



TELTONIKA TAT140 Asset Tracker PLUS LTE User Guide

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TELTONIKA TAT140 Asset Tracker PLUS LTE



Product Information

The TAT140 Asset Tracker PLUS LTE is a device designed for tracking assets. It comes with a quick manual version 1.6.

Device Features

- On/Off button
- Micro-USB port
- Micro-SIM slot
- Battery

Product Usage Instructions

Set Up Your Device

1. Remove the cover.
2. Insert a Micro-SIM card as shown, with PIN request disabled. Make sure the Micro-SIM card's cut-off corner is pointing forward to the slot.
3. Flip the switch to ON.
4. After configuration, see PC Connection (WINDOWS) for further instructions.
5. Reattach the cover and push it in place.

PC Connection (Windows)

1. Power up the TAT140 device. The LED should start blinking (refer to LED indications).
2. Connect your device to a computer using a Micro-USB cable.

How to Install USB Drivers (Windows)

1. Download the COM port drivers from the provided link.
2. Extract and run TeltonikaCOMDriver.exe.

3. Follow the instructions in the driver installation window.
4. Click the Install button in the following window.
5. Continue the setup until the confirmation window appears. Click Finish to complete the setup.

Configuration

The TAT140 device comes with default factory settings, which should be changed according to the user's needs. The main configuration can be performed using the Teltonika Configurator software. Download the latest Configurator version from the provided link. Make sure you have the correct version of MS .NET Framework installed on your Windows OS.

MS .NET Requirements

Operating System: Windows Vista, Windows 7, Windows 8.1, Windows 10 MS .NET

Framework Version: 4.6.2 (32 and 64 bit) Download MS .NET Framework from the provided link.

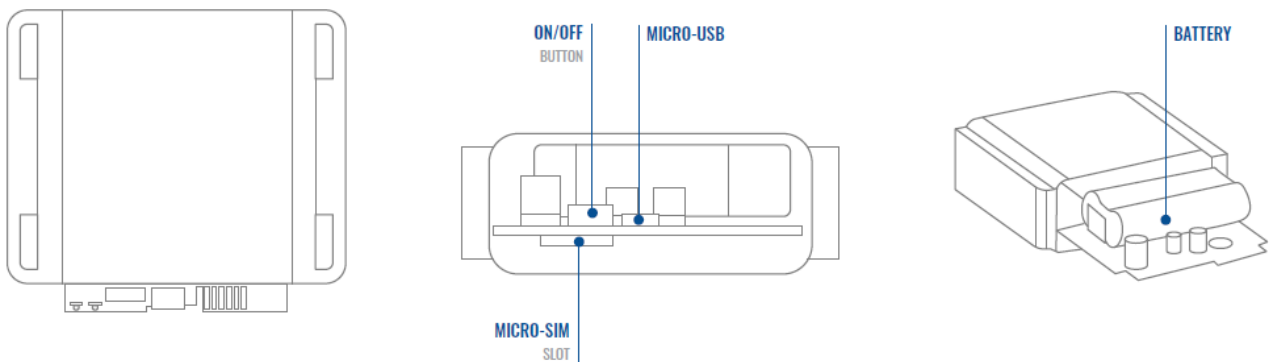
Status Window and Configuration

The TAT140 device has various status window tabs that display information about GNSS, GSM, I/O, Maintenance, and more. It has one user-editable profile that can be loaded and saved to the device. After making any configuration modifications, remember to save the changes to the device using the Save to device button. The main buttons offer additional functionality.

Quick SMS Configuration

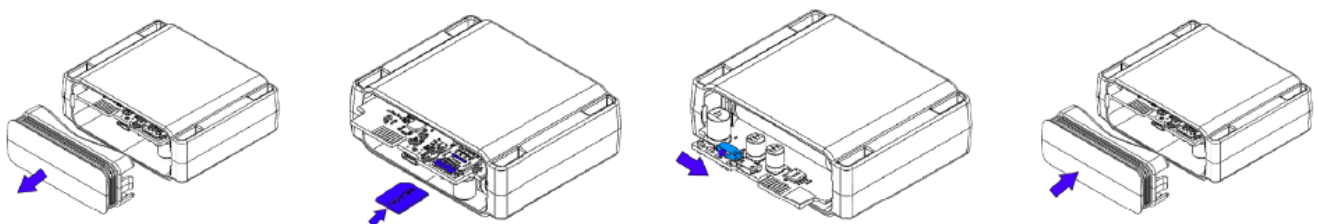
The default configuration of the device has optimal parameters for track quality and data usage. To quickly set up your device, send the provided SMS command to it.

