# TELTONIKA

# FTM880

Easy IP69K tracker

**Quick Manual v1.3 | 2025-08-29**

# CONTENTS

# GLOSSARY

**CEP** – Circular Error Probable: a statistical statistical measure used to describe the accuracy of a positioning system, commonly used in the context of GNSS. CEP represents the radius of a circle, centered on the true position, within which a given percentage (usually 50%) of the measured positions are expected to fall.

**COM port** – Serial communication interface that is used to transfer information to/from devices such as modems, terminals and various peripherals.

**COLD start** – A COLD start occurs when the GNSS receiver lacks all the necessary information for a position fix, requiring it to start from scratch. This means it needs to acquire and decode the almanac and ephemeris data from the satellites, determine the satellite positions, and calculate its position.

**FOTA** – Firmware-Over-The-Air.

**HOT start** – A HOT start occurs when the GNSS receiver has all the necessary information to calculate a position fix readily available. This includes the almanac and ephemeris data, the approximate time, and its last known position.

**IMEI** – Unique numeric identifier for mobile devices. GSM networks use the IMEI number to identify valid devices. IMEI only identifies the device and has no particular relationship to the subscriber.

**NITZ** – Network Identity and Time Zone: a mechanism in GSM, used to provision time, date and other parameters to mobile devices in a network.

**NTP** – Network Time Protocol: a networking protocol for clock synchronization between computer systems.

**SELV** – An electrical system in which the voltage cannot exceed 50 VAC or 120 VDC under normal conditions, and under single-fault conditions, including earth faults in other circuits.

**Record** – AVL data stored in device memory. AVL data contains GNSS and I/O information.

**WARM start** – A WARM start occurs when the GNSS receiver has some, but not all, of the necessary information for a position fix. It might have valid almanac data but needs to download new ephemeris data or doesn't have an accurate estimate of its current time or position.

ⓘ SIM card should be inserted in the module while the connector is plugged off (while module has no power).

# SAFETY INFORMATION

This section contains information on how to operate FTM880 safely. By following these requirements and recommendations, you will avoid dangerous situations. You must read these instructions carefully before operating the device and follow them strictly!

## SIGNALS AND SYMBOLS

Warnings and cautions which are general to the use of the device under all circumstances are included in this section. Some warnings and cautions are also inserted within the manual where they are most meaningful.

**CAUTION!** Cautions alert users to exercise appropriate care for safe and effective use of the product.

**WARNING!** This classifies a hazard of medium risk level. Failure to comply with the warning may result in serious injury.

**Please note:** Notes provide additional guidelines or information.

— The device uses a 10 V...30 V DC power supply. The nominal voltage is 12 V DC. The allowed range of voltage is 10 V...30 V DC.

CAUTION: Using a power supply outside this range may result in damage to the device or minor injuries. Always verify the power source before connection.

— To avoid mechanical damage, it is advised to transport the device in an impact-proof package. Before usage, the device should be placed so that its LED indicators are visible. They show the status of device operation.

— Before unmounting the device from vehicle, ignition MUST be OFF.

WARNING: Do not disassemble the device. If the device is damaged, the power supply cables are not isolated or the isolation is damaged, DO NOT touch the device before unplugging the power supply.

All wireless data transferring devices produce interference that may affect other devices which are placed nearby.

The device must be connected only by qualified personnel.

The device must be firmly fastened in a predefined location.

The programming must be performed using a PC with autonomic power supply.

Installation and/or handling during a lightning storm is prohibited.

The device is susceptible to water and humidity.

WARNING: Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

Battery should not be disposed of with general household waste. Bring damaged or worn-out batteries to your local recycling center or dispose them to battery recycle bin found in stores.

This sign on the package means that all used electronic and electric equipment should not be mixed with general household waste.

## DATA SAFETY AND PRIVACY

In accordance with the General Data Protection Regulation (GDPR), this Data Processing Agreement (DPA) establishes obligations between Teltonika, the data processor, and its customers, acting as data controllers. The DPA outlines how Teltonika will handle customer data while adhering to GDPR regulations. This includes details on the data Teltonika can process, security measures in place, and customer rights concerning their data.

