



Workhorse Long Ranger

75 kHz ADCP

The Name Says It All...

Long-range and long-term, 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-head—depending on your application requirements.

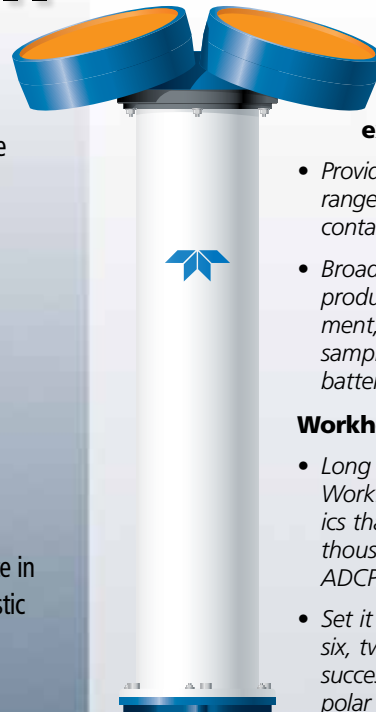
Third-party solutions

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 2.04



Cost-effective extended capability

- Provides the longest profiling range available from a self-contained ADCP.
- Broadband signal processing produces precise measurement, allowing frequent sampling with extended battery life.

Workhorse reliability

- Long Ranger inherits the Workhorse family electronics that have been proven in thousands of Teledyne RDI ADCP applications.
- Set it and forget it: Three, six, twelve-month-long successful deployments from polar waters to the tropics.



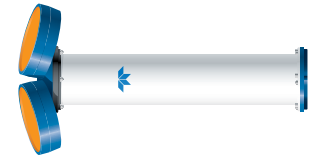
TELEDYNE
RD INSTRUMENTS

A Teledyne Technologies Company

MEASURING WATER IN MOTION AND MOTION IN WATER

Workhorse Long Ranger

75 kHz ADCP



Technical Specifications

Mode (maximum power)	Depth Cell Size (m)	Std. Dev. ¹ (cm/s)	Range ^{2,3,4} (m)
<i>High Resolution</i> (wide bandwidth)	4	15.0	432
	8	7.6	465
	16	3.9	503
	32	2.0	545
<i>Long Range</i> (narrow bandwidth)	4	29.0	525
	8	14.6	560
	16	7.6	600
	32	3.9	644

Source: Plan ADCP 2.04

¹ Standard deviation is ADCP uncertainty given a single ping.

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

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

⁴ Assumes a power supply of 32VDC (typical average battery voltage).

Profile Parameters

Not designed for use on moving vessels

Velocity accuracy: ± 1% ± 5mm/s

Velocity resolution: 1mm/s

Velocity range: ± 5m/s default
± 10m/s max

Depth cell size: 4–32m

Number of depth cells: 1–255

Ping rate: 1Hz (typical)

Echo Intensity Profile

Vertical resolution: depth cell size

Dynamic range: 80dB

Precision: ±1.5dB (relative measure)

Transducer and Hardware

Beam angle: 20°

Beam width: 4°

Configuration: 4-beam, convex

Internal memory: Two PCMCIA card slots; one memory card included

Communications: RS-232 or RS-422; ASCII or binary output at 1200-115,200 baud.

Power

DC input: 20–50VDC. Four internal alkaline battery packs.

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

Capacity Each pack @ 0°C: 450 watt hours/1800 Wh total

Standard Sensors

Pressure Sensor:

Maximum range: 2000m

Accuracy: ±5m (0.25% FS)

Temperatures (mounted on transducer):

Range: -5° to 45°C

Precision: ±0.4°C

Resolution: 0.01°

Tilt: Range: ±50°

Accuracy: ±0.5°

Precision: ±1.0°

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°

⁵ <±1.0° is commonly achieved after calibration

Environmental

Standard depth rating: 1500m (3000m optional)

Operating temperature: -5° to 45°C

Storage temperature

without batteries: -30° to 60°C

Weight in air: SC 86kg, DR 58kg, ExtBC 39kg

Weight in water: SC 55kg, DR 36kg, ExtBC 16kg

Software

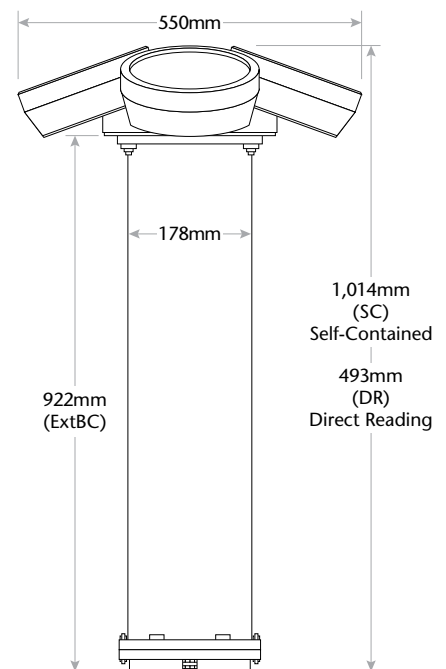
Use Teledyne RDI's Windows™-based software for the best results:

- WinSC—Data Acquisition
- WinADCP—Data Display and Export
- Teledyne RDI Tools—Utilities

Available Options

- 3000m pressure-rated configuration
- External Battery Case (ExtBC)
- Remote head configurations
- Memory: 2 PCMCIA slots, total 4GB
- Surface reference track

Dimensions



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