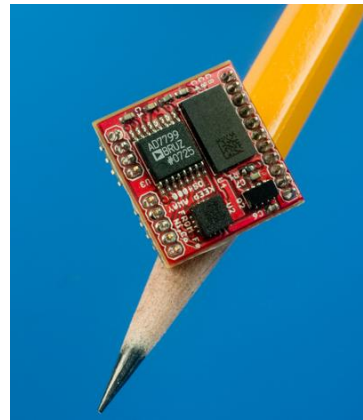# OceanServer Digital Compass Products
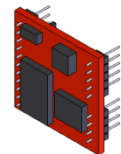
OS4000-T Nano Compass

Data Sheet

The OS4000-T is a low cost nano size digital compass. The through-hole package is only 0.6 inches square. The OS4000-T combines industry leading 3-axis magnetics with 3-axis accelerometers giving OEM users a very accurate tilt compensated heading, pitch and roll information suitable for a wide range of applications. Compass units offer a ASCII interface that includes both hard-iron and soft-iron compensation and simple, user-configurable data formatting.
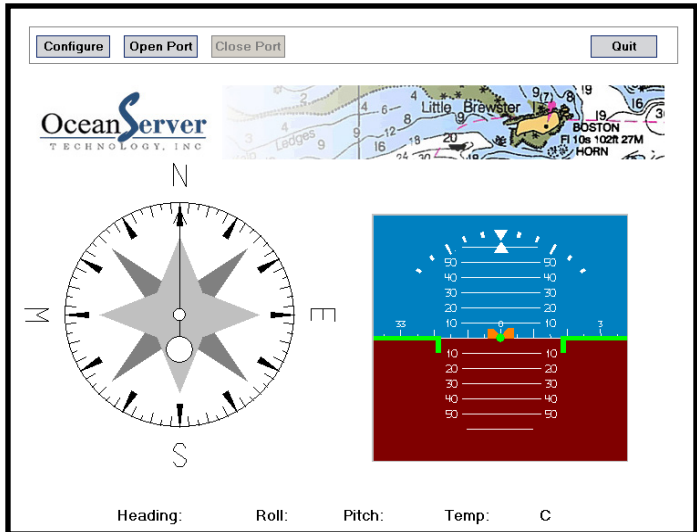

Specifications

> Tiny size, 0.6" x 0.6"; weighs 1 gram
> Compass accuracy, 0.5 deg RMS* Level Heading,
   1° Typical RMS accuracy < ± 30°, 1.5° < ±60°,
   0.1 Degree Resolution
> Roll & Pitch full rotation operation,
   Typical 1° accuracy < ± 30° tilt
> Tilt-compensated (electronically gimbaled)
> Low power consumption, <30ma @3.3V
> Hard and soft-iron compensation routines
> Optional support for a high resolution depth or altitude sensor (24 bit A/D)
> TTL Interface, High data update rate to 40Hz
> 50 MIPS processor supporting IEEE floating point math
> Baud rate programmable: 4,800 to 115,000 baud
> Rugged design (10,000 G shock survival)
> Operating temperature: -40°C to 80°C (0°C to 50°C Accuracy**)
> ASCII sentence output in several formats; NMEA checksum
> Support for True or Magnetic North output
> Precision components:
     3 Axis magnetic sensors from Honeywell
     3 Axis accelerometers from ST Microelectronics
     24 bit differential Analog to Digital converters from Analog Devices

3D Models & Mechanical Drawings Available for Download

*Accuracy with a clean calibration in area with no magnetic distortion, local distortions can have large effects on accuracy.
** Temperature Stability: < 1 Degree drift over 15C delta T (typical)). May require a user temperature calibration in system

OceanServer compasses are suitable for operation in the following OS environments: Microsoft Windows®, Mac OS and Linux. The compass evaluation kits include a Windows® application demo program for testing and configuring compass settings. Compasses can also be connected to a host system using Microsoft Hyperterm® or other terminal programs.
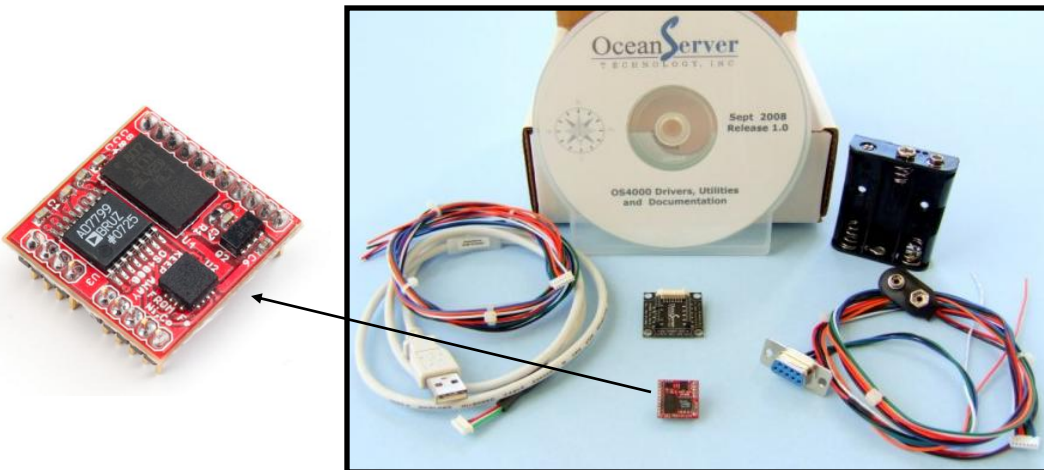

Windows Demo Application

Applications ~

Robotics, Navigation/GPS Integration, Instrumentation, Attitude Referencing, Survey, Platform Leveling, Antenna Positioning, Man Portable Devices

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OS4000-T Evaluation Kit

•**Evaluation Kits include a compass module, carrier board, cables, battery holder and CD.**

For pricing and availability, visit our online store at:
http://www.oceanserver-store.com/

Phone: (508) 678-0550 | Web: www.ocean-server.com

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