

# 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/](http://www.novatel.com/products/gnss-receivers/enclosures/)

# ProPak6™

## PERFORMANCE<sup>1</sup>

### Channel Configuration

240 Channels<sup>2</sup>

### Signal Tracking

GPS L1, L2, L2C, L5  
GLONASS L1, L2, L2C  
Galileo E1, E5a, E5b, AltBOC  
BeiDou<sup>3</sup> 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
NovAtel CORRECT™	
» SBAS <sup>4</sup>	0.6 m
» DGPS	0.4 m
» PPP <sup>5</sup>	4 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 <sup>6</sup>	8 cm	8 cm
L2 carrier phase <sup>6</sup>	1.0 mm	1.0 mm
L2C code <sup>7</sup>	8 cm	8 cm
L2C carrier phase <sup>7</sup>	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<sup>8</sup> 50 s (typical)  
Hot start<sup>9</sup> 35 s (typical)

### Signal Reacquisition

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

### Velocity Accuracy<sup>10</sup>

<0.03 m/s RMS

### Time Accuracy<sup>11</sup>

20 ns RMS

### ALIGN Heading Accuracy<sup>12</sup>

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**<sup>13</sup> 1.79 kg

### Power

Input voltage +9 to +36 VDC  
Power consumption<sup>13</sup> 3.5 W

### Antenna Port(s) Power Output

Output voltage 5 VDC  
Maximum current 150 mA

### COM Port Power Output

Output voltage<sup>14</sup> +9 to +36 VDC  
Maximum current 1.5 A

### Connectors

#### Front Panel

Radio antenna<sup>13</sup> TNC  
USB host<sup>13</sup> Type A  
SIM<sup>13</sup> 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<sup>13,15</sup> 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<sup>13</sup>  
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 <sup>13</sup> 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 marking, 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<sup>16</sup>

For the most recent details of this product:

[www.novatel.com/products/gnss-receivers/enclosures/propak6/](http://www.novatel.com/products/gnss-receivers/enclosures/propak6/)

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Version 7 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. Requires subscription to TerraStar-C data service. Subscriptions available from NovAtel.  
6. L2 P for GLONASS.  
7. L2 C/A for GLONASS.  
8. Cold start with no almanac, ephemerides and no approximate time or position.

9. Hot start with almanac and ephemerides saved, approximate time and position entered.  
10. Export licensing restrictions limit maximum velocity to 515 m/s.  
11. Time accuracy does not include biases due to antenna or RF delay.  
12. Dual receiver option required to support ALIGN heading.  
13. Model and/or configuration dependent. Refer to the user manual for this product for further details.  
14. COM port power output follows the input voltage.  
15. Single antenna version with BNC external oscillator input. Dual antenna (ALIGN heading) versions replace the external oscillator input with a TNC antenna input.  
16. 100 Hz when tracking up to 20 satellites.

