Teltonika TAT100 Device for Asset Tracking Owner's Manual

Contents

Teltonika TAT100 Device for Asset Tracking

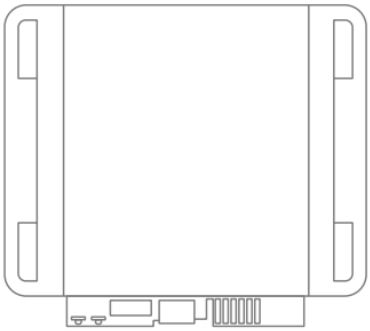
Specifications

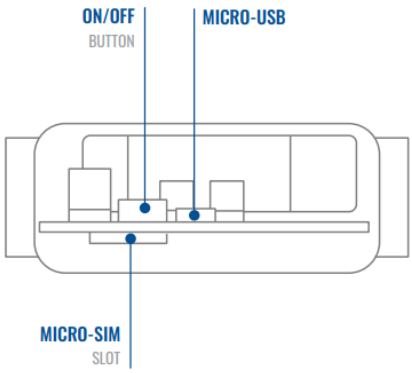
- **Model**: TAT100
- **Device Connectivity:** SMS/GPRS
- **Firmware Files:** Modem firmware, BlueNRG firmware

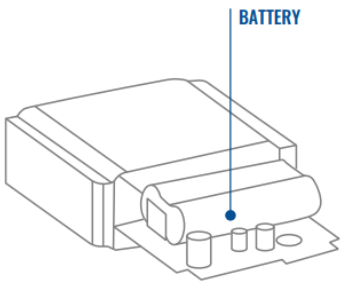
Product Usage Instructions

- **Connecting to Fota Platform:**
  TAT1XY devices connect to the platform on power ON or receiving the web_connect command. Ensure the device is not in sleep mode for command reception. Schedule GPRS command for automatic sending upon device wake-up.
- **Firmware Update Tasks on FOTA Platform:**
  For firmware updates, two tasks are needed – one for modem firmware and another for BlueNRG firmware. The device executes tasks sequentially: modem first, then BlueNRG. If the device doesn't automatically reconnect after a modem update, restart or send a web_connect command. Verify the successful installation of both firmware files on the device.
- **Configuration Update Tasks on Fota Platform:**
  Wait for firmware update tasks to complete before updating the configuration. This ensures the correct task execution order.

KNOW YOUR DEVICE





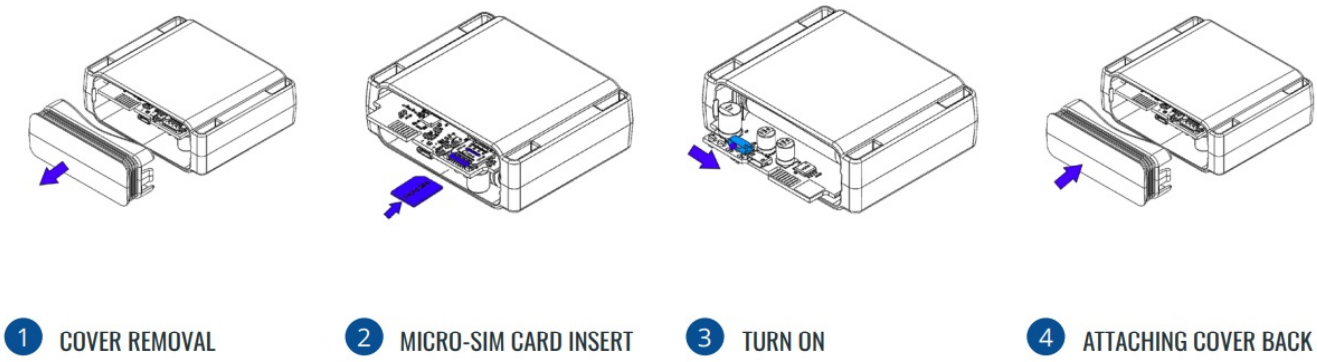


SET UP YOUR DEVICE

HOW TO INSERT A 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 Wiki1 how to enter it later in Teltonika Configurator2. Make sure that Micro-SIM card cut-off corner is pointing forward to slot.
   1. wiki.teltonika-mobility.com/view/TAT100_Security_info#SIM_Card
   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 TAT100 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.

