

DVL 333

300 m

Bottom-track from 0.1 to 375 m range; 300 m operational depth



The DVL 333 is a long-range Doppler Velocity Log that benefits from increased range with no compromise in performance or form factor. It allows vehicles to maintain bottom lock in a greater range of environments, increasing mission duration on long-range subsea and surface vehicles. This 333 kHz DVL is used by innovators in the uncrewed vehicle sector looking to expand vehicle capabilities into new environments.

Download our guide to Nortek DVLs here.

Highlights

- ✓ Bottom track from 0.1-375 m range
- ✓ Per-ping and per-beam data quality estimates
- No change in form factor compared to higherfrequency options

Applications

- ✓ Large UUVs / AUVs operating at high altitudes
- USVs and crewed surface vessels requiring redundant navigation input
- ✓ Increase range of vehicles with existing DVL500 without vehicle redesign

Technical specifications

Bottom velocity		
Single ping std @ 1.5 m/s	0.8 cm/s at 1/2 max altitude	
Long-term accuracy (1)	$\pm 0.1\%$ / ± 0.1 cm/s (export-controlled), >1% (license-free)	
Minimum altitude	0.1 m	
Maximum altitude	375 m (2)	
Velocity resolution	Better than 0.01 mm/s	
Maximum ping rate (3)	8 Hz	
(1) Following standard calibration p	rocedures	
(2) Bottom-track distance depende	nt upon bottom type	

(3) Inquire for more options

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

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Current profiling	
Velocity resolution	0.1 cm/s
Interval	User-specified Nth ping
Maximum range*	100 m
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	333 kHz
Beam width	4.3°
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 Subconn connector, 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. PD0, PD4, PD5, PD6
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

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Power	
Maximum continuous current	1.5 A
Average power	4.0 W (4)

(4) Power based on 1 Hz sampling and altitude with greatest transmit pulse

Materials

Standard models POM housing

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