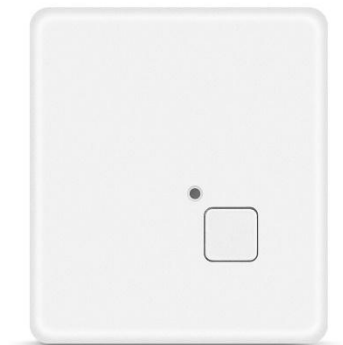


MT710 Cat M1 & NB-IoT GPS Tracker

User Manual V1.0



Preface

Thank you for choosing the Mictrack GPS tracker MT710. This manual provides step-by-step instructions on programming and setting up the tracker for optimal performance. To avoid any issues or confusion during operation, please read this manual carefully before using the product. Please note that specifications and instructions are subject to change without prior notice to ensure product quality. Any updates or changes will be included in the latest release. Please be advised that the manufacturer is not liable for any errors or omissions in outdated manuals

Contents

1. Overview	1
2. Features	1
3. Applications	1
4. Specifications	1
5. MT710 Interface	2
6. In the box	2
6.1 Standard Accessories	2
6.2 Optional Accessories	2
7. Installation	3
7.1 SIM Card installation	3
7.2 Power ON/OFF	3
7.3 LED Indications	3
7.3.1 Red indicator- Charge	3
7.3.2 Blue indicator- SYS	3
7.3.3 Green indicator- GPS	3
8. Setup and Configuration	3
8.1 Change the password	3
8.2 Set APN (Access Point Name)	4
8.3 Set IP and port	4
8.4 Working Mode	4
8.4.1 MODE 1 (Real Time Mode)	4
8.4.2 MODE 2 (GPS Auto Mode)	4
8.4.3 MODE 3 (Deep Sleep Mode)	4
8.4.4 MODE 4 (Vibrate Mode)	5
8.4.5 MODE 5 (WiFi Only Mode)	5
8.4.6 MODE 6 (SMS Only Mode)	5
8.4.7 MODE 7 (Smart Mode)	5
8.4.8 MODE 0 (AUTO Mode)	5
8.4.9 MODE 8 (HOME Mode)	6
8.4.10 MODE 9 (WiFi Priority Mode)	6
8.4.11 MODE 10 (Clock Mode)	6
8.4.12 LOCK MODE	6
8.5 Set Last location report	7
8.6 Set LBS	7
8.7 Set GPS Duration	7
8.8 Set TCP keep alive time	7
8.9 Set AGPS	7
8.10 Set Power button	7
8.11 Set Protocol	8
8.12 Set Timezone	8
8.13 Low Power alarm	8
8.14 Vibrate alarm	8
8.15 SOS alarm	8
8.16 Charging alert	8
8.17 Restart	8
9. App & PC Tracking platform	9
9.1 App install & Login	9
9.2 PC login	9
10. Troubleshooting	10
11. FAQs	10

1. Overview

MT710 is an IP68 waterproof GPS tracker that uses Cat M1 & NB-IoT with 2G fallback technology. It provides ultra-low power consumption, with up to 1 year of standby time powered by internal 650mAh batteries. Users can track the unit in real-time via their mobile phone or PC from anywhere, at any time. The device has been widely used in various industries, such as personal, sports events, pets, assets tracking, and more.

2. Features

- Cat M1 & NB-IoT with 2G fallback
- 12 months battery life
- IP68 Waterproof rating
- Real-time tracking
- Low power alarm
- SOS alerts
- Home Mode
- Charging alert
- Smart motion detection
- Scheduled timing report
- GPS, WiFi and LBS positioning
- Support AGPS
- PC and Mobile APP tracking
- Programmable via web, USB or SMS
- Open protocol and easy to integrate

3. Applications

- Personal Tracking
- Pet Tracking
- Asset Tracking
- Container Tracking
- Logistics Tracking

