DOPPLER VELOCITY LOG

DVL500-Compact - 4000 m

NORTEK

Bottom-track from 0.3 to 175 m range; 4000 m operational depth

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.

DVL500-Compact - 4000 m

Highlights

✓ Bottom-track from 0.3-175 m range

✓ Per-ping and per-beam data quality estimates

✓ 4000 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)

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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
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	4000 m
Weight	2.7 kg
Weight in water	1.7 kg
Height	164 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

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⟶ Hardware	
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