HOW TO INSTALL USB DRIVERS (WINDOWS)

1. Please download COM port drivers from here1.

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.

CONFIGURATION

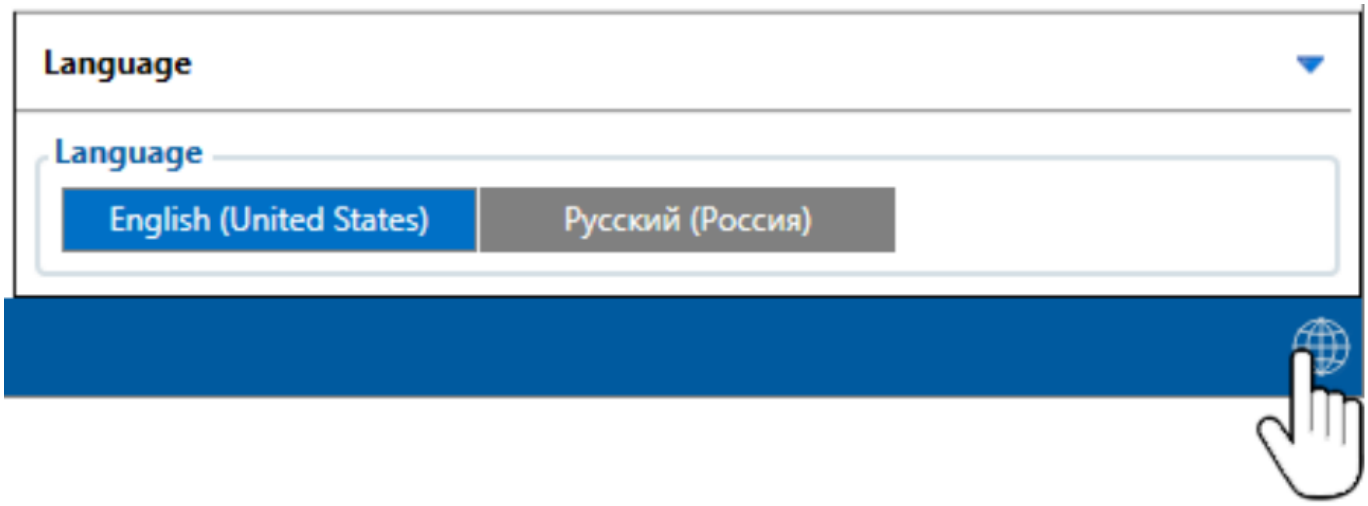
At first TAT100 device will have default factory settings set. These settings should be changed according to the users needs. Main configuration can be performed via Teltonika Configurator1 software. Get the latest Configurator version from here2. Configurator operates on Microsoft Windows OS and uses 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

