

# Enclosures PwrPak7™



## COMPACT ENCLOSURE DELIVERS SCALABLE POSITIONING PERFORMANCE WITH INTERNAL STORAGE



### FUTURE PROOFED SCALABILITY

Capable of tracking all present and upcoming Global Navigation Satellite System (GNSS) constellations and satellite signals, the PwrPak7 is a robust, high precision receiver that is software upgradable in the field to provide the custom performance required for your application.

### BASE STATION OR ROVER

Compact and lightweight, the PwrPak7 is well suited for base or rover applications. It has a powerful OEM7™ GNSS engine inside and offers built in Wi-Fi, on board NTRIP client and server support and 16 GB of internal storage. It also has enhanced connection options including serial, USB, CAN and Ethernet.

### PRECISE THINKING MAKES IT POSSIBLE

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. To learn more about our products, please visit [www.novatel.com/oem7](http://www.novatel.com/oem7).

### FEATURES

- + 555 channel, all-constellation, multi-frequency positioning solution
- + Multi-channel L-Band supports TerraStar correction services
- + Multiple communication interfaces for easy integration and installation
- + Built-in Wi-Fi support
- + 16 GB of internal storage
- + SPAN® INS functionality

If you require more information about our enclosures, visit [www.novatel.com/products/gnss-receivers/enclosures/](http://www.novatel.com/products/gnss-receivers/enclosures/)



## PERFORMANCE<sup>1</sup>

### Channel Configuration

555 Channels

### Signal Tracking

GPS L1 C/A, L1C, L2C, L2P, L5

GLONASS<sup>2</sup> L1 C/A, L2C, L2P,

L3, L5

BeiDou<sup>3</sup> B1, B2, B3

Galileo<sup>4</sup> E1, E5 AltBOC

E5a, E5b, E6

IRNSS<sup>5</sup> L5

SBAS L1, L5

QZSS L1 C/A, L1C, L2C, L5, L6

L-Band up to 5 channels

### Horizontal Position Accuracy (RMS)

Single point L1 1.5 m

Single point L1/L2 1.2 m

NovAtel CORRECT™

» SBAS<sup>6</sup> 60 cm

» DGPS 40 cm

» PPP<sup>7</sup>

    TerraStar-L 40 cm

    TerraStar-C 4 cm

» RTK 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

Cold start<sup>8, 13</sup> <40 s

Hot start<sup>9, 13</sup> <19 s

### Signal Reacquisition

L1 <0.5 s (typical)

L2 <1.0 s (typical)

**Time Accuracy**<sup>10</sup> 20 ns RMS

### Velocity Accuracy

0.03 m/s RMS

**Velocity Limit**<sup>11</sup> 515 m/s

## COMMUNICATION PORTS

1 RS-232 up to 460,800 bps

2 RS-232/RS-422 selectable

up to 460,800 bps

1 USB 2.0 (device) HS

1 USB 2.0 (host) HS

1 Ethernet 10/100 Mbps

1 CAN Bus 1 Mbps

3 Event inputs

3 Event outputs

## PHYSICAL AND ELECTRICAL

**Dimensions** 147 x 145 x 53 mm

**Weight** 500 g

### Power

Input voltage +6 to +36 VDC

Power consumption<sup>12</sup> 1.8 W

### Antenna LNA Power Output

Output voltage 5 VDC ±5%

Maximum current 200 mA

### Connectors

Antenna TNC

USB device Micro A/B

USB host Micro A/B

Serial, CAN, Event I/O

DSUB HD26

Ethernet RJ45

Data Logging Push button

Power SAL M12, 5 pin, male

### Status LEDs

Power

GNSS

INS

Data Logging

USB

## ENVIRONMENTAL

### Temperature

Operating -40°C to +75°C

Storage -40°C to +95°C

**Humidity** 95% non-condensing

**Waterproof** IEC 60529 IPX7

**Dust** IEC 60529 IP6X

### Vibration (operating)

Random MIL-STD-810 514.6

Category 24, 20g RMS

Sinusoidal IEC 60068-2-6

### Acceleration (operating)

MIL-STD 810G, Method 513.6

Procedure II (16 g)

**Bump** ISO 9022-31-06 (25g)

### Shock (non-operating)

MIL-STD-810G, 516.6,

Procedure 1,

40 g 11 ms terminal sawtooth

**Compliance** FCC, IC, CE

Industry Canada, RoHS, WEEE

## FEATURES

- NovAtel OEM7 positioning engine
- Standard 16 GB internal storage
- Support for logging to external USB storage device
- Built-in Wi-Fi support
- Optional integrated Epson G320 MEMs IMU
- Web GUI

## FIRMWARE SOLUTIONS

- ALIGN®
- SPAN®
- RTK
- RTK ASSIST™
- TerraStar PPP
- API<sup>13</sup>

## INCLUDED ACCESSORIES

- Power cable
- USB cable

## OPTIONAL ACCESSORIES

- DSUB HD26 to DB9 RS-232 cable
- Full breakout cable for DSUB HD26 connector
- DBUS HD26 to M12 IMU cable
- RJ45 Ethernet cable
- VEXXIS™ GNSS-500 and GNSS-800 series antennas
- ANT series antennas
- GrafNav/GravNet®
- Inertial Explorer®
- NovAtel Connect

For the most recent details of this product:

[www.novatel.com/products/gnss-receivers/enclosures/pwrpak7](http://www.novatel.com/products/gnss-receivers/enclosures/pwrpak7)

## novatel.com

sales@novatel.com

1-800-NOVATEL (U.S. and Canada) or 403-295-4900

China 0086-21-68882300

Europe 44-1993-848-736

SE Asia and Australia

61-400-883-601

**Version 0D** Specifications subject to change without notice.

©2016 NovAtel Inc. All rights reserved.

NovAtel, SPAN, GrafNav, GrafNet, Inertial Explorer and ALIGN are registered trademarks of NovAtel Inc.

PwrPak7, OEM7, NovAtel CORRECT, VEXXIS and RTK ASSIST are trademarks of NovAtel Inc.

Printed in Canada.

D21516 August 2016



1. Typical values. Performance specifications subject to GPS system characteristics, US DOD operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length, multipath effects and the presence of intentional or unintentional interference sources.

2. Hardware ready for L3 and L5.

3. Designed for BeiDou Phase 2 and 3, B1, B2 and B3 compatibility.

4. E1bc and E6bc support only.

5. Hardware ready for L5.

6. GPS only.

7. Requires a subscription to a TerraStar data service. Subscriptions available from NovAtel.

8. Typical value. No almanac or ephemerides and no approximate position or time.

9. Typical value. Almanac and recent ephemerides saved and approximate position and time entered.

10. Time accuracy does not include biases due to RF or antenna delay.

11. Export licensing restricts operation to a maximum of 515 metres per second, message output impacted above 500 m/s.

12. Typical value. Consult the OEM7 Family Installation & Operation User Manual for power supply considerations.

13. Available in Q4 2017.