KNOW YOUR DEVICE



SET UP YOUR DEVICE

HOW TO INSERT MICRO-SIM CARD AND CONNECT THE BATTERY



- COVER REMOVAL

Remove the cover.

- 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.lt/index.php?title=TAT140_Security_info

² wiki.teltonika.lt/view/Teltonika_Configurator

- **TURN ON**

Flip the switch to ON.

- **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)

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

HOW TO INSTALL USB DRIVERS (WINDOWS)

- Please download COM port drivers from here¹.
- Extract and run TeltonikaCOMDriver.exe.
- Click Next in driver installation window.
- In the following window click Install button.
- Setup will continue installing the driver and eventually the confirmation window will appear. Click Finish to complete the setup.

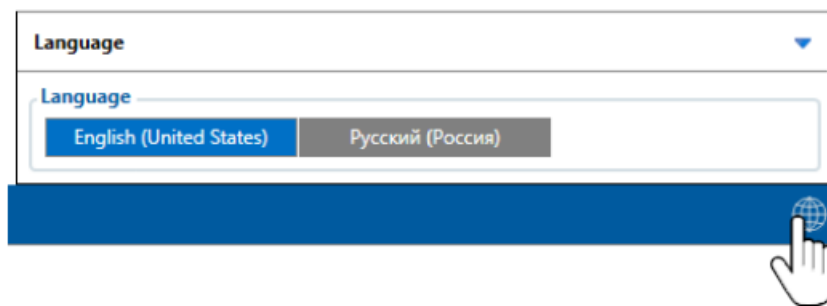
CONFIGURATION

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 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.

- wiki.teltonika-gps.com/view/Teltonika_Configurator
- wiki.teltonika-gps.com/view/Teltonika_Configurator_versions

MS .NET REQUIREMENTS

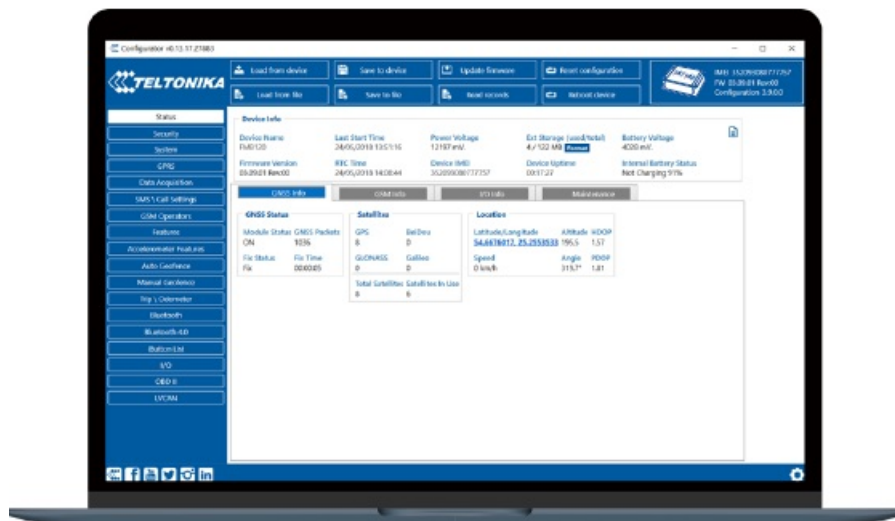
Operating system	MS .NET Framework version	Version	Links
Windows Vista			
Windows 7			
Windows 8.1	MS .NET Framework 4.6.2	32 and 64 bit	www.microsoft.com ¹
Windows 10			



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. 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 settings⁶ can be configured and Data Acquisition⁷ – where data acquiring parameters can be configured. More details about TAT140 configuration using Configurator can be found in our Wiki⁸.

