



FMT100

Special and small waterproof tracker

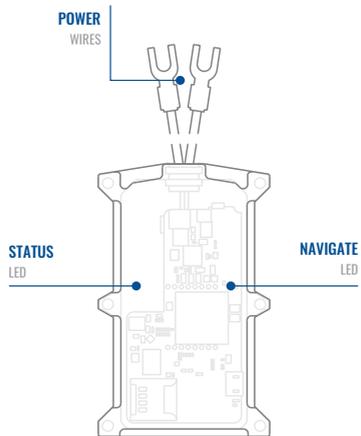
Quick Manual v2.3

CONTENT

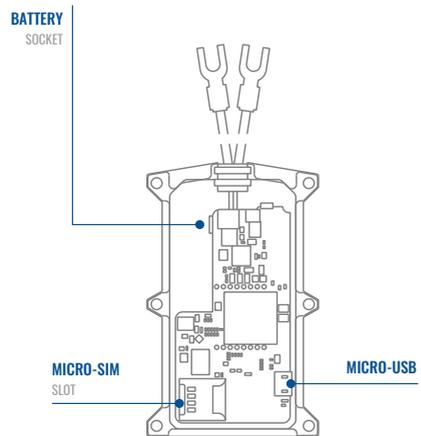
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KNOW YOUR DEVICE

TOP VIEW

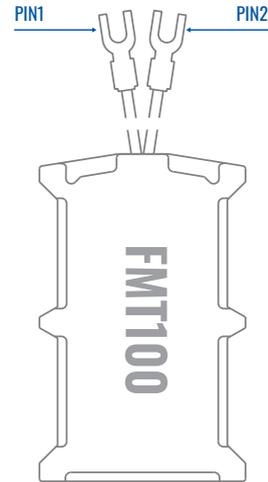


BOTTOM VIEW (WITHOUT COVER)



PINOUT

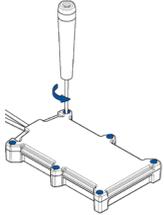
PIN NUMBER	PIN NAME	DESCRIPTION
1	VCC (10-30)V DC (+)	(Red) Power supply (+10-30 V DC)
2	GND (-)	(Black) Ground



FMT100 pinout

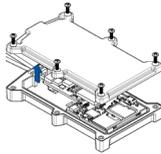
SET UP YOUR DEVICE

HOW TO INSERT MICRO-SIM CARD AND CONNECT THE BATTERY



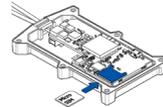
1 UNSCREW SCREWS

Unscrew **6 screws** counterclockwise.



2 COVER REMOVAL

Remove the **cover**

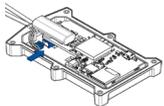


3 MICRO-SIM CARD INSERT

Insert **Micro-SIM** card as shown with PIN request disabled or read our [Wiki¹](#) how to enter it later with [Teltonika Configurator²](#). Make sure that Micro-SIM card cut-off corner is pointing forward to slot.

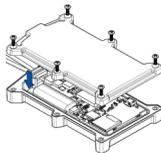
¹wiki.teltonika-gps.com/view/FMT100_Security_info

²wiki.teltonika-gps.com/view/Teltonika_Configurator



4 BATTERY CONNECTION

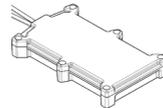
Connect **battery** as shown to device. Position the battery in place where it does not obstruct other components.



5 ATTACHING COVER BACK

After configuration, see "[PC Connection \(Windows\)](#)", attach device cover back.

¹ page 6 "[PC Connection \(Windows\)](#)"



6 DEVICE IS READY

Screw in all screws. Device is ready to be mounted.

PC CONNECTION (WINDOWS)

1. Power-up FMT100 with **DC voltage (10 – 30 V)** power supply using **supplied power cable**. LED's should start blinking, see "**LED indications**".
2. Connect device to computer using **Micro-USB cable** or Bluetooth connection:
 - Using Micro-USB cable
 - You will need to install USB drivers, see "**How to install USB drivers (Windows)**"¹
 - Using **Bluetooth**
 - FMT100 **Bluetooth** is enabled by default. Turn on Bluetooth on your PC, then select **Add Bluetooth or other device > Bluetooth**. Choose your device named – "**FMT100_last_7_imei_digits**", without **LE** in the end. Enter default password **5555**, press **Connect** and then select **Done**.
3. You are now ready to use the device on your computer.

