

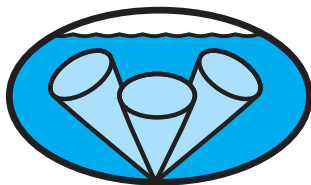
# Long Ranger ADCP

## Self-Contained 75 kHz



Sentinel is RDI's best-selling ADCP (1000 Sentinels in 50 countries). Now there's Long Ranger, a Sentinel-inspired instrument for long range, long duration autonomous deployments - up to six months for long range profiling of up to 600 meters. Patented (and proven) signal processing techniques used in RDI's BroadBand ADCPs ensure the degree of reliability that gives the peace of mind you need in long-term, deepwater data collection programs.

Mode	Range	Cell Size
Broadband	510m	32m
Long Range	600m	32m

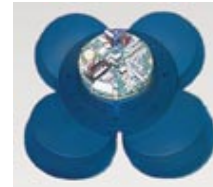


# RD Instruments

[www.rdinstruments.com](http://www.rdinstruments.com)

**RD Instruments**  
 Tel: (858) 693-1178  
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### Included in a complete system:



Transducer and electronics: aluminum transducer head with four beams at 20° from vertical in a convex configuration, temperature sensor, electronics assemblies, fluxgate compass, pitch and roll sensors.



Batteries: four 28-D cell alkaline battery packs (factory degaussed).



Memory: 40 MB PC card internal memory (upgradeable to 440mb).



Pressure case: 1500m depth rated 6061 aluminum pressure case. End cap with wet-mateable connector and dummy plug.



Power supply for laboratory testing: 110-220V AC 48V DC power converter.



Input/output cable: 5 meter cable for communications and power.



Manuals and software: users guide, operation manual; and easy-to-use software package.



Spare parts and tool kit for maintenance.



Ship case: ruggedized shipping case.

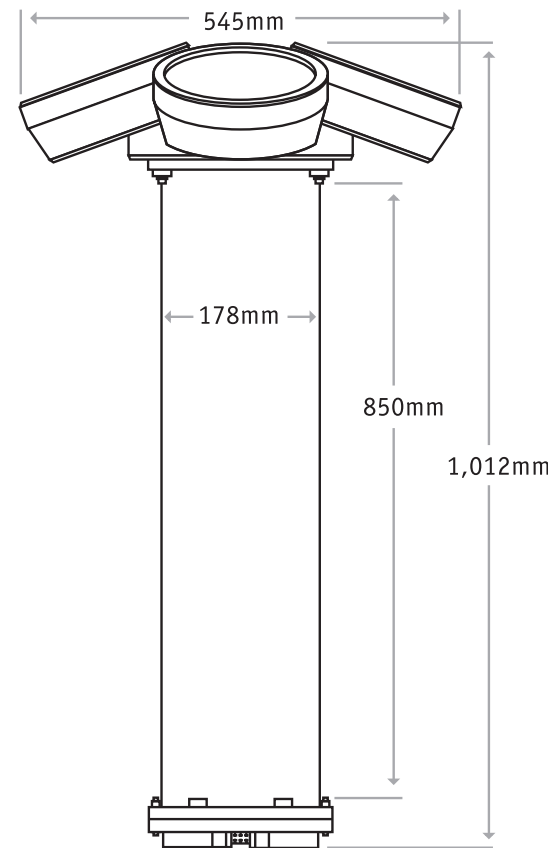
# Long Ranger Self-Contained 75 kHz ADCP

## Water Profiling

Depth Cell Size <sup>a</sup>	Range <sup>b</sup> (m)		Std. Dev. <sup>c</sup> (mm/s)
	Low Power	High Power	
4m	170	380	180
8m	200	430	80
16m	240	470	30
32m	270	510	20

Notes: a) user's choice of depth cell size is not limited to the typical values specified, b) longer ranges available, c) BroadBand mode single-ping standard deviation (Std.Dev.)

## Dimensions



## Long Range Mode

Depth	Low Power	High Power	Std. Dev. (mm/s)
4m	300	460	260
8m	350	510	108
16m	390	550	48
32m	430	600	30

## Standard Sensors

### Temperature (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°<sup>e</sup>
- Precision: ± 0.5°<sup>e</sup>
- Resolution: 0.01°
- Maximum tilt: ± 15°

### Pressure Sensor

- Maximum pressure: 1500m
- Short-term uncertainty: ± 0.1%
- Maximum drift: ± 0.25%

Note: e) @ 60° magnetic dip angle, 0.5G total field

## Profile Parameters

*Not designed for use on moving vessels*

**Velocity accuracy:** ± 1% of the water velocity relative to the ADCP ± 5mm/s.

**Velocity resolution:** 1mm/s

**Velocity range:** ± 5m/s (default)  
± 10m/s (maximum)

**Depth cell size:** 4-32m

**Number of depth cells:** 1-128

**Ping rate:** 1 Hz (typical)

## Echo Intensity Profile

**Vertical resolution:** depth cell size

**Dynamic range:** 80 dB

**Precision:** ± 1.5dB (relative measure)

## Transducer and Hardware

**Beam angle:** 20°

**Configuration:** 4-beam, convex

**Transducer facing:** Hard polyurethane

**Internal memory:** Unit comes with 40MB card, standard. Two PCMCIA card slots available (10-220 Mb each).

**Communications:** Serial port selectable by switch for RS-232 or RS-422. ASCII or binary output at 1200-115,400 baud.

## Power

**DC input:** 20-60V DC. Internal battery packs, optional external battery pack.

**Voltage:** 42V DC (new) 28V DC (depleted)

**Capacity (each pack):** @ 0°C: 400 Watt hours

### Transmit at 35V

- 1000W (high power)
- 80W (low power, Long Range mode)
- 20W (low power, BroadBand mode)

## Environmental

**Standard depth rating:** 1500m.

**Operating temperature:** -5° to 45°C

**Storage temperature:** -30° to 75°C

**Weight in air:** 73kg

**Weight in water:** 37kg

## Software

Use RDI's Windows™-based software for the best results:

- WinSC — Data Acquisition
- WinADCP — Data Display and Export

## Upgrades Available

- Memory: 10-220Mb PCMCIA cards
- External battery case
- Mooring accessories: In line and bottom mount accessories available from Flotation Technologies and Mooring Systems.
- Remote head configuration

## For More Information

Call, e-mail or visit our web page. Ask for our Primer about ADCPs.

Internet: [www.rdinstruments.com](http://www.rdinstruments.com)

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