TELTONIKA | Telematics

# TAT140

Asset Tracker PLUS LTE

Quick Manual v1.1

# CONTENT


Know your device....3

Set up your device....4

PC Connection (Windows)....5

How to install USB drivers (Windows)....5

Configuration....6

Quick SMS configuration....8

MOUNTING RECOMMENDATIONS....10

LED indications....11

Basic characteristics....11

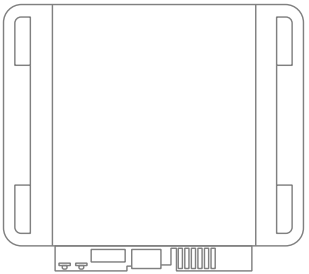
Safety information....13

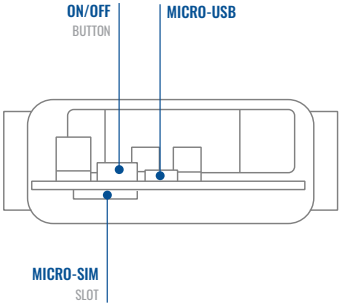
Certification and Approvals....14

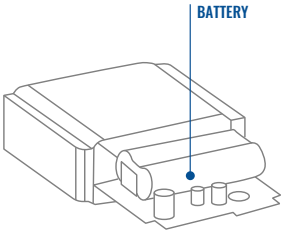
Warranty....15

Warranty disclaimer....15

# KNOW YOUR DEVICE

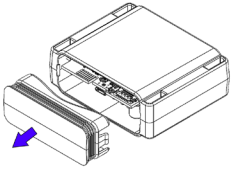




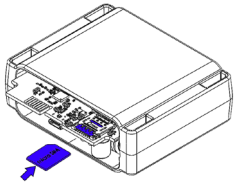
# SET UP YOUR DEVICE

## HOW TO INSERT MICRO-SIM CARD AND CONNECT THE BATTERY



### 1 COVER REMOVAL

Remove the cover.

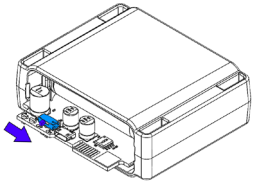


### 2 MICRO-SIM CARD INSERT

Insert **Micro-SIM** card as shown with **PIN request disabled** or read our **Wiki**[1] how to enter it later in **Teltonika Configurator**[2]. Make sure that Micro-SIM card **cut-off corner** is pointing forward to slot.

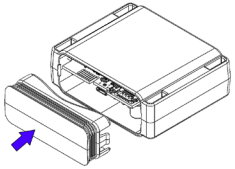
[1] wiki.teltonika.lt/index.php?title=TAT140_Security_info

[2] wiki.teltonika.lt/view/Teltonika_Configurator



### 3 TURN ON

Flip the switch to ON.



### 4 ATTACHING COVER BACK

After configuration, see **PC Connection (WINDOWS)**[1]. When it is done, reattach the cover and push it in place.

[1] Page 5, "PC Connection (Windows)"

# PC CONNECTION (WINDOWS)

1. Power-up TAT140 device. LED should start blinking, see "**LED indications**"[1].
2. Connect your device to computer using **Micro-USB** cable:
   - You will need to install USB drivers, see "**How to install USB Drivers (WINDOWS)**"[2]
3. You are now ready to use the device on your computer.

[1] Page 11 "LED indications"

[2] Page 5, "PC Connection (Windows)"

# HOW TO INSTALL USB DRIVERS (WINDOWS)

1. Please download COM port drivers from **here**[1].
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] wiki.teltonika-mobility.com/images/d/d0/TeltonikaCOMDriver.zip

# CONFIGURATION

At first TAT140 device will have default factory settings set. These settings should be changed according to the users needs. Main configuration can be performed via **Teltonika Configurator**[1] software. Get the latest **Configurator** version from **here**[2]. Configurator operates on **Microsoft Windows OS** and uses prerequisite **MS .NET Framework.** Make sure you have the correct version installed.