For a comprehensive understanding of the agreement, including permitted sub-processors, data breach procedures, and dispute resolution, please refer to the full Data Processing Agreement:

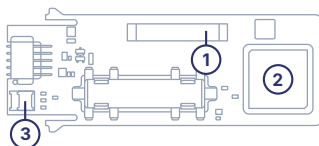teltonika-gps.com/about-us/policies-certificates/data-processing-agreement
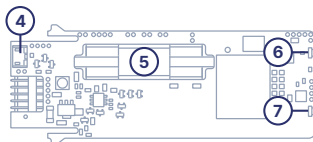
# KNOW YOUR DEVICE

**Top view**



**Top view (without cover)**



1. GSM antenna
2. GNSS antenna
3. SIM slot

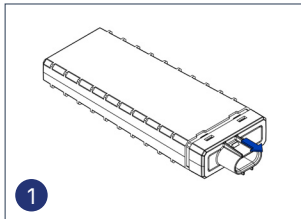**Bottom view (without cover)**



4. USB Type-C connector
5. Battery socket
6. Navigate LED (Blue LED)
7. Status LED (White LED)

# SET UP YOUR DEVICE

### 1. Cover removal

You will receive your device partly closed. Gently remove side cover.
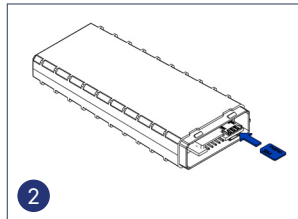
### 2. Nano-SIM card insert

Insert SIM card as shown. Make sure Nano-SIM card cut-off corner is pointing towards SIM slot.
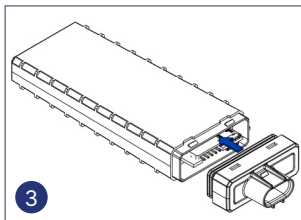
### 3. Attaching cover back

Battery is already connected, so after configuring device fully close casing.
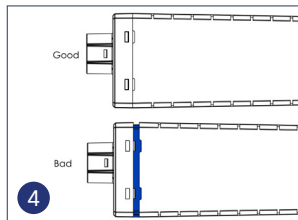
### 4. Device is ready

Make sure cover is fully closed.

Good

Bad

# PINOUT

| Pin number | Pin name | Description |
|---|---|---|
| 1 | VCC (10-30)V DC (+) | (Red) Power supply (+10-30 V DC) |
| 2 | GND (-) | (Black) Ground |

PIN1

PIN2

FTM880

# PC CONNECTION (WINDOWS)

1. Power-up FTM880 with **DC voltage (10-30V)** power supply using **power wires**. LEDs should start blinking.

2. Connect device to computer using USB Type-C cable

3. Install USB driver, see "How to install USB drivers (Windows)[1]"

# HOW TO INSTALL USB DRIVERS (WINDOWS)

1. Download COM port drivers from here[2].

2. Extract and run **TeltonikaCOMDriver.exe.**

3. Click **Next** in driver installation window.

4. In the following window click **Install** button.

5. Setup will continue installing the driver and eventually the confirmation window will appear. Click **Finish** to complete the setup.

[1]Page 9, "How to install USB drivers"

[2] wiki.teltonika-gps.com/images/d/d0/TeltonikaCOMDriver.zip

# CONFIGURATION (WINDOWS)

Most Teltonika devices are shipped with default factory settings.Use Telematics Configuration Tool (TCT)[3] to change these settings according to your needs.

|  | TCT |
|---|---|
| **Operating system** | Windows 10 Windows 11 |
| **MS .NET Framework version** | MS .NET framework 6.0 |
| **Version** | 64 bit |
| **Disk Storage** | 1 GB of free disk space |
| **Internet** | Ethernet port or Wi-Fi w/ network access for auto-update |

[3] wiki.teltonika-gps.com/view/QSG_New_platform

# QUICK SMS CONFIGURATION

The default configuration ensures best track quality and optimal data usage.

Quickly set up your device by sending this SMS command to it:

« setparam **2001**:APN;**2002**:APN_username;**2003**:APN_password;**2004**:Domain;**2005**:Port;**2006**:0»

1 Before SMS text, one space symbol should be inserted. This space is dedicated for device SMS password.

**GPRS SETTINGS:**

2 **2001** – APN

3 **2002** – APN username (leave field empty if there is no APN username)

4 **2003** – APN password (if there are no APN password, empty field should be left)

**SERVER SETTINGS:**

5 **2004** – Domain

6 **2005** – Port

7 **2006** – Data sending protocol (0 – TCP, 1 – UDP)

18:01

< Teltonika Tracker

setparam 2001;internet;
2002:internet1;2003:internet2;
2004:avl2.teltonika.lt
2005:12050;2006:0

