

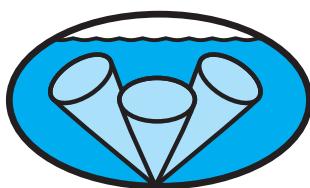
Long Ranger ADCP

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

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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.

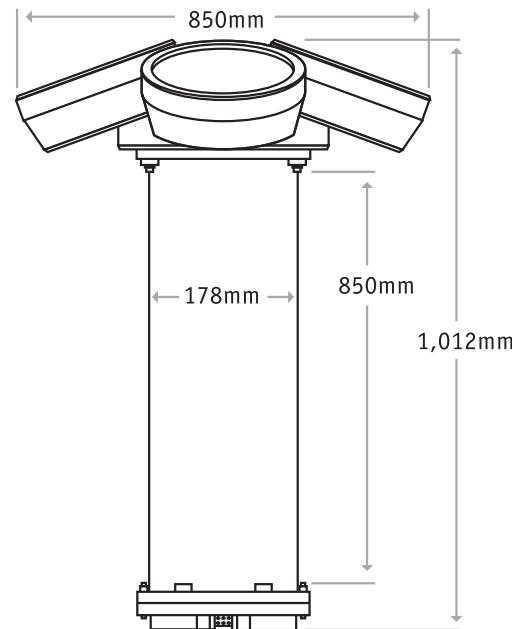
Long Ranger Self-Contained 75 kHz ADCP

Water Profiling

Depth	Range ^b Low Power	Range High Power	Std. Dev. ^c Vertical Resolution
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
Cell Size(a)	Range (m)	Range (m)	Vertical Resolution (mm/s)
4m	300	460	260
8m	350	510	108
16m	390	550	48
32m	430	600	30

Profile Parameters

Not designed for use on moving vessels

Velocity accuracy: $\pm 1\%$ of the water velocity relative to the ADCP $\pm 5\text{mm/s}$.

Velocity resolution: 1mm/s

Velocity range: $\pm 5\text{m/s}$ (default)
 $\pm 10\text{m/s}$ (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: $\pm 1.5\text{dB}$ (relative measure)

Transducer and Hardware

Beam angle: 20°

Configuration: 4-beam, convex

Transducer facing: 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.

Standard Sensors

Temperature (mounted on transducer)

- Range: -5° to 45°C
- Precision: $\pm 0.4^\circ\text{C}$
- Resolution: 0.01°

Tilt

- Range: $\pm 15^\circ$
- Accuracy: $\pm 0.5^\circ$
- Precision: $\pm 0.5^\circ$
- Resolution: 0.01°

Compass (fluxgate type, includes built-in field calibration feature)

- Accuracy: $\pm 2^\circ$ ^e
- Precision: $\pm 0.5^\circ$ ^e
- Resolution: 0.01°
- Maximum tilt: $\pm 15^\circ$

Pressure Sensor

- Maximum pressure: 1500m
- Short-term uncertainty: $\pm 0.1\%$
- Maximum drift: $\pm 0.25\%$

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

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. Optional to 4000m

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
- Pressure cases for depths up to 4000m
- Mooring accessories

For More Information

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

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