

The world's smallest DVL – DVL A50

The Water Linked A50 is the world's smallest Doppler Velocity Log (DVL). By utilising the latest technology Water Linked has been able to reduce the size and cost of the DVL, while delivering a level of performance previously not possible in a product so small.

Thanks to the size and weight of the A50, the smallest ROVs and AUVs can now benefit from increased navigation and control. This allows these small vehicles operating in water depths down to 600m to perform tasks that would have previously required a larger and more expensive vehicle.

Although a clear benefit for small vehicles, larger vehicles requiring high accuracy navigation features also benefit from the size, weight, and cost benefits of fitting this high accuracy DVL.

While typically integrated fully to the ROV or AUV for enhanced control, the integrated Attitude and Heading Reference System (AHRS) within the A50 allows the DVL to be used for dead reckoning positioning. This feature allows the A50 to generate a track plot of the vehicles' movements without the need to fully integrate with the vehicle control system.

Key features

- 5cm – 50m altitude range
- 300m or 600m depth rated
- Ethernet and Serial interface
- Embedded computer for standalone operation
- AHRS enables dead reckoning track plot
- Extremely small size enabling easy mounting and integration
- Web GUI with comprehensive diagnostic features



Acoustic | performance

Transducer frequency	1 MHz
Transducer setup	4-beam convex Janus array
Transducer beam angle	22.5 degrees
Ping rate	4 - 15 Hz (adaptive to altitude)
Sensor assist	Integrated AHRS
Min altitude	5 cm
Max altitude	50 meters (>35 m is dependent on seabed conditions, salinity levels etc.)
Max velocity	3.75 m/s
Velocity resolution	0.1 mm/s
Long term accuracy	±1.01 % (Standard version), ±0.1 % (Performance version)

Electrical | interface

Input voltage	10 - 30 Vdc
Power consumption	4 W
Power-on current surge	35 W
Physical interface	3-m cable with interface module, 8 wires, (Power / Ethernet / Serial)
Indicator	Status LED (Power, Lock)
Communication	Ethernet & Serial (UART 115200 baud)
Protocols	Water Linked API, PD4, and PD6

Mechanical

Diameter	66 mm
Height	25 mm
Weight in air	0.17 kg
Weight in water	0.105 kg
Depth rating	300m or 600m
Material	PEEK (housing), Stainless Steel 316 (back plate)
Operating temperature	-5 to 55 °C

Approvals

CE