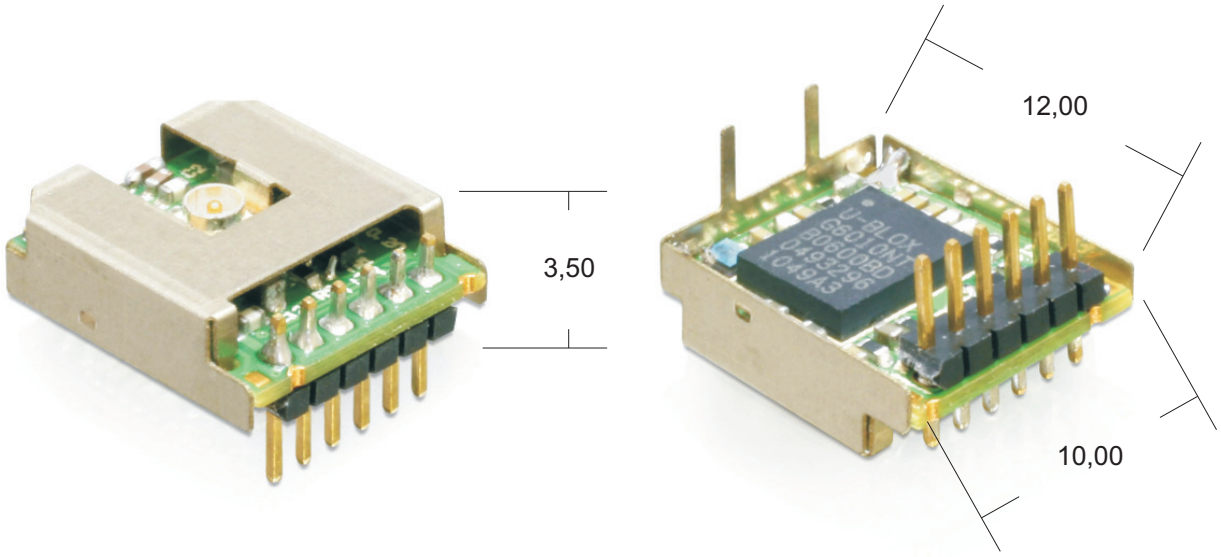
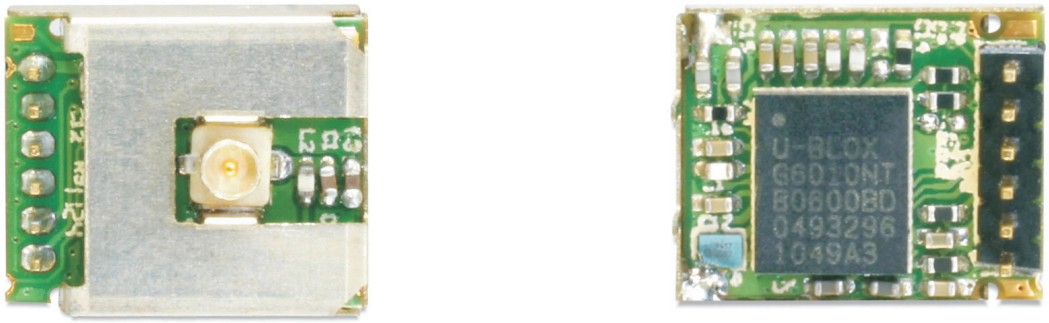
Specification

60428

Navilock industry GPS Engine Module NL-631ETTL

EAN: 4043619604289





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Overview

NL-631ETTL 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.
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 25uA in this case. For power saving, you have to pull PWR_CTRL pin to “high” position.)

Our experienced design provides not only excellent GPS performance but also quality and delivery assurance.

