



# OceanTools

## OceanFOG

### Subsea, Surface and ROV Gyrocompass

The **OceanTools OceanFOG** is an *Inertial Reference System* (IRS) based on latest generation fibre optic gyrocompasses (FOGs) and micro-electro-mechanical (MEMS) accelerometers in a single compact package.



OceanFOG-3K subsea gyro



OceanFOG-S / OceanFOG-R

## Overview

**OceanFOG** provides highly accurate survey grade Heading, Pitch, Roll, Heave, Rotation Rates, Linear Acceleration and Geographical Position.

**OceanFOG** is available in several variants:

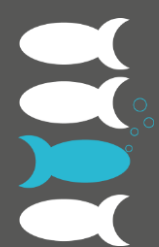
- OceanFOG-3K Horizontal housing
- OceanFOG-S Surface gyro
- OceanFOG-R RovFOG

**OceanFOG** may be used in a wide variety of subsea and surface applications including survey, ROV navigation, AUV navigation and for metrology applications.

When used in static survey operations **OceanFOG** does not require any external latitude inputs. If used on a moving vessel then a GPS derived external latitude will be required. If the unit has not been moved significantly from its last location then realignment will be completed within 90 seconds.

**OceanFOG** has two output data streams: one is a *simple* RS232 output that is non-adjustable and which can be used to configure the *flexible* output. The *flexible* output is user-selectable between RS232 and RS485.





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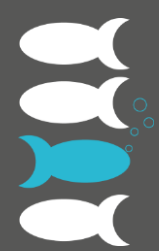
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Specifications	
Dynamic heading accuracy	≤ 0.4° secant Latitude (RMS)
Heading accuracy, typical	≤ 0.2° secant Latitude (RMS)
Dynamic pitch & roll accuracy	≤ 0.2° (RMS)
Static pitch & roll accuracy, typical	≤ 0.05° (RMS)
Bias instability (Allan variance)	≤ 0.05°/h
Bias repeatability (1σ)	≤ 0.1°
Angular rate accuracy	0.01°/s or 0.03% (RMS)
Heave accuracy	0.05m or 5% (RMS)
Heave measurement model	Real-time heave
Acceleration accuracy	0.02m/s <sup>2</sup> or 0.1% (RMS)
Static alignment time (Latitude < 45°)	< 3min
Static alignment time (Latitude < 78°)	< 10min
Dynamic alignment time	< 30min
Input voltage range	18–36VDC
Operating current	1.2A @ 24VDC
Typical inrush current	2A @ 24VDC
Serial interfaces	RS232, RS485
Interface protocols	OceanTools OceanFOG, MiniFOG, over 20 third party message formats
Update rates	1Hz to 50Hz
Maximum operating latitude	78° N/S
Operating temperature range	-15°C to 55°C
Length (excl connector) *	390mm
Diameter *	205mm
Weight in air *	19kg
Weight in water *	7kg
Depth rating	3000m (standard) or 6000m

\* = 3000m rated OceanFOG-3K





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## Key Features

- Outputs Heading, Pitch, Roll, Heave, Rotation Rates and Linear Accelerations
- Simultaneous twin serial outputs
- Rapid run-up time
- RS232 and RS485 outputs
- 3000m standard depth rating for subsea versions
- Never requires recalibration



OceanFOG control & display software

## Related Products

A **C-FOG** compact fibre optic gyrocompass is a smaller and more cost-effective source of heading, pitch and roll measurements, suited to predominantly static applications where heave is not required.

**Gyro Survey Packages** offer survey grade heading, pitch, roll, azimuth and angle from an **OceanFOG** gyro packaged in a standard or custom designed deployment frame to suit a wide range of *attitude* or *verticality* measurement applications. A typical package includes an **OceanDISP** subsea display, **C-Switch** master on/off switch and optional **Digiquartz** pressure/depth sensor.

Product datasheets, GA drawings, case studies and other supporting documents are available to download from [data.oceantools.co.uk](http://data.oceantools.co.uk)

All specifications are subject to change without notice. E&OE.

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OceanTools Ltd  
OceanTools House Claymore Drive Aberdeen AB23 8GD  
t: +44 1224 709 606 e: sales@oceantools.co.uk  
[www.oceantools.co.uk](http://www.oceantools.co.uk)