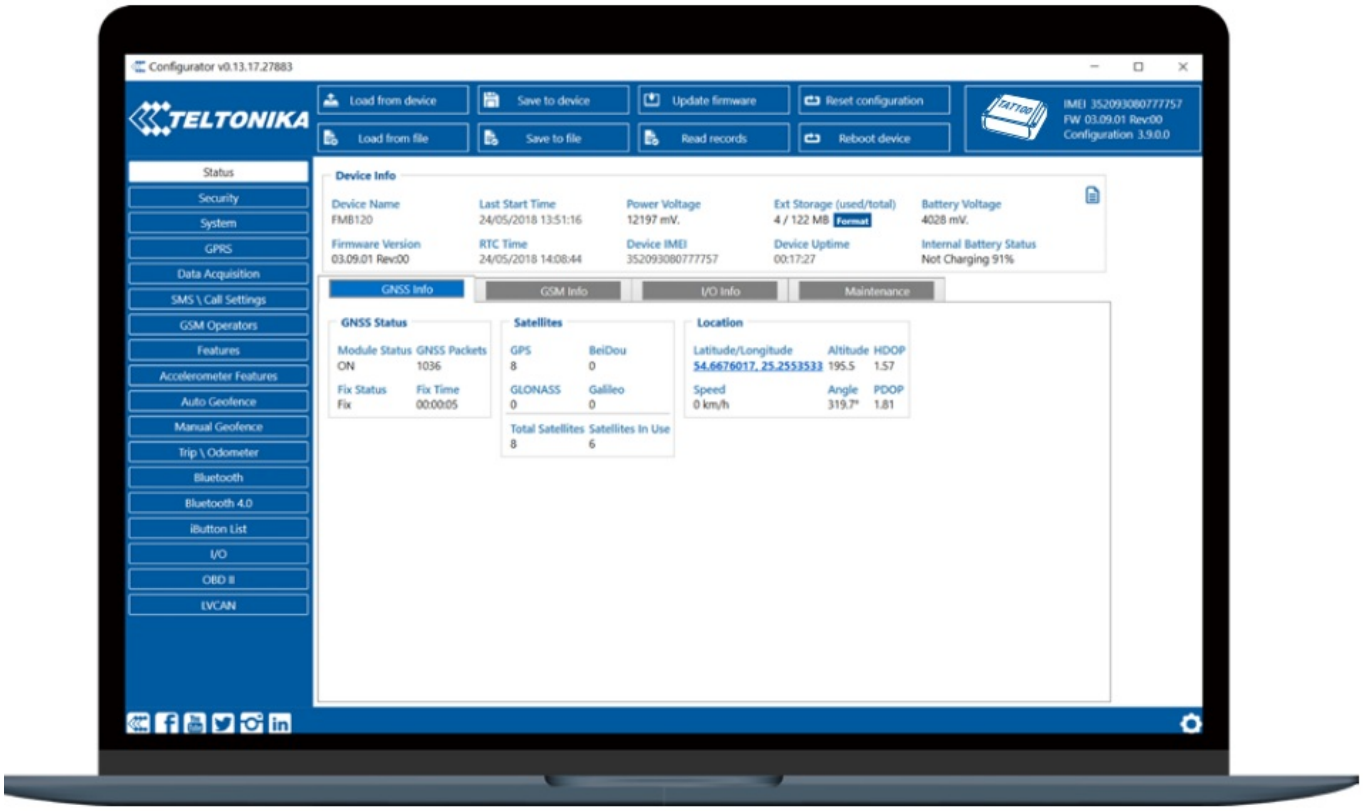
Operating System	MS .NET Framework Version	Architecture	Download Link
Windows Vista	.NET Framework 4.6.2	32-bit, 64-bit	Microsoft
Windows 7	.NET Framework 4.6.2	32-bit, 64-bit	Microsoft
Windows 8.1	.NET Framework 4.6.2	32-bit, 64-bit	Microsoft
Windows 10	.NET Framework 4.6.2	32-bit, 64-bit	Microsoft

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.