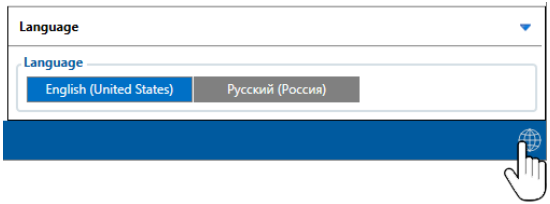
[1] wiki.teltonika-gps.com/view/Teltonika_Configurator

[2] wiki.teltonika-gps.com/view/Teltonika_Configurator_versions

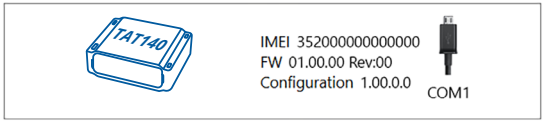
### MS .Net requirements

| Operating system | MS .NET Framework version | Version | Links |
|---|---|---|---|
| Windows Vista<br>Windows 7<br>Windows 8.1<br>Windows 10 | MS .NET Framework 4.6.2 | 32 and 64 bit | **www.microsoft.com**[1] |

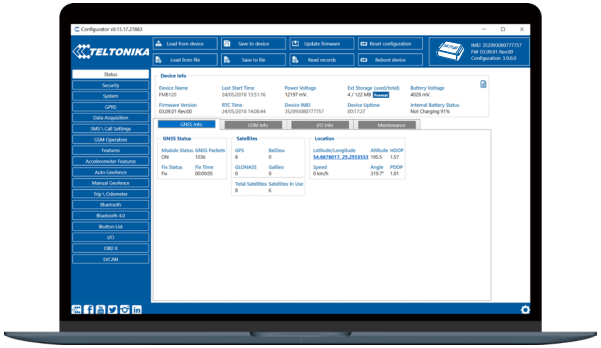
[1] dotnet.microsoft.com/en-us/download/dotnet-framework




Downloaded Configurator will be in compressed archive. Extract it and launch Configurator.exe. After launch software language can be changed by clicking in the right bottom corner.




Configuration process begins by pressing on connected device.



After connection to Configurator **Status window** will be displayed.

Various **Status window**[1] tabs display information about **GNSS**[2], **GSM**[3], **I/O**[4], **Maintenance**[5] and etc. TAT140 has one user editable profile, which can be loaded and saved to the device. After any modification of configuration the changes need to be saved to device using **Save to device** button. Main buttons offer following functionality:

**Load from device** – loads configuration from device.

**Save to device** – saves configuration to device.

**Load from file** – loads configuration from file.

**Save to file** – saves configuration to file.

**Update firmware** – updates firmware on device.

**Read records** – reads records from the device.

**Reboot device** – restarts device.

**Reset configuration** – sets device configuration to default.

Most important configurator section is **GPRS** – where all your server and **GPRS settings**[6] can be configured and **Data Acquisition**[7] – where data acquiring parameters can be configured. More details about TAT140 configuration using Configurator can be found in our **Wiki**[8].