¹wiki.teltonika-gps.com/view/FMT100_LED_status

²Page 6, "How to install USB drivers"

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.

¹teltonika.lt/downloads/en/FMT100/TeltonikaCOMDriver.zip

CONFIGURATION

At first FMT100 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.

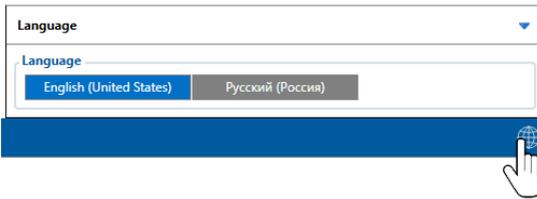
¹ wiki.teltonika-gps.com/view/Teltonika_Configurator

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

MS .NET REQUIREMENTS

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

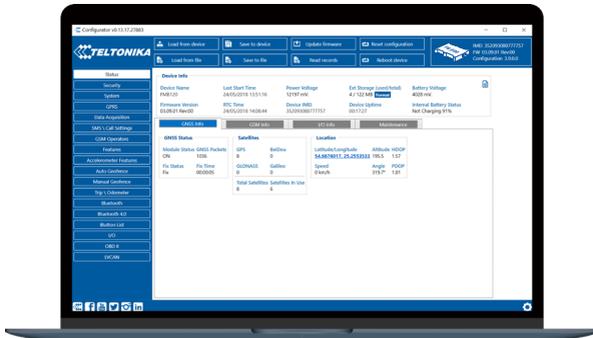
¹ dotnet.microsoft.com/en-us/download/dotnet-framework/net462



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. FMT100 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 FMT100 configuration using Configurator can be found in our **Wiki**⁸.

