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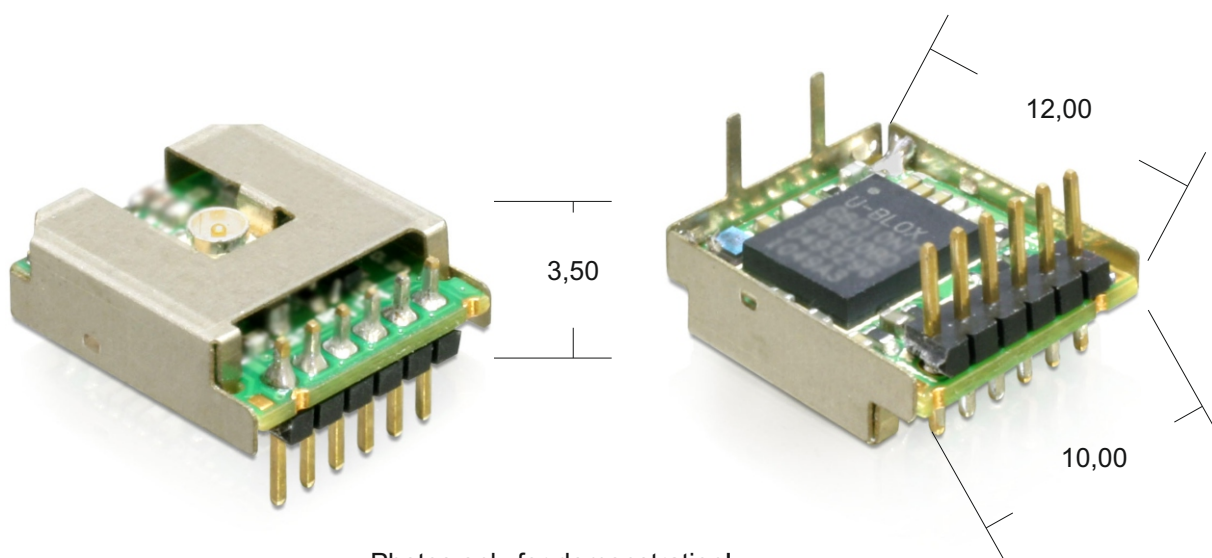


Specification

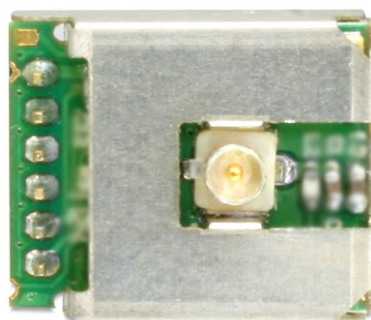
60447

Navilock GNSS GLONASS GPS Engine Module NL-731ETTTL

EAN: 4043619604470



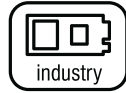
Photos only for demonstration!



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Overview

NL-731ETTTL is equipped with the u-blox 7 high-sensitivity engine, GNSS antenna RF connector, digital and fixing pins. It receives GPS or GLONASS signals.

It is the smallest GNSS 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.)

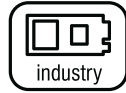
Our experienced design provides not only excellent GNSS performance but also quality and delivery assurance.

Features

- Built-in RF connector, reduce RF tuning efforts
- Small than most engine boards that don't build-in RF connector: 10 (W) x 12 (L) x 3.5 (H) mm
- The tiny I-PEX MHF® I RF connector allows flexibly placing GNSS 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+/-162dBm tracking/-160dBm acquisition
- High precision time pulse signal (0,25-1KHz)
- Up to 10Hz 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 7 UBX-G7020, 56-channel, L1 frequency, C/A code
Horizontal Position Accuracy	< 2.5 m (Autonomous) < 2.0 m (SBAS) (CEP, 50%, 24-hour static, -130 dBm, SEP < 3.5 m)
Velocity Accuracy	<0.1 m/s (speed) <0.5° (heading) (50 % @ 30 m/s)
Time Pulse	30 ns (RMS)
Signal Accuracy	<60 ns (99 %)
Time To First Fix	Autonomous (all at -130 dBm)
Hot start	1 s
Cold start	29 s
Sensitivity	-160 dBm (acquisition)
(Autonomous)	-162 dBm (tracking & navigation)
Max. Update Rate	10 Hz
Protocol Support	NMEA 0183 V2.3 (compatible to 3.0) UART: 1200 - 115200 bps, 9600 N,8,1; GGA, GLL, GSA, GSV, RMC, VTG, TXT
SBAS Support	WAAS, EGNOS, MSAS
Dynamics	< 4g
Current Consumption	40 mA @ 3.6 V
Power Save Mode 1 Hz	4.3 mA @ 3.6 V



