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Reference Manual

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**NMEA 2000 STANDARD
MESSAGES**

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- (2) this device must accept any interference received, including interference that may cause undesired operation.

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Overview

NMEA 2000 Proprietary Messages

Overview

Use this Reference Manual to find PGN and description information for NMEA 2000 Standard Messages used in Hemisphere GNSS products supporting NMEA 2000. If you're uncertain whether your product supports NMEA 2000, please refer to the [HGNSS website](#) for the product's Data Sheet or User Guide.

NMEA 2000 Standard Messages

PGN	Description
059392	ISO Acknowledgement Used to acknowledge the status of certain requests addressed to a specific ECU.
059904	ISO Request Request the transmission of a specific PGN, addressed or broadcast.
060928	ISO Address Claim Used to identify to other ECUs the address claimed by an ECU.
126996	Product Information Provides product information onto the network that could be important for determining quality of data coming from this product.
126464	Receive/Transmit PGNs group function The Transmit / Receive PGN List Group type of function is defined by the first field. The message will be a Transmit or Receive PGN List group function.
126992	System Time The purpose of this PGN is twofold: To provide a regular transmission of UTC time and date, and To provide synchronism for measurement data

PGN	Description
126993	<p>Heartbeat</p> <p>Confirms a device is still present on the network.</p>
127250	<p>Vessel Heading</p> <p>Heading sensor value with a flag for True or Magnetic.</p> <p>If the sensor value is Magnetic, the deviation field can be used to produce a Magnetic heading, and the variation field can be used to correct the Magnetic heading to produce a True heading.</p>
127251	<p>Rate of Turn</p> <p>Rate of Turn is the rate of change of the Heading.</p>
127257	<p>Attitude</p> <p>This PGN provides a single transmission that describes the position of a vessel relative to both horizontal and vertical planes. This would typically be used for vessel stabilization, vessel control and onboard platform stabilization.</p>
127258	<p>Magnetic Variation</p> <p>Message for transmitting variation. The message contains a sequence number to synchronize other messages such as Heading or Course over Ground. The quality of service and age of service are provided to determine appropriate level of service if multiple transmissions exist.</p>

PGN	Description
129029	<p>GNSS Position Data</p> <p>Conveys a comprehensive set of Global Navigation Satellite System (GNSS) parameters, including position information.</p>
129033	<p>Time & Date</p> <p>Single transmission that provides UTC time, UTC Date, and Local Offset.</p>
129539	<p>GNSS DOPs</p> <p>Provides a single transmission containing GNSS status and dilution of precision components (DOP) that indicate the contribution of satellite geometry to the overall positioning error. Three DOP parameters are reported: horizontal (HDOP), Vertical (VDOP), and time (TDOP).</p>
129540	<p>GNSS Sats in View</p> <p>GNSS information on current satellites in view tagged by sequence ID. Information includes PRN, elevation, azimuth, SNR, defines the number of satellites; defines the satellite number and the information.</p>
126993	<p>Heartbeat</p> <p>Periodically announces presence on the CAN bus.</p>
129033	<p>Local Time Offset</p> <p>This PGN has a single transmission that provides: UTC time, UTC Date and Local Offset</p>
126998	<p>Configuration Information</p> <p>Free-form alphanumeric fields describing the installation (e.g., starboard engine room location) of the device and installation notes (e.g., calibration data)</p>

PGN	Description
129025	<p>Position, Rapid Update</p> <p>Provides latitude and longitude referenced to WGS84.</p> <p>Defined as single frame message, as opposed to other PGNs that include latitude and longitude and are defined as fast or multi-packet, this PGN lends itself to being transmitted more frequently without using up excessive bandwidth on the bus for the benefit of receiving equipment that may require rapid position updates.</p>
129026	<p>COG & SOG, Rapid Update</p> <p>Single frame PGN that provides Course Over Ground (COG) and Speed Over Ground (SOG).</p>
129027	<p>Position Delta, High Precision Rapid Update</p> <p>The 'Position Delta, High Precision Rapid Update' Parameter Group is for applications requiring high precision and very fast update rates for position data. This PGN provides delta position changes down to 1 mm with a delta time period accurate to 5 msec.</p>
129028	<p>Altitude Delta, High Precision Rapid Update</p> <p>The 'Altitude Delta, High Precision Rapid Update' Parameter Group is intended for applications requiring high precision and fast update rates are needed for altitude and course over ground data. This PGN can provide delta altitude changes down to 1 millimeter, a change in direction as small as 0.0057°, and with a delta time period accurate to 5 msec.</p>

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