New value 2001:internet;
2002:intenet1;2003:internet2;
2004:avl2.teltonika.lt;
2005:12050;2006:0;

5:00PM

# DEFAULT CONFIGURATION SETTINGS

**MOVEMENT AND IGNITION DETECTION:**

**Vehicle movement** will be detected by accelerometer

**Ignition** will be detected by vehicle power voltage between 13.2 – 30 V

**DEVICE MAKES A RECORD ON MOVING IF ONE OF THESE EVENTS HAPPEN:**

**Every 300 seconds**

**Vehicle drives** 100 meters

**Vehicle turns** 10 degrees

**Speed difference** between last coordinate and current position is greater than 10 km/h

**DEVICE MAKES A RECORD ON STOP IF:**

**1 hour passes** while vehicle is stationary and ignition is off

**RECORDS SENDING TO SERVER:**

**Every 120 seconds,** records are sent to the server (if device has made a record)

After successful SMS configuration, FTM880 device will synchronize time and update records to configured server. Time intervals and default I/O elements can be changed by using TCT[1] or SMS parameters[2].

[1] wiki.teltonika-gps.com/view/FTM880_Configuration

[2] wiki.teltonika-gps.com/view/FTM880_SMS/GPRS_Commands

# MOUNTING RECOMMENDATIONS

### DEVICE FASTENING

— Locate the battery in your vehicle. If present remove the battery cover to access the battery.

— There is a double sided tape on the back of the device, use it to attach the device on the battery, so that the GNSS antenna and LEDs indicators are facing up.

### CONNECTING POWER SOURCE

— Device power wire is designed to be directly connected to the positive terminal fastener of the vehicle battery.

### CONNECTING GROUND WIRE

— Connect ground wire to the vehicle frame or metal parts that are fixed to the frame.

— If the wire is fixed with the bolt, the loop must be connected to the end of the wire.

— Device ground wire is designed to be directly connected to the negative terminal fastener of the vehicle battery.
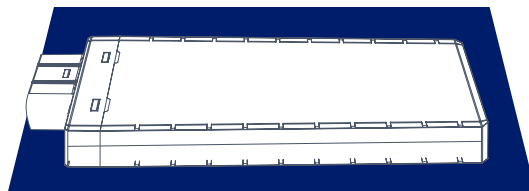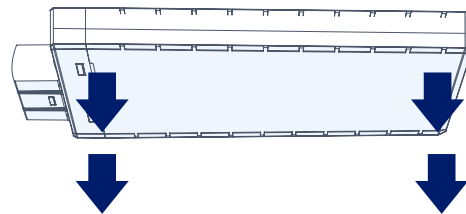
# TROUBLESHOOTING

Troubleshooting section provides guidance to resolve frequently encountered issues during the setup and operational phases of the FTM880 device.

## COMMON ISSUES AND SOLUTIONS (FAQ)

| Problem | Solution |
|---|---|
| The device does not turn on when connected to power. | 1. Ensure the input voltage range is within 10 - 30 V DC.<br>2. Avoid overvoltage and ensure that the device is mounted and connected according to mounting recommendations. |
| Inability to receive GPS signals. | 1. Ensure that the device is mounted correct side up according to mounting recommendations<br>2. Check if device is not obstructed by metallic surfaces or other thick materials |

## FREQUENTLY USED SMS/GPRS COMMANDS

| Command | Description | Response sent on success? | Response sent on failure? |
|---|---|---|---|
| cpureset | Restarts the device | No | Yes |
| getstatus | Returns status of the device | Yes | Yes |
| allver | Returns information about device firmware and hardware | Yes | No |
| web_connect | Triggers FOTA service / connection | Yes | Yes |

# LED INDICATIONS

## NAVIGATION LED

| Behaviour | Meaning |
| --- | --- |
| Permanently switched on | GNSS signal is not received |
| Blinking every second | Normal mode, GNSS is working |
| Off | GNSS is turned off because: Device is not working or Device is in sleep mode |
| Blinking fast constantly | Device firmware is being flashed |

## STATUS LED

| Behaviour | Meaning |
| --- | --- |
| Blinking every second | Normal mode |
| Blinking every two seconds | Sleep mode |
| Blinking fast for a short time | Modem activity |
| Off | Device is not working or Device is in boot mode |

