

Planar Planar 2D

Planar 2D Diesel Air Heater 12V Instruction Manual

Model: Planar 2D | Brand: Planar

1. INTRODUCTION

This manual provides essential instructions for the safe installation, operation, and maintenance of your Planar 2D Diesel Air Heater. This 12-volt, 2 kW (7,000 BTU/hr) heater is designed to provide efficient heating for various applications, including trucks, RVs, boats, and cabins. Please read this manual thoroughly before installation and use to ensure proper function and safety.

2. PRODUCT OVERVIEW

The Planar 2D Diesel Air Heater kit includes the main heater unit and various components necessary for installation and operation. Familiarize yourself with all parts before beginning the installation process.



Figure 2.1: The main Planar 2D Diesel Air Heater unit. This compact unit is responsible for combustion and heat exchange.



Figure 2.2: A comprehensive view of the Planar 2D Diesel Air Heater kit contents, including the heater unit, wiring, fuel pump, fuel line, exhaust, intake, and control panel.

Kit Components (Typical)

- Main Heater Unit
- Fuel Pump
- Fuel Line
- Wiring Harnesses
- Exhaust Pipe
- Air Intake Pipe
- Hot Air Ducting
- Air Outlet Vent
- Control Panel (e.g., PU 5, PU 16, or PU 22)
- Mounting Hardware

Note: The muffler, external temperature sensor, and fuel tank are typically **not included** in the standard kit and must be sourced separately if required for your installation.



Figure 2.3: Detail of the air outlet vent and flexible ducting, which directs heated air into the desired space.

3. SAFETY INFORMATION

Operating a diesel heater involves combustion and electrical components. Adhere to all safety guidelines to prevent injury or damage.

- **Ventilation:** Ensure adequate ventilation for the heater's combustion air intake and exhaust. Never operate the heater in an enclosed, unventilated space.
- **Exhaust:** The exhaust gases contain carbon monoxide, which is odorless and deadly. Always route the exhaust pipe securely to the outside, away from any air intakes or windows.
- **Fuel:** Use only diesel fuel. Handle fuel with care, away from open flames or ignition sources. Ensure all fuel connections are leak-free.
- **Electrical:** Connect the heater to a stable 12-volt DC power source with appropriate fusing. Incorrect wiring can cause electrical fires or damage to the unit.
- **Mounting:** Mount the heater securely to a stable, non-combustible surface. Maintain adequate clearance from flammable materials.
- **Children and Pets:** Keep children and pets away from the heater during operation, as surfaces can become hot.
- **Maintenance:** Perform regular maintenance as described in this manual. Do not attempt repairs beyond your technical capability.

4. INSTALLATION

Proper installation is crucial for the safe and efficient operation of your Planar 2D heater. While installation can be straightforward, professional installation is recommended if you are unsure about any steps.

4.1. Planning the Installation

- **Location:** Choose a dry, protected location for the heater unit, ensuring sufficient space for air circulation and access for maintenance. Consider the routing of fuel lines, exhaust, intake, and hot air ducts.
- **Mounting Surface:** The mounting surface must be robust enough to support the heater's weight and vibrations. Use the provided mounting plate and hardware.
- **Clearances:** Maintain minimum clearances around the heater from combustible materials as specified in the technical drawings.

