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HCALORY TC2S

HCALORY 8KW Diesel Heater (Model TC2S) Instruction Manual

Your guide to safe and efficient operation



The HCALORY 8KW Diesel Heater, Model TC2S, is a portable heating solution designed for various applications including

RVs, campers, and garages. This manual provides essential information for its proper use and maintenance.

1. PACKAGE CONTENTS

Before starting, ensure all components are present in the package:

- Heater Unit (Host)
- Remote Control
- User Manual
- Installation Accessories (Exhaust pipe, muffler, air hose, clamps, power cables)



The complete HCALORY 8KW Diesel Heater package, including the main unit, remote control, user manual, and various installation accessories.

2. SETUP AND INSTALLATION

2.1 Connecting Exhaust and Air Hoses

1. Connect the exhaust hose to the exhaust port on the heater unit. Secure it firmly with the provided

locking collar and screwdriver.

2. Attach the muffler to the other end of the exhaust hose and secure it with a locking collar. Ensure the exhaust system is directed outside to prevent carbon monoxide buildup.
3. Connect the warm air hose to the heat discharge outlet on the heater unit. Secure it with a locking collar.
4. Attach the vent outlet to the other end of the warm air hose and secure it with a locking collar. Adjust the vent direction as needed.



Connecting the exhaust hose to the heater unit and securing it with a locking collar.



Connecting the warm air hose to the heater unit and securing it with a locking collar.

Your browser does not support the video tag.

This video demonstrates the proper installation of the exhaust and warm air hoses for the HCALORY Toolbox Compact 2S Diesel Heater.

2.2 Fueling the Heater

1. Open the heater unit's lid by unlatching the clasps.
2. Unscrew the fuel tank cap. A pre-filter is installed inside the cap; do not remove it.
3. Carefully pour diesel fuel into the tank. The tank has a 5-liter capacity.
4. Securely replace the fuel tank cap.

Error Code	The principle of failure	Quick processing suggestions
E021	The power voltage is too low	1). The battery may need to be charged. 2). Replace with a battery that has a larger discharge power.
E022	The power supply voltage is too high	The power supply voltage is too high, check the battery output voltage.
E023	The power supply voltage is abnormal	The power supply voltage is abnormal, check the current battery voltage.
E031	The Glow Plug wire is open-circuit	1). Check if the glow plug's connectio wire is disconnected. 2). Check if the glow plug's connection port is loose. 3). Give the glow plug positive and negative wires a brief charge to test if the spark plug is heating up.
E032	The Glow Plug is short-circuited	The Glow plug is damaged or the mainboard is faulty.
E041	The oil pump wire is open circuit	1). Check if the connection wires of the oil pump is disconnected. 2). Check if the connection wires of the oil pump is loose.
E042	The oil pump is short-circuited	Check if the oil pump is blocked or not working.

Opening the heater unit and filling the integrated 5-liter diesel fuel tank.

2.3 Power Connection

The heater supports both AC (110V) and DC (12V/24V) power sources:

- For AC power, connect the provided AC/DC adapter to the heater's power inlet and then plug it into a standard household outlet.
- For DC power, use the included 12V/24V power cable to connect directly to a vehicle battery or other compatible DC power source.

Error Code	The principle of failure	Quick processing suggestions
E05	High temperature alarm (Casing temperature >446°F)	1). Check if the cold air intake is blocked. 2). Check if the hot air outlet pipe is bent. 3). Check if the fan is working properly. 4). Add gasket to the temperature sensor.
E061	The motor wire is open circuit	Connect the positive and negative terminals of the battery to the motor interface, and check whether the motor is rotating.
E062	The motor is short-circuited	The motor is damaged or the mainboard is faulty.
E063	The Glow Plug wire is open-circuit	1). Check if the impeller is stuck. 2). The gap between the magnet on the wind wheel and the Hall sensor on the controller is too large.
E07	The communication between the mainboard and the control screen is abnormal	1). Check if the connection port of the control screen is loose. 2). Check if the connection line (blue) of the control screen is open circuit.

Connecting the heater to an electrical power source using the provided adapter.

2.4 Control Panel Extension (Optional)

If you need to operate the heater from a distance, you can use an extension cable for the control panel:

1. Carefully disconnect the screen's attached wire from its port inside the unit.
2. Connect the extension cable to both the screen's wire and the corresponding port inside the unit.
3. Route the extension cable as needed.

