

## DVL500 Compact - 6000 m



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

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The DVL500 Compact combines the compact design of the standard DVL1000 with the superior bottom-track range of the DVL500. It can fly higher in the water column and closer to the seabed than similar equipment, enabling small vehicles to do bigger jobs.

## 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 DVL1000 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            |
| 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                             |
| Cell size           | 0.5-4.0 m                         |
| Max # cells         | 140                               |

### → 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        | ∅ 114 mm             |

\* DVL1000 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  |

## → Hardware

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