MAGNA III 4G DATA SHEET

FleetMotus

Magna III 4G

PROFESSIONAL LTE CAT1/4G/GNSS/BLUETOOTH TERMINAL

Model: FMC650 Part Number: 52-1172

KEY FEATURES

- **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.
- **Remote download of tachograph files and live data**
  Tachograph live data reading via K-Line, Tacho CAN or FMS connections for everyday driver management and fleet efficiency.
- **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.
- **Connecting external devices**
  2x RS232 and 1x RS485 serial communication interfaces for connecting external devices, such as thermographs, sensors, RFID readers and more.

The Magna III tracking device has 4G (LTE Cat 1) network coverage including 2G (GSM) fallback compatibility. Device equipped with GNSS and LTE modules, external GNSS and LTE antennas. Separate GNSS module improves the accuracy of the track, making FMC650 more suitable for free flow electronic tolling system integration. Compared to our previous model, the Magna III has a new processor that improves the devices computation power along with increased device internal memory it can be tailored to more specific use cases. Switchable CAN terminators that will allow you to use the device in CAN network with numerous nodes. Lastly, it can be powered via USB for easier configuration process. All the previous features are also supported by FMC650, therefore it will maximize your fleet efficiency with features like FMS CAN data (J1939), fuel CAN data (J1708), tachograph live data (K-Line), remote tachograph file download, various third party RS232 or RS485 devices support and Dual-SIM or eSIM compatibility. The device is suitable for applications like international logistics, refrigerated transport, agriculture, construction & mining, security & emergency services and even more.

Dimensions

Specification

FleetMotus Magna III Tracking Device		**Part Number: 52-1172**
Product	Model	FMC-650-MBX50
	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)

Specification continued

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 12V	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)
	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	Dimensions	104.1 x 76.8 x 29.2 mm (L x W x H)
	Weight	197 g
Operating environment	Operating temperature	-40 °C to +85 °C
	(without battery)	
	Storage temperature	-40 °C to +85 °C
	(without battery)	
	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 configuration
	LED indication	2 status LED lights
	SIM	2 x SIM Card (Dual-SIM) or 1 x eSIM
	Memory	16 MB internal flash memory and external Micro SD card up to 32GB
	Switchable CAN terminators	Supported on CAN1 and CAN2 lines

Specification continued

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