

FMM003 General description

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FMM003 is a tracking terminal with GNSS and GSM connectivity, which is able to collect device coordinates and transfer them via GSM network to a server. This device is perfectly suitable for applications, which require the location acquirement of remote objects. FMM003 is an advanced plug and play LTE CAT1 device dedicated for next generation of OBD applications. The main feature of FMM003 is its possibility to read OEM parameters (PIDs) via OBD port. With this device, you will be able to read Real Odometer and Real Fuel Level data. What's more, our device comes with the supported vehicles and data list, so no need to guess anymore - now you know what data you can read from a specific vehicle. It is a perfect tracker for a wide range of use cases - including fleet management of light commercial vehicles, driver log-book, insurance telematics (UBI), car rental & leasing and more.

- Monitorable basic vehicle parameters depend on vehicle mark and model.
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Package contents

The FMM003 device is supplied to the customer in a cardboard box containing all the equipment that is necessary for operation. The package contains:

- FMM003 device;
- Top and bottom device cover parts;
- OBD II power supply adapter.

Basic characteristics

GSM / GPRS / GNSS features:

- Name Quectel BG95-M3, Teltonika TM2500;
- Technology LTE CAT M1/NB-IoT/GSM/GPRS/GNSS/BLUETOOTH;
- SMS (text, data);
- Integrated GNSS receiver;
- Up to -165 dBm GNSS receiver sensitivity.

CELLULAR:

Technology	Supported bands
2G bands	B2/B3/B5/B8 LTE-FDD: (CAT M1) B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B27/B28/B66/B85
4G bands	LTE-FDD: (CAT NB2) B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B28/B66/B71/B85 GSM: 850/900/1800/1900
Data transfer (Quectel)	LTE: Max. 588Kbps (DL)/Max.1119Kbps (UL) GPRS: Max. 107Kbps (DL)/Max. 85.6Kbps (UL)

Transmit power:

Class 4 for GSM850/900: 23 ± 2 dBm

Class 1 for GSM1800/1900: 20 ± 2 dBm

Class 3 for LTE-TDD: 23 ± 2.7 dBm

Class 3 for LTE-FDD: 23 ± 2.7 dBm

Hardware features:

- Built-in movement sensor;
- Built-in Bluetooth 3.0;
- Built-in Bluetooth 4.0;
- Internal High Gain GNSS antenna;
- Internal High Gain GSM antenna;
- 128 MB Flash (422 400 Records);
- 170 mAh Li-ion rechargeable 3.7 V battery.

Interface features:

- Power supply: +10...+30 V;
- CAN;
- K-LINE;
- USB port;
- OBD II;
- 2 LEDs indicating device status.

Special features:

- OEM OBD data reading;
- Fast position fix;
- High Quality track even in high density urban canyon;
- Small case;
- 2 LED status indication;
- Real time tracking;
- Smart data acquisition based on:
 - Time;
 - Speed;
 - Angle;

- Distance;
- Ignition or any other I/O event;
- Sending acquired data via GPRS;
- GPRS and SMS I/O events;
- Virtual odometer;
- Jamming detection;
- Configurable using Secured SMS Commands.
- Overvoltage protection.

Technical features

Part name	Physical specification
Navigation indication	LED
Modem indication	LED
OBD-II	Standard OBD-II connector
USB	Mini USB socket

Technical details

2 W max.	GPRS: max 50 mA
Current consumption at 12 V	Nominal: average 35 mA
	GPS sleep: average 12 mA
	Deep Sleep: average 4.5 mA
Battery charge current	Average: 140 mA
	Rated: 250 mA
Operating temperature (without battery)	-40 ... +85 °C
Storage temperature (without battery)	-40 ... +85 °C
Storage relative humidity	5 ... 95% (no condensation)
Internal fuse	3 A, 125 V
Device + case + battery weight	70 g

Dimension drawing:



Technical information about internal battery

Internal back-up battery	Battery voltage (V)	Nominal capacity (mAh)	Power (Wh)	Charge temperature (°C)	Discharge temperature (°C)	Storage temperature (°C)
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Li-ion rechargeable battery	3.75□3.90	170	0.64 - 0.66	0 to +45	-20 to +60	-20 to +45 for 1 month -20 to +35 for 6 months
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Batteries are covered by 6 month [warranty](#) support.

- ✘ CAUTION: 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 into general household waste.

- ✘ Bring damaged or worn-out batteries to your local recycling center or dispose them into a battery recycle bin commonly found in supermarkets.

Electrical characteristics

Characteristic description	Value			Unit
	Min.	Typ.	Max.	
Supply Voltage:				
Supply Voltage (Recommended Operating Conditions)	+10		+30	V
Input voltage (Recommended Operating Conditions)	0		Supply voltage	V

Absolute maximum ratings

Characteristic description	Value			Unit
	Min.	Typ.	Max.	
Supply Voltage (Absolute Maximum Ratings)	-32		+32	V