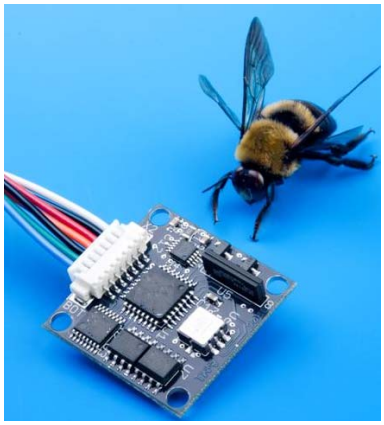
OceanServer TECHNOLOGY, INC

OceanServer Serial 3 Axis Tiny Digital Compass

OS1000 Solid State Tilt Compensated Compass with Serial Connection

Data Sheet

The OS1000 is an extremely small form factor (1" x 1") 3-axis, tilt compensated digital compass. The the compass is connected via a RS232 Serial connection. The OS1000 provides precise heading, roll and pitch data ideal for rapid attitude measurement. The OS1000 offers an easy to use ASCII interface which includes hard-iron calibration and simple data configuration for your application.



RoHS Compliant

Specifications

> Ultra Low Cost Design
> Tiny Size : 1.0" x 1.0" PCB
> Precision Compass – Tilt Compensated
> 3 – Axis Honeywell Magneto Resistive Sensors
> 2 – Axis Memsic MEMS Accelerometer for Roll and Pitch Angle Measurement
> Update Rate Programmable from .01 to 20 Hz
> Simple to use ASCII Interface includes Hard-Iron Calibration and Data Configuration
> 24-bit A/D Converters with Digital Filters
> Direct RS232 Serial Connection
> Low Power Circuit Consumption (Power: 3.3V regulated, 3.3-5V unregulated)
> Accuracy: 1 Degree Azimuth, Resolution: 0.1 Degree
> Roll and Pitch: 0.1 Degree Resolution
> Solid State Components have 50,000 G Survival Rating

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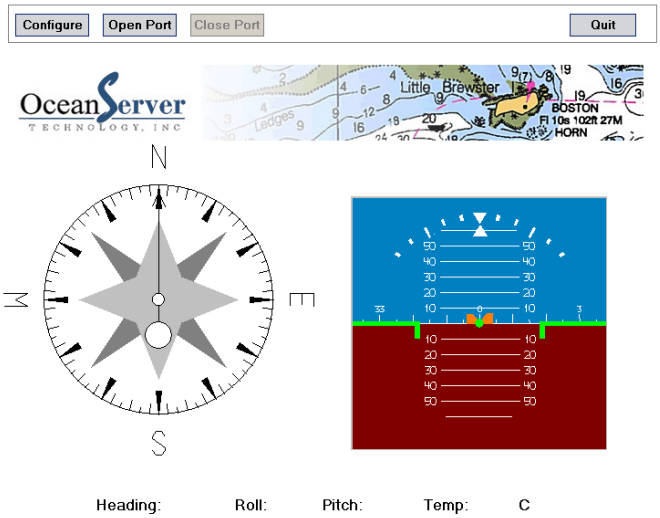
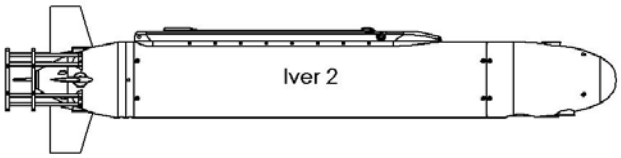
OceanServer compasses include Microsoft Windows®, Mac and Linux compatible software for evaluation and testing. The software installation kit includes a serial cable with a DB-9 connector and 9V battery connector for quick connection between the compass and your system. The compasses can also be connected to a host system using Microsoft Hyperterm®.



Windows Demo Application

Applications ~ Robots, Navigation/GPS Integration, Instrumentation, Attitude Referencing, Survey, Platform Leveling, Antenna Positioning



Additional Sensor Information

Includes 3 axis magnetic field sensors utilizing Honeywell HMC1052 chipset for X and Y field sensing and HMC1051Z for Z-axis sensing. The measurement of the roll and pitch angle of the compass is accomplished by using a Memsic 2-axis MEMS Accelerometer. The device measures the acceleration of the force of gravity downward in the X and Y directions. Please see the OS1500 for the option for direct connection to a pressure sensor for measurement of the depth in the water column.

Key Specifications for Magnetic Sensors

Max Field Range	+/- 6	Gauss
Typical Resolution	120	uGauss
Typical Linearity	0.1	%FS
Typical Repeatability err	0.1	%FS
Max X,Y sensor Orthogonally	0.01	degrees
Bandwidth	5	Mhz