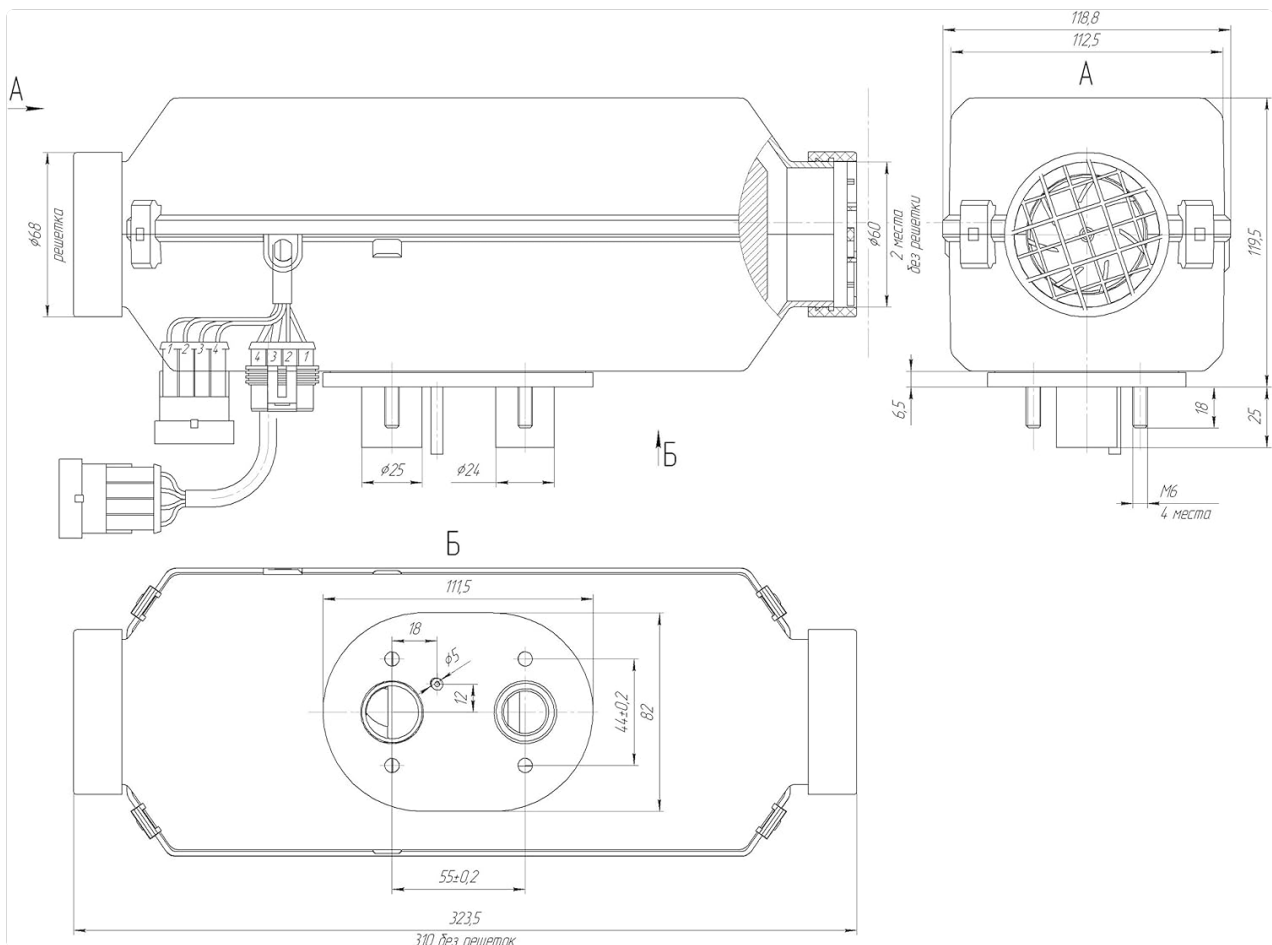


Figure 4.1: Technical drawing illustrating the dimensions and mounting points of the Planar 2D heater unit. Refer to these measurements for precise installation planning.

4.2. Step-by-Step Installation Guide

1. **Mount the Heater:** Secure the main heater unit to the chosen surface using the mounting plate and hardware. Ensure it is level and stable.
2. **Install Fuel System:**
 - Connect the fuel pump to the vehicle's fuel tank or a dedicated fuel tank (not included).
 - Route the fuel line from the tank to the fuel pump, and then from the fuel pump to the heater unit. Ensure all connections are tight and leak-free.
 - Mount the fuel pump securely, typically at an angle to allow air bubbles to escape.

3. Connect Electrical System:

- Connect the main power harness to a fused 12-volt DC power source (e.g., vehicle battery). Ensure proper polarity.
- Connect the control panel wiring harness to the heater unit and mount the control panel in an accessible location.

4. Install Air Intake and Exhaust:

- Attach the air intake pipe to the heater and route it to a clean air source, away from exhaust fumes.
- Attach the exhaust pipe to the heater and route it securely to the outside, ensuring it is clear of any obstructions and directed away from living spaces or air intakes.

5. Install Hot Air Ducting:

- Connect the hot air ducting to the heater's hot air outlet.
- Route the ducting to the area you wish to heat and install the air outlet vent.

6. **Final Checks:** Double-check all connections (fuel, electrical, air, exhaust) for security and leaks. Ensure no wires or pipes are pinched or exposed to excessive heat.

5. OPERATING INSTRUCTIONS

Once installed, operating your Planar 2D heater is straightforward using the control panel.



Figure 5.1: The digital control panel (e.g., PU-5, PU-16, or PU-22) used to operate the Planar 2D heater, featuring a display and

control buttons.

5.1. Initial Startup (Priming)

Before the first use, or after running out of fuel, the fuel system needs to be primed to remove air. This is typically done through a specific function on the control panel or by repeatedly attempting to start the heater until fuel reaches the combustion chamber. Refer to your specific control panel's manual for detailed priming instructions.

5.2. Basic Operation

- Power On:** Press the power button on the control panel. The display will illuminate.
- Set Temperature/Power:** Use the up/down arrows or rotary knob (depending on control panel model) to set the desired temperature or heating power level.
- Heating Cycle:** The heater will initiate its startup sequence, which includes pre-heating, fuel injection, ignition, and fan operation. This process may take a few minutes.
- Power Off:** To turn off the heater, press the power button again. The heater will enter a cool-down cycle to prevent overheating, during which the fan will continue to run for a few minutes before shutting down completely. Do not disconnect power during the cool-down cycle.

Note on Temperature Display: The control unit typically displays temperature in Celsius. There may not be an option to switch to Fahrenheit.

6. MAINTENANCE

Regular maintenance ensures the longevity and efficient performance of your Planar 2D heater.

