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Sunster 8KW Portable Diesel Heater User Manual

Model: 8KW Portable Diesel Heater (SKUUS2025001)

1. PRODUCT OVERVIEW

This manual provides essential information for the safe and efficient operation of your Sunster 8KW Portable Diesel Heater. This 12V/24V diesel air heater features an upgraded design with AC 110-240V power adapter, turbo heat, ventilation mode, automatic start/stop, and APP control, suitable for various applications including vans, RVs, trucks, and campers.



Figure 1: Sunster 8KW Portable Diesel Heater with accessories.

2. SAFETY INFORMATION

Read all safety warnings and instructions carefully before use. Failure to follow these instructions may result in fire, electric shock, or serious injury.

- Ensure proper ventilation when operating the heater to prevent carbon monoxide buildup.
- Do not block air intake or exhaust vents.
- Keep flammable materials at a safe distance from the heater.
- Always use the specified fuel type (diesel).
- Ensure all connections are secure and free from leaks.
- Do not operate the heater in enclosed, unventilated spaces.
- This heater is equipped with multiple safety protection functions, including overheating, short circuit, reverse connection, and overvoltage protection.

3. PACKAGE CONTENTS

Verify that all items are present after unpacking:

- Diesel heater (with LCD control panel)
- Remote switch
- AC power supply (110-240V)
- Installation Accessories (including exhaust pipe, intake pipe, air filter, silencer, clamps, screws, battery power cord, foot stand, fixed plate)



Figure 2: Included components and accessories.

4. PRODUCT FEATURES

- **Upgraded Smart Panel:** Provides constant temperature control (Automatic Start&Stop), timing function, ventilation mode, and turbo heat mode.
- **Bluetooth App Control:** Adjust settings, create heating plans, and monitor performance via the 'Sunster' app.
- **Dual Power Supply:** Equipped with 12/24V DC and 110-240V AC wiring options for vehicle and

household use.

- **Ventilation Function:** Circulates air when not heating, useful in warmer conditions.
- **Automatic Start/Stop:** Shuts off when the set temperature is reached and reactivates when the temperature drops, ensuring consistent heat and energy efficiency.
- **Double Noise Reduction:** Features a silent fan and upgraded silent oil pump for quiet operation.
- **Safety Protection:** Includes overheating, short circuit, reverse connection, and overvoltage protection.



Figure 3: Intelligent LCD Panel and Remote Control.

AC 110-240V

EU/UK/US Standard Outlet



**Adaptable To
Any Voltage Environment**

2 Flexible Wiring Options for Versatile Switching



**DC12V/24V
Vehicle Battery Compatible**

**Suitable For
Backup Power**



Figure 4: Dual Power Supply Coverage for versatile use.

5. SPECIFICATIONS

Feature	Specification
Brand	Sunster
Model	8KW Portable Diesel Heater
Wattage	8 KW
Fuel Type	Diesel
Power Supply	12V/24V DC, 110-240V AC
Min Temperature Setting	8 Degrees Celsius

Max Temperature Setting	36 Degrees Celsius
Number of Speeds	10
Item Weight	21.4 pounds
Package Dimensions	20 x 19.5 x 9 inches
Special Features	Auto Climate Control, Automatic Start & Stop, Bluetooth APP Function, Turbo Heat Mode, Ventilation Function

6. SETUP AND INSTALLATION

Follow these steps for proper setup and installation of your diesel heater. Refer to the installation video for visual guidance.

- 1. Unpacking:** Verify all accessories are complete as per the package contents list.
- 2. Attach Bottom Supports:** Align the bottom corner supports with the holes on both sides of the machine's base. Use a soft hammer to gently tap them into place.
- 3. Prepare Mounting Surface:** Measure the distance between the intake and exhaust pipe ports on the heater. Mark and drill corresponding holes on your mounting surface (e.g., floor of a vehicle, workbench).
- 4. Connect Exhaust and Intake Pipes:**
 - Straighten the flexible exhaust pipe.
 - Place a clamp on one end of the exhaust pipe and screw it into the bottom-left interface of the heater. Tighten the clamp securely.
 - Take out the intake pipe, place a clamp on one end, and screw it into the bottom-right interface. Tighten the clamp.
 - Insert both pipes through the drilled holes in your mounting surface.
- 5. Secure Heater:** Mark the positions for the bottom corner holes on the mounting surface. Drill pilot holes and secure the heater using the provided screws and nuts.
- 6. Install Air Filter:** Place a clamp on one end of the intake pipe. Screw the air filter onto the intake pipe and tighten the clamp. Use a fixing plate on the intake pipe sleeve and secure it with screws in the desired position.
- 7. Install Silencer:** Place a clamp on one end of the exhaust pipe. Screw the silencer onto the exhaust pipe and tighten the clamp. Attach the fixing screw and right-angle fixing plate to the silencer and secure it.
- 8. Heating Duct Installation:** Open the heating duct. Place a clamp at the duct interface and install it at the air outlet interface of the heater. Tighten the clamp to fix the heating duct.
- 9. Power Connection:**
 - Remove the machine terminal position cover.
 - For AC power: Connect the AC power adapter to the heater's power input and then to a 110-

240V AC outlet.

- For DC power: Place the red (positive) and black (negative) copper rings of the battery power cord into the corresponding terminals on the heater and tighten them. Connect the other end to your 12V or 24V battery, ensuring correct polarity.

Video 1: Sunster Diesel Heater Installation Operation. This video demonstrates the step-by-step process of assembling and installing the diesel heater, including connecting pipes, mounting, and power connections.

