

# MT700 Cat M1 & NB-IoT Asset GPS Tracker

## User Manual V1.0



### Preface

Thanks for purchasing Mictrack Asset GPS tracker MT700. This manual shows how to easily program and setup the tracker for the best results. Please read this manual carefully before using this product, so as 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 The manufacturer assumes no responsibility for any errors or omissions in outdated documents.

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**FCC Caution:**

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

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.

**IMPORTANT NOTE:**

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.

**FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

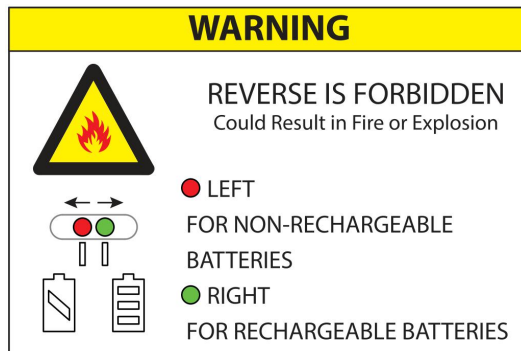
## 1. Quickly Reference



### Warning

There is a Toggle Switch in internal(following image). Please carefully to operate it.

- If you use Non-rechargeable batteries, Make sure Toggle Switch to LEFT;
- If you use chargeable batteries, Make sure Toggle Switch to RIGHT;
- REVERSE IS FORBIDDEN, Could Result in Fire or Explosion.



### Non-rechargeable Batteries Recommendation

- Battery Type: Lithium Iron Disulfide (LiFeSO<sub>2</sub>) **3 x AA 1.5V** cell batteries;
- Battery Brand: Energizer Ultimate L91 AA 1.5V.
- Battery holder: Buy from Manufacture or your distributor.

#### NOTE:

- Lithium Thionyl Chloride (LiSOCl<sub>2</sub>) **3 x AA 3.6V** cell batteries are unavailable now, if need can customize the hardware, please contact us or your provider for more details.
- Non-rechargeable batteries need to full compatible with the original battery holder, or the device may cause damage, explosion and fire.



### Disclaimer

Before using this device, the customers should fully understand their usage scenarios and installation environment. Mictrack will not be held responsible for any losses caused by using the devices in a wrong scenario or reporting rate. It is highly recommended that users should contact Mictrack before deployment. We are glad to give you the suggestions.

## 2. Overview

MT700 is an IP68 waterproof asset GPS tracker that uses Cat M1 & NB-IoT technology that can provide super low power consumption up to 15 years standby time powered by internal batteries. Its built-in powerful magnets, easy to install without wiring.

The user can real-time track the unit via their mobile phone or PC any time anywhere. It has been widely used in fleet management, trailer, container, logistics, car rental, automobile finance, transportation, and other segments.

## 3. Features

- **Cat M1 & NB-IoT & GSM Network**
- **GPS+Glonass+Galileo+Beidou System**
- **15 Years Standby Time**
- **IP68 Dust & Water Resistance**
- **Dynamic Power Path Management**
- **Ultra Low Power Consumption less than 1.5uA**
- Easy Installation
- Powerful Magnet Mount
- Bracket Kits (optional)
- Rugged Construction
- Real-time Tracking
- Geo-fence Alarm
- Low Power Alarm
- Removal Alerts
- Smart Motion Detection
- Scheduled Timing Report
- GPS+WiFi Positioning (optional)
- Multiple Power Saving Mode Switching
- PC & Mobile App Tracking
- Programmable via Web/USB/SMS
- Open Protocol & Easy Integration with any third party platform

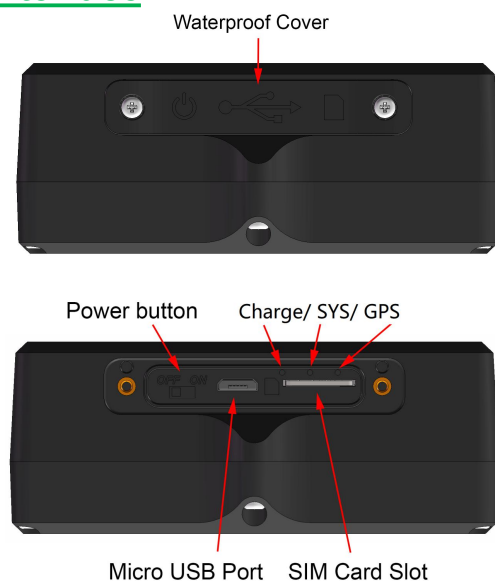
## 4. Applications

- Trailer Tracking
- Container Tracking
- Logistics Tracking
- Vehicles Tracking
- Automobile Finance
- Fleet Management

