Enclosures ProPak6™

RUGGED ENCLOSURE DELIVERS SCALABLE GNSS WITH HEADING AND WIRELESS COMMUNICATION OPTIONS

FLEXIBLE, RUGGED AND RELIABLE

ProPak6 provides the latest and most sophisticated enclosure product manufactured by NovAtel. From standalone metre-level to 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.

PRECISE THINKING MAKES IT POSSIBLE

Developed for efficient and rapid integration, our Global Navigation Satellite System (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.

BENEFITS

+ Efficient integration with standard hardware and software interfaces and world class support
+ 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® INS functionality

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 www.novatel.com/products/gnss-receivers/enclosures/

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]	B1, B2
SBAS	
QZSS	L1, L2C, L5
L-Band	

Horizontal Position Accuracy (RMS)

Single point L1	1.5 m
Single point L1/L2	1.2 m
SBAS[4]	0.6 m
DGPS	0.4 m
NovAtel CORRECT™	
» TERRASTAR-D[5]	6 cm
» Veripos Apex[2] [6]	6 cm
» RT-2®	1 cm + 1 ppm
Initial time	<10 s
Initial reliability	>99.9%

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[7]	8 cm	8 cm
L2 carrier phase[7]	1.0 mm	1.0 mm
L2C code[8]	8 cm	8 cm
L2C carrier phase[8]	1.0 mm	1.0 mm
L5 code	3 cm	–
L5 carrier phase	0.5 mm	–

Maximum Data Rate

Measurements	up to 100 Hz
Position	up to 100 Hz

Time to First Fix

Cold start[9]	50 s (typical)
Hot start[10]	35 s (typical)

Signal Reacquisition

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

Velocity Accuracy[11] <0.03 m/s RMS

Time Accuracy[12] 20 ns RMS

ALIGN Heading Accuracy[13]

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[14] 1.79 kg

Power

Input voltage	+9 to +36 VDC
Power consumption[14]	3.5 W

Antenna Port(s) Power Output

Output voltage	5 VDC
Maximum current	150 mA

COM Port Power Output

Output voltage[15]	+9 to +36 VDC
Maximum current	1.5 A

Connectors

Front Panel

Radio antenna[14]	TNC
USB host[14]	Type A
SIM[14]	Push-Push

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[14,16]	TNC/BNC
Expansion port	9-pin LEMO

Front Panel Buttons
Power button
Logging button

Front Panel Status LEDS
Power
COM port activity
GPS1
GPS2
INS ALN
Radio status[14]
Data logging
USB
Bluetooth®
Wi-Fi

COMMUNICATION PORTS

RS-232/RS-422	3
IMU	1
USB 2.0 host	1
USB 2.0 device (high speed only)	1
Ethernet	1
CAN Bus	2
Event input	4
Event output	4
Bluetooth	1
Wi-Fi	1
Radio[14]	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 1 hr/axis
Sinusoidal	IEC 60068-2-6 (5 g), 10-2000 Hz

Acceleration (operating)
MIL-STD 810G, Method 513.6 Procedure II (16 g)

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®
- NovAtel Connect™

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
- ALIGN®
- GLIDE™
- RAIM
- RT-2
- SPAN
- API
- NTRIP v1.0 and v2.0
- 100 Hz output rate[17]

For the most recent details of this product:
www.novatel.com/products/gnss-receivers/enclosures/propak6/

novatel.com

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Europe 44-1993-848-736

SE Asia and Australia
61-400-883-601

Version 5 Specifications subject to change without notice.

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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. TERRASTAR-D subscriptions are available from NovAtel.
6. Veripos Apex[2] marine subscriptions are available directly from Veripos. (www.veripos.com)
7. L2 P for GLONASS.
8. L2 C/A for GLONASS.
9. Cold start with no almanac, ephemerides and no approximate time or position.
10. Hot start with almanac and ephemerides saved, approximate time and position entered.
11. Export licensing restrictions limit maximum velocity to 515 m/s.
12. Time accuracy does not include biases due to antenna or RF delay.
13. Dual receiver option required to support ALIGN heading.
14. Model and/or configuration dependent. Refer to the user manual for this product for further details.
15. COM port power output follows the input voltage.
16. Single antenna version with BNC external oscillator input. Dual antenna (ALIGN heading) versions replace the external oscillator input with a TNC antenna input.
17. 100 Hz when tracking up to 20 satellites.