[1] wiki.teltonika-gps.com/view/TAT140_Status_info

[2] wiki.teltonika-gps.com/view/TAT140_Status_info#GNSS_Info

[3] wiki.teltonika-gps.com/view/TAT140_Status_info#GSM_Info

[4] wiki.teltonika-gps.com/view/TAT140_Status_info#I.2FO_Info

[5] wiki.teltonika-gps.com/view/TAT140_Status_info#Maintenance

[6] wiki.teltonika-gps.com/index.php?title=TAT140_GPRS_settings

[7] wiki.teltonika-gps.com/index.php?title=TAT140_Data_acquisition_settings

[8] wiki.teltonika-gps.com/index.php?title=TAT140_Configuration

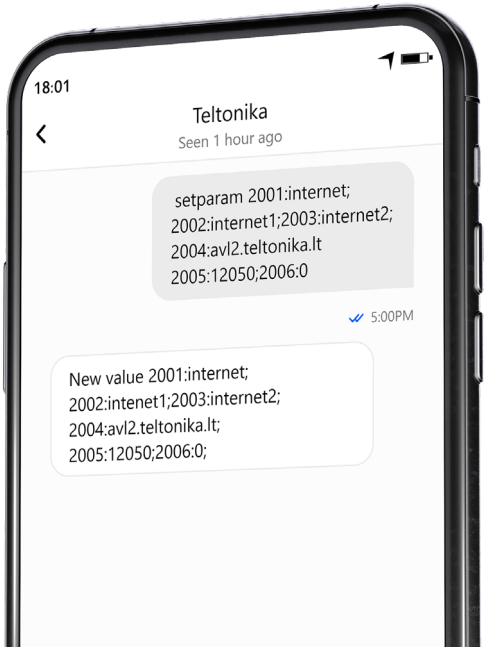
# QUICK SMS CONFIGURATION

Default configuration has optimal parameters present to ensure best performance of track quality and 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»
```

**Note:** Before SMS text, two space symbols should be inserted.




## GPRS SETTINGS:

1. **2001** – APN
2. **2002** – APN username (if there are no APN username, empty field should be left)
3. **2003** – APN password (if there are no APN password, empty field should be left)

## SERVER SETTINGS:

4. **2004** – Domain
5. **2005** – Port
6. **2006** – Data sending protocol (0 – TCP, 1 – UDP)

## DEFAULT CONFIGURATION SETTINGS

### MOVEMENT AND IGNITION DETECTION:

VEHICLE MOVEMENT
will be detected by accelerometer

### DEVICE MAKES A RECORD ON STOP IF:

28800
Seconds passes

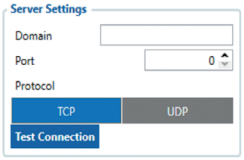
### DEVICE MAKES A RECORD ON MOVING IF ONE OF THESE EVENTS HAPPEN:

28800
Seconds passes

Time intervals and default I/O elements can be changed by using Teltonika **Configurator**[1].

[1] wiki.teltonika-mobility.com/view/Teltonika_Configurator

## IMPORTANT CONFIGURATION NOTES




We strongly recommend testing the network connection from device to the server before adjusting TAT140 configuration to your needs. Use the following steps to perform this test:

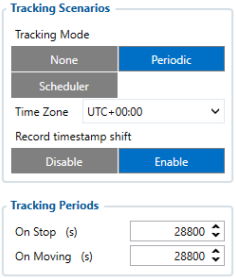
- Configure these parameters: APN, server Domain and server Port;
- Save configuration to the device by clicking on a Save to device button;
- Initiate connection by pressing the Test Connection button.

At this point, TAT140 will create one high-priority record and initiate connection to the server immediately.

If connection was not initiated, it can mean any of the following:

- Improperly inserted SIM Card
- Incorrect values are set to these fields: APN, Domain or Port;
- GPRS functionality disabled by GSM provider;
- No GSM coverage;
- Server cannot be reached.

Try solving this problem before proceeding with further device configuration.

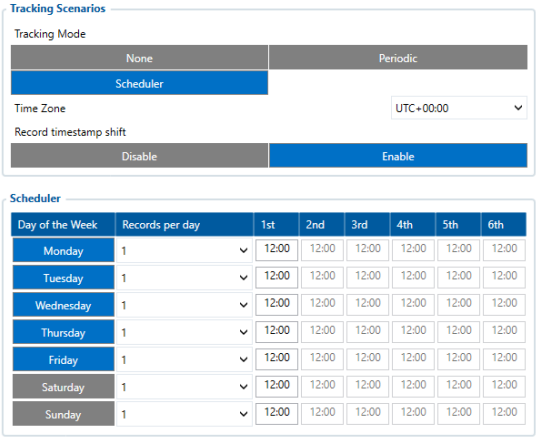



**Periodic:** This mode is used to get positioning data at fixed intervals. Configuration range is from 360 to 259200 (in seconds).

**Scheduler:** This mode is used to get positioning data at fixed schedule. Device can send positioning data up to 6 times on set days.

## MAIN RULES OF SETTING SCHEDULE:

- Intervals between different times must be at least 6 minutes;
- **Days of the week must be selected** and highlighted for the device to send records according to the set schedule.




More details about device configuration using Teltonika Configurator can be found in the Teltonika wiki knowledge base **wiki.teltonika-mobility.com**

# MOUNTING RECOMMENDATIONS

We recommend mounting the TAT140 in such a way that the GNSS antenna is pointed at the sky and the device itself is not covered by various obstructions that would interfere with the reception of the GNSS fix.

# LED INDICATIONS

## STATUS LED INDICATIONS

| Behaviour | Meaning |
|---|---|
| On | Start-up and self-tests |
| Off | Device is in sleep mode or turned off |
| Blink every 5 seconds | Device is working, modem turned on. |

# BASIC CHARACTERISTICS

| Module | |
|---|---|
| Name | Quectel EG915U-EU with Teltonika TM2500 |
| Technology | LTE Cat 1/GSM/GPRS/GNSS/ Bluetooth |

| GNSS | |
|---|---|
| GNSS | GPS, GLONASS, GALILEO, BEIDOU |
| Receiver | 33 channel |
| Tracking sensitivity | -165 dBM |