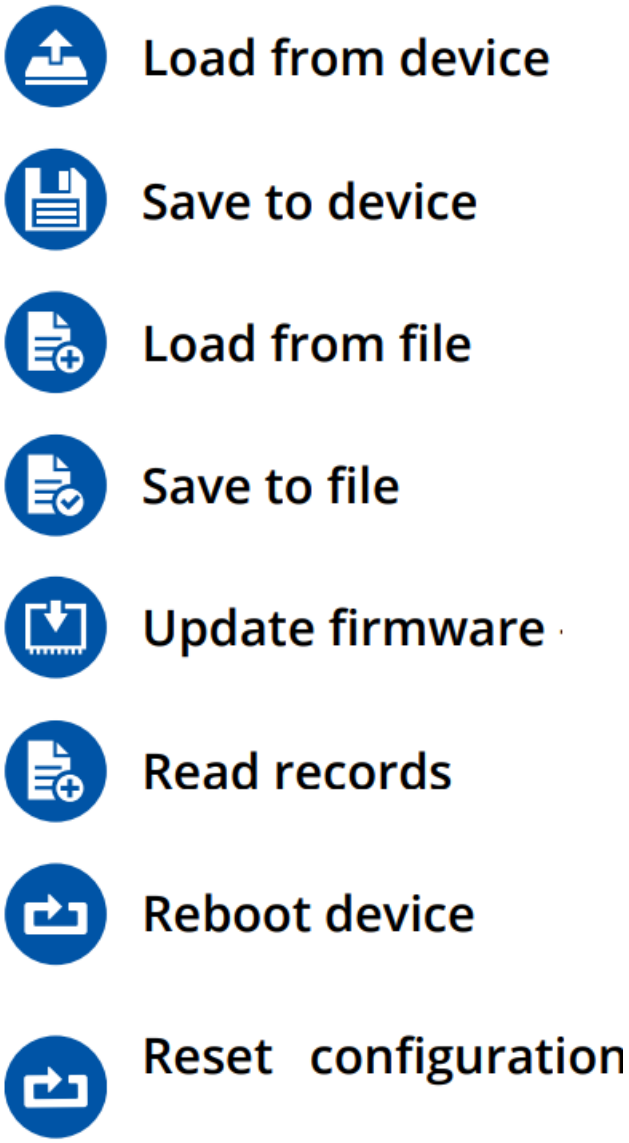
Configuration process begins by pressing on connected device.



After connection to Configurator Status window will be displayed.

Various Status window1 tabs display information about GNSS2, GSM3, I/O4, Maintenance5 and etc. TAT100 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 settings6 can be configured and Data Acquisition7 – where data acquiring parameters can be configured. More details about TAT100 configuration using Configurator can be found in our Wiki8. After connection to Configurator Status window will be displayed.

TAT100

1. wiki.teltonika-gps.com/view/TAT100_Status_info
2. wiki.teltonika-gps.com/view/TAT100_Status_info#GNSS_Info
3. wiki.teltonika-gps.com/view/TAT100_Status_info#GSM_Info
4. wiki.teltonika-gps.com/view/TAT100_Status_info#I.2FO_Info
5. wiki.teltonika-gps.com/view/TAT100_Status_info#Maintenance
6. wiki.teltonika-gps.com/index.php?title=TAT100_GPRS_settings
7. wiki.teltonika-gps.com/index.php?title=TAT100_Data_acquisition_settings
8. wiki.teltonika-gps.com/index.php?title=TAT100_Configuration

QUICK SMS CONFIGURATION

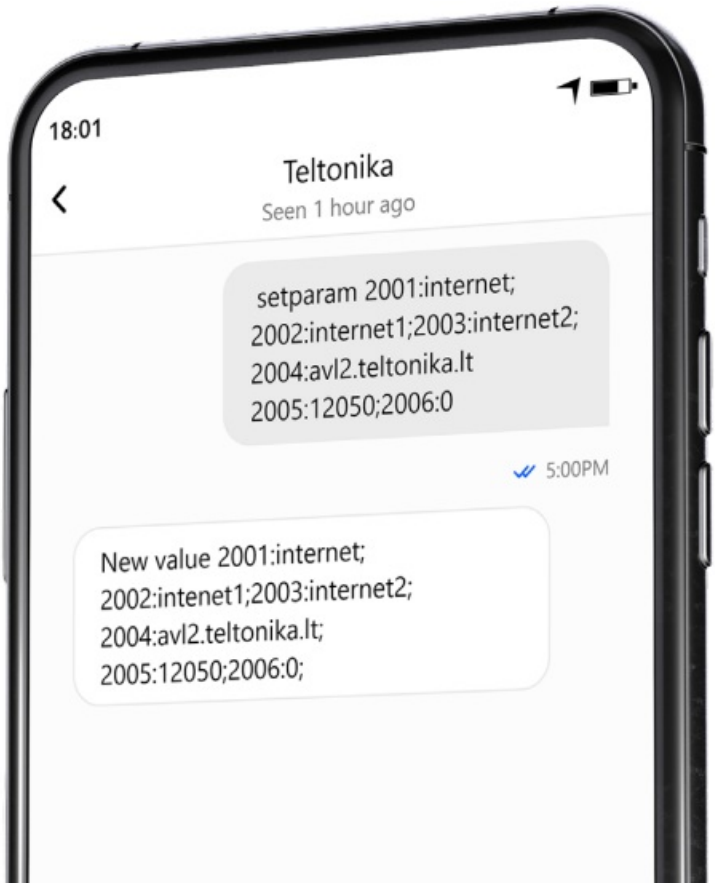
Default configuration has optimal parameters present to ensure best performance of track quality and data usage.

