



Workhorse Long Ranger

75 kHz ADCP

# The Name Says It All

Long-range, long-term, and reliable, the LONG RANGER is the best choice for gathering detailed data on seasonal and annual current structure fluctuations for scientific research and offshore oil and gas applications. Hundreds of Long Ranger units are currently deployed on:

- · environmental monitoring buoys
- offshore oil rigs
- · polar research moorings

The highly flexible Long Ranger unit is available in three product configurations: self-contained, direct reading, or remote-headdepending on your application requirements.

### Third-party solutions

Collect data at your desk: the Long Ranger is designed to operate in real-time data mode. Third-party products are available for acoustic and radio data transfer direct to your location.

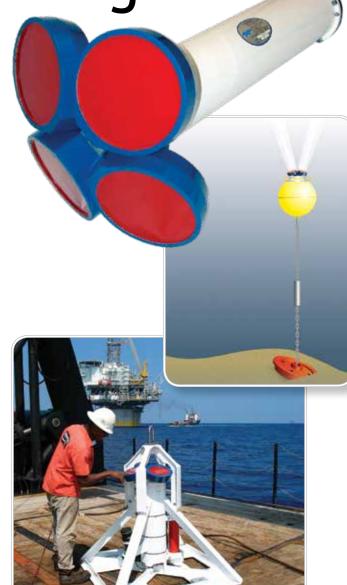
#### Programmable modes for deployment flexibility

Mode	High Power	Low Power
Long range	600m	434m
High precision	503m	267m

Source: Plan ADCP 2.06

# PRODUCT FEATURES

- Extended range: As the name implies, the Long Ranger provides the longest proven profiling range (600m) available from a self-contained ADCP.
- **Precision data:** Broadband signal processing produces precise measurements, allowing for frequent sampling with extended battery life.
- Proven reliability: The Long Ranger inherits the Workhorse family of electronics, which have been proven in thousands of field applications.
- Extended deployment life: Set it and forget it. The Long Ranger can handle three, six or twelve month long deployments, from frigid polar waters the the balmy tropics.







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## **TECHNICAL SPECIFICATIONS**

Mode (maximium power)	D	epth Cell Size	Std Dev.1	Range <sup>2,3,4</sup>		
	High Resolution (wide bandwidth)	4m	15.0cm/s	432m		
	,	8m	7.6cm/s	465m		
		16m	3.9cm/s	503m		
		32m	2.0cm/s	545m		
	Long Range (narrow bandwidth)	4m	29.0cm/s	525m		
	,	8m	14.6cm/s	560m		
		16m	7.6cm/s	600m		
		32m	3.9cm/s	644m	Source: Plan ADCP 2.0	
Profile Parameters	Velocity accuracy	± 1% ± 5	5mm/s			
(not designed for moving vessels)	Velocity resolution	1mm/s				
	Velocity range	± 5m/s d	lefault, ± 10m/s max			
	Depth cell size	4-32m				
	Number of depth cells	1-255				
	Ping rate	1Hz (typi	ical)			
Echo Intensity Profile	Vertical resolution	Depth ce	ell size, user configurable			
	Dynamic range	80dB	80dB			
	Precision	±1.5dB (	relative measure)			
Transducer and Hardware	Beam angle	20°				
	Beam width	4°				
	Configuration		4-beam, convex			
	Internal memory		1CIA card slots; one memor			
	Communications	RS-232 (	or RS-422; ASCII or binary o	output at 1200-115,20	0 baud	
Power	DC input	20-50VI				
	Number of batteries		4 internal alkaline battery packs			
	Internal battery voltage	`	42V DC(new) 28VDC (depleted)			
	Battery capacity @0°C	450 wat	t hours each / 1800 watt ho	ours total		
Standard Sensors	Pressure Sensor		m range 2000m, Accuracy 0			
	Temperature (mounted on transducer)		Range -5° to 45°C, Precision ±0.4°C, Resolution 0.01° Range ±50°, Accuracy ±0.5°, Precision ±1.0°, Resolution 0.01°			
	Tilt	Kange ±	50°, Accuracy ±0.5°, Precisio	on ±1.0°, Resolution U.	01,	
	Compass (fluxgate type, includes built-in field calibration feature)	Accuracy	+2°5, Precision ±0.5°5, Reso	olution 0.01°, Maximur	n tilt ±15°	
Environmental	Standard depth rating	1500m (	3000m optional)			
21/11/Jimental	Operating temperature	-5° to 45				
	Storage temperature without batteries	-30° to 6	-30° to 60°C			
	Weight in air	SC 86kg,	SC 86kg, DR 58kg, ExtBC 39kg			
	Weight in water		, DR 36kg, ExtBC 16kg			
Software	Use Teledyne RDI's Windows™-based software for the best results:  WinSC—Data Acquisition; WinADCP—Data Display and Export; Teledyne RDI Tools—Utilities; Velocity					
Available Options	• 3000M Pressure-Rated Configuration • External Battery Case (Extbc) • Remote Head Configurations • Memory: 2 PCMCIA Slots, Total 4GB • <b>Velocity</b> for advanced post processing					
Dimensions	550mm wide x 1014mm long (self-contained); 550mm wide x 493mm long (direct reading) (line drawings available upon request					

<sup>1</sup> Standard deviation is ADCP uncertainty given a single ping.

Specifications subject to change without notice.

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<sup>2</sup> Maximum range is a nominal value based on 5°C, 35ppt, and typical ocean backscatter; actual range will vary depending on environmental conditions.

<sup>3</sup> Assuming the ADCP is pointed vertically (0° tilt), the maximum range is limited to 94% of the distance to the surface.

<sup>4</sup> Assumes a power supply of 32VDC (typical average battery voltage).

<sup>5 &</sup>lt;±1.0° is commonly achieved after calibration.