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Electrical data

Power Supply	3,4 - 3.6 V
Power Consumption	40 mA / average tracking
Current active antenna	max. 30 mA

RF interface

Connector	MHF® I (I-PEX)
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Environmental data

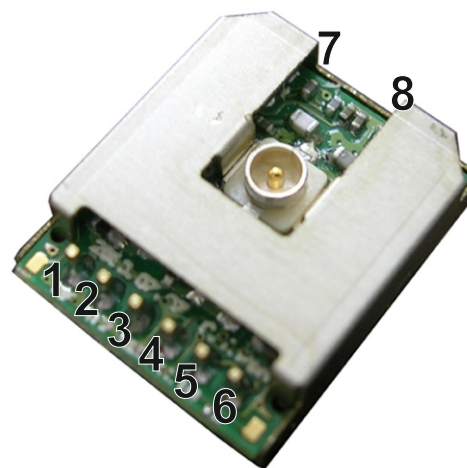
Operating temperature	-40 - 85°C
Storage temperature	-40 - 85°C

Mechanical data

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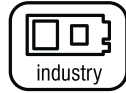
8-pin Interface

Pin	Name	Function	I/O
1	VCC	3.4 - 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: 0.25 Hz - 1 KHz	Output
6	Reserved	Reserved	I/O
7	GND	Ground	Input
8	GND	Ground	Input





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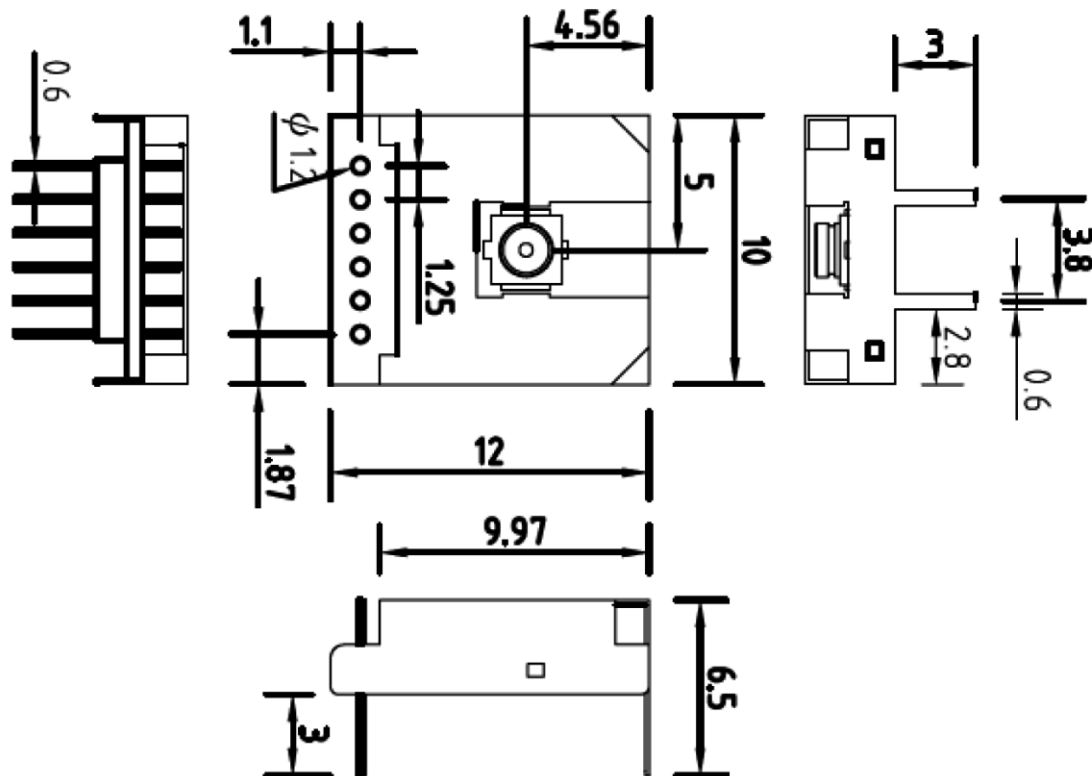
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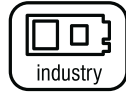
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Mechanical drawing





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WEEE note

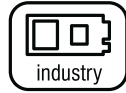
The WEEE (Waste Electrical and Electronic Equipment) directive, which came into force on 13 February 2003, lead to a comprehensive change in the disposal of used electric products. It is the main purpose of this directive to avoid electric waste products (WEEE), while simultaneously promoting the re-usage, 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.

Final clause

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