

GH2183



A First in the Leisure Marine Industry

The Airmar GH2183 combines GPS positioning and highly accurate heading information in one compact antenna. The GH2183 eliminates the need to install a GPS antenna above deck and a heading sensor below deck. Only one installation above the deck is required, saving installation time and money. The waterproof housing protects the internal components—all of which are solid-state (no moving parts). This means the GH2183 can withstand almost any condition that exists in the marine environment.

The Best Performance in ANY Sea Condition

What sets the GH2183 above the competition is our 2° heading accuracy in dynamically changing conditions including rough seas, hard turns, and steep heeling. Airmar's unique dynamic motion correction software is the key difference, allowing the GH2183 to maintain 2° of accuracy even if the vessel is pitching and rolling up to 30°. Also unique to the GH2183 is that the three-axis accelerometer and three-axis rate gyro are temperature compensated across the entire operating range, resulting in precise tilt and rate of turn data. The fast 10 Hz update rate, along with best-in-class heading and GPS data, make it the best choice for interfacing with autopilots, chartplotters, navigation software, and radar systems.

Heading Sensor With GPS

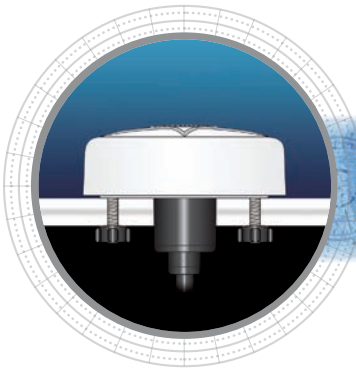
Features

- GPS and heading combined into one housing
 - Saves installation time and money
- Better than 1° heading accuracy in static conditions
- Best-in-class 2° heading accuracy in dynamic conditions
- Three-axis solid-state compass provides heading data
- Three-axis accelerometer provides pitch and roll data
- Three-axis rate gyro provides rate-of-turn data
- Only recreational heading sensor that uses a three-axis rate gyro
- Compass calibration can be easily done on any display or PC
- Perfect product for metal hulled boats
- WAAS GPS provides latitude, longitude, COG, SOG, time and date, and magnetic variation
- Optionally available as GPS only (G2183)
- IPX6 waterproof enclosure
- Outputs NMEA 0183 and NMEA 2000® data simultaneously



Sensing Technology

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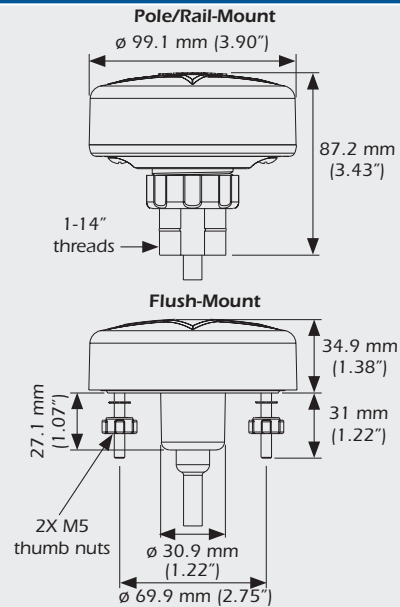


Technical Information

SPECIFICATIONS

Static Compass Accuracy: 1° RMS when level
Dynamic Compass Accuracy: 2° RMS (Best-in-Class)
Heading Display Resolution: 0.1°
Settling Time: 1 second (adjustable)
Heading Data Output Update Rate:
 —10 Hz—NMEA 0183
 —Adjustable up to 20 Hz—NMEA 2000®
Heading Variation: Yes
Rate-of-Turn Range: 0° to 70° per second
Rate-of-Turn Accuracy: 1° per second
Rate-of-Turn Data Output Update Rate:
 —2 Hz—NMEA 0183 (Adjustable up to 10 Hz)
 —Adjustable up to 20 Hz—NMEA 2000®
Pitch and Roll Range: ±50°
Static Pitch and Roll Accuracy: <1°
Dynamic Pitch and Roll Accuracy: <3°
Pitch and Roll Display Resolution: 0.1°
Pitch and Roll Boat Alignment: Yes (with software)
Pitch and Roll Data Output Update Rate:
 —2 Hz—NMEA 0183 (Adjustable up to 10 Hz)
 —Adjustable up to 20 Hz—NMEA 2000®
Supply Voltage: 9 VDC to 40 VDC
Supply Current: <90 mA (@ 12 VDC)
Power: 1,100 mW
Operating Temperature Range: -25°C to 55°C (-13°F to 131°F)
Storage Temperature Range: -30°C to 70°C (-22°F to 158°F)
GPS Satellite Tracked: 12-channel (maximum)
WAAS/EGNOS Satellites Tracked: 2-channel (maximum)
GPS Position Accuracy: 3 m (10') with WAAS (95% of the time, SA off)
GPS-Fix Update Rate: 1 x per second
Cold Start Acquisition: 52 seconds
Warm Start Acquisition: 37 seconds
NMEA 2000® Load Equivalency Number (LEN): 2
Certifications and Standards: CE, IPX6, RoHS, IEC60945

DIMENSIONS



DATA OUTPUT PROTOCOL

NMEA 0183 Sentence Structure

\$GPDTM Datum Reference
\$GPGGA GPS Fix Data
\$GPGLL Geographic Position—Latitude and Longitude
\$GPGSA GNSS DOP and Active Satellites
\$GSGSV GNSS Satellites in View
\$GPRMC Recommended Minimum Specific GNSS Data
\$GPVTG Course Over Ground and Ground Speed
\$GPZDA Time and Date
\$HCHDG Heading, Deviation, and Variation
\$HCHDT Heading Relative to True North
\$TIROT Rate of Turn
\$YXXDR Transducer Measurements: Vessel Attitude

NMEA 2000® Supported PGNs

127250 Vessel Heading
127251 Rate of Turn
127257 Attitude
127258 Magnetic Variation
129025 Position and Rapid Update
129026 COG and SOG, Rapid Update
129029 GPS Position Data
129033 Time and Date
129044 Datum
129538 GNSS Control Status
129539 GNSS DOPs
129540 GNSS Sats in View
129541 GPS Almanac Data

