MiCODUS®

ML150 User Manual V1.0

Learn how to set up your new MiCODUS Tracker

1. Main Features

Real-time Tracking

Historical Route

Built-in Magnet

Waterproof IP65

1500mAh

Voice Monitor

Overspeed Alarm

Vibration Alarm

Geo-fence

Shift Alarm

2. Specifications

Device Information	Model	ML150
	Weight	58.4g
	Dimensions	36mm(L) * 23mm(W) * 54mm(H)
	Charging Time	Around 5 hours
	Battery Working Time	3-5 days under tracking mode
Working Parameters	Working Voltage	DC 3.4V - 4.5V
	Working Current	4V/Average 45mA
	Sleep Current	4V/less than 5mA
	Battery Capacity	3.7V 1500mAh Lion Polymer battery
	Working Temperature	-20℃ - 75℃
	Working Humidity	10%-85%RH non-condensing
Cellular Specifications	Working Frequency	2G GSM/GPRS 850/900/1800/1900Mhz
	SIM Card	Nano SIM Card
	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
External Interface	Mircrophone,Magnetic	

3. Activate Device

Install the SIM card via the correct direction as below:

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!

4. Package Content

GPS Main Unit	x 1
USB Charging Cable	x 1
User Manual	x 1
Quick User Guide	x 1
Genuine Packing Box (Optional)	x 1
Hard-Wired Car Charger (Optional)	x 1

5. Functions Explanation

Please follow with the quick user guide carefully!

a. Working modes setting

For example:

* ML150 has 3 working modes to meet different tracking demands, the setting command format is as below:

MODE,A,T1,T2#

A=1 (Tracking mode)
T1: upload interval of GPS data in moving status,
unit: second,10-3600s; default: 10s
T2: upload interval of GPS data in static status,
unit: second, 180-65535s; default: 3600s
A=2 (Power saving mode)
T1: interval start time,format: HH:MM
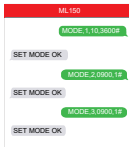T2: time interval,range: 1-72
unit: hour,default interval: 24hours
A=3 (Hibernation mode)
T1: interval start time,format: HH:MM
T2: time interval,range: 1-72
unit: hour,default interval: 24hours

ML150
MODE,1,10,3600#
SET MODE OK
MODE,2,0900,1#
SET MODE OK
MODE,3,0900,1#
SET MODE OK

* Example:
MODE,1,10,3600# (this means the device will upload data by 10s interval under moving status and 3600s interval under stationary status)
MODE,2,0900,1# (this means the device will start working via mode 2 at 09:00am, and it will upload data every 1 hour)
MODE,3,0900,1# (this means the device will start working via mode 3 at 09:00am, and it will upload data every 1 hour)

* Note ⚠️⚠️⚠️ : The difference between mode 2 and mode 3 is that under mode 2 the device can be wake up by sms, call and vibration, under mode 3, the device will just can be wake up by teardown alarm.

b. Voice Monitor:

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

ML150
CENTER,888888,A,123456789108
SET CENTER NUMBER OK
MONITOR#
SET MONITOR MODE OK

c. 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

For example:

ML150
SOS,A,12345678910#
SET SOS NUMBER OK
ARM#
SET ARM MODE OK
SENALM,ON,1#
SET VIBRATE ALARM OK

* 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

6. Applications

Personal

Valuables

Suitcase

Vehicles

7. Troubleshooting

Type	Use
Unable to connect to tracking platform	Check the APN and settings. Check whrther 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 netword 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.

8. 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#	
Restore factory settings	FACTORY#	
Version Inquiry	VERSION#	

Functions	Command Format	Explanation
Parameter Inquiry	PARAM#	Check ID,IMEI,APN, IP,PORT,TIMER,Center number,SOS number,Time Zone
Latitude&Longitude Inquiry	WHERE#	
Map URL Inquiry	URL#	
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)
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, 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 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#

Functions	Command Format	Explanation
Working Mode Setting	MODE,A,T1,T2#	A=1/2/3, 1:Tracking mode 2:Power saving mode 3:Hibernation mode; Default mode: 1 A=1 T1: upload interval of GPS data in moving status, unit: second,10-3600s; default: 10s T2: upload interval of GPS data in static status, unit: second, 180-65535s; default: 3600s A=2 T1: interval start time,format: HH:MM T2: time interval,range: 1-72 unit: hour,default interval: 24hours A=3 T1: interval start time,format: HH:MM T2: time interval,range: 1-72 unit: hour,default interval: 24hours Note: The difference between mode 2 and mode 3 is that under mode 2 the device can wake up by sms, call and vibration, under mode 3, the device will just can wake up by sms and call, vibration can't wake up it.
Sleep Mode Setting	SLEEP#	NOTE: After set this sleep mode, the device will enter into sleep mode automatically when the device keep stationary status more than 5min.
	SLEEP,OFF#	
Voice Monitor Mode	MONITOR#	NOTE: 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.
Heartbeat Packet Upload	HBT,time#	HBT,3# NOTE: Range :1-60min, default 3min.
Sensor Sensitivity	MOTION,sensitivity#	MOTION,2# NOTE: Sensitivity Level: 1-9 (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
Overspeed Alarm Setting	SPEED,[A][,B][,C]#	A=ON/OFF, open or close over speed alarm, default: OFF B=1～256(km/h), speed limit, default: 100(km/h); C=0/1, way of alarm, 0 : GPRS only; 1: SMS+GPRS, default: 1.
	SPEED,OFF#	

Functions	Command Format	Explanation
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 meter 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: SMS+SMS+CALL, default:1
	SHIFT,OFF#	
Low Battery Alarm Setting	BATALM, [A], [M]#	A:=ON/OFF, default: ON; M=0/1, way of alarming, 0: GPRS only, 1: SMS+GPRS, default: 1;
	BATALM,OFF#	
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

9. Any Questions?

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