DVL 1000

300 m, Generation 3

Bottom-track from over 0.1 to 75 m range; 300 m max. operational depth

The DVL 1000 is a very small 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. This version has a maximum operational depth of 300 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

- Diver navigation systems
- Hand-portable unmanned underwater vehicles (UUVs)
- Shallow-water UUVs

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	300 m
Weight	1.7 kg
Weight in water	0.3 kg
Height	158 mm
Diameter	ø114 mm

Hardware

Frequency of operation	1 MHz
Beam width	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 RS-232 or RS-422, 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
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

Sensor	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
Average power	1.3 W*

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

Materials

Standard models	POM housing