

perform operations	Operation process and screen display mode
Power on	When the heater is not running, press and hold the "On/Off" button for 3 seconds, and the screen will display "ON".
Power off	After turning on the heater, press and hold the "On/Off" button for 3 seconds, and the screen will display "OFF". Attention: It is not allowed to restart the computer while it is in the cooling state.
Display switching	During the use of the heater, real-time display of system voltage, water temperature, altitude, and other related data helps users understand the operation of the heater and better use it. Short press the "Settings" button, the screen will switch to system voltage, water temperature and temperature flashing, altitude (not available for non plateau models), equipment code, system time, oil pump icon flashing (not available after startup), water pump icon flashing (not available after startup), and cycle through.
Separate oil pump for oil pump	When the heater is first used or after replacing the oil pump and oil pipe, it is necessary to fill the entire oil circuit with fuel in order for the heater to function properly. When the heater is not turned on, short press the "Settings" button to switch to the oil pump icon flashing. Long press the "Settings" button for 3 seconds to start the oil pump to supply oil separately, and the screen displays "P-O".
Stop individual fuel supply	When the oil pump supplies oil separately, short press the "set button" to stop supplying oil. If the "set button" is not pressed continuously, to prevent excessive fuel injection, the pump will automatically stop after 3 minutes.
The water pump operates independently	When the heater is first used or after replacing the water pump and water pipe, it is necessary to maintain smooth water circulation in order for the heater to function properly. When the heater is not turned on, short press the "Settings" button to switch to the flashing water pump icon. Long press the "Settings" button for 3 seconds to start the water pump to run independently, and the screen displays "S-O".
Stop the water pump operation	When the water pump is running alone, short press the "Set" button to stop the water pump from running.

<p>Remote control matching</p>	<p>During the use of the heater, users can remotely control the heater for operation through the remote control function. Before using the remote control function, it is necessary to match and recognize the switch with the remote control. When the heater is not turned on, press and hold the "up" and "down" buttons for 3 seconds at the same time to enter the remote control matching state, and the screen displays "---". After that, press and hold the power off button on the remote control. After the remote control is matched, it will automatically exit the remote control matching status.</p>
<p>Exit remote control matching</p>	<p>When matching the remote control, short press any button to exit the remote control matching status.</p>
<p>Mobile input binding</p>	<p>During the use of the heater, users can control the heater to work through their mobile phones, view various data of the heater, and timely understand the working status of the heater. Before using the mobile mini program, it is necessary to bind the phone. When the heater is not turned on, short press the "Settings" button to switch to the device code display. Long press the "Settings" button for 3 seconds, and the signal icon will flash, indicating that it has entered the binding state. Scan the platform QR code on the switch, log in to the device binding interface, and select input binding. After entering the device code displayed on the screen, click confirm binding. After the heater is successfully bound, the switch automatically exits the binding state. Press and hold the "Settings" button for 3 seconds to exit the phone binding state.</p> <p>Attention: In case of network abnormalities, the phone binding function is invalid.</p>
<p>system time setting</p>	<p>During the use of the heater, users can preheat the vehicle in advance through the timed on/off function. When the heater is not turned on, press and hold the "Settings" button for 3 seconds to enter the settings state. The screen displays "A", and the alarm icon flashes, indicating that the system time setting has been entered. Short press the "Settings" button to display the system time on the screen, with the first two digits flashing. Short press the "Up" button to increase the system hour, and short press the "Down" button to decrease the system hour. After the hour adjustment is completed, short press the "Settings" button, the last two digits will flash, short press the "Up" button to increase the system minute, short press the "Down" button to decrease the system minute.</p> <p>Attention: When the oil pump icon flashes, the water pump icon flashes, or the code is displayed, you need to short press the "Settings" button to switch to other displays, and then long press the "Settings" button to enter the settings state.</p>
<p>Power on time setting</p>	<p>When the heater is not turned on, press and hold the "Settings" button for 3 seconds to enter the settings state, and the screen displays "A". Short press the "Settings" button 3 times, the screen will display "b", the alarm icon will flash, and the "ON" icon will flash, indicating that the startup time setting has been entered. Short press the "Settings" button to display the startup time on the screen, with the first two digits flashing. Short press the "Up" button to increase the startup time, and short press the "Down" button to decrease the startup time. After the hour adjustment is completed, short press the "Settings" button, and the last two digits will flash. Short press the "Up" button to increase the startup minute, and short press the "Down" button to decrease the startup minute. When the startup time is the same as the system time, the heater automatically enters the startup state.</p>

