SeaWATCH ADCP

Self-Contained

300 kHz / 600 kHz / 1200 kHz

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.

The ***SeaWATCH*** ADCP's are well suited for a variety of coastal and offshore oceanographic applications including meteorological and wave data acquisition, environmental management, coastal engineering site assessment, and oil/gas exploration and drilling. Rowe systems are easily deployed on buoys, moorings, or sea-floor structures.

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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.

SeaWATCH Specifications

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
Resolution:				
Sensors:				
Compass: Range/Accuracy/Resolution:	0-360º / 1ºRMS / 0.01º			
Pitch/Roll: Range/Accuracy/Resolution:	Roll +/- 180º / Pitch +/- 90º / <1ºRMS /0.01º			
Water Temp: Range/Accuracy/Resolution:	-5º - 70º C / +/- 0.15ºC			
Pressure: Range/Accuracy:	Selectable / +/- 0.1% 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:	-5º to 45º C (Operating), -30ºC to 60º C (Storage)			
Depth Rating:	50m, 300 m, 3000m, and 6000m (600 kHz)			

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

***** In Development***