

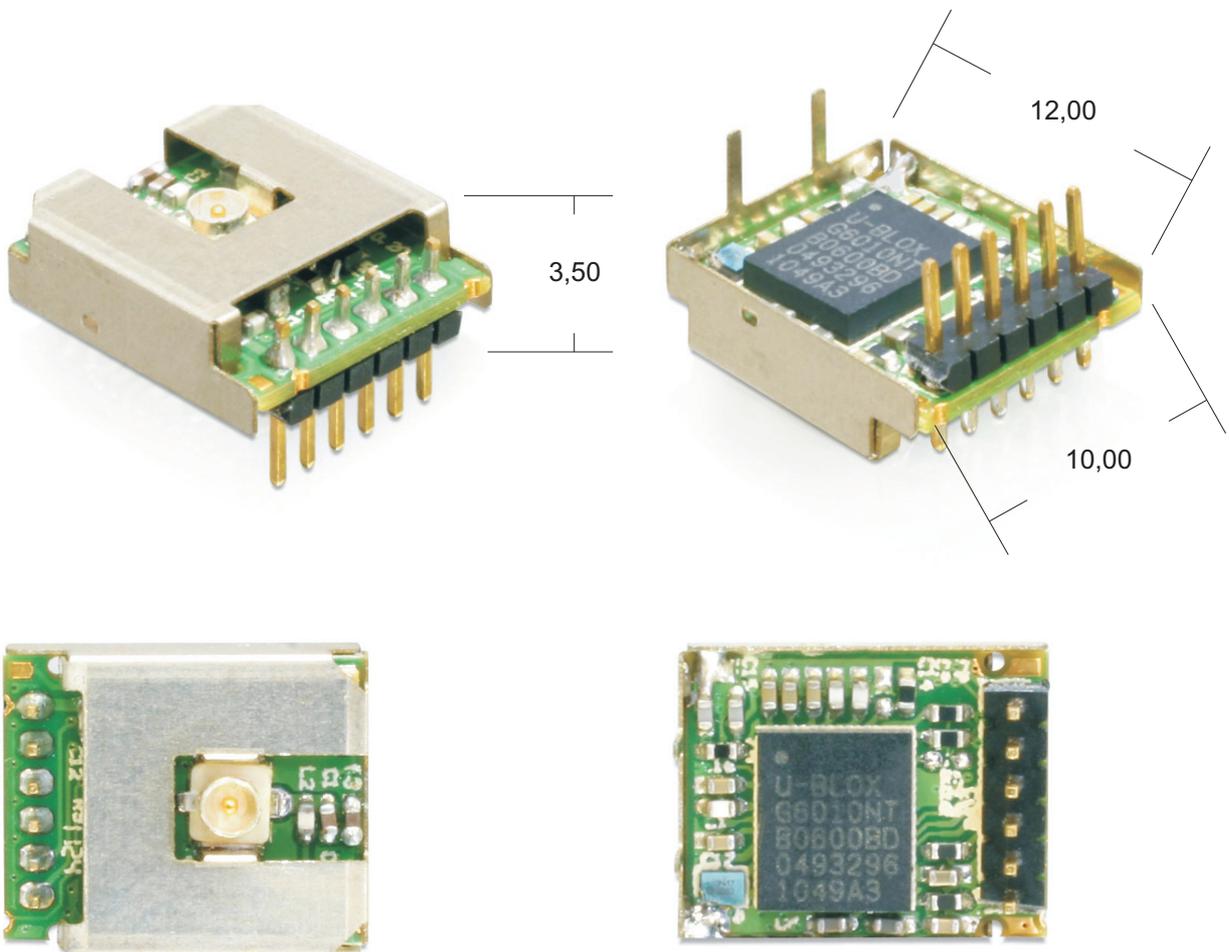
# Specification

**NAVILOCK®**

## 60427

Navilock industry GPS Engine Module NL-630EUSB

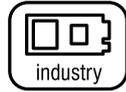
EAN: 4043619604272



**Edition: 08/2011**



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### Overview

NL-630EUSB is equipped with the **u-blox 6** high-sensitivity engine, GPS antenna RF connector, digital and fixing pins. It is the smallest GPS module with above functions and measures just **10x12x3.5** (mm). The slim design allows it to be used in dimension demanding devices. The built-in USB interface makes it very easy to integrate with modern USB-rich devices such as notebook, PC etc.

Our special design allows supply main power and backup battery power from one VCC source while still keeps battery power when it is powered off by the built-in power control pin. **External backup power is thus saved.**

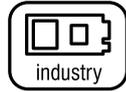
(However, there is no GPIO (from your current MCU) to control PWR\_CTRL pin and you plan to add another parallel 1.5V battery to VCC pin. In this case, it is right to add a diode to protect the 1.5V battery. The power consumption is 25 uA in this case. For power saving, you have to pull PWR\_CTRL pin to "high" position.)