<p>Working time settings</p>	<p>When the heater is not turned on, press and hold the "Settings" button for 3 seconds to enter the settings state, and the screen displays "A". Short press the "Settings" button 6 times, the screen displays "C", the alarm icon flashes, and the "OFF" icon flashes, indicating that the working time setting has been entered. Short press the "Settings" button to display the working hours on the screen, with the first two digits flashing. Short press the "Up" button to increase the working hours, and short press the "Down" button to decrease the working hours. After the hour adjustment is completed, short press the "Settings" button, and the last two digits will flash. Short press the "Up" button to increase the working minute, and short press the "Down" button to decrease the working minute. When the heater runs for the same time as the set working time after scheduled startup, it automatically enters the shutdown state.</p> <p>Note: When the working hours are set to zero, the timer function is invalid.</p>
<p>Timed repetition setting</p>	<p>When the heater is not turned on, press and hold the "Settings" button for 3 seconds to enter the settings state, and the screen displays "A". Short press the "Settings" button 9 times, the screen will display "d", and the alarm icon will flash, indicating that the timer has entered the repeated setting. Short press the "Settings" button, and the screen will display "ON", indicating timed repeat on, and "OFF" indicating timed repeat off. Short press the "up" or "down" button to cycle between the on and off modes of timed repetition. After the heater is repeatedly turned on at a scheduled time, the set startup time and working time are always valid after the heater is turned off at a scheduled time. After timed repeated shutdown, the heater will not be able to set the startup time and working time after timed shutdown.</p>
<p>Upper limit temperature setting</p>	<p>During the use of the heater, users can control the temperature at which the heater enters a constant temperature heat dissipation state by adjusting the upper limit temperature. When the heater is not turned on, press and hold the "Settings" button for 3 seconds to enter the settings state, and the screen displays "A". Short press the "Settings" button 11 times, and the screen will display "H+Upper Limit Temperature". The thermometer icon will flash, indicating that the upper limit temperature setting has been entered. Short press the "up" button to increase the upper limit temperature by 5 °C, short press the "down" button to decrease the upper limit temperature by 5 °C, and adjust the range from 40 °C to 85 °C.</p>
<p>Lower temperature setting</p>	<p>During the use of the heater, users can control the lower limit temperature to exit the constant temperature heat dissipation state of the heater and execute the temperature for secondary ignition. When the heater is not turned on, long press the "Settings" button for 3 seconds to enter the setting state. The screen displays "A". Short press the "Settings" button 12 times, and the screen displays "L+Lower Limit Temperature". The thermometer icon flashes, indicating that the lower limit temperature setting has been entered. Short press the "up" button to increase the lower limit temperature by 5 °C, short press the "down" button to decrease the lower limit temperature by 5 °C, and adjust the range from 10 °C to 80 °C.</p> <p>Attention: The temperature difference between the upper and lower limits should not be less than 5 °C.</p>
<p>Constant temperature on/off setting</p>	<p>During the use of the heater, users can adjust the working mode of the heater by adjusting the constant temperature on/off state. When the constant temperature is turned on, the water temperature reaches the upper limit temperature, and the heater enters the constant temperature heat dissipation state. When the constant temperature is turned off, the water temperature reaches the upper limit temperature, and the heater automatically enters the shutdown heat dissipation state. When the heater is not turned on, long press the "Settings" button for 3 seconds, and the screen will display "A". Short press the "Settings" button 14 times, and the cooling sign will flash. The screen will display "ON", indicating that the constant temperature is turned on, and "OFF", indicating that the constant temperature is turned off. Short press the "up" or "down" button to cycle the constant temperature state between open and closed.</p>

Fuel type setting	During the use of the heater, users can adjust the operating mode of the heater by adjusting the fuel type. When the heater is not turned on, long press the "Settings" button for 3 seconds, and the screen will display "A". Short press the "Settings" button 15 times, and the screen will display "Y-1", indicating that the fuel type is diesel, and the screen will display "Y-2", indicating that the fuel type is gasoline. Short press the "up" or "down" button to cycle between diesel and gasoline fuel types.
Set Save Exit	After entering the settings state, press and hold the "Settings" button for 3 seconds to save the current settings and exit the settings state. If the "Settings" button is not pressed to save, the setting state will automatically exit after 20 seconds of timing.
Fault display processing	During the use of the heater, there may be abnormal operation of the heater due to aging or damage of accessories. Users can gain a more detailed understanding of the specific situation of the fault through the fault code displayed on the screen, and promptly and effectively troubleshoot the problem. In the running fault state, the heater automatically enters the shutdown cooling state (except for fan related faults), and the screen displays "F+fault code". After the heat dissipation is completed, you can refer to the fault details for handling. After the fault handling is completed, press and hold the "On/Off" button for 3 seconds to restart the heater and automatically clear the fault display. If the fault continues to display after startup, it indicates that the fault has not been completely cleared and relevant accessories need to be replaced before the heater can function properly. Attention: It is not allowed to restart the computer while it is in the cooling state.
Screen display	Error state troubleshooting method
F20	High input voltage:
	1.Please check whether the supply voltage is too high
	2.Disconnect the device power supply and re-energize, the device to re-detect the voltage
	3.Check the voltage settings in advanced settings
F21	Low input voltage:
	1.Please check if the supply voltage is too low and the battery is low
	2.Disconnect the device power supply and re-energize, the device to re-detect the voltage
	3.Check the voltage settings in advanced settings
F22	Electrical plug not detected:
	1. Please check whether the fuse plug of the electric spark plug is falsely connected:
	2.Check the spark plug is damaged, replace the spark plug
F23	Short Circuit of electric spark plug:
	1.Please check whether the spark plug leads are short-wired
	2.Check the spark plug is damaged, replace the spark plug
F24	Undetectable pump:
	1.Please check whether the lead plug of the oil pump is dummy connected

