FMC650

PROFESSIONAL LTE CAT 1/GNSS/BLUETOOTH® TERMINAL

RELIABLE GLOBAL COVERAGE AND SEPARATE GNSS MODULE

Reliable 4G connection with fallback to 2G network ensures wide-ranging coverage of your fleet management needs. This model uses a separate module to gather GNSS data and has dual-channel, L1 + L5 support.

CONNECTING EXTERNAL DEVICES

2x RS232 and 1x RS485 serial communication interfaces for connecting external devices, such as thermographs, sensors, RFID readers and more

CAN DATA READING FROM HEAVY VEHICLES AND SPECIAL MACHINERY

Read J1939 data that includes standard CAN FMS from heavy vehicles like trucks and raw J1939 data from special machinery, such as construction cranes or electric buses. Possibility to connect to CAN line with multiple nodes.

Teltonika FMC650 is a 4G (LTE Cat. 1) tracking device with 2G (GSM) fallback, designed for professional and high-performance aeronautical applications.

Thanks to its GNSS and LTE modules with dedicated external antennas, it ensures accurate and continuous tracking of the aircraft's position and route, even under challenging operating conditions.

The device's advanced architecture, featuring a high-performance processor and large internal memory, enables efficient flight data management and customization for different types of aircraft or missions.

With its versatility and reliability, the Teltonika FMC650 is an ideal solution for air fleet monitoring and management, general aviation operations, flight training, aeroclubs, air taxi services, and aerial emergency operations.

Product

Model name	FMC650-MBX50

Module

Name	MeiG SLM320-PE2C
Technology	LTE(CaT1)/ 2G(GSM/GPRS)

GNSS

Module Name	Airoha AG3335MB
GNSS	GPS, GLONASS, GALILEO, BEIDOU, QZSS
Receiver	L1 and L5 dual-band GNSS receiver
Tracking sensitivity	-165 dBm
Position accuracy	< 2.5 CEP
Hot start	1 s
Warm start	< 25 s
Cold start	< 32 s

Cellular

Technology	LTE Cat 1, GSM
2G bands	B2/B3/B5/B8
4G bands	LTE-FDD:B1/B3/B7/B8/B20/B28 LTE-TDD:B38/B40/B41
Data transfer	LTE FDD: Max 10Mbps (DL)/Max 5Mbps (UL) LTE TDD Max 8Mbps (DL)/Max 2Mbps (UL) GPRS: Max 85.6Kbps (DL)/Max 85.6Kbps (UL)
Data support	SMS (text/data)

Power

Input voltage range	8 - 32 V DC with overvoltage (compatible with pulse 5a and pulse 5b) and reverse polarity protection
Internal Back-up battery	550 mAh Ni-Mh, 8,4 V battery
2 W max. Current consumption at 12 V	At 12V < 4 mA (Deep Sleep) At 12V < 11 mA (Online Deep Sleep) At 12V < 32 mA (GPS Sleep) At 12V < 45 mA (nominal with no load) At 12V < 0.25 A Max. (with full Load / Peak)

2 W max. Current consumption at 24 V	At 24V < 2,9 mA (Deep Sleep) At 24V < 7 mA (Online Deep Sleep) At 24V < 17 mA (GPS Sleep) At 24V < 35 mA (nominal with no load)

BLUETOOTH® technology

Name	Blue NRG232
Specification	5.0 + LE
Supported peripherals	Temperature and Humidity sensor, Universal BLUETOOTH® LE sensors support

Physical specification

Dimension	104,1 x 76,8 x 31,5 mm (L x W x H)
Weight	197 g

Operating environment

Operating temperature (without battery)	-40 °C to +85 °C
Storage temperature (without battery)	-40 °C to +85 °C
Operating humidity	5% to 95% non-condensing
Ingress Protection Rating	IP41
Battery storage temperature	-20 °C to +45°C

Interface

Digital Inputs	4
Digital Outputs	4
Analog Inputs	4
1-Wire	1
RS232	2
RS485	1
CAN J1939	2
J1708	1
K-line	1
GNSS antenna	External High Gain (L1+L5)
GSM antenna	External High Gain
USB	2.0 Mini-USB — device can be powered by USB for easier device configuration
LED indication	2 status LED lights
SIM	2x SIM Card (Dual-SIM) or 1x eSIM
Memory	16 MB internal flash memory and external Micro SD card up to 32GB
Switchable CAN terminators	Supported on CAN1 and CAN2 lines

Features

Movement detection	Accelerometer
Scenarios	Green/Eco Driving, Over Speeding detection, Jamming detection, Excessive Idling detection, Towing detection, Crash detection, Immobilizer, iButton Read Notification

Functionalities	Auto Geofencing, Manual Geofencing, Trip detection, Odometer, DDD download and Tacho online data, Offline tracking
Supported peripherals	Garmin, RFID RS232, RFID 1-Wire, iButton 1-Wire, Temperature 1-Wire, LV-CAN200, ALL-CAN300, CAN FMS (J1939, J1708), K-line data, Continental tire pressure measurement sensor, Iridium SBD (Iridium Edge/ TSM232), Carrier freezer, Log Mode, NMEA, TCP ASCII/Binary, Temperature and humidity sensor, Universal BLE sensors support
Sleep modes	GPS Sleep, Online Deep Sleep, Deep Sleep
Configuration and firmware update	FOTA Web, FOTA, Teltonika Configurator
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, CAN FMS, Ultrasonic level sensor
Ignition detection	Digital Input, Accelerometer, External Power Voltage
RS485 input voltage range on A or B pin (common-mode voltage)	-7V to +12V

Certification & Approvals

Regulatory	CE-RED, UKCA, E-mark, RCM, Pulse 5a, SIRIM QAS, ICASA, CITC