FMM230

WATERPROOF LTE CAT M1 TERMINAL WITH FLEXIBLE INPUTS CONFIGURATION

Product page

IP67   CAT M1   3 DOUT

TELTONIKA | Telematics

FMM230
LTE CAT M1/GNSS/BLE TERMINAL
Power supply: 10 - 30 V ⎓ 2 A Max
Internal Li-ion battery 3.7 V, 170 mAh

Made in Lithuania
Saltoniskiu st. 9B-1,
LT-08105, Vilnius, Lithuania
www.teltonika-gps.com

INPUT 6	G	12	INPUT 5
IGNITION (DIN 1)	5	11	1-WIRE DATA
DIN 2-N/AIN 1	4	10	1-WIRE POWER
DIN 3/AIN 2	3	9	DOUT 2
DOUT 3	2	8	DOUT 1
+10...30 V DC	1	7	GND

2x6 socket

↑ MOUNT THIS SIDE UP

IMEI/S/N
9999999999

IP67 CASING

Reliable tracking in harsh conditions

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

AGRICULTURE   CONSTRUCTION & MINING   WATER TRANSPORT   PUBLIC SERVICES   HEAVY DUTY TRANSPORT

FMM230 is WATER and DUST resistant real-time tracking terminal with LTE CAT M1 network coverage including 2G (GSM) fallback compatibility. It comes equipped with internal GNSS, LTE antennas, configurable digital, analog, negative and impulse inputs, three DOUT outputs, Bluetooth connectivity, and backup battery.

The device has an integrated possibility to enable Impulse Input for precise fuel flow meter data reading. Impulse based fuel usage monitoring is much more accurate than a different type of fuel metering sensors and it makes the FMM230 a perfect solution for high fuel usage machines like cranes, construction vehicles, mining machines, agriculture equipment.

Additionally, FMM230 device has IP67 certified casing which provides a total protection against dust and resistance to water in a depth of up to 1 meter for at least 30 minutes. As a result, FMM230 can be used in agriculture, construction and mining or any other fleet where harsh tracking conditions exists.

67,0 mm

25,6 mm

70,5 mm

Module

Name	FMM230-Q3IB0: Quectel BG95-M3 with 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
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
Data transfer	BG95-M3: LTE: Max. 588Kbps (DL)/Max.1119Kbps (UL) GPRS: Max. 107Kbps (DL)/Max. 85.6Kbps (UL)
Transmit power	Class 4 for GSM850/900: 23±2dBm Class 1 for GSM1800/1900: 20±2dBm 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	70,5 x 67,0 x 25,6 mm (L x W x H) 85,0 x 67,0 x 25,6 mm (L x W x H) (length with connector socket)

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	IP67
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	CE-RED, E-mark, RCM, Reach, RoHS

* in progress