4. Specifications

Item	Specifications
Dimension	46mm*41mm*16mm (1.81" *1.61" *0.62")
Weight	35g (1.23oz)
Charging Mode	Magnetic USB charging DC 5V
Power Consumption	2.2uA standby current (in lowest power configuration)
Backup Battery	Rechargeable 3.7V 650mAh Li battery

Item	Specifications
Positioning	GPS, WiFi, LBS, XTRA (Assisted GPS)
Cellular Bands	Cat M1 (LTE-M) B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 NB-IoT: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 GSM: 850/900/1800/1900Mhz
Working temperature	-20°C to 60°C (-4°F to 140°F)
GPS	Qualcomm Gen 8C GNSS receiver
GPS Antenna	Internal
Cellular Antenna	Internal
Sensor	3-Axis Accelerometer
LED	Charge/SYS/GPS
SIM Card interface	Internal Nano 3FF SIM
Protocol	TCP, UDP, SMS
Waterproof	IP68
Battery life	12 months (one data per day)

5. MT710 Interface



6. In the box

6.1 Standard Accessories

- 1* MT710 GPS Tracker
- 1* Magnetic charging cable
- 1* Quick Start Guide

6.2 Optional Accessories

- 1* Silicone Case
- 1* Pet Collar
- 1* Lanyard
- 1* USB Config Cable

7. Installation

7.1 SIM Card installation

- Get ready a Nano SIM Card (Cat M1 or NB-IoT) with 15MB data per month.
- Open the back cover with a screwdriver.
- Insert the SIM Card and close the back cover.

7.2 Power ON/OFF

- Press the SOS button to power ON (the blue LED will light up).
- Press the SOS button for 8 seconds to power OFF.
- Press the SOS button for 3 seconds to report an SOS alert.

7.3 LED Indications

7.3.1 Red indicator- Charge

Status	Description
OFF	No charge or fully charged
Solid Red	In charging

7.3.2 Blue indicator- SYS

Status	Description
OFF	Power OFF or in sleep mode
Solid Blue	Running mode (active mode)

7.3.3 Green indicator- GPS

Status	Description
OFF	Power OFF or GPS is unavailable, or in sleep mode
Solid Green	GPS is available

8. Setup and Configuration

- For the first-time use, connect the USB Config cable to set up the Access Point Name (APN) (contact your SIM card provider to obtain the correct APN) and then lock the network (based on your SIM card's support, lock it to either CAT M1 or NB-IoT).
- Afterward, you can set up other commands using the USB Config tool.
- If your SIM card supports SMS, you can set up the unit using the following SMS commands (8.1-8.16).
- You can find a guide on how to use the USB Config tool at this link:
<https://bit.ly/how-to-config-mt710>

8.1 Change the password

SMS Command format: 777+new password+old password

For example:77712340000

Reply:SET USER PASSWORD OK.

Note: Default password is 0000

8.2 Set APN (Access Point Name)

SMS Command format 1: #803#password#APN##

For example: #803#0000#nbiot##

SMS Command format 2: #803#password#APN#APN user name#APN password##

For example: #803#0000#CMNET#INTERNET#INTERNET##

Reply: SET GPRS APN OK

8.3 Set IP and port

SMS Command format: #804#password#IP address (or domain) #port##

For example: #804#0000#e.trackits.com#7700##

Reply: SET SERVER IP AND PORT OK.

8.4 Working Mode

8.4.1 MODE 1 (Real Time Mode)

SMS Command format: MODE,1,password,T

For examples: MODE,1,0000,10

Reply: SET TRACKER MODE:OK

Note: The device will report data every 10 seconds. "T" is the interval time and the range is [10-600] **seconds**. In this mode, GPS and TCP will always be on.

