Enclosures FlexPak6D™

COMPACT ENCLOSURE FEATURING DUAL ANTENNA, DUAL-FREQUENCY GNSS RECEIVER WITH RTK AND HEADING CAPABILITIES

HIGH PRECISION GNSS, COMPACT SIZE

The dual-frequency, dual antenna FlexPak6D is NovAtel's latest addition to the powerful OEM6® family of receivers, offering heading and precise positioning for space constrained applications. Backward compatible with NovAtel's popular FlexPak6™ form factor, the FlexPak6D provides the most efficient way to bring GNSS capable navigation and positioning products to market quickly. As with all NovAtel® OEM6 receivers, the FlexPak6D tracks GPS, GLONASS, Galileo and BeiDou signals.

DUAL ANTENNA INPUT

Dual-frequency, dual antenna input allows the FlexPak6D to harness the power of NovAtel CORRECT™ with RTK and ALIGN functionality. This makes the FlexPak6D ideal for ground vehicle, marine or aircraft based systems, providing industry leading GNSS multi-constellation heading and position data in static and dynamic environments.

EASY SYSTEM INTEGRATION AND INSTALLATION

The FlexPak6D provides numerous interfaces including RS-232 and RS-422 serial ports as well as a USB device. Standard interfaces are provided through conventional connectors, eliminating the need for hard to find and expensive custom cables.

DESIGNED FOR FLEXIBILITY

The modular nature of NovAtel's OEM6 firmware provides users with the flexibility to configure the FlexPak6D for their unique application needs. Scalable, the FlexPak6D offers sub-metre to centimetre-level positioning and is field upgradeable with selected OEM6 family software options. Options include NovAtel CORRECT with RTK for centimetre-level real-time positioning, ALIGN for precise heading and relative positioning, GLIDE™ for decimetre-level pass-to-pass accuracy and RAIM for increased GNSS pseudorange integrity.

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. 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 how our firmware options can enhance your positioning, please visit www.novatel.com.firmware.

BENEFITS

+ Compact, lightweight and easy to integrate
+ Dual-frequency RTK with precise ALIGN/Heading
+ Dual-frequency GPS+GLONASS+BeiDou RTK and ALIGN® Heading solution
+ Low power
+ Ideal for low payload UAV and robotic applications

FEATURES

+ Increased satellite availability with BeiDou, GLONASS and Galileo* tracking
+ GLIDE smoothing algorithm
+ RTK, ALIGN and RAIM firmware options
+ Serial and USB communications
+ Wide input voltage range
+ Shock resistant

* Available on selected models.

If you require more information about our enclosures, visit www.novatel.com/enclosures

FlexPak6D™

PERFORMANCE[1]

Channel Configuration
120 Channels[2]

Signal Tracking

Primary and Secondary RF

» GPS	L1, L2, L2C
» GLONASS	L1, L2,
» BeiDou[3]	B1, B2

Other Signals

» Galileo	E1, E5b
» SBAS	
» QZSS	

Horizontal Position Accuracy (RMS)

Single point L1	1.5 m
Single point L1/L2	1.2 m
NovAtel CORRECT™	
» SBAS[4]	60 cm
» DGPS	40 cm
» RTK	1 cm + 1 ppm
Initial time	<10 s
Initial reliability	>99.9%

ALIGN Heading Accuracy

Baseline	Accuracy (RMS)
2 m	0.08 deg
4 m	0.05 deg

Data Rate[5]

Measurements	up to 20 Hz
Position	up to 20 Hz

Time to First Fix

Cold start[6]	<50 s
Hot start[7]	<35 s

Signal Reacquisition

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

Time Accuracy[8] 20 ns RMS

Velocity Accuracy 0.03 m/s RMS

Velocity[9] 515 m/s

PHYSICAL AND ELECTRICAL

Dimensions 147 x 113 x 45 mm

Weight 315 g

Power

Input voltage +6 to +36 VDC

Power Consumption[10]

» GPS L1/L2	1.9 W
» GPS/GLONASS L1/L2	<2.0 W
» All on	3.35 W (max)

Antenna LNA Power Output

Output voltage	5 VDC
Maximum current	150 mA

Connectors

Serial	DB9
USB	Mini-AB
I/O	DB-HD15

COMMUNICATION PORTS

1 RS-232	921,600 bps
1 RS-232 or RS-422	921,600 bps
1 USB port	12 Mbps

1 I/O Port (PPS, Event1, Event2, VARF, ERROR, Position Valid)

ENVIRONMENTAL

Temperature

Operating	-40°C to +75°C
Storage	-51°C to +85°C

Humidity 95% non-condensing

Vibration (operating)

Random	MIL-STD-810G (7.7 g)
Sinusoidal	SAE J1211 (4 g)

Bump IEC 60068-2-27 (25 g)

Shock MIL-STD-810G (40 g)

Immersion IEC 60529 IPX7

Altitude MIL-STD-810G-500.5 Procedure II

COMPLIANCE

FCC, CE Marking, Industry Canada

FEATURES

- Dual-frequency, dual antenna input
- Field upgradeable software
- Multipath mitigating technology
- Differential GPS positioning
- Differential correction support for RTCM 2.1, 2.3, 3.0, 3.1, CMR, CMR+ and RTCA
- Navigation output support for NMEA 0183 and detailed NovAtel ASCII and binary logs
- Auxiliary strobe signals, including a configurable PPS output for time
- GLIDE smoothing algorithm

NOVATEL CONNECT™

NovAtel Connect is an intuitive configuration and visualization tool suite allowing comprehensive control of the FlexPak6D product.

- Easy to use wizards for positioning mode configuration and raw data collection
- Detailed GUI for comprehensive status information
- Plan view and playback files allow to monitor positioning and configuration history
- Windows XP and Windows 7 platforms

INCLUDED ACCESSORIES

- Serial cable (null)
- I/O cable
- Automotive 12 VDC power adapter
- 2 SMA to TNC adapter cables

OPTIONAL ACCESSORIES

- GPS-700 series antennas
- ANT series antennas
- I/O breakout cable
- Serial cable (straight)
- USB mini cable

FIRMWARE OPTIONS

- ALIGN
- RAIM

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

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China 0086-21-68882300

Europe 44-1993-848-736

SE Asia and Australia 61-400-883-601

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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. Tracks up to 60 L1/L2 satellites.
3. The BeiDou signal is not finalized and changes in the signal structure may still occur. Designed for BeiDou Phase 3 compatibility.
4. GPS only.
5. 20 Hz (model restrictions apply).
6. Typical value. No almanac or ephemerides and no approximate position or time.
7. Typical value. Almanac and recent ephemerides saved and approximate position and time entered.
8. Time accuracy does not include biases due to RF or antenna delay.
9. Export licensing restricts operation to a maximum of 515 metres per second.
10. Typical power consumption values.