ProPak6™

Rugged Enclosure Delivers Scalable GNSS with Heading and Wireless Communication Options

Benefits

Efficient integration with standard hardware and software interfaces and experienced staff

Future proof for upcoming GNSS signal support

Reliable use in harsh environments with the IP67 housing

Multiple communication interfaces for easy integration and installation

SPAN® ready

Features

240 channels

Scalable positioning options from metre to centimetre-level

Standard connectors for simple interfacing

4 GB onboard memory for data logging

Standard Bluetooth® and Wi-Fi connectivity

Optional GPRS/HSPA cellular modem

Optional heading

If you require more information about our enclosures, visit novatel.com/products/gnss-receivers/enclosures

Precise Thinking Makes it Possible

NovAtel® designs, manufactures and sells high precision OEM Global Navigation Satellite System (GNSS) positioning technology. Developed for efficient and rapid integration, our GNSS products have set the standard in quality and performance for over 20 years. State-of-the-art, lean manufacturing facilities in our North American headquarters produce the industry's most extensive line of OEM receivers, antennas and subsystems. All of our products are backed by a team of highly skilled design and customer support engineers, ready to answer your integration questions. For unsurpassed quality, product selection and engineering know-how, choose NovAtel.

Flexible, Rugged and Reliable

ProPak6™ provides the latest and most sophisticated enclosure product manufactured by NovAtel. From standalone metre-level to AdVance® RTK centimetre-level positioning, the ProPak6 is flexible to meet your positioning needs. Reliability is safeguarded as a result of the extremely rugged and water resistant IP67 housing combined with its wide operating temperature range. NovAtel has also assured faster time to market by reducing integration time with standardized software and hardware connections. The ProPak6 offers optional GPRS/HSPA cellular modem and/or heading options to provide a solution for many applications.

Easy System Integration and Installation

The ProPak6 provides numerous interfaces including multiple RS-232/RS-422 serial ports, CAN Bus, USB host and device as well as Bluetooth®, Wi-Fi and optional cellular radio. Standard interfaces are provided through conventional connectors, eliminating the need for hard to find and expensive custom cables. The ProPak6 also features advanced Ethernet support for remote configuration and access of data logs. Installation and configuration time is reduced with multiple communication options: Wi-Fi, Bluetooth and optional GPRS/HSPA cellular modem.

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ProPak6™

Performance[1]

Channel Configuration
240 Channels[2]

Signal Tracking

GPS	L1, L2, L2C, L5
GLONASS	L1, L2, L2C
Galileo	E1, E5a, E5b, AltBOC
BeiDou[3]	
SBAS[4]	
QZSS	L1, L2C, L5
L-Band	

Horizontal Position Accuracy (RMS)

Single Point L1	1.5 m
Single Point L1/L2	1.2 m
SBAS	0.6 m
DGPS	0.4 m
L-Band	
VBS	0.06 m
XP	0.15 m
HP	0.1 m
RT-2®	1 cm + 1 ppm
Initial time	<10 s
Initial reliability	>99.9%

Maximum Data Rate

Measurements	up to 100 Hz
Position	up to 100 Hz

Time to First Fix[5]

Cold start	50 s (typical)
Hot start	35 s (typical)

Signal Reacquisition

L1	<0.5 s (typical)
L2/L5	<1.0 s (typical)

Velocity Accuracy[6] < 0.03 m/s RMS

Time Accuracy[7] 20 ns RMS

Measurement Precision (RMS)
Fully independent code and carrier measurements:

	GPS	GLO
L1 C/A code	4 cm	8 cm
L1 carrier phase	0.5 mm	1.0 mm
L2 P(Y) code[8]	8 cm	8 cm
L2 carrier phase[8]	1.0 mm	1.0 mm
L2C code[9]	8 cm	8 cm
L2C carrier phase[9]	0.5 mm	0.5 mm
L5 code	3 cm	-
L5 carrier phase	0.5 mm	-

ALIGN Heading Accuracy[10]