8.4.2 MODE 2 (GPS Auto Mode)

SMS Command format: MODE,2,password,T, X, Y

For examples: MODE,2,0000,10,1,1

Reply: SET TRACKER MODE:OK

Note:

1. T is report interval time and the range is [10-60] **minutes**.
2. X=0 means GPS will wake-up only when report interval time is arrive; X=1 means GPS will always on,
3. Y=0 means TCP will wake-up only when report interval time is arrive; Y=1 means TCP will always connected,

8.4.3 MODE 3 (Deep Sleep Mode)

SMS Command format: MODE,3,password,T

For examples: MODE,3,0000,1

Reply: SET TRACKER MODE:OK

Note: The device will wake up and report one data to the server every 1 hour. After that, it will go to sleep again until the next 1 hour. T is [1-24] **hours**.

Note: This mode is highly recommended if you need to extend the battery life for 12 months.

8.4.4 MODE 4 (Vibrate Mode)

SMS Command format: MODE,4,password,T

For examples: MODE,4,0000,10

Reply: SET TRACKER MODE:OK

Note: When the device detects vibration, it will wake up and start connecting to the network. After connecting, it will immediately report data to the platform. If the device is still vibrating, MT710 will report to the server every 10 seconds.

If there is no vibration for more than 7 minutes:

- If there is no reported data during the 7 minutes, the device will soon go to sleep.
- If there is reported data during the 7 minutes and after sending out the last location, it will wait for 3 minutes before going to sleep again. "T" represents the interval time, and the range is between 10-600 **seconds**.

8.4.5 MODE 5 (WiFi Only Mode)

SMS Command format: MODE,5,password,T, X, Y

For examples: MODE,5,0000,5,0,1

Reply: SET TRACKER MODE: OK

Note: 1. "T" represents the report interval time, and the range is between 1-60 **minutes**.

2. X is fixed at 0.

3. When Y=0, TCP will only wake up when the report interval time has arrived.

When Y=1, TCP will always be connected.

8.4.6 MODE 6 (SMS Only Mode)

SMS Command format: MODE,6,password

For examples: MODE,6,0000

Reply: SET TRACKER MODE:OK

Note: In this mode, if the user sends a text command 'WHERE0000' to the unit, it will reply with an SMS as follows:

ID:866770057542798

Date:10:30:45 06/10/2022

Fix:A State:SMS

<http://maps.google.com/maps?q=+22.64766%2c+114.03423>

8.4.7 MODE 7 (Smart Mode)

SMS Command format: MODE,7, password, T1, T2

For examples: MODE,7,0000,10,1

Reply: SET TRACKER MODE:OK

Note: This mode low power than mode 0. T1 is [10-1440] minutes, T2 is [1-24] hours;

When the device detects vibration, it will report at the T1 interval. When the device is still, it will report at the T2 interval.

8.4.8 MODE 0 (AUTO Mode)

SMS Command format: MODE,0,password,T1,T2

For examples: MODE,0,0000,10,1

Reply: SET TRACKER MODE: OK

Note: This is a mixed mode of Mode 3 and Mode 4. T1 is [10-600] **seconds**, T2 is [1-24] **hours**; When the device detects vibration, it will report at the T1 interval. When the device is still, it will report at the T2 interval.

8.4.9 **MODE 8 (HOME Mode)**

SMS Command format: MODE,8, password, T

For examples: MODE,8,0000,10

Reply: SET TRACKER MODE:OK

Note: When device is indoors it will go to sleep, and when device is outdoors and continue to move it will report at T interval and T is [10-60] **seconds**.

Note: This mode is highly recommended for pet tracking.

8.4.10 **MODE 9 (WiFi Priority Mode)**

Command format: MODE,9, password,T1,T2

For examples: MODE,9,0000,10,24

Reply: SET TRACKER MODE:OK.

Note: T1 is [10-1440] **minutes**, T2 is [1-24] **hours**;

When the device detects vibration, it will report at the T1 interval. When the device is still, it will report at the T2 interval.

MODE 9 is similar to MODE 7. While Wi-Fi has priority in MODE 9, GPS has priority in MODE 7.

8.4.11 **MODE 10 (Clock Mode)**

Command format: MODE,10,password,T1,T2

For examples: MODE:10,0000,1,01:00

Reply: SET TRACKER MODE:OK.

