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Garmin 010-00671-00

Garmin GFS 10 Marine Fuel Sensor User Manual

Model: 010-00671-00

1. INTRODUCTION AND OVERVIEW

The Garmin GFS 10 Marine Fuel Sensor is designed to enhance your boat's fuel management system by providing accurate fuel flow and fuel level data to compatible Garmin chartplotters. This sensor tracks fuel consumption and can also integrate with existing analog fuel gauges or resistive fuel tank sensors to provide comprehensive fuel level information.

Data is transmitted to your chartplotter via Garmin CANet or NMEA 2000 networks, allowing for real-time monitoring of fuel economy and remaining fuel. The GFS 10 is engineered for gasoline engines only and is not compatible with diesel engines.



Image 1.1: Garmin GFS 10 Marine Fuel Sensor. This image shows the compact design of the GFS 10 sensor, typically installed in the fuel line.

Important Note: GPSMAP 4xx and 5xx series CANet compatible units may require a separate CANet kit to establish the connection with the GFS 10 sensor.

2. WHAT'S IN THE BOX

Upon opening the package, verify that all components are present:

- Garmin GFS 10 Fuel Sensor for Gas Engines Only
- Instruction Manual (this document)
- Mounting hardware (if applicable, refer to packaging for specifics)

3. KEY FEATURES

- **Accurate Fuel Flow Tracking:** Monitors fuel consumption in real-time.
- **Fuel Level Sensing:** Connects to existing analog fuel gauges or resistive tank sensors for integrated fuel level data.
- **NMEA 2000 & CANet Compatibility:** Seamless integration with compatible Garmin marine networks and chartplotters.
- **Wide Flow Rate Range:** Measures fuel flow from 2 gal/hr (7.57 L/hr) to 50 gal/hr (189.27 L/hr).
- **Designed for Gasoline Engines:** Optimized for use with gasoline-powered marine engines.

4. SPECIFICATIONS

Attribute	Detail
Brand	Garmin
Model Number	010-00671-00
Item Dimensions (L x W x H)	9 x 7 x 3 inches (22.86 x 17.78 x 7.62 cm)
Item Weight	0.02 Kilograms (approx. 0.044 lbs)
Material	Plastic
Measurement Accuracy	High
Measuring Range	2 to 50 GPH (Gallons Per Hour)
Mounting Type	Flange Mount
Output Type	Digital
Specific Uses	Fuel efficiency monitoring for boats
Upper Temperature Rating	100 Degrees Celsius (212 Degrees Fahrenheit)

5. SETUP AND INSTALLATION

Proper installation of the GFS 10 is crucial for accurate performance. It is recommended that installation be performed by a qualified marine technician.

5.1 Fuel Line Integration

- Select Location:** Choose a suitable location in the fuel line between the fuel tank and the engine. Ensure the sensor is installed in a section of the fuel line that is always full of fuel and free from air bubbles.
- Cut Fuel Line:** Carefully cut the existing fuel line at the chosen location.
- Install Sensor:** Insert the GFS 10 sensor into the cut fuel line, ensuring the flow direction arrow on the sensor matches the direction of fuel flow towards the engine. Secure connections with appropriate marine-grade clamps. A double-barb splice may be required depending on your existing fuel line setup.

5.2 Electrical Connections

- Power Connection:** Connect the GFS 10 to a 12V DC power source on your boat's electrical system. Ensure proper fusing.
- Network Connection:** Connect the GFS 10 to your Garmin chartplotter via an NMEA 2000 network or Garmin CANet.
 - For NMEA 2000, connect the sensor to an available T-connector on your NMEA 2000 backbone.
 - For CANet, connect the sensor directly to a compatible Garmin chartplotter or through a CANet hub. Note that GPSMAP 4xx and 5xx series units may require a CANet kit.
- Fuel Level Sensor Connection (Optional):** If desired, connect the GFS 10 to your boat's existing analog fuel gauge or resistive fuel tank sensor for integrated fuel level readings on your chartplotter. Refer to the specific wiring diagram in the full installation guide for details.

After installation, ensure all connections are secure and leak-free. Power on your chartplotter and verify that the GFS 10 is recognized on the network.

6. OPERATING INSTRUCTIONS

Once installed and connected, the GFS 10 automatically begins tracking fuel flow. Data will be displayed on your compatible Garmin chartplotter.

6.1 Viewing Fuel Data

- Navigate to the fuel data screen or a customizable data overlay on your Garmin chartplotter.
- You should see real-time readings for fuel flow (e.g., GPH - Gallons Per Hour), total fuel consumed, and potentially remaining fuel if the fuel level sensor is connected and calibrated.

6.2 Calibration

For accurate fuel level readings, the connected fuel level sensor may require calibration through your chartplotter's settings. Consult your chartplotter's user manual for specific calibration procedures.

Caution: Avoid using "Auto configure gauges" features on some chartplotters without understanding their impact, as they may reset or incorrectly configure your display settings. If this occurs, you may need to manually reset your chartplotter's default settings to restore proper fuel display functionality.

7. MAINTENANCE

The Garmin GFS 10 is designed for durability in the marine environment. Regular maintenance helps ensure continued accuracy and longevity.

- **Visual Inspection:** Periodically inspect the sensor and its connections for any signs of wear, corrosion, or leaks. Ensure all clamps are secure.
- **Cleaning:** Keep the exterior of the sensor clean. Use a damp cloth and mild detergent if necessary. Avoid harsh chemicals or abrasive cleaners.
- **Fuel Filter:** Ensure your boat's fuel system has a properly maintained fuel filter upstream of the GFS 10 to prevent debris from entering and damaging the sensor.

8. TROUBLESHOOTING

If you encounter issues with your GFS 10, refer to the following common troubleshooting steps:

- **No Fuel Data Displayed:**
 - Verify all power and network connections are secure and properly wired.
 - Check fuses in the power supply line.
 - Ensure the GFS 10 is recognized on your chartplotter's NMEA 2000 or CANet device list.
 - Confirm the chartplotter display settings are configured to show fuel data.
- **Inaccurate Fuel Readings:**
 - Check for air leaks in the fuel line before and after the sensor.
 - Ensure the sensor is installed with the correct flow direction.
 - If using fuel level sensing, recalibrate the fuel tank sensor via your chartplotter.
 - Verify that the GFS 10 is not installed on an engine with a fuel return line, as this can lead to inaccurate readings (the GFS 10 is not designed for such systems).
- **Sensor Not Responding / Intermittent Operation:**

- Inspect the sensor for any physical damage.
 - Check for corrosion on electrical contacts.
 - Ensure the power supply is stable and within the specified voltage range.
 - If the issue persists, the sensor may require replacement.
- **"Auto Configure Gauges" Issue:** If you used an "Auto configure gauges" function on your chartplotter and lost fuel data, access your chartplotter's system menu and reset default settings to restore proper display.

For further assistance, consult your Garmin chartplotter's user manual or contact Garmin Product Support.

9. WARRANTY AND SUPPORT

The Garmin GFS 10 Fuel Sensor comes with a standard manufacturer's warranty. For specific warranty terms and conditions, please refer to the warranty information included with your product or visit the official Garmin website. For technical support, troubleshooting assistance, or to inquire about warranty service, please contact Garmin Product Support directly. You can typically find contact information and support resources on the official Garmin website (www.garmin.com/support).