Error Code	The principle of failure	Quick processing suggestions
E08	The flame is extinguished	1). Check whether there is a lack of oil, oil is low-temperature solidification, oil road blockage, oil pipe collapse, too many gas pockets in the oil pipe, oil pump stuck. 2). Check if the air intake and exhaust duct are unobstructed. 3). Check if the casing temperature sensor is fully in contact with the casing, and if the pressure spring is strong.
E091	The Glow Plug wire is open circuit	1). Check if the wiring of the temperature sensor is disconnected. 2). Check if the connection port of the temperature sensor is loose.
E092	The motor is short-circuited	The temperature sensor is damaged or the mainboard is faulty.
E10	Unable to start, ignition failure	Unidentifiable comprehensive reasons. Please take videos and pictures, a thorough inspection of spark plugs, oil pump, combustion chamber, air duct, motor, fan, circuit may be needed.
E11	Carbon monoxide concentrator exceeds limit	Increase air exchange in the environment to reduce carbon monoxide concentration : evacuate personnel to a safe environment.

Connecting an extension cable to the control panel for remote operation.

3. OPERATING THE HEATER

3.1 Control Panel Overview

The heater features an intuitive control panel for easy operation:

- **Power On/Off:** Press and hold the power button for 2 seconds to turn the unit on or off.
- **Temperature/Gear Adjustment:** Use the up/down arrows to adjust the desired temperature or heating gear (H1-H10).
- **Mode Selection:** Cycle through various modes like Constant Temperature, Auto Start-Stop, and Fan Mode.
- **Data Display:** Press the OK button to view real-time data such as voltage, altitude, internal temperature, and ambient temperature.



The digital control panel allows for easy adjustment of settings and monitoring of heater status.

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This video provides a detailed guide on how to use the heater's control panel to adjust settings and monitor performance.

3.2 App Control

Manage your heater conveniently via Bluetooth using the dedicated HCALORY app:

- Download the HCALORY app from your device's app store.
- Enable Bluetooth on your device and pair it with the heater.
- Through the app, you can adjust temperature, set multiple timing groups, change heating gear,

activate Altitude Mode, and enable Auto Start-Stop.



The HCALORY app provides comprehensive control over the heater's functions from your smartphone.

Your browser does not support the video tag.

This video demonstrates the various features and controls available through the HCALORY app for the 8KW diesel heater.

3.3 Altitude Mode

The heater automatically adjusts its performance for elevations up to 18,000 ft. The intelligent control panel detects altitude in real-time and optimizes the air-to-diesel mixing ratio for efficient operation.

Automatic Plateau Mode



The automatic altitude mode ensures optimal performance at various elevations.

3.4 Auto Start-Stop

This feature allows the heater to automatically start and stop based on the set temperature, optimizing fuel consumption and maintaining a consistent environment.

3.5 Fan Mode

The heater can also operate in a fan-only mode, circulating air without engaging the heating element.

4. MAINTENANCE

- Regularly check for any fuel leaks, especially after refueling or initial setup.
- Ensure the pre-filter in the fuel tank cap is clean and free of debris.
- Keep the air intake and exhaust ducts clear of any obstructions.
- Periodically inspect all connections and hoses for wear or damage.

5. TROUBLESHOOTING

The control panel displays error codes if a fault occurs. Refer to the tables below for common error codes and suggested solutions:

Error Codes: Power Supply & Ignition



Clear Control Panel + Cord
Simple Setup & Use

Table detailing error codes for power supply and ignition issues, along with troubleshooting steps.

Error Codes: Temperature & Motor



Openable Toolbox
More Storage Space and
Easier Maintenance

Table detailing error codes for high temperature alarms and motor malfunctions, along with troubleshooting steps.

Error Codes: Flame & Sensors



Safe-Raise Heater Platform
Heat Risk Conqueror

Table detailing error codes for flame extinction and sensor issues, along with troubleshooting steps.

6. SPECIFICATIONS

Feature	Specification
Brand	HCALORY
Model	TC2S
Heating Power	8KW
Fuel Tank Capacity	5 Liters
Voltage	110V/12V/24V (Multi-source compatibility)
Altitude Adaptation	Up to 18,000 ft (Automatic adjustment)
Control	App Control (Bluetooth), Digital Control Panel, Remote Control
Special Features	Quiet Operation (Silent Fuel Pump), Efficient & Economical, Multiple Security Protection
Item Weight	25.5 pounds
Package Dimensions	18.9 x 16.14 x 12.6 inches

7. WARRANTY AND SUPPORT

For detailed warranty information and customer support, please refer to the official user manual included in your package or visit the HCALORY website. Ensure you retain your proof of purchase for warranty claims.