



CODEVINTEC

Tecnologie per le Scienze della Terra e del Mare

SeaWATCH Self contained ADCP



The Rowe Technologies SeaWATCH product family is the most versatile self-contained Acoustic Doppler Current Profilers (ADCPs) and represent the industry state-of-the-art in acoustic Doppler technology.

The compact form factor, powerful electronics and robust signal processing, provide a versatile platform capable of producing precise current profile measurements over extended ranges. The product comes in three different frequencies; **300 kHz**, **600 kHz**, and **1200 kHz**, and is available in different depth package options – 300 m, 3000 m, and 6000 m.

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

- > Coastal and offshore oceanographic applications
- > Meteorological and wave data acquisition
- > Environmental management
- > Coastal engineering site assessment
- > Oil/gas exploration and drilling
- > Easily deployed on buoys, moorings, or sea-floor structures.





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.
- > User-selectable signal processing options optimize acquisition parameters for precise, high-accuracy measurements.
- > Temperature sensor and flux gate compass with pitch and roll sensor.
- > ROWE's Windows™- based pulse software included for data acquisition, display and export.

Product Options

- > External battery pressure housing options allow for extended deployments.
- > Optional pressure sensor.



Technical specifications SeaWATCH

Single Frequency (nominal)	300KHz	600kHz	600kHz	1200kHz
Piston Ceramic Size	3 in	3 in	2 in	2 in
Beam widths [2 way]	2.70°	2.00°	2.00°	1.01°
Beam Spacing	4 beams inclined 20°			
Velocity Range	+/- 20 m/s Max; +/- 5 m/s Typical			
Resolution	0.01 cm/s			
Number of Cells	up to 200			
Cell Size	2.0 cm minimum			
Current Profiling				
Maximum Range				
Narrow Band	150 m	75 m	70 m	30 m
Broad Band	100 m	50 m	45 m	20 m
Long-Term Accuracy (High Accuracy Option):	± 0.70%, ± 2mm/s	± 0.25%, ± 2mm/s	± 0.50%, ± 2mm/s	± 0.25%, ± 2mm/s
Long-Term Accuracy (Low Accuracy Option)	+/- 1.0%, +/- 2 mm/s			
BB Single-Ping Precision	3.5 cm/s @ 4 m cell depth	3.5 cm/s @ 2 m cell depth	3.5 cm/s @ 1 m cell depth	
NB Single-Ping Precision	20 cm/s @ 4 m cell depth	20 cm/s @ 2 m cell depth	20 cm/s @ 1 m cell depth	
Data Output Rate	1-2 Hz typical; 10 Hz max			
Bottom Tracking				
Maximum Range	300 m	130 m	120 m	50 m
Maximum Bottom Track Speed	15 m/s			
Long-Term Accuracy (High Accuracy)	± 0.70%, ± 2 mm/s	± 0.25%, ± 2 mm/s	± 0.50%, ± 2 mm/s	± 0.25%, ± 2 mm/s
Long-Term Accuracy (Low Accuracy)	+/- 1.0%, +/- 2 mm/s			
Single-Ping Precision	± 0.6 cm/sec @ 3 m/sec	± 0.5 cm/sec @ 3 m/sec	± 0.5 cm/sec @ 3 m/sec	± 0.4 cm/sec @ 3 m/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/Resolution	-5° - 70° C / +/- 0.15°C			
Pressure Range/Accuracy	Selectable / +/- 10% Range			
Materials Options				
Acetal / Aluminum / Titanium				
Input Power				
Voltage Range (Ext DC Input)	12 - 36 VDC			
Average Power (5% duty cycle) / Peak Current	23 W typical	30 W typical	30 W typical	23 W typical
Output Data				
Communications	RS-485, RS232, 100Base T /Ethernet (self-contained only)			
Internal Recording	32 GByte			
Environmental				
Temperature	-5° to 45° C (Operating), -30°C to 60° C (Storage)			
Depth Rating	50m, 300m, 3000m, and 6000m (600 kHz)			

Specifications may be subject to change at any time in the future.

** In Development