# DVL 500 Compact

6000 m, Generation 3

**Bottom-track from 0.1 to 175 m range; 6000 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
- 6000 m operational depth

## Applications

- Next-generation compact survey vehicles
- Small vehicles requiring longer bottom track range in deep water
- Compact AUVs with high accuracy requirements
- Increase range of vehicles with existing DVL 1000 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 | ±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 |

## Current profiling

| | |
|---|---|
| Maximum range* | 70 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 | 6000 m * |
| Weight | 4.15 kg / OEM 2.5 kg |
| Weight in water | 1.7 kg |
| Height | 185 mm |
| Diameter | ø 114 mm |

* DVL 500c products delivered before March 2024 are depth rated to 4000m not 6000m. Please contact Nortek if you are unsure about the depth-rating of your instrument.

## 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 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, 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 and titanium housing |