¹ wiki.teltonika-gps.com/view/FMT100_Status_info

² wiki.teltonika-gps.com/view/FMT100_Status_info#GNSS_Info

³ wiki.teltonika-gps.com/view/FMT100_Status_info#GSM_Info

⁴ wiki.teltonika-gps.com/view/FMT100_Status_info#I2FO_Info

⁵ wiki.teltonika-gps.com/view/FMT100_Status_info#Maintenance

⁶ wiki.teltonika-gps.com/index.php?title=FMT100_GPRS_settings

⁷ wiki.teltonika-gps.com/index.php?title=FMT100_Data_acquisition_settings

⁸ wiki.teltonika-gps.com/index.php?title=FMT100_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»
```

1

2

3

4

5

6

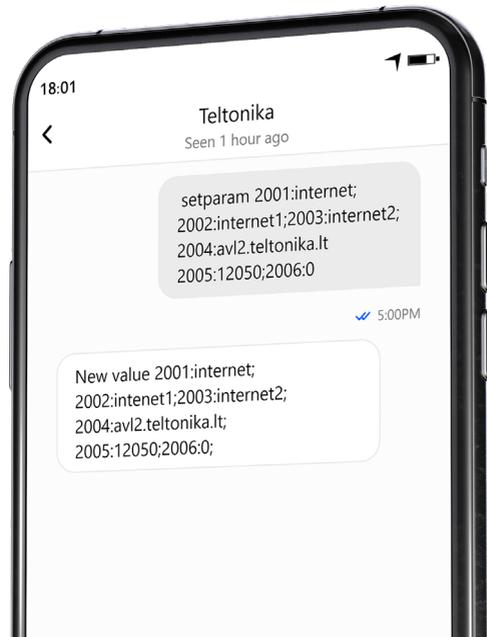
Note: Before SMS text, two space symbols should be inserted.

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



IGNITION
will be detected by
vehicle power voltage
between 13,2 – 30 V

DEVICE MAKES A RECORD ON STOP IF:



1 HOUR PASSES
while vehicle is
stationary and
ignition is off



EVERY 120 SECOND
it is sent to the server
If device has made a
record

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



PASSES
300 seconds



VEHICLE DRIVES
100 meters



VEHICLE TURNS
10 degrees



SPEED DIFFERENCE
between last coordinate
and current position is
greater than 10 km/h

After successful SMS configuration, FMT100 device will synchronize time and update records to configured server. Time intervals and default I/O elements can be changed by using [Teltonika Configurator](#)¹ or [SMS parameters](#)².

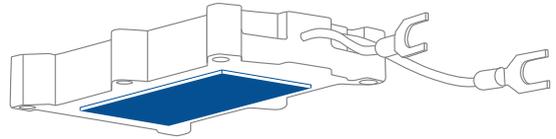
¹ wiki.teltonika-gps.com/view/Teltonika_Configurator

² wiki.teltonika-gps.com/view/Template:FMB_Device_Family_Parameter_list

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 (Figure 12 Double sided tape on the back), use it to attach the device on the battery, so that the GNSS antenna and LEDs indicators are facing up.



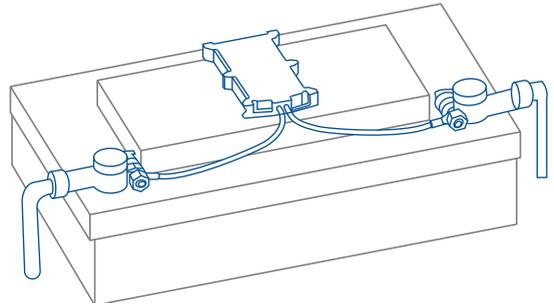
Double sided tape on the back

CONNECTING POWER WIRE

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

CONNECTING GROUND WIRE

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



Example of device mounting

LED INDICATIONS

NAVIGATION LED INDICATIONS

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 INDICATIONS

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	TM2500
Technology	GSM, GPRS, GNSS, BLUE-TOOTH

GNSS

GNSS	GPS, GLONASS, GALILEO, BEIDOU, SBAS, QZSS, DGPS, AGPS
Receiver	33 channel
Tracking sensitivity	-161 dBm
Accuracy	< 3 m
Hot start	< 1 s
Warm start	< 25 s
Cold start	< 35 s

CELLUAR

Technology	GSM
2G bands	Quad-band 850 / 900 / 1800 / 1900 MHz
Data transfer	GPRS Multi-Slot Class 12 (up to 240 kbps), GPRS Mobile Station Class B
Data support	SMS (text/data)

POWER

Input voltage range	10 - 30 V DC with overvoltage protection
Back-up battery	170 mAh Li-Po battery 3.7 V (0.63 Wh)
Power consumption	At 12V < 2,5 mA (Ultra Deep Sleep ¹) At 12V < 5 mA (Deep Sleep ¹) At 12V < 5,5 mA (Online Deep Sleep ¹) At 12V < 6,5 mA (GPS Sleep ³) At 12V < 24 mA (nominal)

BLUETOOTH

Specification	4.0 + LE
Supported peripherals	Temperature and Humidity sensor ² , Headset ³ , OBDII dongle ⁴ , Inateck Barcode Scanner, Universal BLE sensors support

INTERFACE

GNSS antenna	Internal High Gain
GSM antenna	Internal High Gain
USB	2.0 Micro-USB
LED indication	2 status LED lights

¹wiki.teltonika-gps.com/view/FMT100_Sleep_modes

²teltonika-gps.com/products/accessories

³wiki.teltonika-gps.com/view/How_to_connect_Bluetooth_Hands_Free_adapter_to_FMB_device

⁴wiki.teltonika-gps.com/view/How_to_connect_OBD_II_Bluetooth_Dongle_to_FMB_device

SIM	Micro-SIM
Memory	128MB internal flash memory

PHYSICAL SPECIFICATION

Dimensions	92,5 x 57,6 x 14 mm (L x W x H)
Weight	63 g

OPERATING ENVIRONMENT

Operating temperature (without battery)	-40 °C to +85 °C
Storage temperature (without battery)	-40 °C to +85 °C
Operating humidity	5% to 95% non-condensing
Ingress Protection Rating	IP65 ⁵
Battery charge temperature	0 °C to +45 °C
Battery discharge temperature	-20 °C to +60 °C
Battery storage temperature	-20 °C to +45 °C for 1 month -20 °C to +35 °C for 6 months

⁵wiki.teltonika-gps.com/view/FMT100_IP_Rating

FEATURES

Sensors	Accelerometer
Scenarios	Green Driving, Over Speeding detection, Jamming detection, GNSS Fuel Counter, DOUT Control Via Call, Excessive Idling detection, Immobilizer, iButton Read Notification, Unplug detection, Towing detection, Crash detection, Auto Geofence, Manual Geofence, Trip⁶