- Visual Inspection (Monthly):** Check all fuel lines, electrical connections, and air ducts for signs of wear, damage, or leaks. Ensure the exhaust pipe is clear and securely fastened.
- Clean Air Intake:** Ensure the air intake for combustion is free from dust, debris, or obstructions.
- Clean Exhaust Outlet:** Periodically check and clean the exhaust outlet to prevent carbon buildup, which can restrict airflow and affect performance.
- Fuel Filter:** If your installation includes an inline fuel filter, inspect and replace it as recommended by the filter manufacturer.
- Battery Voltage:** Ensure your 12V power source maintains adequate voltage, especially during startup, as low voltage can prevent ignition.

7. TROUBLESHOOTING

This section addresses common issues you might encounter with your Planar 2D heater.

Problem	Possible Cause	Solution
Heater does not start/ignite	Low fuel level, air in fuel line, low battery voltage, clogged fuel filter, faulty glow plug.	Check fuel level, prime fuel system, check battery voltage, replace fuel filter, inspect glow plug (professional service recommended).

Problem	Possible Cause	Solution
Heater produces white smoke	Incomplete combustion, low fuel pressure, incorrect air/fuel mixture, faulty glow plug.	Check fuel supply, ensure proper voltage, clean air intake/exhaust, professional inspection.
Heater produces black smoke	Excessive fuel, restricted air intake, clogged exhaust.	Check air intake for obstructions, clean exhaust, ensure correct fuel pump operation.
Heater shuts down unexpectedly	Overheating, low voltage, fuel supply interruption, error code.	Check for obstructions around heater, ensure proper ventilation, check battery/power supply, check control panel for error codes.
Control panel displays error code	Specific fault detected by the heater's diagnostic system.	Refer to your specific control panel's manual for a list of error codes and their meanings.

If you are unable to resolve an issue, contact a qualified technician or the seller for assistance.







8. SPECIFICATIONS

Feature	Specification
Brand	Planar
Model Number	Planar 2D/12volt
Part Number	2D
Heating Power	2 kW / 7,000 BTU/hr
Power Source	12V DC (Diesel fuel)
Item Weight	14.99 pounds (approximate, may include packaging)
Product Dimensions	127.36 x 46.77 x 47.05 inches (Note: These dimensions appear to be for the shipping package, not the heater unit itself. Refer to technical drawings for unit dimensions.)
First Available	December 1, 2014

9. WARRANTY AND SUPPORT

For information regarding the warranty period, terms, and conditions for your Planar 2D Diesel Air Heater, please contact the original seller or authorized distributor. Keep your proof of purchase for any warranty claims. For technical support or service inquiries, refer to the contact information provided by your seller or the manufacturer's official channels.

Related Documents - Planar 2D

 <p>NOTICE D'UTILISATION CHAUFFAGES A AIR PULSE</p> <p>MODELE 2D-12V MODELE 2D-24V</p> <p>© 2023 Planar. All rights reserved.</p>	<p>PLANAR 2D-12V/2D-24V Air Heater User Manual and Installation Guide</p> <p>This comprehensive manual provides detailed instructions for operating, installing, troubleshooting, and maintaining PLANAR 2D-12V and 2D-24V air pulse heaters. It covers safety precautions, technical specifications, component descriptions, electrical schematics, and warranty information.</p>
 <p>PLANAR</p>	<p>Planar UltraRes L Series 109" User Manual: Installation, Operation, and Troubleshooting</p> <p>Comprehensive user manual for the Planar UltraRes L Series 109" LED display. Covers installation, setup, operation, web UI, troubleshooting, and specifications.</p>
 <p>PLANAR User Manual</p> <p>Planar® UltraRes™ P Series</p> <p>URP49, URP52, URP55, URP58, URP61, URP64, URP67, URP70, URP73, URP76, URP79, URP82, URP85, URP88, URP91, URP94, URP97, URP98</p>	<p>Planar UltraRes P Series: User Manual for Professional 4K LCD Displays</p> <p>Comprehensive user manual for Planar UltraRes P Series professional 4K LCD displays, covering installation, operation, features, and troubleshooting. Learn about models URP49 through URP98.</p>
 <p>PLANAR</p> <p>XP37W LCD TV</p> <p>USER'S GUIDE</p> <p>www.planar.com</p>	<p>Planar XP37W LCD TV User's Guide</p> <p>User's guide for the Planar XP37W LCD TV, covering setup, features, controls, troubleshooting, and specifications.</p>
 <p>PLANAR</p> <p>PS4652/PS5552/PS6552 USER'S GUIDE</p>	<p>Planar PS4652/PS5552/PS6552 User's Guide: Setup, Operation, and Specifications</p> <p>Comprehensive user guide for Planar PS4652, PS5552, and PS6552 large format displays. Learn about safety, setup, connections, operations, network control, multimedia features, specifications, and troubleshooting.</p>
 <p>PLANAR</p> <p>PS Series USER'S GUIDE</p>	<p>Planar PS Series User's Guide</p> <p>Comprehensive user's guide for the Planar PS Series displays, covering setup, operation, specifications, and troubleshooting.</p>

