

# DVL500 - 300 m kopi [logo] found or type unknown

## A sensor hub that makes vehicle control and navigation possible.

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

- [image not found] **Small size** [logo] found or type unknown
- [/] Complete sensor suite
- [/] Proven performance

### Applications

- [/] Small ROV
- [/] Micro AUV
- [/] Coastal USV

## Technical specifications

### [arrow] found Bottom tracking

- Maximum altitude 50 m
- Minimum altitude 5 cm
- Long-term accuracy >1% (license-free), <0.1% (export-controlled)
- Velocity resolution 0.01 mm/s
- Single ping standard 0.5 cm/s
- Maximum ping rate 2 Hz

### [ arrow ] Altimeter

- Range 50 m
- Accuracy 1% of measured value
- Resolution 0.1 cm

### [ arrow ] Environmental

- Operating temperature -4 to +40 °C
- Storage temperature -20 to +60 °C

### [ arrow ] Mechanical design (shallow/deep)

- Depth rating 300 m
- Height 42 mm
- Diameter 90 mm

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### **Mechanical design**

#### **(shallow/deep)**

Weight in air 535 g

Weight in water 295 g

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### **Power**

Voltage range 10-32 V

Average power < 4 W

Maximum peak power 35 W

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### **Communication**

Serial RS-422

Ethernet 10/100 Mbits Auto MDI-X.TCP/IP, UDP/IP. Fixed IP / mDNS/DHCP client /Auto IP address assignment. (Multiple simultaneous data format transmission possible.) Data formats Nortek proprietary.

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### **Hardware**

Frequency of operation 1 MHz

Beam width 3.4°

Vertical beam angle 20°

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### **AHRS**

Pitch and roll accuracy 0.35°

Heading accuracy 0.5°

Output rate 25 Hz

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### **Pressure sensor**

Pressure accuracy 0.1% FS /precision better than 0.002% of full scale

Temperature -4° to +40 °C ± 0.1 °C

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### **Magnetometer**

Range 800 ?T

Repeatability over ±200?T 20 nT

Noise 50 nT

Sampling 75 Hz

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### Accelerometers

Range 40 g  
Bias - repeatability 6 mg  
Velocity random walk 0.039 m/sec/?hr  
Bias instability  $135 \times 10^{-6}$  m/sec<sup>2</sup>  
Scale factor stability 0.10 %  
Sampling rate 100 Hz

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### Gyroscopes

Range 2000°/s  
Bias - repeatability 1.4°/s  
Angular random walk 0.3°/?hr  
Bias instability 8°/h  
Linear acceleration effect  $1.02 \times 10^{-3}$  (°/s)/(m/s<sup>2</sup>)  
Vibration rectification error  $5.6 \times 10^{-6}$  (°/s)/(m/s<sup>2</sup>)<sup>2</sup>  
Sampling rate 100 Hz