Sleep modes	GPS Sleep, Online Deep Sleep, Deep Sleep, Ultra Deep Sleep⁷
Configuration and firmware update	FOTA Web⁸, FOTA, Teltonika Configurator⁹ (USB, Bluetooth), FMBT mobile application (Configuration)
SMS	Configuration, Events, Debug
GPRS commands	Configuration, Debug
Time Synchronization	GPS, NITZ, NTP
Fuel monitoring	OBDII dongle¹⁰
Ignition detection	Digital Input 1, Accelerometer, External Power Voltage, Engine RPM (CAN Adapters, OBDII dongle¹⁰)

⁶wiki.teltonika-gps.com/view/FMT100_Features_settings

⁷wiki.teltonika-gps.com/view/FMT100_Sleep_modes

⁸wiki.teltonika-gps.com/view/FOTA_WEB

⁹wiki.teltonika-gps.com/view/Teltonika_Configurator

¹⁰wiki.teltonika-gps.com/view/How_to_connect_OBD_II_Bluetooth_Dongle_to_FMB_device

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC DESCRIPTION	VALUE			
	MIN.	TYP.	MAX.	UNIT
SUPPLY VOLTAGE				
Supply Voltage (Recommended Operating Conditions)	+10		+30	V

SAFETY INFORMATION

This message contains information on how to operate FMT100 safely. By following these requirements and recommendations, you will avoid dangerous situations. You must read these instructions carefully and follow them strictly before operating the device!

- 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.
- 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.



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.



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.

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=FMT100



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).



The Declaration EAC and the Certificate EAC in conformity with the technical regulation TR CU of the EurAsEC Customs Union are EAC certification documents issued by independent organizations. Such organizations perform their function through laboratories accredited to the public agencies in charge of the supervision of metrology and standardization in the three countries of the EAC Custom Union, joining at the moment the certification system : Russia, Belarus, Kazakhstan, Armenia and Kyrgyzstan.



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



The RoHS1 is a directive regulating the manufacture, import and distribution of Electronics and Electrical Equipment (EEE) within the EU, which bans from use 10 different hazardous materials (to date).



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



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.



REACH addresses the production and use of chemical substances, and their potential impacts on both human health and the environment. Its 849 pages took seven years to pass, and it has been described as the most complex legislation in the Union's history and the most important in 20 years. It is the strictest law to date regulating chemical substances and will affect industries throughout the world.



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



SIRIM QAS International Sdn. Bhd. is Malaysia's leading testing, inspection and certification body.



The Independent Communications Authority of South Africa (ICASA) is the official regulator of the South African communications, broadcasting and postal services sectors.

DECLARATION OF IMEI ASSIGNMENT

The IMEI number is used by a GSM network to identify valid devices and therefore can be used for stopping a stolen phone from accessing that network. For example, if a mobile phone is stolen, the owner can call their network provider and instruct them to blacklist the phone using its IMEI number. This renders the phone useless on that network and sometimes other networks too, whether or not the phone's subscriber identity module (SIM) is changed.

DECLARATION OF DEVICE OPERATION TEMPERATURE

An operating temperature is the temperature at which an electrical or mechanical device operates. The device will operate effectively within a specified temperature range which varies based on the device function and application context, and ranges from the minimum operating temperature to the maximum operating temperature (or peak operating temperature). Outside this range of safe operating temperatures the device may fail.

CHECK ALL CERTIFICATES

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

²wiki.teltonika-gps.com/view/FMT100_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

¹ 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](#)

¹ wiki.teltonika-gps.com/view/RMA_guidelines