Note: T1 is [0,24] hours, T2 is [00:00,23:59] **HH:MM**.

After setting the alarm clock parameter, the device will automatically generate multiple sub-alarms and limit them to 24 hours according to the value set in T1. If the T1 is 0, it means that only one report will be generated per day.

8.4.12 **LOCK MODE**

SMS Command Format: LOCK,password,T1,T2

For Example: LOCK,0000,10,1

Reply: SET LOCK MODE OK

Note: T1 is report interval time and the range is [10,60] **seconds**. T2 is the interval time to return to the last mode and the range is [1,60] **minutes**.

Note: When the device received this command, it will change to real time tracking mode and run as the interval and then it will exit the real time mode and back to the previous working mode.

8.5 Set Last location report

Disable Last Location :192+password

For examples:1920000

Reply: SET LAST VALID GPS: OFF

Enable Last Location :193+password

For examples:1930000

Reply: SET LAST VALID GPS: ON.

8.6 Set LBS

Disable LBS: *LBS#password#0##

For example: *LBS#0000#0##

Reply: SET LBS: OFF

Enable LBS: *LBS#password#1##

For example: *LBS#0000#1##

Reply: SET LBS: ON

8.7 Set GPS Duration

SMS Command format: DUR, T

For example: DUT,2

Response: SET DUR: OK

Note: T is the time to continue searching for GPS after the GPS wakes up, and the range is [1,10] **minutes**.

8.8 Set TCP keep alive time

Command format :RWT,X

Examples: RWT,60

Response: #IMEI#REPLY#RWT,OK##

Note: This command can setup the Interval time of TCP keep alive. X is the keep connection interval time, with a range of [60,600] **seconds**.

8.9 Set AGPS

Disable AGPS Location :190+password

For examples:1900000

Reply: SET AGPS OFF

Enable Last Location :191+password

For examples:1910000

Reply: SET AGPS ON.

8.10 Set Power button

Disable the power button :*MSW#0000#0##

Reply: SET MSW:OFF

Enable the power button: *MSW#0000#1##

Reply: SET MSW:ON

Note: If the power button is disabled, the device cannot be powered on/off and the SOS function is unavailable. If the power button is enabled, the device can be powered off/on via the power button

8.11 Set Protocol

SMS Command format: #800#password#X##

For examples: #800#0000#TCP##

Reply: SET SERVER TYPE OK

Note: X=TCP means setting up to the TCP protocol, and X=UDP means setting up to the UDP protocol.

8.12 Set Timezone

SMS Command format: 896+password+ +/-HH:MM

For example: 8960000+08:00

Reply: SET TIME ZONE:+08:00

The default is Greenwich time (UTC).

Note: this command only MODE 6 and it can't change the time zone on server.

8.13 Low Power alarm

When the unit's internal backup battery voltage is less than 3.4V, it will upload location data to the server along with the status 'BLP', indicating that the backup battery is low.

Note: Convert battery voltage to battery level percentage:

<https://help.mictrack.com/articles/how-to-calculate-battery-voltage-into-percentage-for-mictrack-devices/>

8.14 Vibrate alarm

In "MODE 4", "MODE 0" and "MODE,7" if the device is detected to vibrate, it will report location data to the server (at the customized interval time) along with the status "TOWED".

8.15 SOS alarm

In any working mode If press the SOS button for 3 seconds, it will report location data to the server with the status "SOS"

8.16 Charging alert

If the device detects that it is charging, it will report location data to the server with the status 'PLUG'; if disconnected from the charger, it will report 'UNPLUG'.

