

DVL 500 Compact

300 m, Generation 3

Bottom-track from 0.1 to 175 m range; 300 m operational depth



The DVL 500 Compact combines the compact design of the standard DVL 1000 with the superior bottom-track range of the DVL 500. It can fly higher in the water column and closer to the seabed than similar equipment, enabling small vehicles to do bigger jobs.

Download our guide to Nortek DVLs [here](#).

Highlights

- ✓ Bottom-track from 0.1-175 m range
- ✓ Per-ping and per-beam data quality estimates
- ✓ 300 m operational depth

Applications

- ✓ Small vehicles requiring longer bottom track range
- ✓ Compact AUVs with high accuracy requirements
- ✓ Easy integration with leading inertial navigation systems (INS)

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	175 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	4.0 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*	70 m
Blanking	0.5 m

Current profiling

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 1.7 kg

Weight in water 0.3 kg

Height 158 mm

Diameter Ø 114 mm

Hardware

Frequency of operation 500 kHz

Beam width 5.8°

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 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 timestamp 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 3.0 W*

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

Materials

Standard models

POM housing