

Teledyne RD Instruments

Álava Ingenieros
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Workhorse Monitor

Direct Reading 1200, 600, 300 kHz ADCP

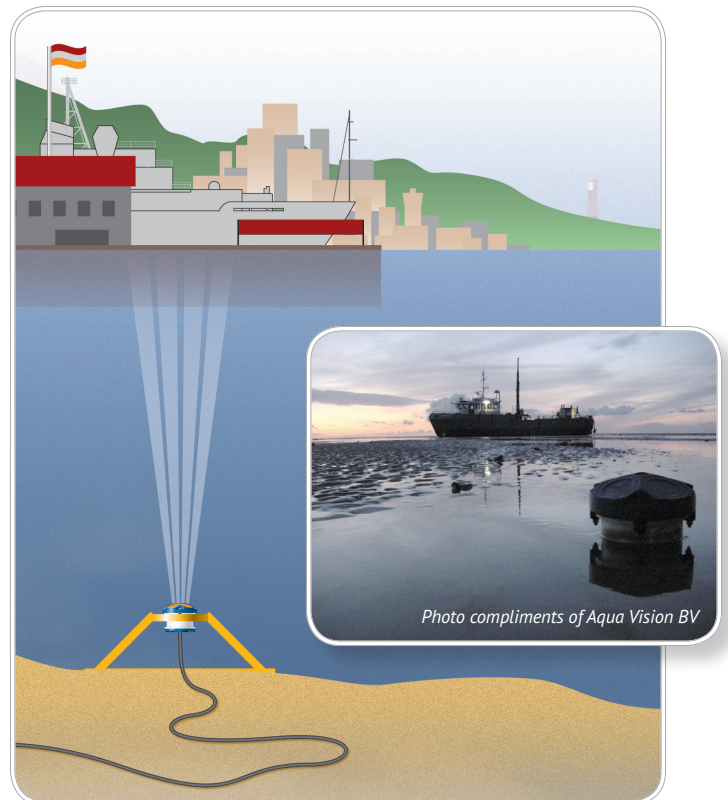
Real-Time Current Monitoring



The MONITOR is Teledyne RD Instruments' most popular direct-reading Acoustic Doppler Current Profiler (ADCP). The unit is typically bottom frame-mounted and hard-wired to shore to provide real-time monitoring of coastal currents.

The Monitor's high data accuracy and reliability make it a favorite for deployments in high-volume traffic areas such as ports and harbors, where the data is often integrated into a Vessel Traffic Monitoring System. In fact, the Monitor has been selected for most major port programs undertaken in the United States.

The Monitor offers a choice of three frequencies and ranges, to meet a wide array of data requirements. The unit also offers a flexible upgrade path, which includes an external battery pack, pressure sensor, bottom tracking capability for moving boat applications, and directional wave measurement.



PRODUCT FEATURES

- **Extreme accuracy and reliability:** The Monitor is ideally suited for the most demanding environments, including high traffic areas such as ports and harbors.
- **Precision data:** Teledyne RDI's Broadband signal processing delivers very low-noise data, resulting in unparalleled data resolution and minimal power consumption.
- **Versatility:** This direct reading unit can easily be upgraded to tackle a wide variety of coastal applications. Typical upgrades include pressure sensor, external battery pack, bottom tracking, and directional wave measurement—a single instrument can do it all!
- **A four-beam solution:** Teledyne RDI's 4-beam design improves data reliability by providing a redundant data source in the case of a blocked or damaged beam; improves data quality by delivering an independent measure known as error velocity; and improves data accuracy by reducing variance in your data.



Workhorse Monitor

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TECHNICAL SPECIFICATIONS

Water Profiling	Depth Cell Size ¹	Typical Range ² 12m 1200kHz		Typical Range ² 50m 600kHz		Typical Range ² 110m 300kHz	
		Range ³	Std. Dev. ⁴	Range ³	Std. Dev. ⁴	Range ³	Std. Dev. ⁴
	Vertical Resolution	11m	14.0cm/s				
	0.25m						
	0.5m	12m	7.0cm/s	38m	14.0cm/s	see note ¹	
	1m	13m	3.6cm/s	42m	7.0cm/s	83m	14.0cm/s
	2m	15m ²	1.8cm/s	46m	3.6cm/s	93m	7.0cm/s
	4m	see note ¹		51m ²	1.8cm/s	103m	3.6cm/s
	8m					116m ²	1.8cm/s
Long Range Mode	2m	19m	3.4m/s				
	4m			66m	3.6cm/s		
	8m					154m	3.7cm/s
Profile Parameters	Velocity Accuracy	0.3% of water velocity relative to ADCP ±0.3cm/s		0.3% of water velocity relative to ADCP ±0.3cm/s		0.5% of water velocity relative to ADCP ±0.5cm/s	
	Velocity resolution	0.1cm/s		0.1cm/s		0.1cm/s	
	Velocity range	±5m/s default, ±20m/s max		±5m/s default, ±20m/s max		±5m/s default, ±20m/s max	
	Number of depth cells	1-255		1-255		1-255	
	Ping rate	2Hz (typical)		2Hz (typical)		2Hz (typical)	
Echo Intensity Profile	Vertical resolution	Depth cell size, user configurable					
	Dynamic range	80dB					
	Precision	±1.5dB					
Transducer and Hardware	Beam angle	20°					
	Configuration	4-beam, convex					
	Internal memory	Two PCMCIA card slots; no memory card included					
	Communications	Serial port selectable by switch for RS-232 or RS-422. ASCII or binary output at 1200-115,200 baud					
Environmental	Standard depth rating	200m; optional to 500m, 1000m, 6000m					
	Operating temperature	-5° to 45°C					
	Storage temperature (without batteries)	-30° to 60°C					
	Weight in air	7.0kg					
	Weight in water	3.0kg					
Software		TRDI's Windows™-based software included: WinSC —Data Acquisition System; WinADCP —Data Display and Export;					
Power	Input Power	20-50VDC					
Standard Sensors	Temperatures (mounted on transducer)	Range -5° to 45°C, Precision ±0.4°C, Resolution 0.01°					
	Tilt	Range ±15°, Accuracy ±0.5°, Precision ±0.5°, Resolution 0.01°					
	Compass (fluxgate type, includes built-in field calibration feature)	Accuracy ±2° ⁵ , Precision ±0.5° ⁵ , Resolution 0.01°, Maximum tilt ±15°					
Available Options		<ul style="list-style-type: none"> • Memory: 2 PCMCIA slots; total 4GB • Pressure sensor • External battery case • High-resolution water-profiling modes • Bottom tracking • AC/DC power converter, 48VDC output • Conversion kit for internal power supply and memory • Directional Waves Array • Velocity—Data Display, Processing, and Export software 					
Dimensions		228.0mm wide x 201.5mm long (line drawings available upon request)					

1. User's choice of depth cell size is not limited to the typical values specified.
 2. Longer ranges available.
 3. Profiling range based on temperature values at 5°C and 20°C, salinity = 35ppt.
 4. BroadBand mode single-ping standard deviation (Std. Dev.).
 5. <±1.0° is commonly achieved after calibration.



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