

FMM13A

ADVANCED CAT M1/GNSS/BLE TERMINAL WITH
INTERNAL ANTENNAS AND BACKUP BATTERY



FLEXIBLE DIN/AIN

Configurable DIN/AIN for flexible remote monitoring and control

LTE CAT M1

Device supports LTE CAT M1 connectivity, which allows low-power wide area technologies to be used

NEGATIVE INPUT

Allows easier installation of accessories

IMPULSE INPUTS

Suitable for fuel flow meters data reading



LIGHT
VEHICLES



HEAVY DUTY
TRANSPORT



TRAILER
TRACKING

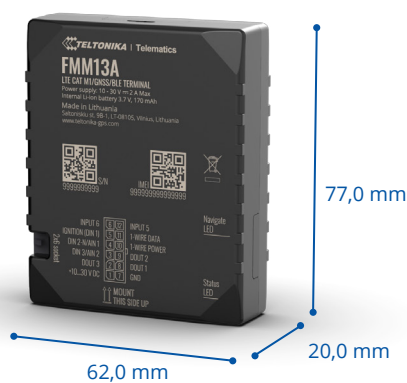


REFRIGERATED
TRANSPORT



INTERNATIONAL
LOGISTICS

FMM13A is small and professional real-time tracking terminal with GNSS and LTE CAT-M1 connectivity and backup battery. Device equipped with GNSS/Bluetooth and LTE CAT-M1 module, internal GNSS and LTE antennas, configurable digital, analogue inputs and digital outputs, negative input, impulse inputs. It is perfectly suitable for applications where location acquirement of remote objects is needed: fleet management, car rental companies, taxi companies, public transport, logistics companies, personal cars and so on.



Module

| | |
|------------|---|
| Name | FMM13A-Q2IB0: Quectel BG95-M1 with Teltonika TM2500 |
| Technology | LTE CAT M1/NB-IoT/GNSS/Bluetooth |

GNSS

| | |
|----------------------|---|
| GNSS | GPS, GLONASS, GALILEO, BEIDOU, QZSS, AGPS |
| Receiver | Tracking: 33 |
| Tracking sensitivity | -165 dBm |
| Position accuracy | < 2.5 CEP |
| Velocity accuracy | <0.1m/s (within +/- 15% error) |
| Hot start | < 1 s |
| Warm start | < 25 s |
| Cold start | < 35 s |

Cellular

| | |
|----------------|--|
| Technology | LTE CAT M1 / NB-IoT |
| 4G bands | LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B25/B26/B27/B28/B66/B85 |
| Data transfer | LTE: Max. 588Kbps (DL)/Max. 1119(UL) |
| Transmit power | Class 3 for LTE-TDD: 23±2.7dBm Class 3 for LTE-FDD: 23±2.7dBm |
| Data support | SMS (text/data) |

Power

| | |
|--------------------------|--|
| Input voltage range | 10 - 30 V DC with overvoltage protection |
| Internal Back-up battery | 170 mAh Li-Ion battery 3.7 V (0.63 Wh) |
| Internal fuse | 3 A, 125 V |

Power consumption

At 12V < 3 mA (**Ultra Deep Sleep**)
 At 12V < 5 mA (**Deep Sleep**)
 At 12V < 11 mA (**Online Deep Sleep**)
 At 12V < 18 mA (**GPS Sleep**)
 At 12V < 34 mA (nominal with no load)
 At 12V < 2A Max. (with full Load / Peak)

Bluetooth

| | |
|-----------------------|---|
| Specification | 4.0 + LE |
| Supported peripherals | Temperature and Humidity sensor, OBDII dongle, Inateck Barcode Scanner, Universal BLE sensors support |

Physical specification

| | |
|------------|-----------------------------|
| Dimensions | 77 x 62 x 20 mm (L x W x H) |
|------------|-----------------------------|

Operating environment

| | |
|---|--------------------------|
| Operating temperature (without battery) | -20 °C to +85 °C |
| Storage temperature (without battery) | -20 °C to +85 °C |
| Operating temperature (with battery) | -20 °C to +40 °C |
| Storage temperature (with battery) | -20 °C to +45 °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 |

Interface

| | |
|--------------------|--------------------------------------|
| Digital Inputs | 3 |
| Negative Inputs | 1 (Digital Input 2) |
| Impulse Inputs | 2 (Digital Input 1, Digital Input 2) |
| Digital Outputs | 3 |
| Analog Inputs | 2 |
| CAN Adapter Inputs | 1 |
| 1-Wire | 1 |
| GNSS antenna | Internal High Gain |
| Cellular antenna | Internal High Gain |
| USB | 2.0 Micro-USB |
| LED indication | 2 status LED lights |
| SIM | Micro-SIM |
| Memory | 128MB internal flash memory |

Features

| | |
|-----------------------------------|---|
| Sensors | Accelerometer |
| Scenarios | Green Driving, Over Speeding 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, Trip |
| Sleep modes | GPS Sleep, Online Deep Sleep, Deep Sleep, Ultra Deep Sleep |
| Configuration and firmware update | FOTA Web, FOTA, Teltonika Configurator (USB, Bluetooth), FMBT mobile application (Configuration) |
| SMS | Configuration, Events, DOUT control, Debug |
| GPRS commands | Configuration, DOUT control, Debug |
| Time Synchronization | GNSS, NITZ, NTP |
| Fuel monitoring | LLS (Analog), LV-CAN200, ALL-CAN300, CAN-CONTROL, OBDII dongle |
| Ignition detection | Digital Input 1, Accelerometer, External Power Voltage, Engine RPM (CAN Adapters, OBDII dongle) |

Certification & Approvals *

| | |
|------------|-------------------------------|
| Regulatory | FCC, PTCRB, IC, AT&T approval |
|------------|-------------------------------|

* in progress

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