



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



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Performance¹**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
SBAS² 0.6 m
CDGPS² 0.6 m
DGPS 0.45 m
OmniSTAR²
VBS 0.7 m
XP 0.15 m
HP 0.1 m
RT-20³ 0.2 m
RT-2 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 Start⁴ 60 s
Hot Start⁵ 35 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

Velocity⁷ 515 m/s

Physical and Electrical

Dimensions 185 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* port
- 1 Ethernet capable port⁸
- 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
- ANT series 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

Additional Firmware Features

- RT-20
- ALIGN™
- GL1DE™
- OmniSTAR HP, XP, VBS, G2
- L5 signal tracking
- Pseudo Range/Delta-Phase (PDP) Positioning



Version 4 - Specifications subject to change without notice.

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For the most recent details of this product:
novatel.com/Documents/Papers/DL-V3.pdf

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 GPS only.

³ Expected accuracy after static convergence.

⁴ Typical value. No almanac or ephemerides and no approximate position or time.

⁵ Typical value. Almanac and recent ephemerides 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 515 meters per second.

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

