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
- Option ally available as GPS only (G2183)
- IPX6 waterproof enclosure
- Outputs NMEA 0183 and NMEA 2000® data simultaneously
Technical Information

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Static Compass Accuracy</strong></td>
<td>1° RMS when level</td>
</tr>
<tr>
<td><strong>Dynamic Compass Accuracy</strong></td>
<td>2° RMS (Best-in-Class)</td>
</tr>
<tr>
<td><strong>Heading Display Resolution</strong></td>
<td>0.1°</td>
</tr>
<tr>
<td><strong>Settling Time</strong></td>
<td>1 second (adjustable)</td>
</tr>
<tr>
<td><strong>Heading Data Output Update Rate</strong></td>
<td>— 10 Hz—NMEA 0183</td>
</tr>
<tr>
<td><strong>Rate of Turn Range</strong></td>
<td>0° to 70° per second</td>
</tr>
<tr>
<td><strong>Rate of Turn Accuracy</strong></td>
<td>1° per second</td>
</tr>
<tr>
<td><strong>Rate of Turn Data Output Update Rate</strong></td>
<td>— 2 Hz—NMEA 0183 (Adjustable up to 10 Hz)</td>
</tr>
<tr>
<td><strong>Pitch and Roll Range</strong></td>
<td>±50°</td>
</tr>
<tr>
<td><strong>Static Pitch and Roll Accuracy</strong></td>
<td>&lt;1°</td>
</tr>
<tr>
<td><strong>Dynamic Pitch and Roll Accuracy</strong></td>
<td>&lt;3°</td>
</tr>
<tr>
<td><strong>Pitch and Roll Display Resolution</strong></td>
<td>0.1°</td>
</tr>
<tr>
<td><strong>Pitch and Roll Data Output Update Rate</strong></td>
<td>— 2 Hz—NMEA 0183 (Adjustable up to 10 Hz)</td>
</tr>
<tr>
<td><strong>Supply Voltage</strong></td>
<td>9 VDC to 40 VDC</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>1,100 mW</td>
</tr>
<tr>
<td><strong>Operating Temperature Range</strong></td>
<td>-25°C to 55°C [-13°F to 131°F]</td>
</tr>
<tr>
<td><strong>Storage Temperature Range</strong></td>
<td>-30°C to 70°C [-22°F to 158°F]</td>
</tr>
<tr>
<td><strong>GPS Satellite Tracked</strong></td>
<td>14-channel</td>
</tr>
<tr>
<td><strong>WAAS/EGNOS Satellites Tracked</strong></td>
<td>Any available</td>
</tr>
<tr>
<td><strong>GPS Position Accuracy</strong></td>
<td>3 m (10') with WAAS (95% of the time, SA off)</td>
</tr>
<tr>
<td><strong>GPS-Fix Update Rate</strong></td>
<td>1 x per second</td>
</tr>
<tr>
<td><strong>Cold Start Acquisition</strong></td>
<td>52 seconds</td>
</tr>
<tr>
<td><strong>NMEA 2000® Load Equivalency Number (LEN)</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Certifications and Standards</strong></td>
<td>CE, IPX6, RoHS, IEC60945</td>
</tr>
</tbody>
</table>

**DIMENSIONS**

- **Pole/Rail-Mount**
  - ø 99.1 mm [3.90”]
  - 34.9 mm [1.38”]
  - 2X M5 thumb nuts
- **Flush-Mount**
  - ø 69.9 mm [2.75”]
  - 27.1 mm [1.07”]
  - 3X M5 thumb nuts

**DATA OUTPUT PROTOCOL**

**NMEA 0183 Sentence Structure**

- $GPDTM$…….. Datum Reference
- $GPGGA$……….. GPS Fix Data
- $GPGLL$……….. Geographic Position—Latitude and Longitude
- $GPGRSA$……… GNSS DOP and Active Satellites
- $GGGSV$……….. GNSS Satellites in View
- $GPRMC$……….. Recommended Minimum Specific GNSS Data
- $GPTG$……….. Course Over Ground and Ground Speed
- $GPZDA$……….. Time and Date
- $HCNAV$……….. Heading, Deviation, and Variation
- $HCVRD$……….. Heading Relative to True North
- $TRF$……….. Rate of Turn
- $YYXDR$……….. Transducer Measurements: Vessel Attitude

**NMEA 2000® Supported PGNs**

- 127250…….. Vessel Heading
- 127251…….. Rate of Turn
- 127257…….. Attitude
- 127258…….. Magnetic Variation
- 129025…….. Position and Roll
- 129026…….. COG and SOG, Rapid Update
- 129028…….. Speed and Heading
- 129029…….. GPS Position Data
- 129033…….. Time and Date
- 129044…….. Datum
- 129538…….. GNSS Control Status
- 129539…….. GNSS DOPs
- 129540…….. GNSS Sat in View
- 129541…….. GPS Almanac Data

**Notes**

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