# BASIC CHARACTERISTICS

## Module

| | |
| --- | --- |
| Name | **FTM880-Q3AB0:** GSM: B2/B3/B5/B8 **FTM880-Q2AB0:** GSM: B2/B3/B5/B8 |
| Technology | **FTM880-Q3AB0:** LTE CAT M1/NB-IoT/ GPRS/GNSS **FTM880-Q2AB0:** LTE CAT M1/GPRS/GNSS |

## GNSS

| | |
| --- | --- |
| GNSS | GPS, GLONASS, GALILEO, BEIDOU |
| Receiver | L1: 75 channel |
| Tracking sensitivity | -165 dBM |
| Position Accuracy | < 1.8m CEP |
| Velocity Accuracy | < 0.1 m/s (within +/- 15% error) |
| Hot start | < 1 s |
| Warm start | < 25 s |
| Cold start | < 35 s |

## Celluar

| | |
|---|---|
| 2G bands | **FTM880-Q3AB0:** GSM: B2/B3/B5/B8<br>**FTM880-Q2AB0:** GSM: B2/B3/B5/B8 |
| 4G bands | **FTM880-Q3AB0:** LTE FDD (CAT M1): B1/<br>B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/<br>B25/B26/B27/B28/B66/B85LTE-TDD (CAT<br>NB2): B1/B2/B3/B4/B5/B8/B12/B13/B18/<br>B19/B20/B25/B28/B66/B71/B85<br>**FTM880-Q2AB0:** LTE FDD (CAT M1<br>Only):B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/<br>B20/B25/B26/B27/B28/B66/B85 |
| Data transfer | LTE FDD (CAT M1): Max. 588 Kbps (DL) /<br>Max. 1119 Kbps (UL)<br>LTE TDD (CAT NB2): Max. 127 Kbps (DL) /<br>Max. 158.5 Kbps (UL)<br>GSM (GPRS): Max. 107 Kbps (DL) / Max.<br>85.6 Kbps (UL) |
| Transmit power | Class 4 for GSM850/900: 33±2dBm<br>Class 1 for GSM1800/1900: 30±2dBm<br>Class 3 for LTE-TDD: 20±2dBm<br>Class 3 for LTE-FDD: 20±2dBm |
| Data support | SMS (TEXT, PDU), Network protocols<br>(TCP, UDP) |

## Power

| | |
|---|---|
| Input voltage range | 10 - 30 V DC |
| Back-up battery | 320 mAh Li-Ion battery 3.7 V |
| Internal fuse | 3A |
| Power consumption | At 12V < 24.523mA Normal mode<br>At 12V < 5.601mA Online Deep Sleep mode<br>At 12V < 2.552mA Deep Sleep mode<br>At 12V < 0.599mA Power off Sleep |

## Interface

| | |
|---|---|
| GNSS antenna | Internal High Gain |
| GSM antenna | Internal High Gain |
| USB | 2.0 USB Type C |
| LED indication | 2 status LED lights |
| SIM | Nano-SIM |
| Memory | 128MB internal flash memory |

## Physical Specification

| | |
|---|---|
| Dimensions | 118×48×18.5 mm (L x W x H) |
| Weight | 118 g |

## Operating Environment

| | |
|---|---|
| Operating temperature<br>(without battery) | -30 °C to +85 °C |
| Storage temperature<br>(without battery) | -30 °C to +85 °C |
| Operating temperature<br>(with battery) | 0 °C to +45 °C |
| Storage temperature<br>(with battery) | -20 °C to +45 °C for 1 month<br>-20 °C to +35 °C for 6 months |
| Operating humidity | 5% to 95% non-condensing |

| | |
|---|---|
| Ingress Protection Rating | IP69K |
| Battery charge temperature | 0 °C to +45 °C |
| Battery storage temperature | -10 °C to +50 °C for 1 month<br>-10 °C to +35 °C for 3 months<br>0 °C to +30 °C for 1 year |

**Features**

| | |
|---|---|
| Sensors | Accelerometer |
| Scenarios | Crash detection, Overspeeding, Trip, Odometer, Eco driving, Excessive idling, Network jamming detection, Unplug detection, Auto geofence, Towing detection, Static navigation, Custom scenarios |
| Sleep modes | Deep Sleep, Online Deep Sleep, Power Off Sleep |
| Configuration and firmware update | FOTA WEB, Teltonika Configuration Tool (TCT) |
| Time Synchronization | GNSS, NITZ, NTP |
| Ignition detection | Accelerometer, External Power Voltage |

# CERTIFICATION AND APPROVALS

This sign on the package means that it is necessary to read the User's Manual before your start using the device. Full User's Manual version can be found in our Wiki[1]

This sign on the package means that all used electronic and electric equipment should not be mixed with general household waste.

