

FMU126 General description

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FMU126 is small and professional real-time tracking terminal with GNSS and 3G/GSM connectivity and backup battery. Device equipped with GNSS/Bluetooth and 3G modules, internal GNSS and internal 3G antennas. FMU126 feature RS232 data interface, which gives ability to connect various third-party external devices. It is perfectly suitable for applications where location acquirement of remote objects is needed: fleet management, car rental companies, taxi companies, public transport, logistics companies, personal cars and so on.

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Package contents

The FMU126 device is supplied to the customer in a cardboard box containing all the equipment that is necessary for operation. The package contains:

- FMU126 device;
- Input and output power supply cable with 2x6 connection pins;
- Micro USB cable;
- 3.7 V 1200 mAh rechargeable Li-ion battery.

Basic characteristics

GSM / GPRS / GNSS features:

- Quectel UC15-T, Teltonika TM2500 3G(UMTS/HSPA)/2G(GSM/GPRS)/GNSS/BLE/BT;
- GPRS Multi-Slot class 12 (Up to 240 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 LE;
- Internal High Gain GNSS antenna;

- Internal High Gain GSM antenna;
- Internal flash memory 128MB (422 400 Records);
- 1200 mAh Li-ion rechargeable 3.7 V battery (4.44 Wh).

Interface features:

- Power supply: +10... +30 V;
- 2 digital inputs;
- 1 analog input;
- 2 open collector digital output (connecting external relays, LED, buzzers etc);
- 1-Wire temperature sensor;
- 1-Wire iButton;
- LVCAN RX (INPUT 5);
- LVCAN TX (INPUT 6);
- 1 RS-232 interface;
- 2 LEDs indicating device status.
- Integrated buzzer

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;
- 2xSIM Card (Dual-SIM)
- Overvoltage protection;

Technical features

Part name	Physical specification
Navigation indication	LED

Modem indication	LED
Socket	Soldered inner socket
USB	Micro USB socket
GNSS	External GNSS antenna
GSM	Internal GSM antenna

Technical details

	GPRS: average 64.59 mA rms
	Nominal: average 37.77 rms
2 W max.	GNSS sleep: average 11.1 mA
Current consumption at 12 V (Power supply 10...30 V DC)	Deep Sleep: average 6.2 mA
	Online Deep Sleep: average 6.5 mA
Battery charge current	Average 240 mA
Operating temperature (without battery)	-40..+85 °C
Storage temperature (without battery)	-40..+85 °C
Storage relative humidity	5..95% (no condensation)
Device + case + battery weight	52 g

Dimension drawing:



Technical information about internal battery

Internal back-up battery	Battery voltage (V)	Nominal capacity (mAh)	Power (Wh)	Charge temperature (°C)	Discharge temperature (°C)	Storage temperature (°C)
Li-ion rechargeable battery	3.8□4.1	1200	4.44	0 to +45	-20 to +60	-20 to +45 for 1 month -20 to +35 for 6 months

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.	
Supply Voltage:			
Supply Voltage (Recommended Operating Conditions)	+10		+30 V
Digital Output (Open Drain grade):			
Drain current (Digital Output OFF)			120 μ A
Drain current (Digital Output ON, Recommended Operating Conditions)	0.1		0.5 A
Static Drain-Source resistance (Digital Output ON)		400	600 m Ω
Digital Input:			
Input resistance (DIN1)	47		k Ω
Input resistance (DIN2)	51.7		k Ω
Input resistance (DIN3)	47		k Ω
Input voltage (Recommended Operating Conditions)	0		Supply voltage V
Input Voltage threshold (DIN1)		7.5	V
Input Voltage threshold (DIN2)		2.5	V
Input Voltage threshold (DIN3)		2.5	V
Analog Input:			
Input voltage (Recommended Operating Conditions), Range 1	0		+10 V
Input resistance, Range 1		150	k Ω
Measurement error on 12V, Range 1		3	%
Additional error on 12 V, Range 1		360	mV
Measurement error on 30 V, Range 1		3	%
Additional error on 30 V, Range 1		900	mV
Input Voltage (Recommended Operating Conditions), Range 2	0		+30 V
Input resistance, Range 2		150	k Ω
Measurement error on 12V, Range 2		3	%
Additional error on 12 V, Range 2		360	mV
Measurement error on 30 V, Range 2		3	%
Additional error on 30 V, Range 2		900	mV
Output Supply Voltage 1-Wire:			
Supply voltage	+4.5		+4.7 V
Output inner resistance		7	Ω

Output current ($U_{out} > 3.0\text{ V}$)		30	mA
Short circuit current ($U_{out} = 0$)		75	mA
Ground sense:			
Input resistance	38.45		k Ω
Input voltage (Recommended operating conditions)	0	Supply voltage	V
Input voltage threshold	0.5		V
Sink current		180	nA

CAN interface:

Internal terminal resistor CAN bus (no internal termination resistor)	-	-	-	Ω
Differential input resistance	19	30	52	k Ω
Recessive output voltage	2	2.5	3	V
Differential receiver threshold Voltage	0.5	0.7	0.9	V
Common mode input voltage	-30	-	30	V

 **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), ($I_{drain} = 2\text{ mA}$)			+36	V
Digital Input Voltage (Absolute Maximum Ratings)	-32		+32	V
Analog Input Voltage (Absolute Maximum Ratings)	-32		+32	V