

## **DVL 500**

300 m

Bottom-track from 0.1 to 200 m range; 300 m operational depth



The DVL 500 is a universal Doppler Velocity Log that combines compact design with unprecedented functionality. It can fly higher in the water column and closer to the seabed than similar equipment. This 500 kHz 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**

- ✓ Bottom track from 0.1-200 m range
- ✓ Per-ping and per-beam data quality estimates
- ✓ 300 m operational depth

## **Applications**

- Precision navigation for highly accurate subsea survey vehicles
- ✓ Integration on AUVs with long missions or high accuracy requirements
- ✓ Navigation for work-class ROVs

## **Technical specifications**

Bottom velocity	
Single ping std @ 1.5 m/s	0.8 cm/s at 1/2 max altitude
Long-term accuracy	$\pm 0.1\%$ / $\pm 0.1$ cm/s (export-controlled), >1% (license-free)
Minimum altitude	0.1 m
Maximum altitude	200 m
Velocity resolution	0.01 mm/s
Maximum ping rate	8 Hz max

Water tracking	
Minimum accuracy	$0.3\%$ of measured value $\pm~0.3$ cm/s
Minimum range	4.0 m

Current profiling	
Minimum accuracy	0.3% of measured value $\pm$ 0.3 cm/s
Velocity resolution	0.1 cm/s
Interval	User-specified Nth ping
Maximum range*	70 m

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Current profiling					
Blanking	0.5 m				
Cell size	0.5-4.0 m				
Max # cells	140				
*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	3.5 kg				
Weight in water	0.5 kg				
Height	203 mm				
Diameter	ø186 mm				
Hardware					
Frequency of operation	500 kHz				
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 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				

DC input	12-48 V
Maximum continuous current	1.5 A
Average power	3.0 W*

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

Power

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Standard models

POM housing

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