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:**
  - 2001 – APN
  - 2002 – APN username (if there are no APN username, empty field should be left)
  - 2003 – APN password (if there are no APN password, empty field should be left)
- **SERVER SETTINGS:**
  - 2004 – Domain
  - 2005 – Port
  - 2006 – Data sending protocol (0 – TCP, 1 – UDP)



DEFAULT CONFIGURATION SETTINGS

- **MOVEMENT AND IGNITION DETECTION:**
  - **ASSET MOVEMENT**

    will be detected by the accelerometerTHE
- **DEVICE MAKES A RECORD ON MOVING IF ONE OF THESE EVENTS HAPPEN:**
  - **28800**

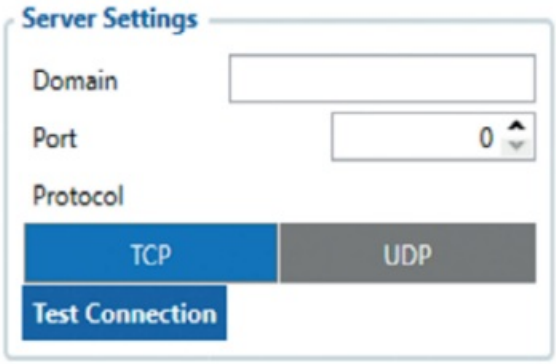
    Seconds passes
- **DEVICE MAKES A RECORD ON STOP IF:**

- **28800**
  Seconds passes

Time intervals and default I/O elements can be changed by using Teltonika Configurator1.

wiki.teltonika-mobility.com/view/Teltonika_Configurator

IMPORTANT CONFIGURATION NOTES



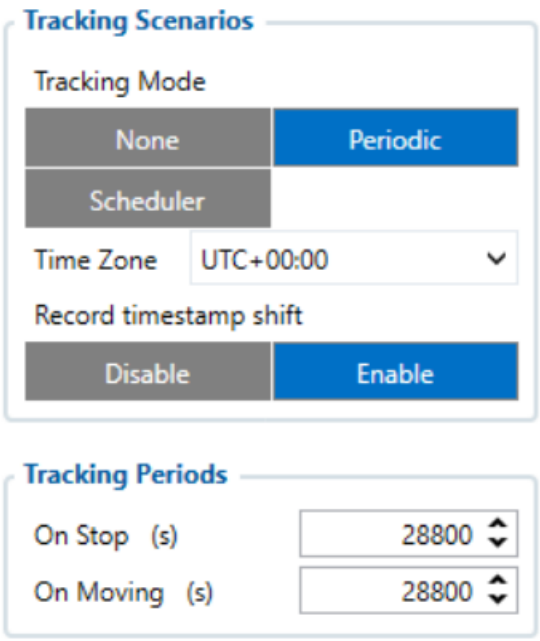
We strongly recommend testing the network connection from device to the server before adjusting TAT100 configuration to your needs. Use the following steps to perform this test:

- 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, TAT100 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.

