LD8 Receiver

Compact dual antenna, multi-constellation GNSS receiver delivers robust positioning and heading.

LD8 Receiver

Maximum performance

The LD8 is a high-precision receiver capable of tracking GPS, GLONASS, BeiDou and Galileo constellations to provide reliable and accurate positioning. Access to multiple GNSS signals allows for better satellite availability and reduces the impact of satellite masking or blockage, which can affect positioning. It also receives L-band signals on multiple channels providing access to the worldwide correction services offered by Hexagon | Veripos.

GNSS heading

This compact, lightweight receiver offers industry-leading GNSS multi-constellation heading and positioning data for dynamic environments. The LD8 is ideal for marine applications removing the requirements for an external gyro.

Reliable accuracy

Veripos provides accurate and reliable positioning for all marine applications via their redundant positioning and multi-frequency precise point positioning (PPP) services. Correction data available simultaneously from multiple correction satellites minimizes the impact of satellite masking to ensure reliable reception of signals. The LD8 can also utilize real-time kinematic (RTK) corrections for applications where this service is required.

Simple to configure

Users can configure the LD8 receiver via Quantum visual-isation software or WebUI. Quantum provides a means to quickly set up the receiver and monitor the position solution, correction signals and RF environment for quality monitoring, situational awareness and troubleshooting. The range of configurable options available within Quantum provides a monitoring solution that can address a multitude of specific marine use-cases.

Benefits

- Small, rugged GNSS enclosure
- Easy integration into space and weight constrained marine applications
- Supports centimetre-level multi-constellation positioning with Veripos Apex and Ultra PPP correction services
- Compatible with Quantum software from Veripos
- EN60945 Marine Certified
- Designed for marine operations such as dynamic positioning, seismic exploration, offshore construction, survey and autonomous marine applications

Features

- All-constellation, multi-frequency positioning solution
- Simultaneous track multiple Veripos correction services satellites
- Spoofing and interference detection and mitigation provided by GRIT (GNSS Resilience and Integrity Technology)
- ALIGN GNSS heading solution
- Automatic rolling data log for incident support
- Multiple communication interfaces for easy installation

Performance[1]

Channel configuration

555 Channels

Signal tracking

Primary RF[2]

GPS	L1 C/A, L1C, L2C, L2P, L5
GLONASS[3]	L1 C/A, L2 C/A, L2P, L3, L5
BeiDou[4]	B1, B2
Galileo	E1, E5 AltBOC, E5a, E5b
SBAS	L1, L5
QZSS	L1 C/A, L1C, L2C, L5

L-band (Primary RF only) up to 5 channels

Secondary RF[2]

GPS	L1 C/A, L1C, L2C, L2P, L5
GLONASS[3]	L1 C/A, L2 C/A, L2P, L3, L5
Galileo	E1, E5 AltBOC, E5a, E5b
BeiDou[4]	B1I, B1C, B2I, B2a
QZSS	L1 C/A, L1C, L2C, L5

Horizontal position accuracy (RMS)

Single Point L1	1.5 m
Single Point L1/L2	1.2 m
SBAS[5]	1 m
Veripos DGNSS	1 m
Veripos PPP[6]	2.5 cm
RTK	1 cm + 1 ppm
Initialisation time	< 10 s
Initialisation reliability	> 99.9%

Maximum data rate

Measurements	up to 20 Hz
Position	up to 20 Hz

Time to first fix

Cold start[7]	< 39 s (typ)
Hot start[8]	< 20 s (typ)

Signal reacquisition

L1	< 0.5 s (typ)
L2/L5	< 1.0 s (typ)

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 Pulse Per Second output

Physical and electrical

Dimensions 147 x 125 x 55 mm

Weight 500 g

Power

Power consumption[11]	6 W
Input voltage	+9 to +36 VDC

2 Antenna LNA power outputs

Output voltage	5 VDC ±5%
Maximum current	200 mA

Connectors

2 Antenna	SMA
USB device	Micro A/B
USB Host	Micro A/B
Serial, PPS DSUB HD26	
Ethernet	RJ45
Power	SAL M12, 5 pin, male

Status LEDs

Power
GNSS
INS
Data Logging
USB

ALIGN GNSS heading accuracy

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

Environmental

Temperature

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

Humidity 95% non-condensing, ,EN60945

Ingress protection rating IP67

Vibration (operating)
Random MIL-STD-810 H
Method 514.6 (Cat24 24, 20 g RMS)
Sinusoidal IEC 60068-2-6

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

Bump IEC 60068-2-27 (25g)

Shock (non-operating) MIL-STD-810G, 516.6, Procedure 1, 40 g 11 ms terminal sawtooth

Compliance Industry Canada, FCC, CE, UKCA, RoHS, WEEE, EN60945 (Protected Equipment), EN62368, EN62479

Features

- NovAtel OEM7 marine positioning engine
- 16GB of internal storage for rolling data logging and incident support
- Support for logging to external USB storage device
- Built in WiFi support
- WebUI
- OGP 373-19 and IMCA S015 (July 2011) QC compliant

1 Typical values. Performance specifications subject to GNSS system characteristics, Signal-in-Space (SIS) operational degradation, ionospheric and tropospheric conditions, satellite geometry, baseline length, multipath effects and the presence of intentional or unintentional interference sources. 2 Model-configurable to track L5/E5a (all / Galileo) through L2 (GPS) or L3 / E5b / B2 (GLONASS / Galileo / BeiDou) through L2 (GLONASS). See manual for details. 3 Hardware ready for L3 and L5. 4 Designed for BeiDou Phase 2 and 3, B1 and, B2 compatibility. 5 GPS only. 6 Requires a subscription to a data service. 7 Typical value. No almanac or ephemerides saved and no approximate position or time. 8 Typical value. Almanac or ephemerides and no 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 meters per second, message output impacted above 500 m/s. 11 Typical value. Consult the user documentation for power supply considerations.

Contact Hexagon | Veripos

sales@veripos.com +44 1224 965800
For the most recent details of this product visit veripos.com

REV 7 | August 2023 | Printed in Canada