

MT78 4G Solar GPS Tracker

User Manual V1.0



Preface

Congratulations on choosing the Mictrack MT78 4G Solar GPS tracker. This manual shows how to easily program and setup the tracker for best results. Make sure to 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 The manufacturer assumes no responsibility for any errors or omissions in outdated documents.

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1. Overview

The MT78 is a 4G solar-powered GPS tracker that supports 4G LTE and 2G GSM networks. The device is widely used for tracking and locating trailers, trucks, containers, and boats, making it an ideal solution for fleet management and asset security. Users can easily view historical travel routes, location records, and other related vehicle data.

Featuring stable performance, solar charging, and a rich set of functions, the MT78 has a proven track record in reliable operation and long-term outdoor use, providing users with an efficient and dependable tracking solution.

2. Application

- 4G LTE with 2G Fallback
- Solar Powered
- Real-time tracking
- GPS, LBS and AGPS positioning
- SOS alert
- Tamper alarm
- Water detection sensor
- Low battery alarm
- Smart motion detection
- Waterproof IP67
- Two way Voice
- Vibration alert
- Overspeed alert
- Power saving / sleep mode
- PC and Mobile APP tracking
- Compatible with Traccar
- Open protocol and easy to integrate
- OTA

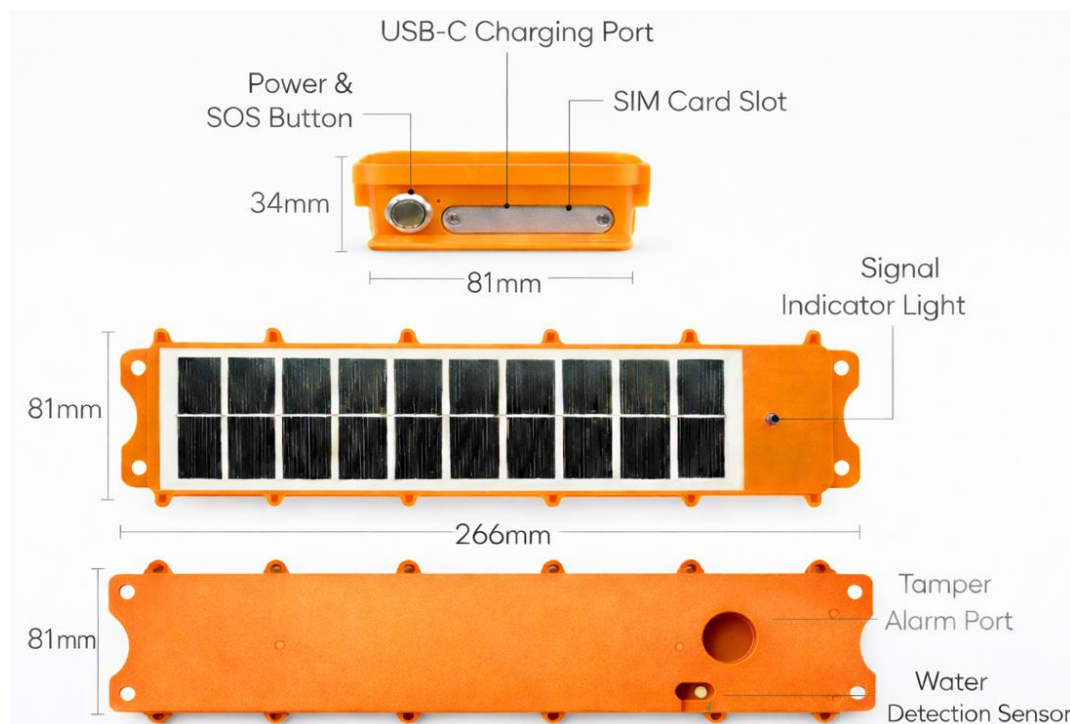
3. Applications

- Vehicle Tracking
- Asset Tracking
- Container Tracking
- Logistics Tracking
- Trailer tracking