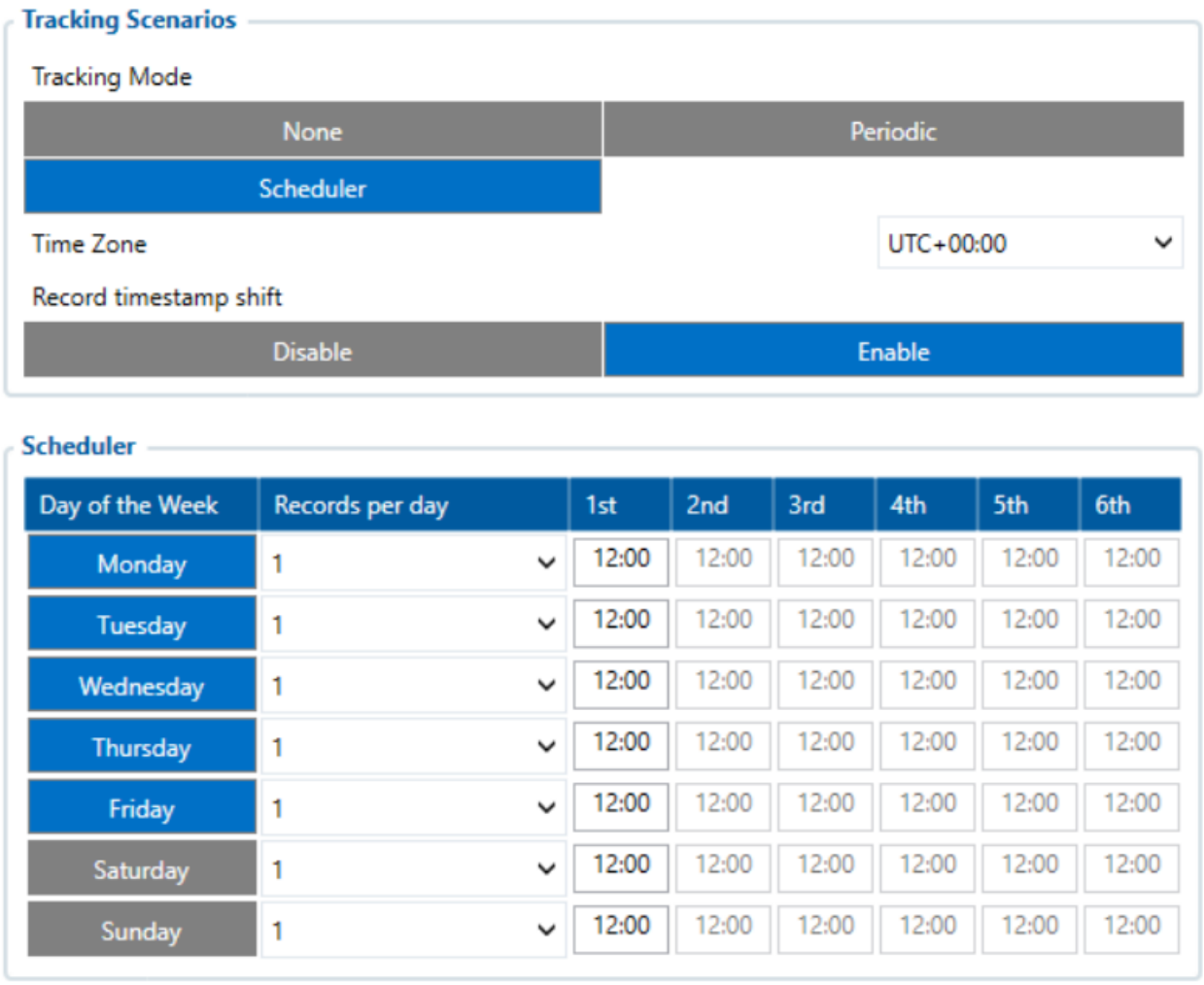
Try solving this problem before proceeding with further device configuration.



- **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 TAT100 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

Behavior	Meaning
On Start-up and self-tests	Device is initializing and performing self-checks.
Off	Device is in sleep mode or turned off.
Blinks every 5 seconds	Device is working, modem is turned on.

