



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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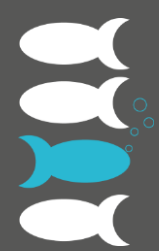
OceanFOG

Subsea, Surface and ROV Gyrocompass

Specifications	
Dynamic heading accuracy	$\leq 0.4^\circ$ secant Latitude (RMS)
Heading accuracy, typical	$\leq 0.2^\circ$ secant Latitude (RMS)
Dynamic pitch & roll accuracy	$\leq 0.2^\circ$ (RMS)
Static pitch & roll accuracy, typical	$\leq 0.05^\circ$ (RMS)
Bias instability (Allan variance)	$\leq 0.05^\circ/\text{h}$
Bias repeatability (1σ)	$\leq 0.1^\circ$
Angular rate accuracy	$0.01^\circ/\text{s}$ or 0.03% (RMS)
Heave accuracy	0.05m or 5% (RMS)
Heave measurement model	Real-time heave
Acceleration accuracy	$0.02\text{m}/\text{s}^2$ or 0.1% (RMS)
Static alignment time (Latitude $< 45^\circ$)	$< 3\text{min}$
Static alignment time (Latitude $< 78^\circ$)	$< 10\text{min}$
Dynamic alignment time	$< 30\text{min}$
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

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

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