

Albatross On Board Module

Alba-Compass



The Alba-Compass is a solid state, rate gyro electronic compass that provides better than 1° heading accuracy through ±45° of roll and pitch angle, and better than 1° roll and pitch accuracy in static conditions.

Each Alba-Compass is factory calibrated for maximum accuracy. It delivers precise, reliable heading information ten times per second, plus vessel attitude including pitch and roll readings during once per second.

A micromachined rate gyro is used by advanced stabilization algorithms to provide accurate, stable readings during dynamically changing conditions such as hard turns or rough seas, making it an ideal heading sensor for autopilot applications.

The Alba-Compass is certified to the NMEA 2000 network standard and compatible with the NMEA 0183 digital interface standard. It connects directly with any NMEA 2000 network and/or NMEA 0183 listeners to share information with navigational software, chart plotters, autopilots, and dedicated instrument displays.

The Alba-Compass can be automatically calibrated for deviation. Its dynamic accuracy is improved with advanced digital filtering of the 3-axis magnetometer, 2 axis accelerometer and rate gyro.

The Alba-Compass is engineered and manufactured to the highest standards (IEC 60945 Maritime Navigation and Radiocommunication Equipment). Its compact waterproof housing will provide years of reliable performance.

SPECIFICATIONS	
Static Heading Accuracy	< 1° (Factory Calibrated ±45° Pitch and Roll)*
Heading Display Resolution	0.1° (with an Appropriate Display)
Setting Time	1 second (To Static Accuracy After 35° /Second Turn)
Heading Update Rate	10 per Second
Heading Deviation	Yes (Automatic)
Alignment Calibration	Yes (In Boat Calibration with Appropriate Displays)
Pitch and Roll Range	±80° (With an Appropriate Display)
Pitch and Roll Accuracy	<1° (Up to ±45° Pitch and Roll*)
Pitch and Roll Display Resolution	0.1° (with Appropriate Display)
Pitch and Roll Update Rate	1 per Second
Pitch and Roll to Boat Alignment	Yes (In Boat Calibration with Appropriate Displays)
Rate of Turn Range	0°-90°/Second
Rate of Turn Accuracy	1° per Second
Rate of Turn Update Rate	10 per Second
NMEA 0183 Standard	Compatible
*15°C to 35°C	
NMEA2000 Parameter Group Numbers (PGN's)	
Periodic	PGN 127250 Vessel Heading PNG 127257 Attitude PNG 127251 Rate of Turn
Information	PGN List 126464 (Transmit and Receive) PGN 126996 Product Information PGN 126998 Configuration Information
Control	PGN 059392 ISO Acknowledge PGN 059904 ISO Request PGN 060416 ISO Transport Protocol, Connection Management PGN 060160 ISO Transport Protocol, Data Transfer PGN 060928 ISO Address Claim PGN 065240 ISO Address Command PGN 126208 NMEA Request Group
ELECTRICAL	
Voltage	9 to 16 Volts (DC Voltage)
Consumption	< 150µA (Average Current Drain)
Load Equivalence Number (LEN)	3 (NMEA2000 Spec. (1 LEN=50µA))
Reverse Battery Protection	Yes (Indefinitely)
Load Dump Protection	Yes (Energy Rated Per SAE J1113)
MECHANICAL	
Size	2.94" Dia. x 4.87" Tall (Including Flanges for Mounting)
Weight	198 g
Mounting	Deck or Bulkhead
ENVIRONMENTAL	
IP Rating	IP67
IEC 60945	Exposed
Operating Temp.	-25°C to 55°C
Stored Temp.	-40°C to 70°C
Relative Humidity	93%RH@40°C per IEC 60945-8.2
Vibration	2-13.2Hz@±1mm, 13.2-100Hz@7m/s2 per IEC 60945-8.7
Rain and Spray	12.5MM Nozzle @ 100liters/min from 3m for 30 min per IEC 60945-8.8
Solar Radiation	Ultraviolet B, A, Visible, and Infrared per IEC 60945-8.10
Corrosion (Salt Mist)	4 times 7 days @ 40°C, 95%RH after 2 hour Salt Spray Per IEC 60945-8.12
Electromagnetic Emission	Conducted and Radiated Emission per IEC 60945-9
Electromagnetic Immunity	Conducted, Radiated, Supply, and ESD per IEC 60945-10
Safety Precautions	Dangerous Voltage, Electromagnetic Radio Frequency per IEC 60945-12