BASIC CHARACTERISTICS

Category	Specification
Module Name	Teltonika TM2500

Category	Specification
Technology	2G (GSM/GPRS) / GNSS / Bluetooth
GNSS	GPS, GLONASS, GALILEO, BEIDOU
Receiver	33 channel
Tracking Sensitivity	-165 dBM
Position Accuracy	< 2.5 CEP
Cellular Technology	2G (GSM/GPRS) / GNSS
2G Bands	Quad-band GSM 850 / 900 / 1800 / 1900 MHz
Data Transfer	GPRS Multi-Slot Class 12 (up to 85.6 kbps)
Data Support	SMS (Text)
Power	Input Voltage Range: Li-SOCl2 Swappable Battery, 7.2V, 2200mAh, Extremely low self-discharge
Bluetooth Specification	Bluetooth 4.2 + LE
Supported Peripherals	ELA Temperature, Humidity, Movement and Magnet Sensors, EYE Sensor, Universal BLE sensor support
Physical Specifications	Dimensions: 78 x 63 x 28 mm (L x W x H), Weight: 119g
Interface	GNSS Antenna: Internal High Gain, Cellular Antenna: Internal GSM High Gain, USB 2.0 Micro-USB
LED Indication	2 Status LED Lights
SIM	Micro-SIM
Memory	128 MB Internal Flash Memory (220,000 records)
Operating Environment	Operating Temp (without battery): -20°C to +60°C, Ingress Protection Rating: IP68, Battery Discharge Temp: -55°C to +85°C, Battery Storage Temp: Recommended Max. 30°C
Sensors	Accelerometer
Sleep Modes	Single Custom Sleep Mode
Configuration & Firmware Update	FOTA Web, Teltonika Configurator (USB)
SMS	Configuration, Events, Debug
GPRS Commands	Configuration, Debug
Time Synchronization	GNSS, NITZ, NTP

SAFETY INFORMATION

This message contains information on how to operate TAT100 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 Wiki1. **wiki.teltonika-gps.com/index.php?title=TAT100**
- ANATEL For more information, see the ANATEL website: **www.anatel.gov.br**
- This equipment is not entitled to protection against harmful interference and must not cause interference in duly authorized systems.
-  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 Wiki2.

- wiki.teltonika-gps.com/view/TAT100_Certification_%26_Approvals

WARRANTY

- We guarantee our products 24-month warranty1 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

An additional agreement for an extended warranty period can be agreed upon separately.

WARRANTY DISCLAIMER

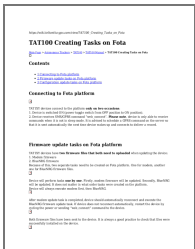
- Customers are only allowed to return products as a result of the product being defective, due to order assembly or manufacturing fault.
- Products are intended to be used by personnel with training and experience.
- Warranty does not cover defects or malfunctions caused by accidents, misuse, abuse, 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 RMA1

wiki.teltonika-gps.com/view/RMA_guidelines

FAQ

Q: What should I do if the device does not reconnect after a firmware update?
A: Restart the device by power cycling or send a web_connect command to trigger reconnection.

Documents / Resources

	Teltonika TAT100 Device for Asset Tracking [pdf] Owner's Manual TAT100, TAT100 Device for Asset Tracking, Device for Asset Tracking, Asset Tracking

References

- File:Fota update correct 2.png - Teltonika Telematics Wiki
- File:Fota update correct way 2.png - Teltonika Telematics Wiki
- File:Fota update correct way 3.png - Teltonika Telematics Wiki
- File:Fota update correct way 5.png - Teltonika Telematics Wiki
- File:Fota update wrong.png - Teltonika Telematics Wiki
- File:Turn on picture.png - Teltonika Telematics Wiki
- Autonomous Trackers - Teltonika Telematics Wiki
- Teltonika Telematics Wiki
- TAT100 Creating Tasks on Fota - Teltonika Telematics Wiki
- TAT100 Manual - Teltonika Telematics Wiki
- User Manual