



Positioning Leadership



FlexPak

NovAtel's FlexPak™ offers the choice between the dual-frequency performance of the OEM4-G2L and the cost-effective reliability of the SUPERSTAR II in a compact, rugged enclosure¹.

Meter- to centimeter-level accuracy

The same lightweight housing can provide meter- to centimeter-level accuracy¹ as either the FlexPak-SSII, containing the SUPERSTAR II, or the FlexPak-G2L, powered by the OEM4-G2L. As a result, the FlexPak can evolve with your system as positioning and accuracy requirements change.

Compact and rugged

At just 45 by 147 by 123 millimeters, the FlexPak is ideal for space-conscious applications. The receiver is lightweight as well, with the FlexPak-G2L weighing less than 350 grams and the FlexPak-SSII weighing only 307 grams. In addition, the FlexPak is shock and dust

resistant and is waterproof to IEC 60529 standard IPX7. Its locking connectors and mounting system ensure secure installation.

Superior positioning technology

The FlexPak-G2L includes NovAtel's patented Pulse Aperture Correlator™ (PAC) technology to virtually eliminate the effects of multipath and, with RT-2® corrections, provides accuracy to two centimeters. The FlexPak-G2L also includes support for NovAtel's Application Programming Interface, which allows system developers to create custom applications to run directly from the receiver platform.

The SUPERSTAR II version of the FlexPak, the FlexPak-SSII, provides standard support for SBAS corrections and offers optional 1 and 5 Hertz carrier phase measurement output. A base station model, featuring RTCM SC-104 correction output, is also available.

Features

Meter- to centimeter-level accuracy in the same enclosure¹

Shock and dust resistant and waterproof to IPX7

Small size and weight

Benefits

Meets system positioning requirements as they change with minimal need for hardware re-design

Provides reliable operation in a variety of environments and applications

Ensures easy integration without sacrificing positioning accuracy

¹ Receiver hardware is not field upgradeable.

FlexPak-G2L Performance¹

Position Accuracy

| | |
|--------------------|--------------|
| Single Point L1 | 1.8 m CEP |
| Single Point L1/L2 | 1.5 m CEP |
| WAAS L1 | 1.2 m CEP |
| WAAS L1/L2 | 0.8 m CEP |
| DGPS (L1, C/A) | 0.45 m CEP |
| RT-20 ² | < 20 cm CEP |
| RT-2 | 1 cm + 1 ppm |

Measurement Precision

| | |
|------------------|---------------------------------------|
| L1 C/A Code | 6 cm RMS |
| L2 P(Y) Code | 25 cm RMS (AS on) |
| L1 Carrier Phase | 0.75 mm RMS (differential channel) |
| L2 Carrier Phase | 2 mm RMS (differential channel) |

Data Rate

| | |
|--------------|-------|
| Measurements | 20 Hz |
| Position | 20 Hz |

Time to First Fix

| | |
|-------------------------|------|
| Cold Start ³ | 50 s |
| Warm Start ⁴ | 40 s |
| Hot Start ⁵ | 30 s |

Signal Reacquisition

| | |
|----|-----------------|
| L1 | 0.5 s (typical) |
| L2 | 1.0 s (typical) |

Time Accuracy⁶

20 ns RMS

Velocity Accuracy

0.03 m/s RMS

Dynamics

| | |
|-----------------------|--------------------------|
| Velocity ⁷ | 514 m/s |
| Vibration | 4 G (sustained tracking) |

Altitude⁷

18,288 m

FlexPak-SSII Performance¹

Position Accuracy

| | |
|-----------------|-------------|
| Single Point L1 | < 5 m CEP |
| WAAS L1 | < 1.5 m CEP |
| DGPS (L1, C/A) | < 1 m CEP |

Measurement Precision

| | |
|------------------|------------------------------------|
| L1 C/A Code | 75 cm RMS |
| L1 Carrier Phase | 1 cm RMS (differential channel) |

Data Rate

| | |
|--------------|------|
| Measurements | 5 Hz |
| Position | 5 Hz |

Time to First Fix

| | |
|-------------------------|-------|
| Cold Start ³ | 120 s |
| Warm Start ⁴ | 45 s |
| Hot Start ⁵ | 15 s |

Signal Reacquisition

< 1 s (typical)

Velocity Accuracy

0.05 m/s RMS

Dynamics

| | |
|-----------------------|---------|
| Velocity ⁷ | 514 m/s |
|-----------------------|---------|

Altitude⁷

18,288 m

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 Expected accuracy after three minute static convergence.

³ Typical value. No almanac or ephemeris and no approximate position or time.

⁴ Typical value. Almanac saved and approximate position and time entered. No recent ephemeris.

⁵ Typical value. Almanac and recent ephemeris saved and approximate position and time entered.

⁶ Time accuracy does not include biases due to RF or antenna delay.

⁷ Export licensing restricts operation to a maximum of 18,288 meters and 514 meters per second.

⁸ Unless otherwise indicated, all specifications apply to both the FlexPak-G2L and the FlexPak-SSII.

⁹ USB is only available on the FlexPak-G2L and shares the same connector as the signals for the COM1 serial port. Optional USB cable available from NovAtel.

Physical & Electrical⁸

Size

45 x 147 x 123 mm

Weight

| | |
|--------------|-------|
| FlexPak-G2L | 350 g |
| FlexPak-SSII | 307 g |

Power

| | |
|-------------------|-----------------|
| Input Voltage | +6 to +18 VDC |
| Power Consumption | |
| FlexPak-G2L | 2.6 W (typical) |
| FlexPak-SSII | 0.9 W (typical) |

Antenna LNA Power Output

| | |
|-----------------|--------|
| Output Voltage | +5 VDC |
| Maximum Current | |
| FlexPak-G2L | 100 mA |
| FlexPak-SSII | 50 mA |

Communication Ports

- FlexPak-G2L
- 1 RS-232 serial port up to 921,600 bps
 - 1 RS-232 or RS-422 serial port (user-configurable) capable of 230,400 bps
 - 1 USB port capable of 5 Mbps
- FlexPak-SSII
- 1 RS-232 serial port up to 19,200 bps
 - 1 RS-232 DGPS port up to 19,200 bps

Input/Output Connectors

| | |
|-----------------------|---------------------------|
| Power | 3-pin waterproof Deutsch |
| Antenna Input | Waterproof TNC female |
| COM1/USB ⁹ | 13-pin waterproof Deutsch |
| COM2 | 13-pin waterproof Deutsch |

Environmental

| | |
|--------------|--------------------|
| Temperature | |
| FlexPak-G2L | |
| Operating | -40°C to +75°C |
| Storage | -40°C to +85°C |
| FlexPak-SSII | |
| Operating | -30°C to +75°C |
| Storage | -40°C to +85°C |
| Humidity | 95% non-condensing |
| Waterproof | IEC 60529 IPX7 |

Regulatory

FCC, CE

For more information, visit our website.

| | |
|---------------|----------------------|
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