

## Garmin 010-02316-00

# Garmin GPS 24xd Antenna/Receiver User Manual

Model: 010-02316-00

Brand: Garmin

## 1. INTRODUCTION

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The Garmin GPS 24xd is an advanced antenna/receiver designed to provide highly accurate position and heading data for marine navigation systems. It integrates multi-band GNSS technology with a magnetic heading sensor to deliver precise information to compatible marine multifunction displays, instrument displays, and autopilots via NMEA 0183.

### Key Features:

- **Multi-band GNSS:** Provides precise location accuracy to within 1 meter by utilizing multiple frequency bands.
- **Magnetic Heading Sensor:** Delivers heading accuracy to within 3 degrees, essential for stabilizing charts, radar overlay, and MARPA functionality, even at low speeds.
- **High-Sensitivity GPS:** Offers fast 10 Hz position update rates for responsive position, velocity, and time data.
- **Expanded GNSS Support:** Compatible with four global navigation satellite systems (GPS, Galileo, GLONASS, and BeiDou) for enhanced tracking in challenging environments.
- **Multi-SBAS Compatibility:** Corrects signal measurement errors and provides information on signal accuracy, integrity, continuity, and availability.
- **Flexible Mounting Options:** Supports under-deck, pole, and surface-mount installations.

## 2. WHAT'S IN THE BOX

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Verify that all components are present before beginning installation.

- GPS 24xd Antenna/Receiver

*Note: Additional mounting hardware or cables may be sold separately depending on the specific installation requirements.*

### 3. SETUP AND INSTALLATION

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Proper installation is crucial for optimal performance of the GPS 24xd Antenna/Receiver. Refer to the detailed installation instructions provided with the product packaging for specific wiring diagrams and mounting templates.

#### Mounting Options:

The GPS 24xd offers versatile mounting solutions to suit various marine vessel configurations:

- **Surface Mount:** For direct attachment to a flat surface on deck or cabin top.
- **Pole Mount:** Utilizes a standard pole for elevated installation, often used for clear sky visibility.
- **Under-Deck Mount:** Allows for discreet installation below deck, provided there is minimal obstruction to satellite signals.

Ensure the chosen mounting location provides an unobstructed view of the sky for reliable satellite signal reception and is away from strong magnetic interference sources that could affect the magnetic heading sensor.

#### Connectivity:

The GPS 24xd connects to compatible marine electronics using the NMEA 0183 protocol. It also features Bluetooth connectivity for certain configurations or updates.

- **NMEA 0183:** Connect the appropriate NMEA 0183 data wires from the GPS 24xd to your marine display or autopilot. Ensure correct wiring for data input and output.
- **Power Connection:** Connect the power wires to a suitable 12V DC power source on your vessel, ensuring proper fusing.
- **Bluetooth:** For specific applications or software updates, the device may utilize Bluetooth. Refer to your compatible device's manual for pairing instructions.



Image 1: The Garmin GPS 24xd Antenna/Receiver unit. This image shows the compact design of the device, typically used for marine navigation systems.

## 4. OPERATING INSTRUCTIONS

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Once installed and powered, the GPS 24xd automatically begins acquiring satellite signals and calculating position and heading data. This data is then transmitted to your connected marine electronics.

### GNSS Data Acquisition:

The device will automatically search for and lock onto available GPS, Galileo, GLONASS, and BeiDou satellites. The multi-band technology enhances accuracy and reliability, especially in areas with signal obstructions.

### Magnetic Heading Output:

The integrated magnetic heading sensor provides continuous heading data. For optimal performance, ensure the device is mounted away from strong magnetic fields (e.g., large metal objects, speakers, or other electronics). Calibration of the magnetic heading sensor may be required during initial setup or if the device is moved. Refer to your connected display's manual for calibration procedures.

### Data Output:

Position, velocity, time, and heading data are output via the NMEA 0183 interface. Configure your connected marine display or autopilot to receive NMEA 0183 data from the port connected to the GPS 24xd. Ensure the correct NMEA sentences are enabled and recognized by your system.

## 5. MAINTENANCE

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The Garmin GPS 24xd is designed for durability in marine environments. Regular, simple maintenance will help ensure its longevity and performance.

- **Cleaning:** Periodically wipe the exterior of the device with a soft, damp cloth. Avoid using harsh chemicals or abrasive cleaners.
- **Connection Checks:** Annually inspect all cable connections for corrosion or damage. Ensure connections are secure and watertight.
- **Environmental Protection:** While designed for marine use, avoid exposing the device to extreme temperatures or prolonged submersion beyond its rated specifications.

## 6. TROUBLESHOOTING

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If you encounter issues with your GPS 24xd Antenna/Receiver, consider the following common troubleshooting steps:

- **No Position Data:**
  - Ensure the device has a clear, unobstructed view of the sky.
  - Verify power connection and proper voltage supply.
  - Check NMEA 0183 wiring to the connected display.
  - Confirm the connected display is configured to receive GPS data from the correct NMEA port.
- **Inaccurate or No Heading Data:**

- Ensure the device is mounted away from strong magnetic interference.
- Perform a magnetic heading sensor calibration as per your connected display's instructions.
- Verify NMEA 0183 wiring for heading data.
- Confirm the connected display is configured to receive heading data from the correct NMEA port and is set to use HDG (Heading) rather than COG (Course Over Ground) for applications requiring true heading.

- **Intermittent Data:**

- Inspect all cable connections for looseness, corrosion, or damage.
- Check for potential electrical interference from other onboard electronics.

For persistent issues, consult the Garmin support website or contact Garmin customer service.

## 7. SPECIFICATIONS

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<b>Model Name</b>	010-02316-00
<b>Brand</b>	Garmin
<b>Product Dimensions</b>	1.93 x 0.87 x 3.61 inches
<b>Item Weight</b>	7.1 ounces
<b>Connectivity Technology</b>	NMEA 0183, Bluetooth
<b>Special Features</b>	Lightweight, Multi-band GNSS, Magnetic Heading Sensor
<b>Mounting Type</b>	Panel Mount, Handlebar Mount, Dashboard Mount ( <i>Note: Refers to general mounting capabilities, specific marine mounts may vary</i> )
<b>Included Components</b>	GPS 24xd Antenna/Receiver
<b>Vehicle Service Type</b>	Boat
<b>Manufacturer</b>	Garmin
<b>Date First Available</b>	April 14, 2021

## 8. WARRANTY AND SUPPORT

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The Garmin GPS 24xd Antenna/Receiver is covered by Garmin's standard limited warranty. For specific warranty terms and conditions, please refer to the documentation included with your product or visit the official Garmin website.

For technical support, product registration, or to find authorized service centers, please visit the Garmin support portal:

[www.garmin.com/support](http://www.garmin.com/support)

*Note: Warranty details and support options may vary by region.*