0.5 m baseline	0.40°
1.0 m baseline	0.20°
2.0 m baseline	0.10°

Physical and Electrical

Dimensions
190 x 185 x 75 mm

Weight[11] 1.79 kg

Power

Input voltage	+9 to +36 VDC
Power consumption[11]	3.5 W

Antenna Port(s) Power Output

Output voltage	5 VDC
Maximum current	150 mA

COM Port Power Output

Output voltage[12]	+9 to +36 VDC
Maximum current	1.5 A

Connectors-Front Panel

Power button	
Logging button	
Radio antenna[11]	TNC
USB host[11]	Type A
SIM[11]	Push-Push

Connectors-Rear Panel

Power	4-pin LEMO
COM1, COM2, COM3/IMU	DB9M
I/O or Event	DB9F
USB device	Type micro B
Ethernet	RJ45
GPS1	TNC
GPS2 or EXT OSC[11, 13]	TNC/BNC
Expansion Port	9-pin LEMO

Status LEDS
Power
COM Port Activity
GPS1
GPS2
INS ALN
Radio status[11]
Datalogging
USB
Bluetooth®
Wi-Fi

Communication Ports

RS-232/RS-422	3
IMU1	
USB 2.0 host	1
USB 2.0 device (high speed only)	1
Ethernet	1
CANBus	2
Event input	4
Event output	4
Bluetooth	1
Wi-Fi	1
Radio[11]	GPRS/HSPA (optional)

Environmental

Temperature

Operating	-40° to +75°C
Operating (heading)	-40° to +65°C
Operating (radios)	-40° to +65°C
Storage	-40° to +95°C
Humidity	95% NC
Waterproof	IEC 60529 IPX7
Dust	IEC 60529 IP6X

Vibration (operating)

Random	MIL-STD-810 514.6 Category 24, 20-2000Hz/7.7 g 1hr/axis
Sinusoidal	IEC 60068-2-6 (5 g), 10-2000 Hz

Shock (non-operating)
MIL-STD-810G, 516.6 , procedure 1, 40 g 11 ms terminal sawtooth

Compliance
FCC, IC, CE, RoHS, WEEE, Bluetooth® SIG

Included Accessories

- 12 VDC power adapter (CLA) with slow blow fuse
- Mounting bracket and hardware
- Null modem cable
- Extension cable
- I/O Interface cable

Optional Accessories

- Advanced I/O Interface cable
- Straight serial cable
- USB cable
- Ethernet cable
- Cellular antenna
- GPS-700 series antennas
- ANT series antennas
- GrafNav/GravNet®

Firmware Options

- Auto-memory transfer to USB flash drive
- Field upgradeable firmware and field upgradeable software models
- Auxiliary strobe signals, including a configurable PPS output and two mark inputs
- RT-2
- L-Band
- ALIGN®
- GLIDE™
- RAIM
- API
- NTRIP v1.0 and v2.0
- 100 Hz output rate[14]

Version 3 - Specifications subject to change without notice.

Printed in Canada. D18297

ProPak6 September 2013

For the most recent details of this product:
http://www.novatel.com/products/gnss-receivers/enclosures/

[1] Typical value. Performance specifications subject to external factors including US DOD operational performance, atmospheric conditions, multipath, interference, etc.
[2] Tracks up to 76 L1/L2 satellites.
[3] Firmware update required.
[4] GPS only.
[5] Cold start with no almanac, ephemerides and no approximate time or position. Warm start with almanac and ephemerides saved, approximate time and position entered.
[6] Export licensing restrictions limit maximum velocity to 515 m/s.
[7] Time accuracy does not include biases due to antenna or RF delay.
[8] L2P for GLONASS.
[9] L2C/A for GLONASS.
[10] Dual receiver option required to support ALIGN heading.
[11] Model and/or configuration dependent. Refer to the Installation and Operation for this product for further details.
[12] COM port power output follows the input voltage.
[13] Single antenna version with BNC external oscillator input. Dual antenna (ALIGN heading) versions replace the external oscillator input with a TNC antenna input.
[14] 100 Hz when tracking up to 20 satellites.