# DVL1000 - 4000 m

**Bottom-track from over 0.2 to 75 m range;**
**4000 m max. operational depth**



The DVL1000 is the world's smallest survey-grade Doppler Velocity Log. It combines compact design with unprecedented functionality, being able to fly higher in the water column and closer to the seabed than similar equipment. It has a maximum operational depth of 4000 m and is ideally suited for subsea navigation where size and weight are a concern. This 1 MHz Doppler Velocity Log is used by
industry leaders in the subsea market because of its high accuracy and state-of-the-art technology.

## Highlights

- Industry-wide acceptance
- Bottom track from 0.2-75 m range
- Quality estimates - per beam and ping

## Applications

- Observation-class ROVs and AUVs
- Near-bottom operations
- Highly accurate subsea surveys
- Easy integration with high-grade 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 | 0.2 m |
| Maximum altitude | 75 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 | 2.0 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 | 30 m |
| Blanking | 0.1 m |

| Current profiling | |
|---|---|
| Cell size | 0.2-2.0 m |
| Max # cells | 150 |

| 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 | 4000 m |
| Weight | 2.7 kg |
| Weight in water | 1.7 kg |
| Height | 164 mm |
| Diameter | ø114 mm |

| Hardware | |
|---|---|
| Frequency of operation | 1 MHz |
| Beam width 2.9° | 2.9° |
| 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, 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 | 1.3 W* |

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

## Materials

| | |
|---|---|
| Standard models | POM and titanium housing |