ - 75℃
Cellular Specifications	Working Humidity	10%-85%RH non-condensing
	Working Frequency	4G LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28/B66 2G GSM/GPRS/EDGE: 850/900/1800/1900MHz
	Chipset	SIMCOM7670SA
	SIM Card	Micro SIM Card
GNSS Specifications	Cellular Antenna	Built-in
	Positioning Type	GPS+GLONASS+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. Activate Device

SIM card requirements



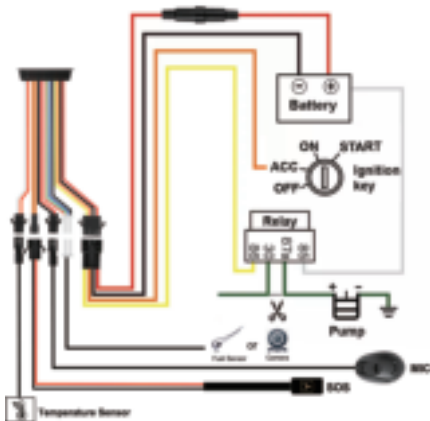
Please get a suitable SIM card from your local place. The SIM card must meet below points:

- ◆ 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 Normal size SIM card for the tracker
- ◆ Please inquire the SIM card provider for the exact correct APN information

Install the SIM card via the correct direction as below:



4. Wiring diagram



USB OFF/ON Normal SIM Card



Cellular Signal Power GNSS Signal

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 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 MV501G	x 1
Function Cable	x 1
Microphone Cable	x 1
SOS Button Cable	x 1
Relay	x 1
User Guide	x 1
Temperature Sensor (Optional)	x 1
Fuel Sensor (Optional)	x 1
Camera (Optional)	x 1
Genuine Packing Box	x 1

6. Functions Explanation

Please follow with the quick user guide carefully!

a. Voice Monitor:

- * Set center number by this sms command:
CENTER,password,A,center number#
- * Switch the tracker to voice monitor mode by this sms command:**MONITOR#**
- * Dial the sim number of the tracker from the center number, then the tracker will pick up the call automatically and you will can remote monitor the voice around it.

For example:



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
- * 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

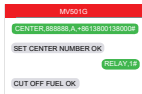
For example:



c. 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:



d. Enable SOS Emergency Call

* Set sos alarm numbers via this sms command:

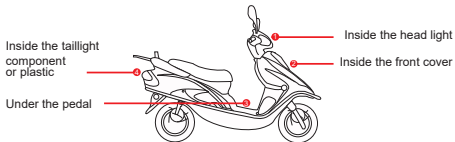
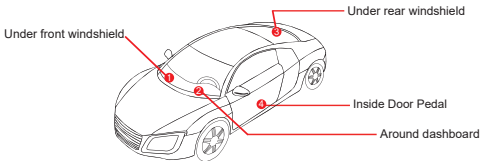
SOS,A,1st number,2nd number,3rd number#

* Long press the SOS panic button 3 seconds then the emergency call will be made to the sos numbers, it will dial the numbers by turn till it is picked up

For example:



7. Installation Recommendation



- 1) The device should face up to the sky.
- 2) Metal thermal barrier or 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 servi.

9. 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#	
Change IMEI	IMEICHG,354188046912460#	NEW IMEI No. : 354188046912460
Restore factory settings	FACTORY#	
Restart device	RESET#	
Internet Traffic Switch	TRAFFIC,ON#	
	TRAFFIC,OFF#	

Functions	Command Format	Explanation
Version Inquiry	VERSION#	
Parameter Inquiry	PARAM#	
Check All Alarms Status	ALARM#	
Status Inquiry	STATUS#	BATTERY: XX% (Built-in Battery Power Percent) NET: CLOSED (No Network) FAILED (Connecting Network or Failure) SUCCESS(Connected to Network), NONE (No GSM Signal) HIGH / MED / LOW (Signal Strength) GPS: CLOSED (GPS Module Closed) FIXED, N(Positioned and satellite number) UNFIX, 0 (Not Positioned yet) ANGLE: 20 (the data upload angle) SENSOR: ON/OFF (the status of the shake sensor) LEVEL: 3 (the sensitivity of the shake sensor) STATE: ARM/DISARM (the defense status of the device)
Alarms Parameters	ALARM#	ID: 19172012644 (ID number of device) STATE: ARM(DISARM)(Defense status of device) SPEED: ON/OFF(alarm status); 30km/h(alarm value); 0/1/2(alarm way) SHIFT: ON/OFF(alarm status); 300m(alarm value); 0/1/2(alarm way) VIBRATE: ON/OFF(alarm status);3(sensitivity level); 0/1/2(alarm way) 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) ; POWER DOWN: ON/OFF(alarm status);2 (alarm way) LOW BATTERY: ON/OFF(alarm status);1/2/3 (alarm way) NOTE: Alarm Ways: 0/1/2 (0 :GPRS only, 1: SMS+GPRS, 2 : GPRS+SMS+phone call)
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]#	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]#	X=ON/OFF, default: ON; A=5 ~ 180 degrees, diversion angle degree, default: 30 degrees; B=2 ~ 5 seconds, defecting time, default: 3 seconds,
	ANGLEREP,OFF#	
Heartbeat Packet Upload	HBT,time#	HBT,3# NOTE: Range :1-60min, default 3min.

Functions	Command Format	Explanation
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,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
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;
Sensor Sensitivity	LEVEL,A#	LEVEL,2# NOTE: A: Sensitivity Level 1-9 (1-9 is from weak to strong vibration)

Functions	Command Format	Explanation
Arm Manually	ARM#	Set the device into arm mode
Disarm manually	DISARM#	Set the device out of arm mode
Cut Off / Resume Fuel	RELAY,A#	A=1/2; 1: Enable relay immediately 2: Enable relay safely [STATE] ON/OFF 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#	
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

Functions	Command Format	Explanation
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
SOS Alarm	SOSALM,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;
	SOSALM,OFF#	Close SOS alarm function
Voice Monitor/Track Modes Switch	MONITOR#	NOTE: Before monitoring the voice around the device, the user must change the device to this monitor mode firstly.
	TRACK#	NOTE: After used the voice monitor mode, user can switch the device back to track mode by this command.

10. Any Questions?

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