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, 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 The manufacturer assumes no responsibility for any errors or omissions in outdated documents.
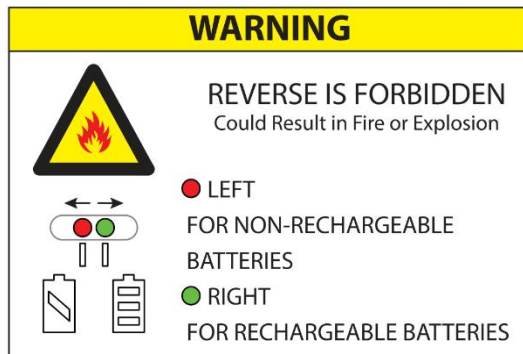
mictrack

Contents

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 (LiFeSO2) **3 x AA 1.5V** cell batteries.
- Battery Brand: Energizer Ultimate L91 AA 1.5V.
- Battery holder: Buy from Manufacture or your distributor.

NOTE:

- 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. <u>Overview</u>

MT700 is an IP68 waterproof asset GPS tracker that uses Cat M1 & NB-IoT technology that can provide super low power consumption up to 7 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. <u>Features</u>

- **Cat M1 & NB-IoT with 2G Fallback**
- **7 years battery life**
- **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-timing Tracking
- Geo-fence Alarm
- Low Power Alarm
- Removal Alerts
- Smart Motion Detection
- Scheduled Timing Report
- GPS+LBS+WiFi Positioning (optional)
- AGPS Supported
- Multiple Power Saving Mode Switching
- PC & Mobile App Tracking
- Programmable via Web/USB/SMS
- Open Protocol & Easy Integration with any third-party platform

4. <u>Applications</u>

- 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 *Only for MT700/MT700-W.*
Power Consumption	<1.5uA standby current (in lowest power configuration)
Backup Battery (Two version)	Rechargeable 3.7V 7800mAh Li battery *Only for MT700/MT700-W* Non-rechargeable LiFeS2 (*batteries are excluded.*) *Only for MT700-N/MT700-NW.*
4G Cellular Bands	**Cat M1 (LTE-M, eMTC)** B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28/B39 **NB-IoT (CAT NB1):** 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)
Mounting	Magnet, Bracket Kits (optional)
Positioning	GPS, LBS, 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
Certification	FCC/CE/RCM

6. MT700 Interface

Waterproof Cover

Power button   Charge/ SYS/ GPS

Micro USB Port   SIM Card Slot

7. In the box

7.1 Standard Accessories

- 1* MT700 Asset GPS Tracker
- 1* USB Charge Cable (for MT700/MT700-W only)
- 1* Battery Holder (for MT700-N/MT700-NW 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 the **SIM Card** (as SIM icon direction) with a little push. You also can refer to this article https://bit.ly/how-to-config-mt700
- 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 (based 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.
- Then If your sim card support SMS you can setup the unit via following SMS commands (9.1-9.10)
- Config tool user guide: https://bit.ly/how-to-config-mt700

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 username#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,1,0000,10

Reply: SET TRACKER MODE:1 OK

Note: The device will report data every 10s. T is interval time, and the range is [10-600] 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 arrived; X=1 means GPS will always on.

3. Y=0 means TCP will wake-up only when report interval time is arrived; 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.

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

9.4.4 MODE 4 (Vibrate Mode)

SMS Command format: MODE,4, password,T

For examples: MODE,4,0000,10

Reply: SET TRACKER MODE:4 OK

Note: When the device detects to vibration, it will wake up soon 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 10 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 sending out last location, it will wait for 3 minutes and then go to sleep again. T is [10-600] seconds

9.4.5 MODE 5 (WiFi Only Mode)

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

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

Reply: SET TRACKER MODE:5 OK

Note: 1. T is reporting 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 arrived; Y=1 means TCP will always connected.

    4. This mode is only available for MT700-W and MT700-NW.

9.4.6 MODE 6 (SMS Only Mode)

Command format: MODE,6

For examples: MODE,6

In this mode if send the command "**WHERE0000**" to unit, it will reply as follow:

ID:866770057542798

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

Fix: A State: SMS

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

9.4.7 MODE 7 (AUTO Mode)

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

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

Reply: SET TRACKER MODE:7 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.

9.4.8 MODE 0 (AUTO Mode)

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

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

Reply: SET TRACKER MODE:0 OK

Note: This is mix 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.

9.4.9 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 interval time back to the last mode and range is [1,60] minutes.

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..

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.

NOTE: AGPS is only available for MT700-N/MT700-NW

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 Setup Light Sensor

Disable Light Sensor: *LTP#password#0##

For examples: *LTP#0000#0##

Reply: SET LTP OFF

Enable Light Sensor: *LTP#password#1##

For examples: *LTP#0000#1##

Reply: SET LTP ON

9.9 Set GPS duration

Command format :*DU#password#T##

Examples: *DUR#0000#1##

Response: SET GPS DURATION OK

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

9.10 Low Power alarm

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

9.11 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**"

9.12 Vibrate alarm

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

9.13 Restart

SMS Command format: *RESTART#password##

For examples: *RESTART#0000##

The device will restart after sending this command.

Reply: DEVICE WILL BE RESTART.

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
- Input your device's ID number and password (default is 123456) to login.

10.2 **PC login**

- Web: www.trackits.com, Choose "**ID No.**"
- Input your device's ID number and password (default is 123456) to login
- Watch the video: https://bit.ly/trackis

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/

12. 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 CAT M1 or NB-IoT	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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