## 5. Specifications

Item	Specifications
Dimension	88mm*62mm*34mm (3.46" *2.44" *1.34")
Weight	290g (10oz)
Charging Mode	Micro USB charging DC; Quick Charge 2A@5V (for rechargeable version only)
Power Consumption	<1.5uA standby current (in lowest power configuration)
Backup Battery (Two version)	Rechargeable 3.7V 7800mAh Li battery
	Non-rechargeable LiFeS2 (batteries are exclude)
4G Cellular Bands	<b>Cat M1 (LTE-M, eMTC)</b> B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28/B39 <b>NB-IoT (CAT NB1):</b> B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 <b>GSM:</b> 850/900/1800/1900Mhz
Working temperature	-20°C to 60°C (-4°F to 140°F)
Mounting	Magnet, Bracket Kits (optional)
Positioning	GPS, WiFi (optional)
GPS	Qualcomm Gen 8C GNSS receiver
GPS Antenna	Internal
Cellular Antenna	Internal
Sensor	3-Axis Accelerometer, Light Sensor
LED	Charge/SYS/GPS
SIM Card interface	Internal Micro 3FF SIM
Protocol	TCP, UDP, SMS
Waterproof	IP68
Battery life	15 Years
Antenna Max. Peak Gain	WWAN Module Antenna Gain <4dBi

## 6. MT700 Interface



## 7. In the box

### 7.1 Standard Accessories

- 1\* MT700 Asset GPS Tracker
- 1\* USB Charge Cable (for rechargeable version only)
- 1\* Battery Holder (for Non-rechargeable version only)
- 1\* Quick Start Guide

### 7.2 Optional Accessories

- 1\* Car Charger
- 1\* Power Adapter
- 1\* USB Config Cable

## 8. Installation

### 8.1 SIM Card installation

- Get ready a **Micro SIM Card** (Cat M1 or NB-IoT) with 15MB data a month;
- Open the **Waterproof Cover** with the screwdriver;
- Insert **SIM Card** with a little push (as SIM icon direction), or watch the video <http://bit.ly/MT700-Install-Guide>
- Turn the Power button from OFF to ON.

### 8.2 LED Indications

#### 8.2.1 Red indicator- Charge

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

#### 8.2.2 Blue indicator- SYS

Status	Description
OFF	Power OFF or in sleep mode
Solid Blue	Running mode

#### 8.2.3 Green indicator- GPS

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

## 9. Setup and Configuration

- For the first time to use, please connect the USB Config cable to setup the APN (CALL your sim card provider to get the correct APN) and then lock the network(base on your sim card support, please lock to CAT M1 or NB-IoT) ;
- After that you can setup other commands via the USB Config tool;
- If your sim card support SMS you can setup the unit via following SMS commands (9.1-9.12)
- Download the USB Config tool from the link: <https://bit.ly/MT700-Config-tool>
- Config tool user guide video: <https://bit.ly/MT700-Config-Tool-User-Guide>

### 9.1 Change the password

SMS Command format:777+new password+old password

For example:77712340000

Reply:SET USER PASSWORD OK.

**Note:** Default password is 0000

### 9.2 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

### 9.3 Set the 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.

## 9.4 Working Mode

### 9.4.1 MODE 1 (Real Time Mode)

SMS Command format: MODE,1,password,T

For examples: MODE,1,0000,60

Reply: SET TRACKER MODE:1 OK

**Note:**The device will report data every 60s .T is interval time and the range is [60-600] **seconds**. On this mode, GPS and TCP will always on

### 9.4.2 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:2 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,.

#### 9.4.3 MODE 3 (Deep Sleep Mode)

SMS Command format: MODE,3,password,T

For examples: MODE,3,0000,1

Reply: SET TRACKER MODE:3 OK

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

#### 9.4.4 MODE 4 (Vibrate Mode)

SMS Command format: MODE,4>Password,T

For examples: MODE,4,0000,60

Reply: SET TRACKER MODE:4 OK

**Note:** When the device detects continuous vibration for more than 1 minute, it will wakes up and starts to connect to the network, After connected it will Immediately report a data to the platform;

If the device is still in a vibrating state, MT700 will report to server every 60 seconds

If there is no vibration more than 7 minutes:

1>During In the 7 minutes, if no report data it will go to sleep soon.

2>During In the 7 minutes, if have report data and after send out last location, it will wait for 3 minutes and then go to sleep again. T is [60-600] **seconds**

#### 9.4.5 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:5 OK

**Note:** 1. T is report interval time and the range is [1,60] **minutes**.

2. X fix to 0.

3. Y=0 means TCP will wake-up only when report interval time is arrive; Y=1 means TCP will always connected.

#### 9.4.6 MODE 0 (AUTO Mode)

SMS Command format: MODE,0,T1,T2

For examples: MODE,0,60,1

Reply: SET TRACKER MODE:0 OK

**Note:** This is mix mode of Mode 3 and mode 4. T1 is [60-600] **seconds**, T2 is [1-24] **hours**;

When device is still it will run as Mode 3 and when device detect to vibrate it will run as Mode 4.

