OS5000 Family of 3-Axis Solid State OEM Compasses

Data Sheet

The OS5000 family of low cost compasses provides a wide range of connection options within a tiny 1 inch square footprint. Compasses can be connected via RS232, TTL or USB and are used by thousands of customers worldwide. Every unit combines industry leading 3-axis magnetics with 3-axis accelerometers providing OEM users a precise 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.
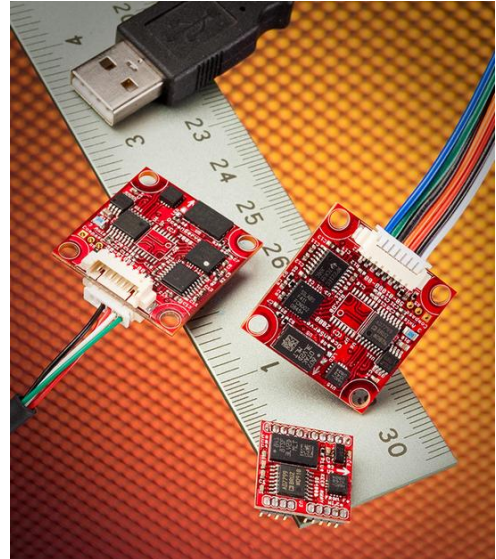
Specifications

> Tiny size, 1" x 1"x 0.3"; weighs less than 2 grams
> 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, <20ma @3.3V
> Hard and soft-iron compensation routines
> Optional support for a high resolution depth or altitude sensor (24 bit A/D)
> Serial Interface: RS232, USB or TTL (Electrical Protocol)
> 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: -20°C to 70°C (-40°C to 85°C storage)
> ASCII sentence output in several formats; NMEA checksum
> High data update rate to 40HZ
> 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**
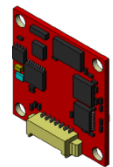
OceanServer compasses are suitable for operation in the following OS environments: Microsoft Windows®, Mac OS and Linux. The compass evaluation kits include a Windows application demo program for testing and configuring compass settings. Compasses can also be connected to a host system using Microsoft Hyperterm® or other terminal programs.
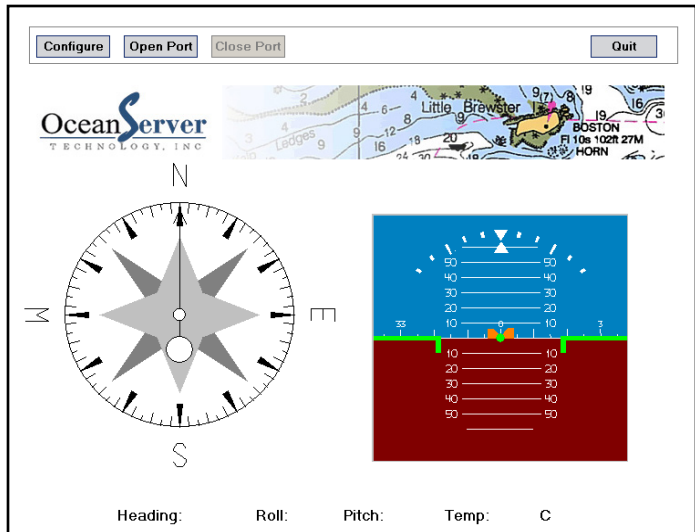
Windows Demo Application

Applications ~
Robotics, Navigation/GPS Integration, Instrumentation, Attitude Referencing, Survey, Platform Leveling, Antenna Positioning, Man Portable Devices
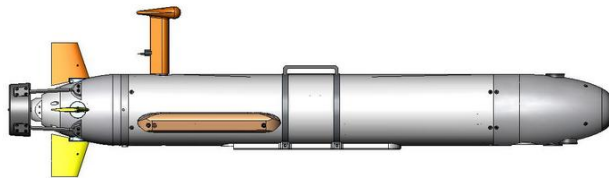
OS5000 Family Part Numbers

Ordering Part Number	Description	Interface	RoHS Compliant	Depth Option
OS5000-S	Board Only	RS232	Yes	No
OS5000-SK	Kit *	RS232	Yes	No
OS5000-US	Board Only	RS232 & USB	Yes	No
OS5000-USK	Kit *	RS232 & USB	Yes	No
OS5000-USD	Board Only	RS232 & USB	Yes	Yes
OS5000-USDK	Kit *	RS232 & USB	Yes	Yes
OS5000-T	Board Only	TTL	Yes	No
OS5000-TK	Kit *	TTL	Yes	No

Evaluation Kits include a compass module with cables, battery holder and CD.
For even smaller form factor compasses look at the OS4000-T, 0.6 Inch Square.

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

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