

FMB900 General description

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FMB900 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 FMB900 device is supplied to the customer in a cardboard box containing all the equipment that is necessary for operation. The package contains:

- Already implemented FMB900 device into case;
- Top and bottom device cover parts;
- and output power supply cable with a 1x5 connection pins, which is already installed into device.

Basic characteristics

GSM / GPRS / GNSS features:

- Teltonika [TM2500](#) quad band module (GSM 850 / 900 / 1800 / 1900 MHz);
- GPRS class 12 (Up to 85,6 kbps);
- SMS (text, data);
- Integrated GNSS receiver;
- Up to -165 dBm GNSS receiver sensitivity.

Hardware features:

- Built-in movement sensor;
- Built-in Bluetooth® 4.0;
- Internal High Gain GNSS antenna;
- Internal High Gain GSM antenna;
- 128 MB Flash (422 400 Records).

Interface features:

- Power supply: +6... +30 V;
- 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 (Outdoor areas);
- High Quality track even in high density urban canyon;
- Ultra small case;
- Ready for harsh environment;
- Easy to mount in limited access areas;
- Firmly fasten;
- 2 LED status indication;
- Real time tracking;
- Smart data acquisition based on:
 - Time;
 - Speed;
 - 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;

- Color ribbon non-detachable cable;
- 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
Navigation indication	LED
Modem indication	LED

Socket	Soldered inner socket
USB	Micro USB socket

Technical details

2 W max.	GPRS: average 50 mA
Current consumption at 12 V (Power supply 6...30 V DC)	Nominal: average 35 mA GNSS sleep: average 5.58 mA Deep Sleep: average 4.06 mA Online Deep Sleep: average 4.62 mA Ultra Deep Sleep: average 2.08 mA Rated current: 250 mA
Operating temperature	-40 ... +85 °C
Storage temperature	-40 ... +85 °C
Storage relative humidity	5 ... 95% (no condensation)
Device + case weight	50 g

Dimension drawing:



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		
	Min.	Typ.	Max. Unit
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