- wiki.teltonika-gps.com/view/TAT140_Status_info
- wiki.teltonika-gps.com/view/TAT140_Status_info#GNSS_Info
- wiki.teltonika-gps.com/view/TAT140_Status_info#GSM_Info
- wiki.teltonika-gps.com/view/TAT140_Status_info#I.2FO_Info
- wiki.teltonika-gps.com/view/TAT140_Status_info#Maintenance
- wiki.teltonika-gps.com/index.php?title=TAT140_GPRS_settings
- wiki.teltonika-gps.com/index.php?title=TAT140_Data_acquisition_settings
- 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:

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



VEHICLE MOVEMENT will be detected by accelerometer

28800 Seconds passes

28800 Seconds passes

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

- wiki.teltonika-gps.com/view/Teltonika_Configurator

IMPORTANT CONFIGURATION NOTES

The screenshot shows a 'Server Settings' dialog box. It contains the following elements:

- Domain:** A text input field.
- Port:** A numeric input field with the value '0' and up/down arrow controls.
- Protocol:** Two radio buttons, 'TCP' (which is selected and highlighted in blue) and 'UDP' (which is unselected and greyed out).
- Test Connection:** A blue button at the bottom left.

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.

The screenshot shows a configuration window titled "Tracking Scenarios". It contains several sections for setting tracking parameters. The "Tracking Mode" section has three buttons: "None", "Periodic" (which is highlighted in blue), and "Scheduler". The "Tracking Options" section is divided into two sub-sections: "On stop" and "On Move". Each sub-section has three controls: a toggle for periodic tracking (OFF/ON), a toggle for event recording (Disable/Enable), and a numeric input for a time interval in seconds. In the "On stop" section, the "On Stop" interval is set to 28800. In the "On Move" section, the "On Moving" interval is set to 28800. Below these, there is a "Time Zone" dropdown menu set to "UTC+00:00", a "Record timestamp shift" toggle set to "Enable", and two more numeric inputs: "On Stop detection time (s)" set to 600 and "On Move detection time (s)" set to 20.

On Stop periodic tracking – enable or disable periodic data sending when device is On Stop. Device will generate and send normal record with event ID 0 and movement AVL ID 240 with a value of 0.

On Stop event record – enable or disable record sending when device switches tracking scenario from On Move to On Stop. To trigger this event On Stop detection time timer needs to reach set value. Once event is triggered GNSS module will wake up and obtain GNSS fix. Record will have AVL event 240 with a value of 4 that means "Movement event – On Stop".

On Move periodic tracking – enable or disable periodic data sending when device is On Move. Device will generate and send normal record with event ID 0 and movement AVL ID 240 with a value of 1.

On Move event record – enable or disable record sending when device switches tracking scenario from On Stop to On Move. To trigger this event On Move detection time timer needs to reach set value. Once event is triggered device will wake up and will trigger one of two records:

- if last record did not have a GNSS fix, GNSS module will be turned on and fix obtained.
- if last record had a valid GNSS fix, GNSS module will not be turned on and record will contain last good coordinates.

On Stop detection time (s) configurable amount of time until device switches to On Stop periodic tracking. Device needs to be stationary for configured amount of time to change state. Movement interrupts will reset this timer.

On Move detection time (s) configurable amount of time until device switches to On Move periodic tracking. Instant movement will not change tracking scenario to On Move. Device needs to be interrupted at least once

every 5 seconds during the configured time to change tracking scenario to On Move.

MAIN RULES OF SETTING SCHEDULE

Day of the Week	Records per day	1st	2nd	3rd	4th	5th	6th
Monday	1	12:00	12:00	12:00	12:00	12:00	12:00
Tuesday	1	12:00	12:00	12:00	12:00	12:00	12:00
Wednesday	1	12:00	12:00	12:00	12:00	12:00	12:00
Thursday	1	12:00	12:00	12:00	12:00	12:00	12:00
Friday	1	12:00	12:00	12:00	12:00	12:00	12:00
Saturday	1	12:00	12:00	12:00	12:00	12:00	12:00
Sunday	1	12:00	12:00	12:00	12:00	12:00	12:00

- 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-gps.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

PRODUCT

- Model name TAT140-QJIB0

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)
- GSM: GPRS: Max 85.6Kbps (DL)/Max
- 85.6Kbps (UL)

