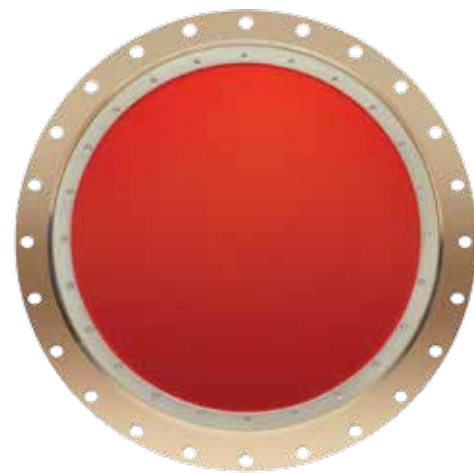


Teledyne RD Instruments

Ocean Observer

Long-Range Stationary Platform ADCP

Remotely Monitor Ocean Currents Throughout the Water Column



Teledyne RD Instruments dominates ocean current measurement for the offshore oil and gas sector with a field-proven instrument designed to facilitate exploration drilling, field development, and production.

Teledyne RDI's Acoustic Doppler Current Profilers (ADCPs) and software have been chosen by the majority of offshore operators worldwide to support their exploration drilling programs. Ocean current data is used for station-holding, riser deployment and monitoring, ROV operations, and marine operations. The data is gathered and displayed in real time to enable crucial operational decision-making. The highly versatile OCEAN OBSERVER allows users to select between Teledyne RDI's high-resolution and long-range settings, providing optimal data for every application.



Frequency	Range (m)	Cell Size (m)
38kHz	>1000	24
75kHz	>700	16
150kHz	>400	8

PRODUCT FEATURES

- **Extreme depth:** The Ocean Observer provides the deepest current profiling available to assist in offshore production and rig safety.
- **Comprehensive data:** The Ocean Observer provides two forms of signal processing - Broadband for high precision and Narrowband for extended range.
- **Noise-tolerant:** Our field-proven technology is capable of operating in the high-noise environment of oil platform production.
- **Field-proven:** The Ocean Observer has been utilized with confidence by all major oil companies on every type of offshore platform.
- **Compact:** Our patented phased array transducer provides extended range in a powerful yet compact package.



Ocean Observer

Stationary Platform ADCP



TECHNICAL SPECIFICATIONS

Water Profiling

Long Range Mode

Vertical resolution cell size¹

4
8
16
24

38kHz

Max Range² Precision³

>1000m 30cm/s
>1000m 20cm/s

75kHz

Max Range² Precision³

>650m 30cm/s
>700m 16cm/s

150kHz

Max Range² Precision³

>350m 30cm/s
>400m 16cm/s

High Precision Mode

Vertical resolution cell size¹

4
8
16
24

38kHz

Max Range² Precision³

>900m 15cm/s
>950m 10cm/s

75kHz

Max Range² Precision³

>425m 15cm/s
>450m 7cm/s

150kHz

Max Range² Precision³

>225m 15cm/s
>250m 8cm/s

Profile Parameters

Velocity accuracy (typical)

Velocity range
Number of depth cells
Maximum ping rate

$\pm 1.0\% \pm 0.5\text{cm/s}$
 $\pm 7\text{m/s}$
1-128
0.4Hz

$\pm 1.0\% \pm 0.5\text{cm/s}$
 $\pm 7\text{m/s}$
1-128
0.7Hz

$\pm 1.0\% \pm 0.5\text{cm/s}$
 $\pm 7\text{m/s}$
1-128
1.5Hz

Bottom Track

Max altitude (precision <2cm/s) 1700m
Range Accuracy = $\leq \pm 2\%$ actual range⁴

950m

540m

Echo Intensity Profile

Vertical resolution
Dynamic range
Precision

Depth cell size, user configurable
80dB
 $\pm 1.5\text{dB}$

Transducer and Hardware

Beam angle
Configuration
Communications

30°
4-beam, phased array
RS-232 or RS-422 at 1200-115,200 baud Hex-ASCII or binary

System Power

AC input
Power

90-250VAC, 47-63Hz
1400W

Software

Use TRDI's Windows™-based software for best results:
VMDAS— Vessel-Mount Data Acquisition System; **WinADCP**—Data Display and Export

Options

Velocity for advanced post processing

Environmental

Operating temperature
Storage temperature
Standard depth rating

-5° to 45°C
-30° to 60°C
100m

Standard Sensors

Temperature (mounted on transducer)
Tilt
Compass (fluxgate type)

Range -5° to 45°C, Precision $\pm 0.1^\circ\text{C}$, Resolution 0.03°
Range $\pm 50^\circ$, Accuracy $\pm 1.0^\circ$, Precision $\pm 0.1^\circ$, Resolution 0.1°
Accuracy $\pm 5^\circ$, Precision $\pm 0.3^\circ$, Resolution 0.01°, Maximum tilt $\pm 50^\circ$

System Components

- 38, 75, or 150kHz transducer
 - 19-inch rack-mount electronic chassis
 - 100m-long transducer underwater cable
- User may supply external compass input or GPS navigation data and NMEA tilt information

Dimensions

38kHz: 914.4mm dia.; 75kHz: 480mm dia.; 150kHz: 305mm dia; Underwater Electronics Assembly: 889mm long
(line drawings available upon request)

1 User's choice of depth cell size is not limited to the typical values specified.
2 Ranges are typical and vary with situation.
3 Single-ping standard deviation.
4 Excludes errors introduced by changes in speed of sound profile, by tilting of transducer, and by slope of bottom.
5 Up to $\pm 20^\circ$ tilt.