## CHECK ALL CERTIFICATES

All newest certificates may be found in our Wiki[2].

## FTM880-Q3AB0

**CE** Hereby, Teltonika declare under our sole responsibility that the above described product is in conformity with the relevant Community harmonization: European Directive 2014/53/EU (RED).

**E57** E-Mark and e-Mark are the European conformity marks issued by the transport sector, indicating that the products comply with relevant laws and regulations or directives. Vehicles and related products need to go through the E-Mark certification process to be legally sold in Europe.

The Australian Standard AS/NZS 4417.1 and AS/NZS 4417.2 Marking of electrical products to indicate compliance with regulations – General rules for use of the mark provides general requirements for the use of the RCM including location of the marking on the equipment and its dimensional requirements.

**UKCA** UK Conformity Assessed (UKCA) marking is a conformity mark that indicates conformity with the applicable requirements for above described products sold within Great Britain.

## FTM880-Q2AB0

**AT&T** AT&T Inc. is the world's largest telecommunications company, the second largest provider of mobile telephone services, and the largest provider of fixed telephone services in the United States through AT&T Communications.

**PTCRB** The standard aims to provide users more detailed information than vague marketing terms such as waterproof.

**IC IC NOTICE** This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:
1. this device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.
This Class B digital apparatus complies with Canadian ICES-003.

[1] wiki.teltonika-gps.com/view/FTM880
[2] wiki.teltonika-gps.com/view/FTM880_Certification_%26_Approvals

**IC: 28804-FTM880**

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. To comply with RSS-102 RF Exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for the transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

## REMARQUE IC

Cet appareil est conforme aux Normes RSS d'Industy Canada. Son utilisation est soumise à deux conditions:

1.  Ce dispositif ne peut pas provoquer d'interférences, et
2.  Ce dispositif doit accepter toutes les interférences reçues, y compris les interférences susceptibles de provoquer un fonctionnement non souhaité.

Cet appareil de classe B est conforme à la norme canadienne ICES-003.

**IC: 28804-FTM880**

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Pour se conformer aux exigences de conformité d'exposition aux radiofréquences RSS-102, cette subvention s'applique uniquement aux configurations mobiles. Les antennes utilisées pour l'émetteur doivent être installées pour fournir une distance de séparation d'au moins 20cm de toutes les personnes et ne doivent pas être co-localisées ou fonctionner en conjonction avec une autre antenne ou émetteur.

### FCC ID: 2A3HUFTM880

— 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.

— 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.

— Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

— This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. To comply with FCC RF Exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for the transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

# WARRANTY

We guarantee our products 24-month warranty[1] period.

All batteries carry a 6-month warranty period.

Post-warranty repair service for products is not provided.

If a product stops operating within this specific warranty time, the product can be:

— Repaired

— Replaced with a new product

— Replaced with an equivalent repaired product fulfilling the same functionality

— Replaced with a different product fulfilling the same functionality in case of EOL for the original product

# WARRANTY DISCLAIMER

Customers are only allowed to return products as a result of the product being defective, due to order assembly or manufacturing fault.

Products are intended to be used by personnel with training and experience.

Warranty does not cover defects or malfunctions caused by accidents, misuse, abuse, catastrophes, improper maintenance or inadequate installation – not following operating instructions (including failure to heed warnings) or use with equipment with which it is not intended to be used.

Warranty does not apply to any consequential damages.

Warranty is not applicable for supplementary product equipment (i. e. PSU, power cables, antennas) unless the accessory is defective on arrival.

More information on what is RMA[2]

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[1] Additional agreement for an extended warranty period can be agreed upon separately.

[3] wiki.teltonika-gps.com/view/RMA_guidelines

# COMPANY DETAILS

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**TELEMATICS WEBSITE**
teltonika-gps.com

For more information about our products and services, please visit our website: **teltonika-gps.com.**

**WIKI KNOWLEDGE BASE**
wiki.teltonika-gps.com

For technical assistance, troubleshooting, and further inquiries, refer to our comprehensive support resources at our technical assistance portal: **Teltonika Wiki.**

**FOTA WEB**
fota.teltonika.lt