DVL 1000

6000 m, Generation 3

Bottom-track from over 0.1 to 75 m range; 6000 m max. operational depth



The DVL 1000 is our smallest survey-grade Doppler Velocity Log. It combines compact design with unprecedented functionality, being able to fly higher in the water column and closer to the seabed than similar equipment. It has a maximum operational depth of 6000 m and is ideally suited for subsea navigation where size and weight are a concern. This 1 MHz Doppler Velocity Log is used by industry leaders in the subsea market because of its high accuracy and state-of-the-art technology.

Download our guide to Nortek DVLs here.

Highlights

- Industry-wide acceptance
- Bottom track from 0.1-75 m range
- Quality estimates - per beam and ping

Applications

- Integration on observation-class ROVs and AUVs
- Near-bottom operations in deep-sea areas
- Precision navigation for highly accurate subsea surveys

Technical specifications

Bottom velocity	
Single ping std @ 1.5 m/s	0.8 cm/s at 1/2 max altitude
Long-term accuracy	±0.1% / ±0.1 cm/s (export-controlled), >1% (license-free)
Minimum altitude	0.1 m
Maximum altitude	75 m
Velocity resolution	0.01 mm/s
Maximum ping rate	8 Hz max
Water tracking	
Minimum accuracy	0.3% of measured value ± 0.3 cm/s
Minimum range	2.0 m
Current profiling	
Minimum accuracy	0.3% of measured value ± 0.3 cm/s
Velocity resolution	0.1 cm/s
Interval	User-specified Nth ping
Maximum range*	30 m

Current profiling

Blanking	0.1 m
Cell size	0.2-2.0 m
Max # cells	150

*Dependent on measurement conditions

Environmental

Operating temperature	-4 to +40 °C
Storage temperature	-20 to +60 °C
Vibration	IEC60068-2-64
EMC approval	IEC/EN 61000-6-2, 61000-6-3

Mechanical

Depth rating	6000 m *
Weight	4.15 kg / OEM 2.5 kg
Weight in water	1.7 kg
Height	185 mm
Diameter	ø114 mm

* DVL 1000 products delivered before March 2024 are depth rated to 4000m not 6000m. Please contact Nortek if you are unsure about the depth-rating of your instrument.

Hardware

Frequency of operation	1 MHz
Beam width 2.9°	2.9°
Configuration	4-beam Janus array convex transducer, 25° beam angle
Internal memory	16 GB / 64 GB optional
Bandwidth	25% centered at transmit frequency

Interfaces

Serial (either serial or ethernet)	Configurable RS232 or RS422, 8-pin male
Ethernet	10/100 Mbits Auto MDI-X.TCP/IP, UDP/IP, HTTP protocols. Fixed IP / DHCP client /Auto IP address assignment. UPnP and Nortek proprietary instrument discovery over Ethernet. IEEE1588/PTP and NTP for absolute time stamping.Multiple simultaneous data format transmission possible.
Data formats	Nortek proprietary w/ 1 ms time stamp accuracy, NMEA0183, Variants of PDx
Trigger	Internal 1, 2, 3, 4, 5, 6, 7 or 8 Hz or Trigger In. Trigger option through command (Ethernet or serial) External TTL or 485 lines: (configurable Rising/Falling/Edges)

Sensors

Pressure	0.1% FS /precision better than 0.002% of full scale per sample
Temperature	-4° to +40 °C ± 0.1 °C

Power

DC input	12-48 V
Maximum continuous current	1.5 A

Power

Average power	1.3 W*

* Power based on 1 Hz sampling and altitude with greatest transmit pulse.

Materials

Standard models	POM and titanium housing