# Compact DVL500, 300 m

**Bottom-track from 0.3 to 175 m range; 300 m operational depth**



The DVL500 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.

## Highlights

- Bottom-track from 0.3-175 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 @ 3 m/s | 0.5 cm/s |
| Long-term accuracy | ±0.1% / ±0.1 cm/s |
| Minimum altitude | 0.3 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 |

## Current profiling

| | |
|---|---|
| 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 | 300 m |
| Weight | 1.30 kg |
| Weight in water | 0.15 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 |