



## Flexible GNSS Receiver with Enhanced Connectivity Ideal for Base Station and Rover Applications

### Benefits

Extra hardware not required  
for sub-metre accuracy

Connectivity options  
ease integration

Positioning enhanced with  
increased signal availability

Excellent data security  
and portability

### Features

Robust, reliable RTK performance

Serial, Ethernet, USB and  
*Bluetooth* capable

Integrated support for OmniSTAR  
and CDGPS

Removable Compact Flash

### GPS+GLONASS

The DL-V3 features GPS-only or GPS+GLONASS functionality providing maximum flexibility and enhanced positioning in challenging environments. It supports the GPS L2C signal, and with a simple firmware upgrade, will be able to track the upcoming GPS L5 signal.

### NovAtel's World-Class OEMV® Performance

NovAtel's OEMV-3 receiver drives the DL-V3's precision performance. For high-precision applications, NovAtel's RT-20™ and RT-2™ AdVance™ RTK options provide real-time centimetre-level positions at a rate of up to 50 Hz. For sub-metre positioning, the DL-V3 enables L-band correction services such as OmniSTAR or CDGPS.

### Flexible Functionality and System Design

The DL-V3 provides numerous interfaces beyond the serial stand. *Bluetooth*® is available for close-in wireless connectivity, while Ethernet is available for remote network-based access to your receiver. Highly visible colored LEDs indicate receiver status at a glance. A removable Compact Flash card provides combined storage for up to two GB of logged data and the added convenience of data portability.

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



### Sea and Land Technologies Pte Ltd

65 Tuas Avenue 1, Singapore 639508  
Tel: +(65) 6518 0777 Fax: +(65) 6563 0366  
[enquiry@sea-landtech.com.sg](mailto:enquiry@sea-landtech.com.sg)  
<http://www.sea-landtech.com.sg>

**Performance<sup>1</sup>****Channel Configuration**

14 L1, 14 L2, 6 L5 GPS  
 12 L1, 12 L2 GLONASS  
 2 SBAS  
 1 L-band

**Horizontal Position Accuracy (RMS)**

Single Point L1 1.8 m  
 Single Point L1/L2 1.5 m  
 SBAS<sup>2</sup> 0.6 m  
 CDGPS<sup>2</sup> 0.6 m  
 DGPS 0.45 m  
 OmniSTAR<sup>2</sup>  
   VBS 0.7 m  
   XP 0.15 m  
   HP 0.1 m  
 RT-20<sup>3</sup> 0.2 m  
 RT-2<sup>®</sup> 1 cm+1 ppm

**Measurement Precision**

L1 C/A Code 4 cm RMS  
 L1 Carrier Phase 0.50 mm RMS  
 (differential channel)  
 L2 P(Y) Code 8 cm RMS  
 L2 Carrier Phase 1 mm RMS  
 (differential channel)

**Data Rate**

Measurements 50 Hz  
 Position 50 Hz  
 OmniSTAR HP/XP 20 Hz

**Time to First Fix (L1, L2)**

Cold Start<sup>4</sup> 60 s  
 Hot Start<sup>5</sup> 35 s

**Signal Reacquisition**

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

**Time Accuracy<sup>6</sup> 20 ns RMS**

**Velocity Accuracy 0.03 m/s RMS**

**Velocity<sup>7</sup> 515 m/s**

**Physical and Electrical**

**Dimensions<sup>1</sup> 85 x 162 x 76 mm**

**Weight 1.3 kg**

**Power**

Input Voltage +9 to +28 VDC  
 Power Consumption 3.5 W (typical)

**Antenna Port Power Output**

Output Voltage +5 VDC  
 Maximum Current 100 mA

**Communication Ports**

- 3 RS-232 serial ports or 2 RS-422 plus 1 RS-232 serial port
- 1 *Bluetooth* module
- 1 Ethernet capable port<sup>8</sup>
- 1 USB 1.1 port, USB device only

**Input/Output Connectors**

Power 4-pin LEMO  
 Antenna Input TNC female  
 External Oscillator BNC female  
 COM1 DB-9 male  
 COM2 DB-9 male  
 AUX DB-9 male  
 I/O DB-9 female  
 Ethernet RJ-45  
 USB Type B

**Environmental**

Temperature  
   Operating -40°C to +75°C  
   Storage -50°C to +95°C  
 Humidity 95% non-condensing  
 Waterproof IEC 60529 IPX7  
 Dust IEC 60529 IP6X  
 Vibration (operating)  
   Random MIL-STD-810F, 514.5, Procedure 1  
   Sinusoidal IEC 68-2-6  
 Shock IEC 68-2-27

**Compliance FCC, CE, Industry Canada**

**Included Accessories**

- Automotive 12 VDC power cable
- Mounting bracket
- Serial cable
- Null-modem cable
- I/O interface cable
- Compact Flash

**Optional Accessories**

- GPS-700 series antennas
- Antcom antennas
- RF Cables—5, 10 and 30 m lengths
- AC adapters—International and North American

**Additional Features**

- Multiple software models, including L1 and L1/L2 GPS or GPS+ GLONASS and carrier phase positioning with RT-20 or RT-2 options
- Auxiliary strobe signals including a configurable PPS output and two mark inputs
- Supports RTCM SC-104 version 3.0, CMR version 3.0, CMR+, NMEA 0183 version 3.01, and RTCA DO-217 message types
- Field-upgradeable firmware



Version 4 - Specifications subject to change without notice.

© 2009 NovAtel Inc. All rights reserved.

NovAtel and OEMV are registered trademarks of NovAtel Inc.

RT-20, RT-2 and AdVance are trademarks of NovAtel Inc.

The *Bluetooth* word mark and logos are owned by the Bluetooth SIG, Inc. and any use of such marks by NovAtel Inc. is under license. Other trademarks and trade names are those of their respective owners.

Printed in Canada. D10677

DL-V3 May 2009

For the most recent details of this product:  
[novatel.com/Documents/Papers/DL-V3.pdf](http://novatel.com/Documents/Papers/DL-V3.pdf)

<sup>1</sup> 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.

<sup>2</sup> GPS only.

<sup>3</sup> Expected accuracy after static convergence.

<sup>4</sup> Typical value. No almanac or ephemerides and no approximate position or time.

<sup>5</sup> Typical value. Almanac and recent ephemerides saved and approximate position and time entered.

<sup>6</sup> Time accuracy does not include biases due to RF or antenna delay.

<sup>7</sup> Export licensing restricts operation to a maximum of 18,288 meters and 515 meters per second.

<sup>8</sup> The DL-V3 is user-configured for either Ethernet or Bluetooth, but not both simultaneously.