Transmit Power

- Class 5 for GSM900: 32.63 dBm
- Class 3 for DCS1800: 30.08 dBm
- Class 3 for LTE-FDD: 24.38 dBm
- Bluetooth LE: 6.6 dBm
- Data support SMS (Text)

POWER

- Input voltage range
- Extremely low self-discharge
- Li-SOCI2 swappable battery, 7,2V 2200mAh (10,8V 2200mAh version available)
- Non-Rechargeable

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

Hereby, TELTONIKA TELEMATICS, UAB declares that the radio equipment type Asset Tracker Plus is in compliance with the UK Radio Equipment Regulations SI 2017:1206.

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 Wiki1.

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

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

— Refer to Article 10(2). Manufacturers shall ensure that radio equipment shall be so constructed that it can be operated in at least one Member State without infringing applicable requirements on the use of radio spectrum. (Add the following description)

CHECK ALL CERTIFICATES

All newest certificates may be found in our Wiki2.

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

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

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


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

Documents / Resources

	TELTONIKA TAT140 Asset Tracker PLUS LTE [pdf] User Guide TAT140 Asset Tracker PLUS LTE, TAT140, Asset Tracker PLUS LTE, Tracker PLUS LTE, PLUS LTE
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References

-  [Download .NET Framework | Free official downloads](#)
-  [Wiki Knowledge Base | Teltonika GPS](#)
-  [TAT140 - Wiki Knowledge Base | Teltonika GPS](#)
-  [TAT140 Configuration - Wiki Knowledge Base | Teltonika GPS](#)

- [!\[\]\(2dc8cdc0c918df88cde61039ecf68682_img.jpg\) TAT140 GPRS settings - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(793119bf0d613bd9b598fb8668922511_img.jpg\) RMA guidelines - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(0a4819029e810ca9d2aba79260b63a4d_img.jpg\) TAT140 Certification & Approvals - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(5b78a2fafd05db5e14d20573d68ef9b3_img.jpg\) TAT140 Status info - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(25fe2c0d7244c22c84de6bda963b471d_img.jpg\) TAT140 Status info - Wiki Knowledge Base | Teltonika GPS](#)
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- [!\[\]\(5eab3de5002abb449199a3fc43c9f414_img.jpg\) TAT140 Status info - Wiki Knowledge Base | Teltonika GPS](#)
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- [!\[\]\(a5e6025d913df625081ab04ab57538d0_img.jpg\) Teltonika Configurator versions - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(933db2af0bc51ccc9956c85daceec771_img.jpg\) Teltonika | Wiki Knowledge Base](#)
- [!\[\]\(aa37c4d902b06a4c60c80e22dbdcae63_img.jpg\) Teltonika | Wiki Knowledge Base](#)
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- [!\[\]\(3d8621e1356074fde3f4532b15fe8afa_img.jpg\) FMM001 Data acquisition settings - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(871f3967dd06baf62bc0e930d9243f73_img.jpg\) TAT140 Configuration - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(37c6dc81049e8a4c6dd88ffa288e134a_img.jpg\) TAT140 GPRS settings - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(4d2dd53ee1a5a6f5efa820e745814047_img.jpg\) TAT140 Certification & Approvals - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(632644865a98825d4ab6066f88459a98_img.jpg\) TAT140 Status info - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(c5f5eef4efa8c0ad34aae60427d6ac5b_img.jpg\) TAT140 Status info - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(d82eccc468be357cae6806191127e55d_img.jpg\) TAT140 Status info - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(29682f0a9343f6406dd572d30664137a_img.jpg\) TAT140 Status info - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(9072e497dc9469cd8fef36b3e671b928_img.jpg\) TAT140 Status info - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(d5eb365f0ca476d7473041e988d395dc_img.jpg\) Teltonika Configurator - Wiki Knowledge Base | Teltonika GPS](#)
- [!\[\]\(87e611d5e1961433c877458822e2b766_img.jpg\) Teltonika | Wiki Knowledge Base](#)
- [!\[\]\(8f5ae82295611d92d64aa46df97d9f7a_img.jpg\) Teltonika Configurator - Wiki Knowledge Base | Teltonika GPS](#)