DVL1000 - 4000 m

Bottom-track from over 0.2 to 75 m range;
4000 m max. operational depth



The DVL1000 is the world's 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 4000 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.

Highlights

- Industry-wide acceptance
- Bottom track from 0.2-75 m range
- Quality estimates - per beam and ping

Applications

- Observation-class ROVs and AUVs
- Near-bottom operations
- Highly accurate subsea surveys
- Easy integration with high-grade INS

Technical specifications

Bottom velocity	
Single ping std @ 3 m/s	0.5 cm/s
Long-term accuracy	±0.1% / ±0.1 cm/s
Minimum altitude	0.2 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
Blanking	0.1 m

Current profiling	
Cell size	0.2-2.0 m
Max # cells	150

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	4000 m
Weight	2.7 kg
Weight in water	1.7 kg
Height	164 mm
Diameter	ø114 mm

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
Frequency of operation	500 kHz
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
Average power	1.3 W*

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

Materials

Standard models	POM and titanium housing