

# 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

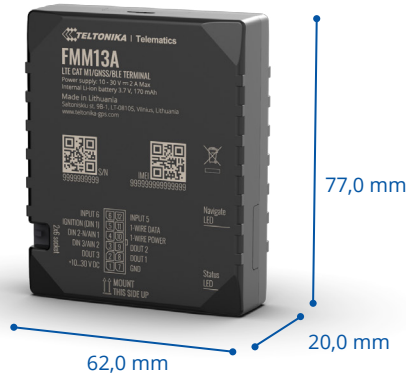


REFRIGERATED  
TRANSPORT



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)
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## 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
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\* in progress