| Position accuracy | < 2.5 CEP |

| Celluar | |
|---|---|
| Technology | LTE CAT 1, GSM |
| 2G bands | B2/B3/B5/B8 |
| 4G bands | LTE-FDD B1/B3/B5/B7/B8/B20/B28 |
| Data transfer | LTE: LTE FDD : Max 10Mbps (DL)/ Max 5Mbps (UL)<br>GSM: GPRS: Max 85.6Kbps (DL)/Max 85.6Kbps (UL) |
| Data support | SMS (Text) |

| Power | |
|---|---|
| Input voltage range | Extremely low self-discharge Li-SOCl2 swappable battery, 7,2V 2200mAh (10,8V 2200mAh version available) |

| Bluetooth | |
|---|---|
| Specification | Bluetooth 4.2 + LE |
| Supported peripherals | ELA Temperature, Humidity, Movement and Magnet sensors, EYE sensor, Universal BLE sensor support |

## Physical specification

| | |
|---|---|
| Dimensions | 78 x 63 x 28 mm (L x W x H) |
| Weight | 119g |

## Interface

| | |
|---|---|
| GNSS antenna | Internal High Gain |
| Cellular antenna | Internal High Gain |
| USB | 2.0 Micro-USB |
| LED indication | 1 status LED lights |
| SIM | Micro-SIM |
| Memory | 128 MB internal flash memory |

## Operating Environment

| | |
|---|---|
| Operating temperature | -20 °C to +60 °C |
| Ingress Protection Rating | IP68 |
| Battery discharge temperature | -55 °C to +60 °C |
| Battery storage temperature | Recommended max. 30°C |

## Features

| | |
|---|---|
| Sensors | Accelerometer |
| Sleep modes | Single custom sleep mode |
| Configuration and firmware update | FOTA Web, Teltonika Configurator (USB) |
| SMS | Configuration, Events, Debug |
| GPRS commands | Configuration, Debug |
| Time Synchronization | GNSS, NITZ, NTP |

## Certification & Approvals

| | |
|---|---|
| Regulatory | CE/RED E-Mark UKCA RCM |

# SAFETY INFORMATION

This message contains information on how to operate TAT140 safely. By following these requirements and recommendations, you will avoid dangerous situations. Please read these instructions carefully and follow them strictly before operating the device!

INTERFERENCE

All wireless devices are sensitive to electromagnetic interference, as a result wireless devices might affect the performance of each other.

Be cautious near flammable materials and liquids

USE ONLY ORIGINAL BATTERIES

Using uncertified manufacturer or different type batteries may cause the device to malfunction or even explode

Do not attempt to charge the batteries. Doing so will void the warranty and may cause an explosion.

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.

OPERATE THE DEVICE IN SUITABLE CONDITIONS

Comply with local traffic laws, do not operate the device with your hands while driving. Your safety is of utmost importance when you drive.

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

USE BATTERIES SAFELY

Protect batteries from moisture. Avoid extensive operation at high temperatures.

OTHER

In order to prevent device from mechanical damage it is advisable to transport it in a shock–resistant packaging. If device stopped working properly regardless of the settings only a qualified specialist can help. It is recommended to contact your local seller or your UAB Teltonika Telematics manager in such a case.

# 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].

1 wiki.teltonika-gps.com/index.php?title=TAT140

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].

[2] wiki.teltonika-gps.com/view/TAT140_Certification_%26_Approvals

# WARRANTY

We guarantee our products 24-month[1] warranty period. All batteries carry a 6-month warranty period. Post-warranty repair service for products is not provided.

1 additional agreement for extended warranty period can be available with the additional agreement

Contact us **teltonika-gps.com/about-us/contacts**

All batteries carry a 6-month warranty period.

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 an equivalent different product fulfilling the same functionality in case of end of manufacturing for 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 can be found at **teltonika-gps.com/warranty-repair**