



SeaPILOT

Doppler Velocity Log 300KHz / 600KHz / 1200KHz

The Rowe Technologies SeaPILOT family of Doppler Velocity Logs (DVLs) represent the industry state of the art in acoustic Doppler technology. The compact form factor and powerful electronics, provide a versatile platform capable of producing precise bottom referenced velocity and/or current profile measurements.

Each unit in the family leverage a core, common set of electronics in a flexible form factor. This combined with multiple packaging options, provides for a cost-effective and extremely capable instrument to address a wide variety of vehicle navigation and oceanographic applications, from shallow water to full-ocean depth.

The user selectable signal processing functions provide excellent temporal, spatial, and velocity resolution and precision. User programmability features provide capability that is particularly useful in variable depth and near-bottom applications.

For vehicle navigation applications which require a custom fit, the SeaPILOT is offered in an OEM package, which consists of four individual broadband piston transducers and a compact electronic board stack. This solution is ideal for providing precise navigation capability for small AUVs.

Product Features

- *Multi-Use Configuration - 3-Axis Current Profile and Bottom Track or Water Track Velocity Measurements*
- *User Programmable acoustic transmission - Broad Band, Narrow Band, and Pulse-to-Pulse Coherent Technologies*
- *Sensors for heading, pitch, roll, and water temperature (pressure sensor is optional)*
- *Measurements of backscatter intensity, error velocity, and altitude also available for every ensemble.*

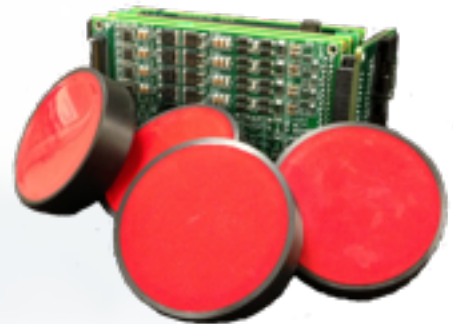
Application Areas

- *Subsea & Surface vessel navigation*
- *Closed-loop control for vessel station-keeping*
- *Velocity-aiding of inertial navigation systems*
- *Towed vehicle along/across-track velocity measurements*



600 KHz / 300 KHz

1200 KHz



OEM Kit for installation into an AUV Pressure Hull



6 inch diameter AUV pressure hull with pockets for DVL piston transducers

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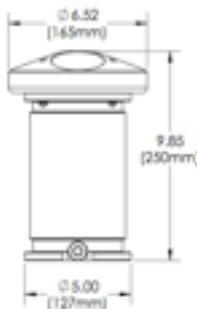
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DVL/ADCP Specifications

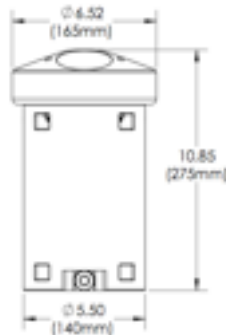
Specification subject to change without notice

Single Frequency (nominal)	1200 kHz	600 KHz		300 KHz
Transducer Type	2-in. Piston	2-in. Piston	3-in. Piston	3-in. Piston
Beams	Four beams Inclined 20° in 90° azimuth increments			
Velocity Range	±20 m/sec Max; ±5 m/sec Typical			
Resolution	0.01 cm/sec			
Number of Cells	up to 200			
Cell Size	2.0 cm minimum			
Current Profiling:				
Range:				
Narrow Band	0.2m - 30m	0.4m - 70m	0.4m - 75m	0.6m - 150m
Broad Band	0.2m - 20m	0.4m - 45m	0.4m - 50m	0.6m - 100m
Long-Term Accuracy (High Accuracy)	± 0.25%, ±2 mm/s	± 0.50%, ±2 mm/s	± 0.25%, ±2 mm/s	± 0.70%, ±2 mm/s
Long-Term Accuracy (Low Accuracy)	±1.0%, ±2 mm/s			
BB Single-Ping Precision	3.5 cm/s @ 1m cell depth; ±5 m/sec max velocity	3.5 cm/s @ 2m cell depth; ±5 m/sec max velocity		3.5 cm/s @ 4m cell depth; ±5 m/sec max velocity
NB Single-Ping Precision	20 cm/s @1m cell depth; ±5 m/sec max velocity	20 cm/s @2m cell depth; ±5 m/sec max velocity		20 cm/s @4m cell depth; ±5 m/sec max velocity
Data Output Rate	1-2 Hz typical; 10 Hz max	1-2 Hz typical; 10 Hz max		1-2 Hz typical; 10 Hz max
Bottom Tracking				
Range:	0.2m - 50m	0.4m- 120m	0.4m- 130m	0.6m- 300m
Velocity Accuracy (High Accuracy)	± 0.25%, ±2 mm/s	± 0.50%, ±2 mm/s	± 0.25%, ±2 mm/s	± 0.70%, ±2 mm/s
Velocity Accuracy (Low Accuracy)	±1.0%, ±2 mm/s			
Single-Ping Precision	±0.4 cm/sec @ 3 m/sec	±0.5 cm/sec @ 3 m/sec	±0.5 cm/sec @ 3 m/sec	±0.6 cm/sec @ 3 m/sec
Resolution	0.01 cm/sec			
Sensors				
Compass: Range/Accuracy/Resolution	0-360 / 1° RMS / 0.01°			
Pitch/Roll: Range/Accuracy/Resolution	Roll ± 180°, Pitch ± 90°/ <1° RMS / 0.01°			
Water Temp: Range/Accuracy/Res	-5C-70C / ± 0.15C / 0.001C			
Pressure: Range/Accuracy	Selectable / ±0.10% Range			
Materials Options	Plastic/Aluminum			
Input Power:				
Voltage Range (Ext DC Input)	11 - 36 VDC	11 - 36 VDC		11 - 36 VDC
Power (nominal for 10% Tx duty cycle)	4W	7W	7W	11W
Output Data:				
Communications	RS485, RS232, 100BaseT Ethernet (SC only)			
Internal Recording	8 GByte			
Environmental				
Temperature	-5°C to 45°C (Operating), -30°C to 60°C (Storage)			
Depth Rating	300 m, 1000m, 3000m, 6000m			

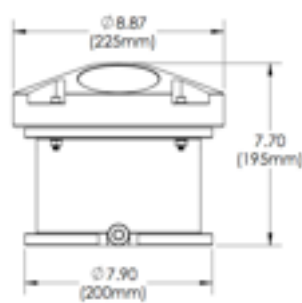
1200KHz
50m & 10000m



1200KHz / 600KHz
3000m & 6000m



300KHz / 600KHz
300m & 1000m



300KHz / 600KHz
3000m & 6000m