8.17 Restart

SMS Command format : *RESTART#password##

For examples: *RESTART#0000##

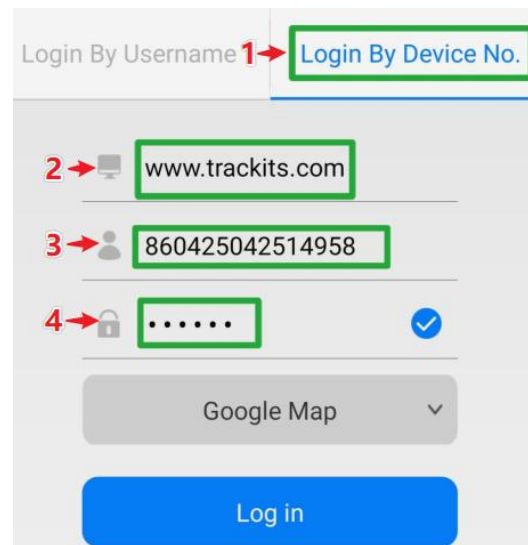
The device will restart after send this command.

Reply: DEVICE WILL BE RESTART.

9. App & PC Tracking platform

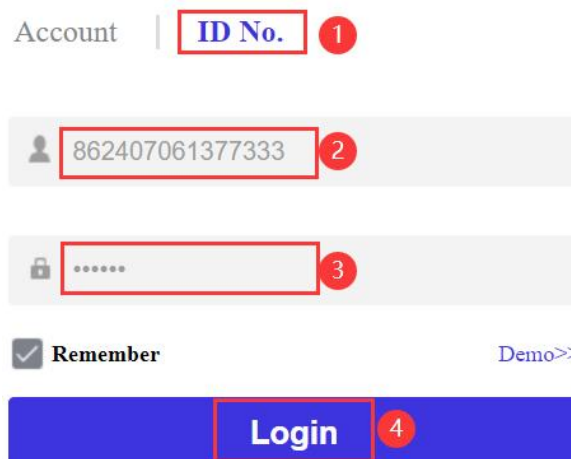
9.1 App install & Login

- Subscribe the plan please visit: <https://shop.mictrack.com/product/gps-tracking-platform-service>
- If you have already subscribed, please ignore this step.
- Search for “Yi tracker” on Google Play or iOS store to download the mobile APP(not Yi tracker2);
- Choose ” Login by Device No.,
- Input server <https://en.gps18.com>
- Input your device's ID number and password(default is 123456) to login.



9.2 PC login

- Go to: <https://en.gps18.com>
- Choose “ID No.”
- Input your device's ID number and password(default is 123456) to login



10. Troubleshooting

Issues	Caused	Solutions
I have tried to send an SMS to the device, but I have not received any reply.	1. The device will only work with a Cat M1 SIM card and will not work with an NB-IoT SIM card. 2.The SIM card is not active. 3.The card balance is not sufficient.	Please ensure that you set up the correct APN via the USB Config cable before using the device for the first time.
	Text command format is wrong	Please check the command format again
	APN no setup or the apn is wrong	Check your sim card apn with your sim card provider.
	The device was unable to connect to the network.	APN no setup or the apn is wrong
The SOS button on the device is not working	The button is closed	Enable it via MSW command
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	
LED no light	Backup battery is low power	Please charge the device for 30 minutes at least.

11. FAQs

Protocol: <https://help.mictrack.com/articles/protocols/>

Command List: <https://help.mictrack.com/articles/mictrack-tracking-devices-commands-list/>

Working Mode: <https://help.mictrack.com/articles/mictrack-tracking-devices-working-mode/>

Battery Life Test: <https://help.mictrack.com/articles/mictrack-tracking-devices-battery-life-test/>

Supported Third Party Platforms: <https://help.mictrack.com/articles/supported-third-party-platforms/>

(End of this document)

Any questions please do not hesitate to contact us:

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Tel: +86-755-28198746

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Email: info@mictrack.com

FCC Caution:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

Specific Absorption Rate (SAR) information:

This device meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. FCC RF Exposure Information and Statement the SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device types: This device has also been tested against this SAR limit.

This device was tested for typical body-worn operations with the back of the This device kept 0mm from the body. To maintain compliance with FCC RF exposure requirements, use accessories that maintain an 0mm separation distance between the user's body and the back of This device. The use of belt clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.