FMM125

ADVANCED CAT M1/GSM/GNSS/BLE TERMINAL WITH INTERNAL ANTENNAS, RS485, RS232 INTERFACES AND BACKUP BATTERY

FMM125 is small and professional real-time tracking terminal with GNSS and LTE CAT-M1/NB-IoT/GSM connectivity and backup battery. Device equipped with GNSS/Bluetooth and LTE CAT-M1/NB-IoT modules with fallback to 2G network, internal GNSS, 3G antennas. FMM125 features RS485, RS232 data interface, which gives ability to connect various third-party external devices. 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.

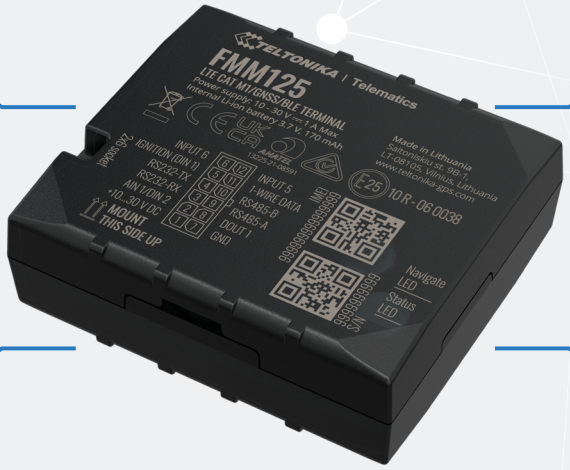
LTE M1/ NB IoT

Device supports both LTE M1 and NB IoT connectivity

Bluetooth for external devices and Low Energy sensors

ECU

CAN data reading from vehicles and specialized transport



Double network reliability and multiple network selection

RS232 RS485

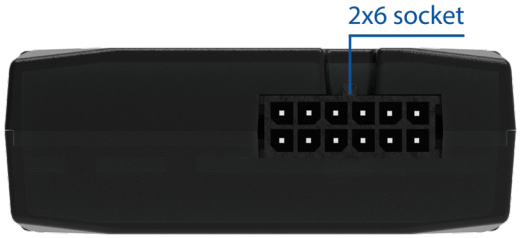
RS232/RS485 serial communication interfaces

1-Wire®

1-Wire® interface to monitor temperature data and RFID/iButton tags

USE CASES

- LIGHT VEHICLES
- HEAVY DUTY TRANSPORT
- TRAILER TRACKING
- REFRIGERATED TRANSPORT
- INTERNATIONAL LOGISTICS
- CAR SHARING



Module

Name	Quectel BG95-M3, Quectel BG96, Teltonika TM2500
Technology	LTE CAT M1/NB-IoT/GSM/GPRS/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/GSM
2G bands	BG95-M3: B2/B3/B5/B8; BG96: B2/B3/B5/B8.
4G bands	BG95-M3: LTE-FDD (CAT M1): B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/ B20/B25/B26/B27/ B28/B66/B85 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 BG96: LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B28 LTE TDD: B39 (for CAT M1 only)
Data transfer	BG95-M3: LTE (CAT M1): Max. 588 (DL)/Max. 1119 (UL) GPRS: Max. 107 (DL)/Max. 85.6 (UL) BG96: LTE (CAT M1): Max. 375Kbps(DL)/Max.375Kbps (UL) GPRS: Max. 107Kbps (DL)/Max. 85.6Kbps (UL)
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)

Power Consumption

Ultra Deep Sleep	At 12V < 4mA
Deep Sleep	At 12V < 6.5mA
Online Deep Sleep	At 12V < 7mA
GPS Sleep	At 12V < 12mA
Nominal (with no load)	At 12V < 38mA

Bluetooth

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

Physical specification

Dimensions	65 x 56.6 x 20.6 mm (L x W x H)
Weight	55 g

Operating environment

Operating temperature (without battery)	-20 °C to +85 °C
Storage temperature (without battery)	-20 °C to +85 °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

Interface

Digital Inputs	2
Digital Outputs	1
Analog Inputs	1
CAN Adapter Inputs	1
1-Wire	1
RS232	1
RS485	1
GNSS antenna	Internal High Gain
Cellular antenna	Internal High Gain
USB	2.0 Micro-USB
LED indication	2 status LED lights
SIM	2x SIM Card (Dual-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, Jamming*
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), Digital LLS (RS232, RS485), LV-CAN200, ALL-CAN300, CAN-CONTROL, OBDII dongle
Ignition detection	Digital Input 1, Accelerometer, External Power Voltage, Engine RPM (CAN Adapters, OBDII dongle)
RS232 Modes	Log Mode, NMEA, LLS, LCD, RFID HID/MF7, Garmin FMI, TCP ASCII/Binary
RS485 Modes	Log Mode, NMEA, LLS, TCP ASCII/Binary
RS485 input voltage range on A or B pin (common-mode voltage)	-7V to +12V
RS232 input voltage range (common-mode voltage)	+/-15V
RS232 input voltage range (maximum operational voltage)	+/-25V

Certification & Approvals

Regulatory	CE/RED, E-Mark, EAC, RoHS, REACH, CITC, RCM, ANATEL

*- Jamming is supported with Quectel BG95-M3