### Features

- **Built-in RF connector**, reduce RF tuning efforts
- **Small** than most engine boards that don't build-in RF connector: 10 (W) x 12 (L) x 3.5 (H) (mm)
- The tiny I-PEX RF connector allows **flexibly** placing GPS antenna at a suitable location inside housing.
- External active antenna **short circuit protection**
- Power ON/OFF pin - easy **power saving control**.
- **Save backup power & circuits**; Fast position fix even when it is powered OFF by power control pin.
- Tiny DIP connector for both electrical & **reliable PCB fixing**
- High sensitivity+/-160dBm tracking/-146dBm acquisition
- High precision time pulse signal (0,25~1KHz)
- Up to 5Hz update rate (default 1Hz)
- USB interfaces
- OMA SUPL compliant A-GPS support SBAS (WAAS, EGNOS, MSAS, GAGAN) support
- Excellent EMI protection



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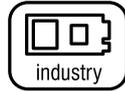
### Technical specifications

Receiver performance data

Receiver Type	u-blox 6 UBX-G6010-NT, 50-channel, L1 frequency, C/A code
Horizontal Position Accuracy	< 2.5m (Autonomous) < 2.0m (WAAS) (CEP, 50%, 24-hour static, -130dBm, SEP < 3.5m )
Velocity Accuracy	<0.1 m/s (speed) <0.5° (heading) (50% @ 30 m/s)
Time Pulse	30ns (RMS)
Signal Accuracy	<60 ns (99%)
Time To First Fix	Autonomous (all at -130dBm)
Hot start	1sec
Warm start	32sec
Cold start	32sec
Sensitivity	-146dBm (acquisition) (Autonomous) -160dBm (tracking & navigation)
Max. Update Rate	5Hz
Max. Altitude	< 50.000 m
Max. Velocity	< 1.800 km/hr
Protocol Support	NMEA 0183 V2.3 (compatible to 3.0) UART: 9600, 38400bps N,8,1; GGA, GLL, GSA, GSV, RMC, VTG, TXT
SBAS Support	WAAS, EGNOS, MSAS, GAGAN
Dynamics	< 4g



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### Electrical data

Power supply	3,3 +/- 0,3 V
Power consumption	50 mA / average tracking
Current active antenna	30 mA

### RF interface

Connector	I-PEX
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### Environmental data

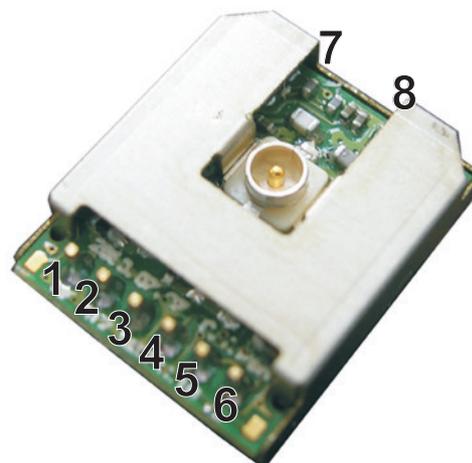
Operating temperature	-40 ~ 85°C
Storage temperature	-40 ~ 85°C

### Mechanical data

Dimension	10 (W) x 12 (L) x 3,5 (H) mm
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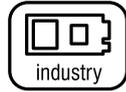
### 8-pin Interface

Pin	Name	Function	I/O
1	VCC	3,0 ~ 3,6 V	Input
2	Reserved	Reserved	I/O
3	Reserved	Reserved	I/O
4	PWR_CTRL	Module power control	Input
5	DP	USB positive	I/O
6	DM	USB negative	I/O
7	GND	Ground	Input
8	GND	Ground	Input





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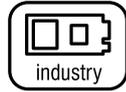
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### **WEEE note**

The WEEE (Waste Electrical and Electronic Equipment) directive, which came into force on 13 February 2003, lead to a comprehensive change in the disposal of used electric products. It is the main purpose of this directive to avoid electric waste products (WEEE), while simultaneously promoting the re-usage, recycling and other forms of reconditioning in order to reduce the amount of waste. The WEEE logo on the product and the package shows that the product should not be disposed of with regular garbage. You are responsible for disposing all used electric and electronic devices at the corresponding collection sites. The separate collection and meaningful re-usage of electronic waste helps to deal with natural resources more economically. In addition, re-using electronic waste contributes to the preservation of the environment and human health. Additional information regarding the disposal of electric and electronic devices, their re-usage and the collection sites can be found at your local authorities, disposal companies, specialist shops and the manufacturer of the product.

### **RoHS conformity**

This product complies with the directive 2002/95/EC of the European parliament and the council from January 27th 2003 concerning the restricted use of dangerous substances in electrical and electronical devices (RoHS) as well as its modification. This product is compliant with Directive 2011/65/EU of 3 January 2013.



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### **Support Navilock**

If you have further questions, please contact our customer support  
support@navilock.de.

You can find current product information on our homepage: [www.navilock.com](http://www.navilock.com).

### **Final clause**

Information and data contained in this manual are subject to change without notice in advance. Errors and misprints excepted.

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