MX110 4G Asset GPS Tracker

User Manual V1.0

Preface

Thanks for purchasing Mictrack Asset GPS tracker MX110. This manual shows how to easily program and setup the tracker for the best results. Please read this manual carefully before using this product, to avoid delays or confusion with its operation. Please note that specifications and instructions are subject to change without notice to facilitate product improvement. Updates and changes will be integrated into the latest release. The manufacturer assumes no responsibility for any errors or omissions in outdated documents.

Contents

1. Overview

The MX110 is a 4G tracking device specifically designed for monitoring temperature and tracking in cold chain, food, and fruit storage and transportation. With its ultra-thin design of just 8mm, it can be easily placed with goods that require monitoring.

The MX110 integrates multiple sensors to monitor movement, light, temperature, humidity, and Geo-fence. It supports both indoor and outdoor positioning via WIFI, LBS and GPS. The short-range wireless BLE enables flexible configuration and pairing with external BLE sensors or accessories, allowing the device to function as a BLE gateway.

2. Features

- 4G LTE with 2G Fallback
- Compact size
- Real-timing Tracking
- GPS+LBS+WiFi Positioning
- Geo-fence Alarm
- Vibrate Alarm
- Low Power Alarm
- Temperature and humidity monitoring
- Removal Alerts (Light sensor)
- Scheduled Timing Report
- Dual Server support
- BLE 5.0 Support
- 1 Year battery life (one report per day)
- Programmable via USB/SMS
- Open Protocol

3. Applications

- Cold Chain Monitoring
- Asset tracking
- Logistics Tracking
- Personal Tracking
- Vehicles Tracking
- Sport Tracking
- Fleet Management

4. Specifications

Item	Specifications
Dimension	123mm*68mm*11mm (4.82″ *2.68″ *0.43″)
Weight	108g (3.8oz)
Charging Mode	USB-C (Type-C) charging DC
Power Consumption	<60uA standby current (in lowest power configuration)
Backup Battery	Rechargeable 3.7V 2500mAh Li battery
4G Cellular Bands	**MX110-E:** 4G: B1/B3/B5/B7/B8/B20/B28 GSM: 850/900/1800/1900MHz **MX110-A：** 4G: B2/B3/B4/B5/B7/B8/B28/B66 GSM: 850/900/1800/1900MHz
Working temperature	-20°C to 70°C (-4°F to 158°F)
Positioning	GPS, LBS, WiFi, BLE (Beacon,optional)
WiFi	2.4G
Bluetooth	BLE 5.0 (Scanning /Broadcast Beacon)
GPS Antenna	Internal
Cellular Antenna	Internal
Sensor	3-Axis Accelerometer, Light Sensor, Temperature and humidity sensor
LED	Power/Status
SIM Card interface	Internal Nano 4FF SIM
Protocol	TCP, SMS
Battery life	1 year (one report per day)

5. MX110 Interface

Status button System LED Charging LED
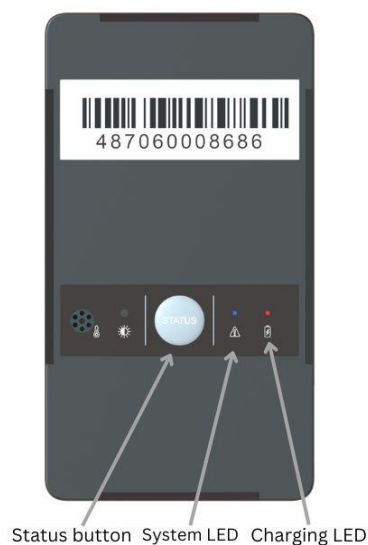
6. In the box

6.1 Standard Accessories

- 1* MX110 4G GPS Tracker

7. Installation

7.1 SIM Card installation

- Get ready a **Nano SIM Card** with 30MB data a month.
- Remove the back cover
- Insert the SIM card into the SIM card slot.
- Close the back cover.

7.2 Power ON & Power OFF

- Press the "**STATUS**" for 5 seconds to Power ON
- Send the command "AT+POWEROFF" to Power OFF

7.3 LED Indications

7.3.1 Charging LED (Red)

Status	Description
OFF	No charge or fully charged
Solid Red	Charging in progress

7.3.2 System LED (Blue)

Status	Description
Single flashing	Press STATUS when powered OFF
Flashing for 15 sec	Press STATUS when powered ON
OFF	Device is OFF or in sleep mode

Note:

- Power OFF: Press "STATUS" → blue LED flashes once
- Power ON: Press "STATUS" → blue LED slowly flashes for 15 sec

8. Setup and Configuration

- For first-time use, you need to set up the APN.
- If your SIM card supports SMS, you can configure the device using the following SMS commands (8.1-8.9).
- If your SIM card is data-only (don't support SMS), you can set up the device via the USB Config tool: https://help.mictrack.com/articles/how-to-setup-MX110-via-usb-config-tool/

8.1 Set APN (Access Point Name)

SMS Command format 1: APN=APN,APN user name,apn password

For example: APN=iot.1nce.net,,

Reply: +APN:iot.1nce.net,,

8.2 Set the IP and port

SMS Command format: IP=X,IP,Port

For example: IP=0,113.98.254.179,7700

Reply: + IP:0,113.98.254.179,7700

Note: The device supports two servers. When X=0, it connects to the Main Server; when X=1, it connects to the Backup Server.

