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.

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/

PwrPak7™

PERFORMANCE[1]

Channel Configuration
555 Channels

Signal Tracking

GPS	L1 C/A, L1C, L2C, L2P, L5
GLONASS[2]	L1 C/A, L2C, L2P, L3, L5
BeiDou[3]	B1, B2, B3
Galileo[4]	E1, E5 AltBOC E5a, E5b, E6
NavIC (IRNSS)	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[5]	60 cm
» DGPS	40 cm
» PPP[6]	
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[7, 12]	<40 s
Hot start[8, 12]	<19 s

Signal Reacquisition

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

Time Accuracy[9]
20 ns RMS

Velocity Accuracy
0.03 m/s RMS

Velocity Limit[10]
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	
1 Pulse Per Second output	
1 Quadrature Wheel Sensor input	

PHYSICAL AND ELECTRICAL

Dimensions
147 x 145 x 53 mm

Weight
500 g

Power

Input voltage	+9 to +36 VDC
Power consumption[11]	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 +85°C

Humidity
95% non-condensing

Waterproof
IEC 60529 IPX7

Dust
IEC 60529 IP6X

Vibration (operating)

Random	MIL-STD-810 514.6 Category 24, 20 g RMS
Sinusoidal	IEC 60068-2-6

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

Bump
IEC 60068-2-27 (25 g)

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 G320N MEMs IMU
- Web GUI

FIRMWARE SOLUTIONS

- ALIGN®
- SPAN®
- RTK
- RTK ASSIST™
- TerraStar PPP
- API[12]

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

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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. GPS only.
6. Requires a subscription to a TerraStar data service. Subscriptions available from NovAtel.
7. Typical value. No almanac or ephemerides and no approximate position or time.
8. Typical value. Almanac and recent ephemerides saved and approximate position and time entered.
9. Time accuracy does not include biases due to RF or antenna delay.
10. Export licensing restricts operation to a maximum of 515 metres per second, message output impacted above 500 m/s.
11. Typical value. Consult the OEM7 Family Installation & Operation User Manual for power supply considerations.
12. Available in Q1 2018.