FMC650

4G LTE Cat 1 tracker for advanced applications with high capacity backup battery and external antennas



Construction vehicle solutions

Water transport monitoring

Agriculture transport solutions

Cold chain monitoring

International logistics solutions

EASY TRUCK & TRAILER OVERSIGHT

Analyse vehicle performance with FMS data and catch failures early with diagnostic messages, all while ensuring trailer identification and brake monitoring

SMART TACHOGRAPH DATA MANAGEMENT

Download tachograph files remotely and manage driver activity with real-time counter data via K-line, Tacho CAN, or FMS

FULL VISIBILITY INTO MACHINERY OPERATIONS

Collect CAN data to monitor key parameters specific to agricultural, marine, and heavy machinery, making all component use traceable and measurable

SCALABLE PROJECTS WITH EXTERNAL DEVICES

Integrate external sensors, RFID readers, thermographs, and other devices at any stage of the project to provide full context on cargo, driver, and fuel status

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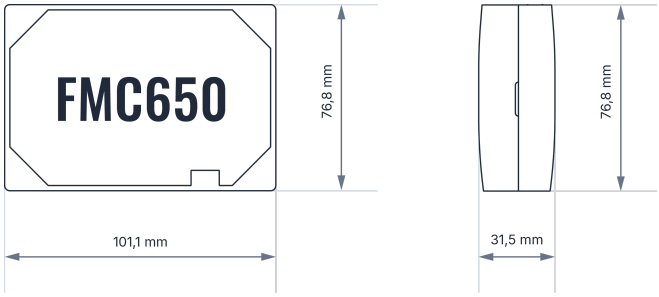

Product	
Name	**FMC650-MBX50** **FMC650-MCX50**
Module	
Name	**FMC650-MBX50**: MeiG SLM320-PE2H with Airoha AG3335MB **FMC650-MCX50**: MeiG SLM320-L16B with Airoha AG3335MB
Technology	LTE CAT 1/GSM/GPRS/GNSS/BLUETOOTH® LE
GNSS	
Module name	Airoha AG3335MB
GNSS	GPS, GLONASS, GALILEO, BEIDOU, QZSS, DGPS
Receiver	L1: 75 acquisition/tracking channels L5: 60 tracking channels
Tracking sensitivity	-165 dBM
Position Accuracy	< 2.5 m CEP
Velocity Accuracy	< 0.1 m/s (within +/- 15% error)
Hot start	1 s
Warm start	< 25 s
Cold start	< 32 s
Cellular	
Technology	LTE Cat 1, GSM
2G bands	**FMC650-MBX50**: B2/B3/B5/B8 **FMC650-MCX50**: B2/B3/B5/B8
4G LTE bands	**FMC650-MBX50**: LTE-FDD:B1/B3/B7/B8/B20/B28 LTE-TDD:B38/B40/B41 **FMC650-MCX50**: LTE-FDD:B1/B2/B3/B4/B5/B7/B8/B20/B28 LTE-TDD:B40
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)

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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
Internal fuse	3 A, 125 V
2 W max. Current consumption at 12 V	At 12V < 22 mA (Deep Sleep) At 12V < 28 mA (Online Deep Sleep) At 12V < 51 mA (GPS Sleep) At 12V < 79 mA (nominal with no load) At 12V < 96 mA Max. (with full Load / Peak) 2 W max. Current
2 W max. Current consumption at 24 V	At 24V < 15 mA (Deep Sleep) At 24V < 18 mA (Online Deep Sleep) At 24V < 36 mA (GPS Sleep) At 24V < 41 mA (nominal with no Load At 24V < 55 mA Max. (with full Load / Peak)
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

Bluetooth® Technology	
Name	Blue NRG232
Specification	5.2 + LE
Supported peripherals	Temperature and Humidity sensor, Universal BLUETOOTH® LE sensors support

Physical specification	
Dimensions	105 x 78 x 29 mm (L x W x H)
Weight	199 g

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Operating environment	
Operating temperature (without battery)	-40 °C to +85 °C
Storage temperature (without battery)	-40 °C to +85 °C
Operating temperature (with battery)	-20 °C to +45°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 +40°C
Battery discharge temperature	-25°C to +45°C
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
CAN J1708	1
K-line	1
GNSS antenna	External High Gain
Cellular 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	Dual Nano SIM or 1x eSIM
Memory	16 MB internal flash memory and external Micro SD card up to 32GB
Switchable CAN terminals	Supported on CAN1 and CAN2 lines

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Features	
Sensors	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, 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
RS232 Modes	Log Mode, NMEA, LLS, LCD, RFIH HID/MF7, Garmin FMI, TCP ASCII/Binary
RS485 Modes	LLS (Analog), Digital LLS (RS232, RS485), LV-CAN200, CAN FMS, Ultrasonic level sensor

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

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