8.3 Report interval time

SMS Command format:TIMEGAP=X,Y

For example:TIMEGAP,0,60

Reply: +TIMEGAP:report,60

Note: X=0 is reporting cycle and X=1 is sampling period. Y is the report interval time, range [10, 86400] seconds.

8.4 Set Light Sensor

SMS Command format: LIGHT=X,Y,Z

For example: LIGHT=1,500,60

Reply: +LIGHT:1,500,60

Note: X=0 disables the light sensor, and X=1 enables it.

Y is the light sensor threshold, range [0,1000] (a lower threshold triggers the light alarm more easily).

Z is the report interval time, ranging from 10 to 3600 seconds

8.5 Set G-Sensor

SMS Command format:VIBPARAM=A,B,C

For example:VIBPARAM=1,1,100

Reply: +VIBPARAM:1,1,100

Note: A=0 disables the G-sensor, and A=1 enables it.

B is the G-sensor gravitational acceleration, with a range of [0.2G, 1.4G, 2.8G, 3.16G].

C is the sensitivity, with a range of [0, 255].

SMS Command format: MOTION=D,E,F

For example:MOTION=3,10,300

Reply: +MOTION:3,10,300

Note: D is the vibration frequency of the device.

E is the time range over which the device monitors vibrations.

F is the period during which the device is triggered by vibrations.

8.6 Set Temperature and Humidity

SMS Command format:TEMPHUMI=A,B

For example:TEMPHUMI=1,60

Reply: +TEMPHUMI:1,60

Note: A=0 disables the temperature and humidity, and A=1 enables it.

B is the interval at which temperature or humidity is triggered and the range is [10,3600] seconds.

SMS Command format:TEMPRANGE=C,D

For example:TEMPRANGE=40,0

Reply: +TEMPRANGE:40,0

Note: C is Maximum temperature and D is the Minimum temperature.

SMS Command format:HUMIRANGE=E,F

For example:HUMIRANGE=50,10

Reply: +HUMIRANGE:50,10

Note: E is Maximum humidity and F is the Minimum humidity and the humidity.

8.7 Working Mode

8.7.1 Tracking mode + Trigger mode

When the AT command `AT+WORKMODE=2` is used, the device enters "Tracking Mode + Trigger Mode." In this mode, the minimum cycle for reporting and sampling can be configured to 10 seconds, and the network module will not enter hibernation after reporting.

8.7.2 Periodic mode mode + trigger mode

When the AT command `AT+WORKMODE=4` is used, the device enters "Cycle Mode + Trigger Mode." In this mode, the minimum cycle for reporting and sampling can be configured to 600 seconds, and the network module will enter hibernation after reporting.

8.8 Conditional trigger mode

When a trigger alarm (configurable) occurs during the normal reporting period, the device can alter its working mode and the timing of periodic reporting and sampling for a set duration.

To use the conditional trigger reporting mode, use the command:

AT+TRIGGERMODE=<duration>,<condition>,<report>,<sampling>,<workmode>

<duration>: Time during which the trigger condition must be maintained. Both reporting and sampling periods will change after the trigger condition. (Set to 0 to disable.)

<condition>: Trigger condition parameters—1: LOW_POWER, 2: MOTION, 3: CRASH, 4: LIGHT, 5: TEMP_HUMI, 6: TEMP, 7: HUMI (Default: 0)

- <report>: Periodic reporting time

- <sampling>: Periodic sampling time
- <workmode>: Working mode configuration

For example:

Set the reporting period and sampling period to 3600 seconds.

AT+TRIGGERMODE=3600,1,600,600,4

When LOW_POWER is triggered, the periodic reporting and sampling times will change to 600 seconds for one hour. The working mode will be set to 4. After one hour, the device will revert to the previous settings of 3600 seconds.

8.9 Sleep Mode

Sleep mode is only valid when using Tracking Mode + Trigger Mode or Conditional Trigger Mode.

The AT command is: `AT+SLEEPMODE=<mode>

-<mode>:

- 0: The network module consumes low power (sleeps after the device report is complete).

- 1: The network module remains active (does not sleep after the device report ends).

For example:

When `workmode=2` and `sleepmode=0`, the minimum value is 60 seconds. When `workmode=2` and `sleepmode=1`, the minimum value is 10 seconds.

9. Troubleshooting

Issues	Caused	Solutions
Send SMS to the device but no reply	1>SIM Card direction install wrong 2>SIM Card have not active 3>SIM Card don't support 4G	Please check the SIM card status and try again.
	Text command format is wrong	1. For the first time you have to setup the device via USB Config cable, once access the network and then you can send SMS command to device.
	Connect network fail.	Please check LED status and make sure the network connects successful first.

GPS platform shows logged off		1.Check the APN setting. 2. Check IP and port 3. Check network if match
GPS platform shows no location or the coast of Africa.	Device indoor/garage	Take it outside for a 10-minute walk or drive, and its location should update.
LED no light	Backup battery is low power	Please charge the device for 30 minutes at least.

(End of this document)

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