



4G MP30G User Manual V1.0

Learn how to set up your new MiCODUS Tracker

1. Main Features



4G LTE+
2G GSM



GPS+BDS+
AGPS+LBS



Real-time
Tracking



Track
Playback



20000mAh



Waterproof
IP67



Electronic
Fence Alarm



Network Blind
Area Data
Re-uploading



Low Power
Alarm



Motion
Alarm



No Motion
Alarm

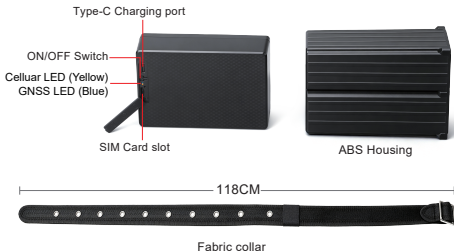


Firmware
Remote Upgrade

2.Specifications

Device Information	Model	MP30G
	Weight	476.5g
	Dimensions	110mm(L)*77mm(W)*46mm(H)
	IP Rating	IP67
Electrical Characteristics	Operating Voltage	DC 3.4V – 4.5V
	Operating Voltage/Current	4V/60mA (average)
	Standby Voltage/Current	4V/5mA (average)
	Built-in battery capacity	20,000 mAh (3.7V polymer battery)
Environmental specifications	Operating temperature	-20°C – 75°C
	Storage temperature	-30°C – 80°C
	Operating humidity	10%–85% RH (non-condensing)
Communication Specifications	Communication Module & Chip	SIMCOM 7670C-LASE
	Communication Bands(SA)	2G GSM/GPRS: 850/900/1800/1900MHz 4G LTE-FDD: B1/B2/B3/B4/B5/B7/ B8/B28/B66
	Communication Bands(EU)	2G/GSM: 900/1800MHz 4G LTE-FDD: B1/B3/B5/B7/B8/B20
	SIM Card	Nano SIM card
GPS/BD Positioning Features	Positioning Module Brand/Chip	AT6558R
	Positioning Method	BDS/GPS/GLONASS
	Cold Start Time	Average 32 seconds
	Warm-up time	Average 1 second
	Tracking sensitivity	-162 dBm
	Antenna Specifications	18mm × 18mm × 2mm
	GPS Frequency Band	L1: 1575.42 ± 1.023 MHz
	Beidou Frequency Band	B1: 1561.098 ± 2.046 MHz
	Number of satellite channels	32
	Positioning accuracy	<2 m (1σ)
	Timing accuracy	<30 ns (1σ)
	Speed measurement accuracy	<0.1 m/s (1σ)
External Interfaces	Charging port	1 channel

3.Product Stucture



4.How to manage the tracker to get online?

Step 1 SIM card requirements



Nano SIM



Micro SIM



Normal SIM

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 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
	Fully charged/Ran out of battery	Dark
CELL LED (YELLOW)	Searching and registering network	Flash every 2 seconds
	Registered network successfully	Solid
	Cellular module sleep or turn off	Dark
GPS LED (BLUE)	Searching for satellite signals	Flash every 2 seconds
	GPS/GLONASS successfully positioned	Solid
	Satellite module sleep or turn off	Dark
FINDING PET LED (WHITE)	LED flash fastly to find pet more easily	Flash fastly

5. Package Content

GPS Tracker	x 1
Collar	x 1
Charging cable	x 1
Screwdriver	x 1
ABS Housing	x 1
User Guide	x 1
Genuine Packing Box	x 1

6. Functions Explanation

a. Working Modes Setting

* SMS command format: **MODE,A,T1,T2#**

A=1/2/3, 1: Realtime tracking mode 2: Regular reporting mode 3: Power saving mode; Default mode: 1

A=1 (For example: MODE,1,10,3600# means the tracker will work under mode 1, it will upload every 10s under moving status and 3600s under static status)

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, 180-86400s;
default: 3600s

NOTE:

1. Device sends data to server according to the time interval and always stays online.
2. User needs to set reporting time to server when moving and when no moving.
GPS/WIFI on when moving and off when not moving.

A=2 (For example: MODE,2,0800,1# means the tracker will work with mode 2 since the 08:00am, and upload every 1 hour)

T1: interval start time,format: HHMM

T2: time interval,range: 1-72 unit: hour,default
interval: 24hours

NOTE:

Under Mode 2 the device will disconnect with server after reporting, but it still can receive SMS and Call.

A=3 (For example: MODE,3#)

NOTE:

1. Under mode 3, no need set reporting time interval, the device will always keep connect with server with the heartbeat data.
Device only sends data to server when an alarm occurs.
2. GPS/WiFi only triggers when there is an event. (the rest of the time, GPS is off)

For example:



For example:



For example:



7. Full SMS Commands List

Query Commands		
Functions	Command Format	Explanation
Version Inquiry	VERSION#	Device Reply Example: ID: ID number of the tracker IMEI: IMEI number of the tracker ICCID: The ICCID number of the SIM card in the tracker VERSION: The firmware version of the tracker
Parameter Inquiry	PARAM#	Device Reply Example: ID: ID number of the tracker IMEI: IMEI number of the ICCID: The ICCID number of the SIM card in the tracker APN: APN name,APN user,APN password, IP: Domain name and port number or IP address,port number MODE: Working mode;interval or starting time,upload interval SPEEDLIMIT: The overspeed threshold CENTER: Center number of the tracker SOS: SOS1,SOS2,SOS3 GMT: Time zone
Status Inquiry	STATUS#	TRAFFIC: ON/OFF BATTERY: XX% (Built-in Battery Power Percent) INTERNET: CLOSED (No Network) FAILED (Connecting Network or Failure) SUCCESS (Connected to Network) NET: NONE (No GSM Signal) , HIGH / MED / LOW (Signal Strength) 18 GPS: CLOSED (GPS Module Closed), FIXED,N (Positioned and satellite number), UNFIX,0 (Not Positioned yet) SPEED:30KM/H (The current speed of the target)
Alarms Parameters	ALARM#	ID: 19172012644 (Device ID number) SPEED: ON(OFF); 30km/h(speed limit); alarm ways MOTION: ON(OFF); 300s(static time);alarm ways NO MOTION: ON(OFF);3600s(static time);alarm ways LOW BATTERY: ON(OFF);alarm ways FENCE1: ON(OFF), 500m(Radius) , alarm ways FENCE2: ON(OFF), 300m(Radius) , alarm ways FENCE3: OFF FENCE4: OFF
Latitude&Longitude Inquiry	WHERE#	LAT:N23.02930,LON:E114.32180,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

Setting Commands

Functions	Command Format	Explanation
APN Setting	APN,APN name,APN user, APN password#	Example: APN,CMNET# (if no APN User & APN Password) APN,internet,internet,internet# (if with APN User & APN 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#
Restore factory settings	FACTORY#	FACTORY OK
Restart device	RESTART#	RESTART OK
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]#	Example: 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
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#

Heartbeat Packet Upload	HBT,time#	Example: HBT,3# (Means the tracker will send heartbeat data package to server very 3min to keep the network connected) Time: 1-60min, default 3min
Search Mode	SEARCH#	Example: SEARCH# Note: 1. After received this command, device will start live tracking every 10 seconds and last for 10 minutes. 2. When there is an Geo-fence alarm, this search mode will be activated automatically
Working Mode Setting	MODE,A,T1,T2#	<p>A=1/2/3, 1: Realtime tracking mode 2: Regular reporting mode 3: Power saving mode; Default mode: 1</p> <p>A=1 (For example: MODE,1,10,3600# means the tracker will work under mode 1, it will upload every 10s under moving status and 3600s under static status) 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, 180-86400s; default: 3600s NOTE: Device sends data to server according to the time interval and always stays online. User needs to set reporting time to server when moving and when no moving. GPS/WIFI on when moving and off when not moving.</p> <p>A=2 (For example: MODE,2,0800,1# means the tracker will work with mode 2 since the next 08:00am, and upload every 1 hour) T1: interval start time,format: HHMM T2: time interval,range: 1-72 unit: hour,default interval: 24hours Note: Under Mode 2 the device will disconnect with server after reporting, but it still can receive SMS and Call.</p> <p>A=3 (For example: MODE,3#) NOTE: Under mode 3, no need set reporting time interval, the device will always keep connect with server with the heartbeat data. Device only sends data to server when an alarm occurs. GPS/WIFI only triggers when there is an event. (the rest of the time, GPS is off)</p>

Change IMEI	IMEICHG,3 54188046912460#	NEW IMEI No. : 354188046912460
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

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

No Motion Alarm Setting	NMOTION,A,T,M#	<p>Example: NMOTION,ON,3600,1# (Means if device doesn't move (no motion) for 60 minutes, within 61 minutes, the no motion alarm will be activated, device will send alarm message to platform and SMS)</p> <p>A=ON/OFF, open or close over speed alarm, default: OFF</p> <p>T=60 ~ 36000s, Static time, Unit: second, Default: 3600s ;</p> <p>M=0/1/2, way of alarm, 0 : SERVER only, 1: SERVER+SMS, 2: SERVER+SMS+CALL; default: 1</p>
	NMOTION,OFF#	CANCEL NO MOTION ALARM OK
Motion Alarm Setting	MOTION,A,T,M#	<p>Example: MOTION,ON,300,1# (Means if device doesn't move for 5 minutes and then start move and lasts for 3 seconds, this motion alarm will be activated and the alarm message will be sent via server and SMS)</p> <p>A=ON/OFF, open or close over speed alarm, default: OFF</p> <p>T=60 ~ 36000s, static time, unit: second, default: 300s ;</p> <p>M=0/1/2, way of alarm, 0 : SERVER only, 1: SERVER+SMS, 2: SERVER+SMS+CALL; default: 1</p>
	MOTION,OFF#	CANCEL MOTION ALARM OK
Low Battery Alarm Setting	BATALM,A,M#	<p>Example: BATALM,ON,1# (Means the low battery alarm already been enabled and the alarm message will be sent via Server and SMS)</p> <p>A=ON/OFF, default: ON; M=0/1/2, way of alarming, 0: SERVER only, 1: SERVER+SMS, 2: SERVER+SMS+Call, default:1 ;</p> <p>NOTE: Once the battery level is below 20% device will alarm</p>
	BATALM,OFF#	CANCEL LOW BATTERY ALARM OK

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. Any Questions?

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Skype: MiCODUS

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