Important: Flammable objects in contact with the exhaust pipe need to be filled with thermal insulation material. The exhaust pipe should be kept straight and not tilted upward to ensure smooth exhaust.

7. OPERATION GUIDE

Your Sunster diesel heater can be controlled via the LCD panel, remote control, or Bluetooth APP. This section details the functions of the LCD control panel.

Video 2: 2302B LCD Switch Operation. This video provides a detailed walkthrough of the LCD control panel's functions, including power, gear adjustment, numerical settings, and various modes.

7.1 Power On/Off

- To Turn On:** In shutdown state, press the [ON/OFF] button on the remote or the red button on the LCD panel.
- To Shut Down:** In power-on state, press the [ON/OFF] button on the remote or the red button on the LCD panel.

7.2 Gear Adjustment (Mode Switching)

In power-on state, press the [knob] on the LCD panel to switch between modes:

- Temperature Control Mode:** Adjusts heating based on a set temperature.
- Constant Temperature Mode:** Maintains a consistent temperature.
- Gear Mode:** Adjusts heating power by gear level.

7.3 Numerical Adjustment

In power-on state, rotate the [knob] to adjust values:

- Rotate clockwise to increase gear/temperature (+1), up to 10 gears / 36°C.
- Rotate counterclockwise to decrease gear/temperature (-1), minimum to 1 gear / 8°C.

7.4 Basic Settings (Base Model)

In power-on state, long press the [ON/OFF] button for 3 seconds to enter the basic settings interface. The upper left corner shows setting items (F0-FC). Rotate the [knob] to navigate and adjust settings. Press the [knob] again to confirm modification.

Setting Item	Description	Adjustment Range/Options
F0	Current Time	Adjustable

F1	Start-up Time	30 minutes is 1 unit, 0-10 hours
F2	Running Time (After starting)	30 minutes is 1 unit, 0-10 hours
F3	Self-starting Switch Settings	ON (open) / OFF (closed)
F4	Language Switch	Chinese/English/Russian/Voice off
F5	Temperature Compensation	-9 ~ 9 °C
F6	Fuel Tank Volume	5L is 1 unit, 5-50L
F7	Oil Pump Type	Adjustable (e.g., 16U, 22U, 32U)
F8	Constant Temperature Heating	ON (open) / OFF (closed)
F9	Temperature Switching Unit	°F / °C
FA	Screen Brightness	5-100
FB	Full Tank (Reset)	Long press [knob] to reset after prompt tone.
FC	CO Numerical Detection	Press [knob] twice to check CO value.

7.5 Engineering Mode

In power-on state, long press the [knob] for 5 seconds to enter the engineering mode. The upper right corner shows the current project (E0-E9). Rotate the [knob] to adjust the item to view data.

- E0: Heater main board version number
- E1: Fault code
- E2: Shell temperature
- E3: Supply voltage
- E4: Heater running gear
- E5: Cab temperature
- E6: Altitude
- E8: Remote control matching
- E9: Bluetooth matching

7.6 Remote Control Matching

- In shutdown state, press the [knob] three times in a row. The screen will display 'P-1'.
- Press any button on the remote control. If the match is successful, the interface will automatically exit. The remote can now operate the heater.
- To clear matching data: Please press and hold the [ON/OFF] button when powered on. Wait for the interface to show that 'CLR' becomes 'SUC'.

7.7 Manual Fuel Pumping

Long press the [knob] for 5 seconds when powered on and turned off for the first time. The screen flashes and shows a 300-second countdown. Wait for the countdown to end or press [ON/OFF] to end pumping oil.

7.8 Bluetooth Connection

1. Open your mobile device's APP Store and search for 'Sunster' (or 'airHeaterByBLE' if 'Sunster' is not found). Download and install the app.
2. In power-on state, long press the [knob] for 5 seconds to enter the engineering mode. Adjust to 'En09' to view the Bluetooth code.
3. Open the mobile APP and turn on Bluetooth on your device.
4. Search for Bluetooth devices within the app and connect to your heater.
5. Once connected, the heater can be operated through the mobile APP.

8. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your diesel heater.

- **Cleaning:** Periodically clean the exterior of the heater with a soft, damp cloth. Ensure no water enters the internal components.
- **Air Filter:** Check and clean the air filter regularly. Replace if heavily soiled or damaged.
- **Fuel System:** Use clean, high-quality diesel fuel. Avoid using contaminated fuel, which can lead to blockages and damage.
- **Exhaust System:** Inspect the exhaust pipe and silencer for any blockages, damage, or leaks. Ensure the exhaust path is clear.
- **Electrical Connections:** Periodically check all electrical connections for tightness and signs of corrosion.

9. TROUBLESHOOTING

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

Problem	Possible Cause	Solution
Heater does not start	No power, low fuel, clogged fuel line, faulty glow plug	Check power connections, refill fuel, inspect/clean fuel line, consult service for glow plug replacement
No heat output	Incorrect mode, low fan speed, air intake/exhaust blocked	Verify operating mode, increase fan speed, clear blockages
Excessive smoke	Poor fuel quality, incorrect fuel/air mixture, carbon buildup	Use clean diesel, check air filter, perform maintenance to remove carbon
Unusual noise	Loose components, fan obstruction, worn bearings	Inspect for loose parts, clear fan area, consult service for worn parts
Error code displayed	Specific system fault	Refer to the Engineering Mode (E1) for fault code details and consult the manufacturer's support.

10. WARRANTY INFORMATION

This product is covered by a manufacturer's warranty. Please retain your proof of purchase for any warranty claims. For specific warranty terms and conditions, or to inquire about extended protection plans, please contact Sunster customer support or refer to the product's official documentation at the time of purchase.

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