



# DVL 333

300 m

**Bottom-track from 0.1 to 375 m range; 300 m operational depth**



The DVL 333 is a long-range Doppler Velocity Log that benefits from increased range with no compromise in performance or form factor. It allows vehicles to maintain bottom lock in a greater range of environments, increasing mission duration on long-range subsea and surface vehicles. This 333 kHz DVL is used by innovators in the uncrewed vehicle sector looking to expand vehicle capabilities into new environments.

Download our guide to Nortek DVLs [here](#).

## Highlights

- ✓ Bottom track from 0.1-375 m range
- ✓ Per-ping and per-beam data quality estimates
- ✓ No change in form factor compared to higher-frequency options

## Applications

- ✓ Large UUVs / AUVs operating at high altitudes
- ✓ USVs and crewed surface vessels requiring redundant navigation input
- ✓ Increase range of vehicles with existing DVL500 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 (1)                               | ±0.1% / ±0.1 cm/s (export-controlled), >1% (license-free) |
| Minimum altitude                                     | 0.1 m   |
| Maximum altitude                                     | 375 m (2)   |
| Velocity resolution                                  | Better than 0.01 mm/s                                     |
| Maximum ping rate (3)                                | 8 Hz  |
| (1) Following standard calibration procedures        |   |
| (2) Bottom-track distance dependent upon bottom type |   |
| (3) Inquire for more options                         |   |

| 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 |

## Current profiling

|                     |                         |
|---------------------|-------------------------|
| Velocity resolution | 0.1 cm/s                |
| Interval            | User-specified Nth ping |
| Maximum range*      | 100 m                   |
| Blanking            | 0.5 m                   |
| Cell size           | 0.5-4.0 m               |
| Max # cells         | 140                     |

\*Dependent on measurement conditions

## 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          | 3.5 kg  |
| Weight in water | 0.5 kg  |
| Height          | 203 mm  |
| Diameter        | ø186 mm |

## Hardware

|                        |  |
|------------------------|--|
| Frequency of operation | 333 kHz  |
| Beam width             | 4.3°   |
| Configuration          | 4-beam Janus array convex transducer, 25° beam angle |
| Internal memory        | 16 GB / 64 GB optional                               |
| 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 Mbps 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. PD0, PD4, PD5, PD6  |
| 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 |
|----------|---------|

## Power

|                            |       |
|----------------------------|-------|
| Maximum continuous current | 1.5 A |
|----------------------------|-------|

|               |           |
|---------------|-----------|
| Average power | 4.0 W (4) |
|---------------|-----------|

(4) Power based on 1 Hz sampling and altitude with greatest transmit pulse

## Materials

|                 |             |
|-----------------|-------------|
| Standard models | POM housing |
|-----------------|-------------|