USER MANUAL

Model T1-400

Smart tracking,
everywhere, anytime.

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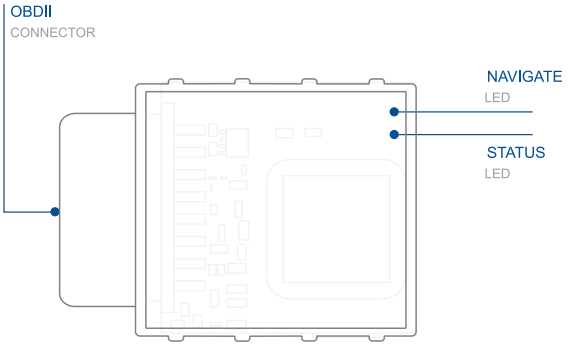
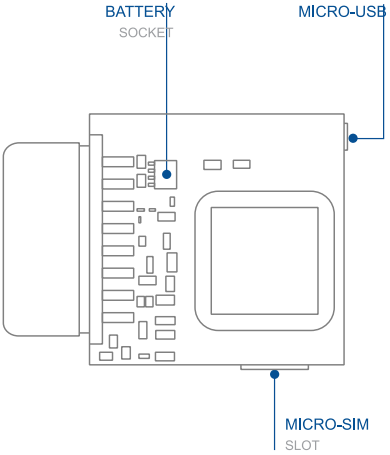
KNOW YOUR DEVICE

TOP VIEW



TOP VIEW (WITHOUT COVER)



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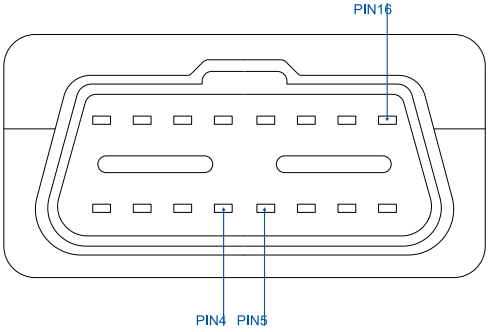
PINOUT

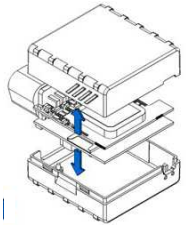
PIN NUMBER	PIN NAME	DESCRIPTION
4	GND (-)	Ground
5	GND (-)	Ground
16	VCC (10 - 30)V DC(+)	Power supply (+10-30 V DC)

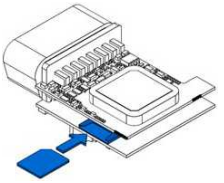


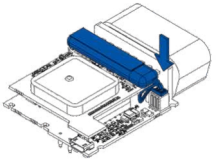
FMM80A OBDII socket pinout

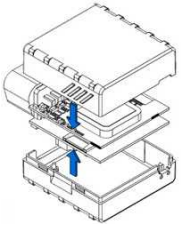
SET UP YOUR DEVICE

HOW TO INSERT MICRO-SIM CARD AND CONNECT THE BATTERY









1 COVER REMOVAL

Gently remove FMM80A cover using plastic pry tool from both sides.

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-gps.com/view/

Configurator **battery**

3 BATTERY CONNECTION

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

4 ATTACHING COVER BACK

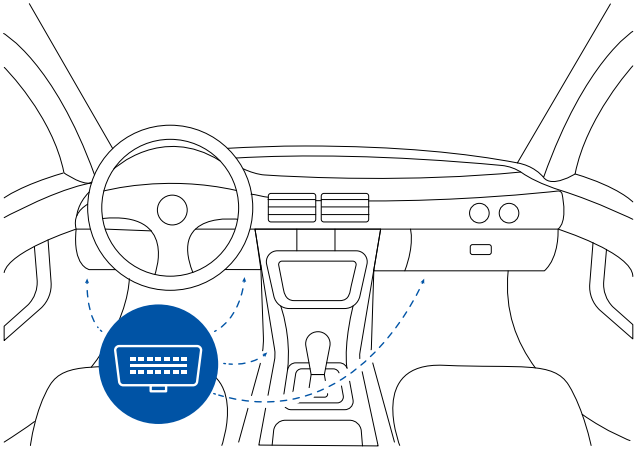
Attach device **cover** back.