	2.Please check the oil pump for damage and replace it
F25	Fuel pump short circuit:
	1.Please check whether the fuel pump lead is short
	2.Please check the oil pump for damage and replace it
F26	Undetectable Flame Sensor:
	1.Please check whether the flame sensor lead plug is dummy connected
	2.Please check whether the flame sensor is damaged and replace the flame sensor
F27	Short Circuit of flame sensor:
	1.Please check whether the lead of the flame sensor is short
	2.Please check whether the flame sensor is damaged and replace the flame sensor
F28	Water temperature sensor not detected:
	1.Please check the water temperature sensor lead plug whether virtual connection
	2.Please check whether the water temperature sensor is damaged and replace the water temperature sensor
F29	Water temperature sensor short circuit:
	1.Please check whether the water temperature sensor lead is short
	2.Please check whether the water temperature sensor is damaged and replace the water temperature sensor
F30	No heat sensors detected:
	1.Please check whether the lead plug of the high temperature sensor is virtual connected
	2.Please check if the high temperature sensor is damaged and replace the high temperature sensor
F31	High Temperature sensor short circuit:
	1.Please check whether the lead of the high temperature sensor is short-connected
	2.Please check if the high temperature sensor is damaged and replace the high temperature sensor
F32	Motor not detected:
	1.Please check whether the motor lead plug is dummy connected
	2.Please check whether the motor is out of order and replace the motor
	3.Please check the Motherboard Hall effect sensor for damage and replace the motherboard
	4.Please check the Motherboard Hall effect sensor for damage and replace the motherboard
F33	Short Circuit:
	1.Please check whether the motor leads are short-connected
	2.Please check the motor for damage and replace it

F34	Undetectable pumps:
	1.Please check whether the water pump lead plug virtual connection
	2.Please check the pump for damage and replace it
F35	Water Pump Short Circuit:
	1.Please check whether the water pump lead is short
	2.Please check the pump for damage and replace it
F36	High Temperature sensor overheat:
	1.Please check whether the water pump is working
	2.Whether the water circulation is unimpeded, whether the air is exhausted
	3.Whether the inlet and outlet pipes are connected in reverse
F37	4.Please check if the high temperature sensor is damaged and replace the high temperature sensor
	Switch communication abnormal:
	1.Please check whether the lead plug of the switch box is dummy connected
	2.Please check whether the switch is damaged and replace the switch box
F38	Abnormal communication on Motherboard:
	1.Please check the motherboard communication lead plug whether virtual connection
	2.Please check the motherboard for damage and replace it
F39	Ignition failure:
	1.Please check whether the oil pipeline to the equipment
	2.Cold weather after the low-grade oil wax filter and tubing plug, replace high-grade oil or dredge plug
	3.The oil pump has no oil pressure, the oil does not enter the machine, need to change the oil pump
	4.If the ignition process occurs in the smoke does not burn, may be flooded oil, will pull out the tubing and power on, dry residual oil and then plug in the tubing, the implementation of power on
5.Please check whether the electric spark plug is working properly	
F40	The fire went out:
	1.Please check whether the equipment is short of oil
	2.Please check whether the oil pipe is normal after the oil pump is working
	3.Please check the flame temperature sensor conduction temperature is accurate, whether there is abnormal jump temperature
	4.Please check whether the flame temperature sensor is damaged and replace the flame sensor
5.Cold weather after the low-grade oil wax filter and tubing plug, replace the high-grade oil or dredge plug after the implementation of Boot	

F41	Flame Sensor High Temperature:
	1.Please check whether the temperature of the flame sensor is abnormally jumping
	2.Check if the flame sensor fails to replace the flame sensor