4. Specifications

| Item | Specifications |
|----------------------|---|
| Dimension | 266mm*81mm*34mm(10.47" *3.19" *1.34") |
| Weight | 660g (23.28 oz) |
| Charging Mode | USB charging DC 5V / Solar Powered |
| Backup battery | Rechargeable 3.7V 15600mAh Li battery |
| Power consumption | 7mA standby current |
| Working temperature | -20°C to 55°C |
| 4G Bands | 4G LTE: B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B18/B19/ B20/B25/B26/B28/B66 2G:850/900/1800/1900MHz |
| Solar Panel | Rated Output Current: 400 mA |
| | Solar Cell Efficiency: 23.5% |
| | Rated Operating Voltage: 5 V |
| Working temperature | -20°C to 60°C (-4°F to 140°F) |
| GPS Sensitivity | -162dBm |
| Positioning Accuracy | 5-10m |
| Warm start | 15s on average |
| Cold start | 30s on average |
| Humidity | 5%~95% non-concretion |
| Antennas | Internal 4G & GPS antennas |
| Sensor | Vibration Sensor / Hall Effect Sensor / Water Sensor |
| LED | Network/CHG/GPS/SOS |
| SIM Card interface | Micro Size SIM (3FF) |
| External Magnet | Removing the magnet activates tamper detection. |
| Protocol | TCP, SMS |
| Waterproof | IP67 |

5. MT78 Interface



6. In the box

6.1 Standard Accessories

- 1 × MT78 GPS Tracker
- 1 × USB-C Charging Cable
- 1 × Magnet (for tamper alarm)
- 4 × Screws(for mounting)
- 1 × Screwdriver

7. Installation

7.1 SIM Card installation

- Prepare a Micro SIM card (3FF) with at least 30 MB of data per month.
- Use a screwdriver to open the SIM card slot.
- Insert the SIM card into the slot correctly.
- Secure the back cover with screws.
- The device is now ready for use.

7.2 Power ON & Power OFF

- Insert the SIM card first, then press the power button twice to power on the device.
- Press the power button five times to power off the device.

7.3 LED Indications

7.3.1 Blue LED - GPS indicator

| Status | Description |
|------------|---|
| Flashing | GPS is unavailable or searching for signal. |
| Solid Blue | GPS signal acquired (available). |
| OFF | GPS in sleep mode. |

7.3.2 Red LED - Charging indicator

| Status | Description |
|-----------|-------------------------------|
| OFF | No charging or fully charged. |
| Solid Red | Charging in progress. |

7.3.3 Yellow LED - Network indicator

| Status | Description |
|--------------|--|
| Solid Yellow | Network connected and working properly. |
| Flashing | Network unavailable or searching for signal. |
| OFF | Device is sleep or Power OFF |

7.3.4 White LED - SOS indicator

| Status | Description |
|----------|-------------------|
| Flashing | SOS is activated. |
| OFF | SOS is inactive |

7.4 Setup the Device

Following a successful command, you should always receive a reply SMS from the unit. Be patient, as this may take some time depending if the unit is required to reboot to process the command. Failure to reply will indicate either an incorrect SMS Command, or the unit has powered off, lost Cell Mobile signal or run out of SIM Card credit.

7.5 Setting Authorized Mobile Phone Numbers

Command: admin,password,number

Example: admin,123456,13424392330

Reply: SET ADMIN NUMBER:13424392330 OK

Note:

- The devices only support one center phone number
- The defaulted password is 123456.

7.6 Change the password

Command: password+old password,new password

Example: password123456,000000

Reply: password ok

Note: The password should consist of 6 digits or letters.

7.7 Request the single position

Command: G1234

When sent this command to device, it will reply the location by using Google Link.

<https://maps.google.com/maps?q=+22.64819,+114.03435>

ID:7026181031

ACC:OFF

GPS:A

Speed:0.00KM/H

25-06-23 15:35:23

7.8 Low Battery Alarm

While device detect internal battery is low power, it will send message “Your tracker is low power, please recharge it” to Center Number .

7.9 Working Mode

7.9.1 Normal Mode

Command: NMODN,123456,T1,T2#

Example : NMODN,123456,30,60#

Reply: SET OK

Note: The device reports its location based on movement and sleep settings.

When moving, the device uploads its location every T1 seconds.

When in sleep mode, it uploads its location every T2 seconds. If T2 = 0, no data is sent during sleep.

The network stays connected. GPS works as needed to save power and turns off during sleep.