Features

• **Built-in RF connector**, reduce RF tuning efforts
• **Small** than most engine boards that don’t build-in RF connecgtor: 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)
• UART 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	< 2.5m (Autonomous)
Accuracy	< 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

RF interface

Connector	I-PEX

Environmental data

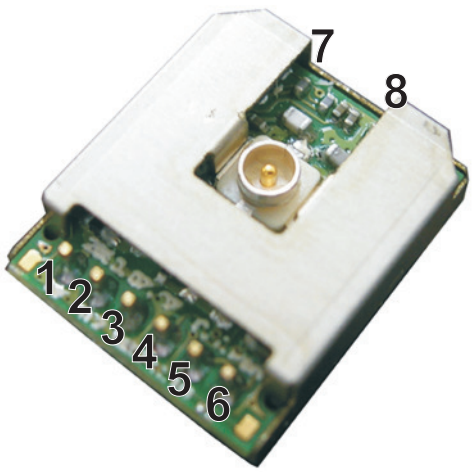
Operating temperature	-40 ~ 85°C
Storage temperature	-40 ~ 85°C

Mechanical data

Dimension	10 (W) x 12 (L) x 3,5 (H) mm

8-pin Interface

Pin	Name	Function	I/O
1	VCC	3,0 ~ 3,6 V	Input
2	TXD	TTL serial data output (from GPS)	Output
3	RXD	TTL serial data input (to GPS)	Input
4	PWR_CTRL	Module power control High or floating: power OFF Low: power ON	Input
5	TIMEPULSE	Default: 1 pulse per second (1Hz), synchronized at rising edge, pulse length 100ms. Configurable: 0.25Hz ~ 1kHz	Output
6	Reserved	Reserved	I/O
7	GND	Ground	Input
8	GND	Ground	Input



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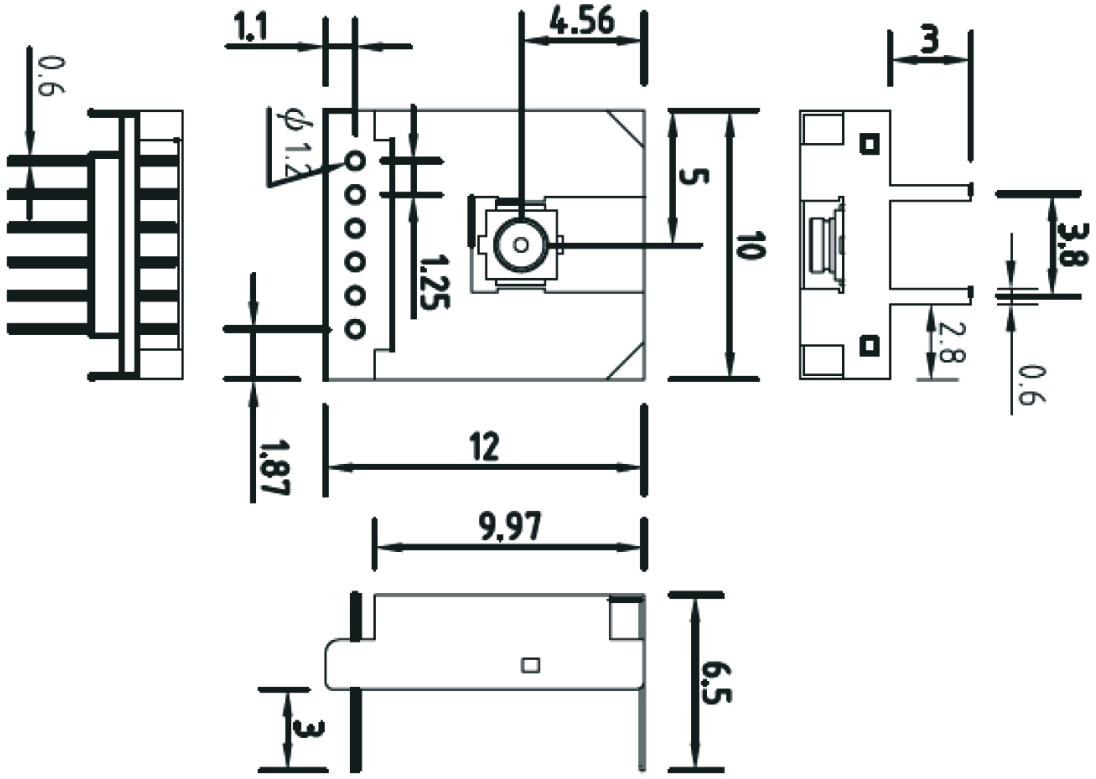
Mechanical drawing



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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.

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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