### 9.5 Setup Protocol

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

For examples: #800#0000#TCP##

Reply: SET SERVER TYPE OK

Note: X=TCP mean setup to TCP protocol, X=UDP means set to UDP Protocol.

## 9.6 SET AGPS

Disable AGPS Location :190+password

For examples:1900000

Reply: SET AGPS OFF

Enable Last Location :191+password

For examples:1910000

Reply: Reply: SET AGPS ON.

## 9.7 Setup 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: Reply: SET LAST VALID GPS ON.

## 9.8 Low Power alarm

When the unit's internal backup battery is low, it will upload location data to server along with the status "**BLP**"

## 9.9 Remove alarm

If the device was removed and the light sensor detects the light it will report location data to server along with the status "**DEF**"

## 9.10 Vibrate alarm

In vibrate mode (Mode 4) If the device was detected to vibrate for 1 minute, it will report location data to the server (as the customize interval time) along with the status "**TOWED**"

## 9.11 Restart

SMS Command format : \*RESTART#Password##

For examples:\*RESTART#0000##

The device will restart after send this command.

Reply: DEVICE WILL BE RESTART.

## 9.12 Reset

SMS Command format : \*RESET#Password##

For examples:\*RESET#0000##

Reply:DEVICE WILL BE RESET.

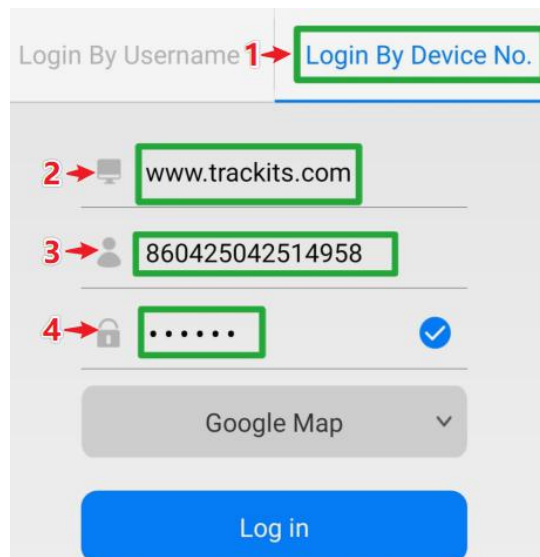
## 10. App & PC Tracking platform

### 10.1 App install & Login

- Subscribe the plan: <https://shop.mictrack.com/product/gps-tracking-platform-service/>
- if you have subscribed the plan please ignore this step.
- Search “Yi tracker” in Google Play or iOS store(or scan the following QR code) to download the Mobile APP(not Yi tracker2);

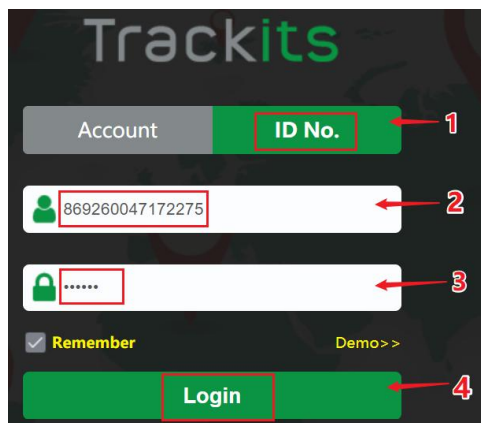


- Choose the” Login by Device No.,
- Input server [www.trackits.com](http://www.trackits.com)
- Input your device’s ID number and password(default is 123456) to login.

A screenshot of the mobile application's login interface. At the top, there are two tabs: "Login By Username" and "Login By Device No.", with a red arrow pointing to the second tab. Below the tabs, there are three input fields: the first contains "www.trackits.com", the second contains "860425042514958", and the third contains six dots. Each input field has a red arrow pointing to it. To the right of the password field is a blue checkmark icon. Below the input fields is a "Google Map" dropdown menu. At the bottom is a blue "Log in" button.

### 10.2 PC login

- Web: [www.trackits.com](http://www.trackits.com)
- Choose “ID No.”
- Input your device’s ID number and password(default is 123456) to login



## 11. Troubleshooting

Issues	Caused	Solutions
Send SMS to the device but no reply	1>The device only reply with Cat M1 sim card and will not reply the NB-IoT SIM card 2>SIM Card have not active 3>Card balance is not enough	Please check the SIM card status and try again.
	Text command format is wrong	Please check the command format again
	Connect network fail.	Please check LED status and make sure the network connect 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)

Any questions please do not hesitate to contact us:

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