The indicator light is off in sleep mode. The device can be woken up by the SOS button or movement.

7.9.2 Smart Mode

Command: TMODN,123456,T1,T2#

Example : TMODN,123456,600,7200#

Reply: SET OK

Note:

The device automatically adjusts how often it reports its location to balance tracking

accuracy and battery life.

When moving:the device uploads its location every T1 seconds.

When still:the device enters sleep mode and uploads its location every T2 seconds.

If the device stays still, it wakes up at the sleep interval.

If movement or vibration is detected, it switches to more frequent updates.

To save power, the device turns off GPS and the network after each upload and wakes up only when needed.

7.9.3 Power Saving Mode

Command: SMODN,123456,T1,T2#

Example: SMODN,123456,60,1800#

Reply: SET OK.

Note:The device is designed to extend battery life by reducing location updates.

When moving, it uploads its location every T1 seconds.

When still, it uploads its location every T2 seconds. If the interval is set to 0, no location data is sent.

To save power, GPS and the network are turned off when not in use.

The device can be woken up by movement (vibration) or the SOS button.

7.9.4 Set Sleep Time

Command:sleep,password,T

Example: sleep,123456, 5

Note: if the device no movement in T minutes and tracker will go to sleep, T is [1-1440] minutes,

7.10 Set Heartbeat Interval Time

Command for set heartbeat time:interval,password,X

Example: interval,123456,600

Reply: OK

Note: The unit of X is L second, the max time is [10,65535] seconds

7.11 Set APN (Access Point Name)

Command: APN,password,apn

Example: apn,123456,iot.1nce.net

Unit Reply: SET APN OK.

APN user name:apn+password+space+user

Example: apnuser123456 internet

Reply: SET APNUSER OK

APN password:apnpassword+password+space+password

Example: apnpassword123456,internet

Reply: SET APNPASS OK

Note: please contact your SIM Card provider to get the correct APN details

7.12 Set Server IP and PORT

Command : IP+ space+ IP address+ space+ port number

Example:IP 113.98.254.180 8185

Reply: SET IP OK.

7.13 SOS Alarm

Press three times consecutively to trigger SOS.

7.14 Set Hall Switch

Enable: HEDBALM,123456,1

Disable: HEDBALM,123456,0

7.15 Reboot

Command : CQ

Reply: system reset ok!

7.16 Reset

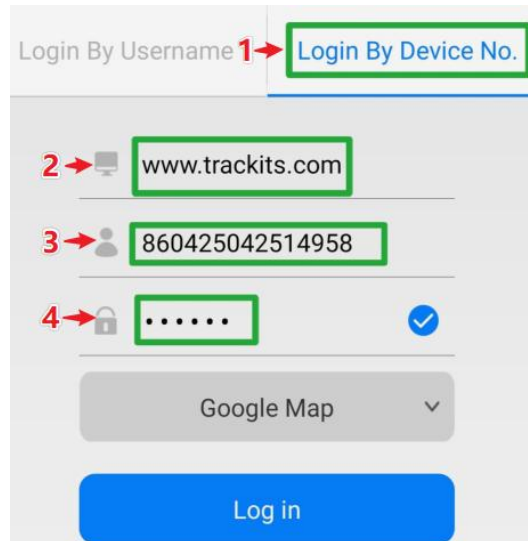
Command : FORMAT

Reply: OK

8. App & PC Tracking platform

8.1 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 <http://www.trackits.com>
- Input your device's ID number and password(default is 123456) to login.



8.2 PC login

- Go to: <http://www.trackits.com>
- Choose "ID No."
- Input your device's ID number and password(default is 123456) to login



9. Troubleshooting

| Issues | Caused | Solutions |
|---|--|--|
| I have tried to send an SMS to the device, but I have not received any reply. | 1.The SIM card is not active. 2.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 |
| 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. |

10. FAQs

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

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

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

USB Config tool: <https://help.mictrack.com/articles/how-to-setup-mt78-via-usb-config-tool/>

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Any questions please do not hesitate to contact us:



Shenzhen Mictrack Electronics Co.,Ltd.

Add: 706, Union Building, Donghuan 1st Road, Longhua District, Shenzhen, China 518109

Tel: +86-755-28198746

Web: www.mictrack.com

Email: info@mictrack.com