Device is ready to be connected.

MOUNTING RECOMMENDATIONS

CONNECTING THE DEVICE TO THE VEHICLE:

Find OBDII connector in your vehicle.



Most common OBDII connector locations.

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	Quectel BG95-M1
Technology	LTE CAT M1/GNSS/BLUETOOTH

GNSS	
GNSS	L1: GPS, GLONASS, GALILEO, BEIDOU, SBAS*, QZSS*, DGPS*, AGPS
Receiver	33 channel
Tracking sensitivity	-165 dBM
Position Accuracy	< 2.5 m CEP
Velocity Accuracy	< 0.1 m/s (within +/- 15% error)
Hot start	< 1 s
Warm start	< 25 s

*Optional modes available with custom firmware applications, for more information contact your sales manager.

Cold start	< 35 s

CELLUAR

Technology	LTE CAT M1
4G bands	LTE-FDD (CAT M1): B1/B2/B3/B4/B5/B8/B12/B13/B18/ B19/B20/B25/B26/B27/B28/B66/B85
Data transfer	LTE: Max. 588Kbps (DL)/ Max.1119Kbps (UL)
Transmit power	Class 5 for LTE-FDD 21±2.7dBM Bluetooth: 4.57±2dBM Bluetooth LE: -4.83±2dBM
Data support	SMS (TEXT, PDU), Network protocols (TCP,UDP,TLS, EGTS, MQTT)

POWER

Input voltage range	10 - 30 V DC with overvoltage protection
Back-up battery	115 mAh Li-Po battery 3.7 V (0.43 Wh)
Internal fuse	3A, 125V
Power Consumption	At 12V < 6.5 mA (Ultra Deep Sleep) At 12V < 8 mA (Deep Sleep) At 12V < 13 mA (Online Deep Sleep) At 12V < 16.3 mA (GPS Sleep) At 12V < 31 mA (nominal with no load) At 12V < 0.25A Max. (with full Load / Peak

BLUETOOTH

Specification	4.0 + LE
Supported peripherals	**Temperature and Humidity sensor**[1], Inateck Barcode Scanner, Universal BLE sensors support

INTERFACE

Connection	OBDII socket
GNSS antenna	Internal High Gain
GSM antenna	Internal High Gain
USB	2.0 USB Micro B
LED indication	2 status LED lights
SIM	Micro-SIM
Memory	128MB internal flash memory

[1] https://teltonika.lt/product/bluetooth-sensor/

PHYSICAL SPECIFICATION

Dimensions	67,2 x 49,6 x 25 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 temperature (with battery)	0 °C to +45 °C
Storage temperature (with battery)	-20 °C to +60 °C
Operating humidity	5% to 95% non-condensing
Ingress Protection Rating	IP41
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

FEATURES

Sensors	Accelerometer
Scenarios	**Green Driving**[2], **Over Speeding detection**[3], **Jamming detection**[4], **GNSS Fuel Counter**[5], **Excessive Idling detection**[6], **Unplug detection**[7], **Towing detection**[8], **Crash detection**[9], **Auto Geofence**[10], **Manual Geofence**[11], **Trip**[12]

[2] wiki.teltonika-gps.com/view/FMM80A_Features_settings#Eco.2FGreen_

SAFETY INFORMATION

This message contains information on how to operate FMM80A 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 SELV limited power source. The nominal voltage is +12 V DC. The allowed voltage range is +10...+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.

Please consult representatives of your vehicle model regarding OBDII location on your vehicle. In case you are not sure about proper connection, please consult qualified personnel.

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.

Teltonika is not responsible for any harm caused by wrong cables used for connection between PC and FMM80A

WARNING! Do not use FMM80A device if it distracts driver or causes inconvenience due to OBDII placement. Device must not interfere with driver.

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=FMM80A

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

The **RoHS**[2] 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).

[2] wiki.teltonika-gps.com/view/FMM80A_RoHS

FCC ID: 2A3HUFMM80A.

- 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

[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 RMA[1]**

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