

FMB964 General description

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FMB964 is a tracking terminal with GNSS and GSM connectivity, which is able to collect device coordinates and transfer them via GSM network to a server. This device is perfectly suitable for applications, which require the location acquirement of remote objects.



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Package contents

The FMB964 device is supplied to the customer in a cardboard box containing all the equipment that is necessary for operation. The package contains:

- Already implemented FMB964 device into case;
- Top and bottom device cover parts;
- Input and output power supply cable with a 1x5 connection pins, which is already installed into device.
- 1800 mAh Li Po rechargeable 3.7 V battery

Basic characteristics

GSM / GPRS / GNSS features:

- Teltonika TM2500 quad band module (GSM 850 / 900 / 1800 / 1900 MHz);
- GPRS class 12;
- SMS (text, data).
- Integrated GNSS receiver
- Up to -162 dBm GNSS receiver sensitivity.

Hardware features:

- Built-in embedded SIM;
- Built-in movement sensor;
- Built-in Bluetooth 3.0;
- Built-in Bluetooth 4.0;
- Internal High Gain GNSS antenna;

- Internal High Gain GSM antenna;
- 128 MB Flash (422 400 Records);
- 1800 mAh Li Po rechargeable 3.7 V battery.

Interface features:

- Power supply: 6 ÷ 30V;
- 1 digital input;
- 1 analog input;
- 1 open collector digital output (connecting external relays, LED, buzzers etc.);
- 2 LEDs indicating device status.

Special features:

- Fast position fix;
- High Quality track even in high density urban canyon;
- Ultra small case;
- Ready for harsh environment;
- Color ribbon non-detachable cable;
- Easy to mount in limited access areas;
- Firmly fasten;
- High gain internal GNSS and GSM antennas;
- 2 LED status indication;
- Real-Time tracking;
- Smart data acquisition based on:
 - Time;
 - Angle;
 - Distance;
 - Ignition or any other I/O event;
- Sending acquired data via GPRS;
- GPRS and SMS I/O events;
- Virtual odometer;
- Jamming detection
- Configurable using Secured SMS Commands;
- Overvoltage protection.

Description	Voltage	Duration
Normal operation	+6 ... +30 V	Unlimited
Protection turns on, device turns off	34 V	Unlimited
Maximum voltage	<70 V	Unlimited
Maximum voltage impulse	90 V	5ms

Technical features

Part name	Physical specification
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Navigation indication	LED
Modem indication	LED
Socket	Soldered inner socket
USB	Micro USB socket
GNSS	Internal GNSS antenna
GSM	Internal GSM antenna

Technical details

	GPRS: average avg mA rms Nominal: average 22,7 rms GPS sleep: average avg mA Deep Sleep: average 4,6 mA Online Deep Sleep: average 5 mA Ultra Deep Sleep: average 3,4 mA Rated current: 250 mA
2 W max. Current consumption at 12 V	
Battery charge current	Average 140 mA
Operating temperature	-22..+55
Storage temperature	-20..+45
Storage relative humidity	5..85% (no condensation)
Cable + Device + case + battery weight	100 g

Dimension drawing:



Technical information about internal battery

Internal back-up battery	Battery voltage (V)	Nominal capacity (mAh)	Power (Wh)	Charging temperature (°C)
Li-Po rechargeable battery	3.4□4.1	1800	6.21 – 7.38	0 – 45

Batteries are covered by 6 month [warranty](#) support.

CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Battery should not be disposed of into general household waste.

Bring damaged or worn-out batteries to your local recycling center or dispose them into a battery recycle bin commonly found in supermarkets.

Electrical characteristics

Characteristic description	Value			Unit
	Min.	Typ.	Max.	
Supply Voltage:				
Supply Voltage (Recommended Operating Conditions)	6		30	V
Digital Output (Open Drain grade):				
Drain current (Digital Output OFF)			120	μA
Drain current (Digital Output ON, Recommended Operating Conditions)	0.1		0.5	A
Digital Input:			300	mΩ
Digital Output (Open Drain grade):				
Input resistance (DIN1)	47			kΩ
Input voltage (Recommended Operating Conditions)	0		Supply voltage	V
Input Voltage threshold (DIN1)		4		V
Analog Input:				
Input voltage (Recommended Operating Conditions)	0		30	V
Input resistance		150		kΩ
Measurement error on 12 V		3		%
Additional error on 12 V		360		mV
Measurement error on 30 V		3		%
Additional error on 30 V		900		mV

✖ Analog Input error margin can increase if temperature varies.

Absolute maximum ratings

Characteristic description	Value			Unit
	Min.	Typ.	Max.	
Supply Voltage (Absolute Maximum Ratings)	-32		+32	V
Drain-Source clamp threshold voltage (Absolute Maximum Ratings), ($I_{\text{drain}} = 2 \text{ mA}$)			+36	V
Digital Input Voltage (Absolute Maximum Ratings)	-32		+32	V
Analog Input Voltage (Absolute Maximum Ratings)	-32		+32	V