6 Troubleshooting

6.1 Fault Assessment and Troubleshooting

Problems	Possible Causes	Corrective Actions
Digital display is not activated	No power or incorrect wiring	Check breakers at main electrical panel to ensure it is not tripped. If tripped, reset breaker. Check that unit is wired correctly.
	The controller or wired controller is damaged	Some parts are burned, the circuit is damaged, and the connection cannot be made.
	The rocker switch is not closed	The circuit switch is not closed, the circuit is blocked, and the display does not respond.
No hot wind	No power or incorrect wiring	Check breakers at main electrical panel to ensure it is not tripped. If tripped, reset breaker. Check that unit is wired correctly.
	Overtemperature protection has been triggered	The heater air outlet is equipped with a thermostat to monitor the outlet temperature. If the outlet temperature is too high, the machine will display E3, shut down combustion, blow out cold air, and then shut down.
	The flame went out unexpectedly	If the heater is accidentally extinguished during combustion, E1 will be displayed, causing the air valve to close, cold air to blow out, and then the heater will shut down.
	Can't light a fire	The heater keeps blowing cold air, and after a few minutes it displays E2.
Hot wind supply is warm, but it does not get hot	Temperature set point is too low	Increase the temperature set point, Be cautious of scald risk.
	Flow rate is too high	Reduce flow rate.
	RV too much cold wind	Close doors and windows to improve the insulation of the RV and reduce ventilation with the outside world.
	Cold inlet temperature may be lower during winter months	This is normal. The colder inlet wind requires more heat to reach the temperature set point. Increase the temperature set point.
Too hot	Temperature set point too high	Reduce temperature set point.

*Note, The recurring **E3** error often means your furnace's heating capacity (BTUs) is incompatible with the existing ductwork. This causes insufficient heat removal, leading to furnace overheating and activating safety shutdowns. Please contact the customer service center for further assistance.

6.2 Service Hints, Diagnosis, and Corrective Measures

CAUTION

1. Never operate the furnace with the electrode wire disconnected nor with the electrode assembly removed from the furnace.
2. Never use a screwdriver on any part of the electrode assembly while the furnace is in operation.
3. Be certain that the spark from the electrode never reaches the flame sensor portion of the electrode assembly.
4. Be sure the electrode assembly screws are snug at all times, especially after the electrode has been removed and reinstalled.
5. If the module board is found to be defective, it must be replaced - it is not field repairable. Any attempts to repair the board may alter the board and cause it to operate in an unsatisfactory manner.
6. Insure that the gap between electrode and ground is always 1/8". The gap between the flame sensor should be approximately twice the gap between electrode and ground to insure no sparking to sensor. Sparking to sensor will damage the module board.

The electronic ignition system is made up of three main parts; the MODULE BOARD, the ELECTRODE ASSEMBLY, and the ELECTRODE WIRE. The module board is the brain of the electronic ignition system and it has several functions.

1. When the blower reaches approximately 75% of the normal R.P.M. and sufficient air flow is established, the wind pressure sensor and completes a 12 volt circuit through the chip control to the module board.
2. After a 12-18 second delay, 12 volt current will pass through the module board to the solenoid valve. The current to the valve opens it and allows gas to the main burner; simultaneously, the module board sends high voltage through the electrode wire to the electrode assembly. The voltage seeks a ground between electrode and ground probe and a spark occurs. The spark then ignites the main burner.
3. The module board also performs the lockout function in cases where the spark fails to light the burner. When lockout occurs, the spark stops, the voltage from the module board to the gas valve is discontinued, and the valve closes. The unit will remain in lockout and the blower will continue to run until the thermostat is turned off. Turning the thermostat off disengages the lockout function of the module board. After the blower has stopped, the ignition sequence can be started again. The module will try three times for ignition before lockout.

It is important to determine the type problem being experienced, then the proper checkout procedure can be made. The following is a list of problems, how to identify in which area the problem is located, and how to correct it.

Error Code	Fault description and troubleshooting step	
E1	Accidental flameout	During normal operation, the flame goes out unexpectedly.
E2	Ignition failure	The fire cannot be ignited.
E3	Overheat protection	The overheat protection thermostat of the heating outlet is activated.
E4	Voltage protection	U < 10.2 ± 0.4V ， U > 15.6V ± 1.0V
E5	Fan failure	No wind pressure signal is detected during startup or operation, the valve is closed and a fault is prompted.
E6	False fire failure	Before the startup, a flame signal is detected, and the detection lasts for about 6 seconds.
E7	Valve body failure	The switch valve is disconnected or short-circuited.
E8	Flue blockage protection	During normal combustion, the pressure value of the wind pressure sensor exceeds the current limited pressure value for 5 consecutive seconds, the valve is closed and a fault is prompted.

Fault alarm release and reset method. If the above code appears, please check whether ignition system. valve or gas is normal, press the on/off switch on the wired controller to power off or to restart the unit.

According to these information prompts of the wired controller, and then according to the actual situation, you can analyze and solve the relevant problems.

The above display information is not necessarily all faults. Only when the machine cannot be restored to work after restarting and the code display is cancelled, it is a fault. At this time, do not try to repair it yourself. Please inform the after-sales service staff and a professional will handle it for you.