

# **VEVOR<sup>®</sup>**

## **TOUGH TOOLS, HALF PRICE**

Technical Support and E-Warranty Certificate [www.vevor.com/support](http://www.vevor.com/support)

### **DIESEL HEATER**

We continue to be committed to provide you tools with competitive price. "Save Half", "Half Price" or any other similar expressions used by us only represents an estimate of savings you might benefit from buying certain tools with us compared to the major top brands and does not necessarily mean to cover all categories of tools offered by us. You are kindly reminded to verify carefully when you are placing an order with us if you are actually saving half in comparison with the top major brands.

MODEL:CY-5002



MODEL:CY-5004



MODEL:CY-5001








### NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

**Technical Support and E-Warranty Certificate**  
**[www.vevor.com/support](http://www.vevor.com/support)**

This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

Symbol	Symbol Description
	<b>Warning:</b> To reduce the risk of injury, the user must read the instructions manual carefully.
	This symbol, placed before a safety comment, indicates a kind of precaution, warning, or danger. Ignoring this warning may lead to an accident. To reduce the risk of injury, fire, or electrocution, please always follow the recommendations shown below.
	<b>CORRECT DISPOSAL:</b> This product is subject to the provision of European Directive 2012/ 19/EC. The symbol showing a wheeled bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.
	<b>Warning:</b> Toxic material. Take care to avoid coming into contact with toxic material.
	<b>Warning:</b> Flammable material. Take care to avoid causing a fire by igniting flammable material.

## SAFETY INSTRUCTION



### WARNING:



Read all safety warnings, instructions, illustrations, and specifications provided with this diesel heater. Failure to follow all instructions listed below may result in electric shock, fire, and /or serious injury.

- The following measures shall not be adopted
  - Change the important component of the diesel heater.
  - Make use of spare parts from other manufacturers without permission.
  - Disobey the instruction and guide during installation or operation.
- Only allow using original attachment and spare parts during installation and maintenance.
- The heaters shall not be used in places where they may form flammable vapor or dust, for example:

- Fuel depot
- Carbon storehouse
- Timber storehouse
- Granary and similar sites
- Diesel/petrol station

And keep away from fuel tanks, compression tanks, fire extinguishers, clothes, or other flammable objects.

4. Do not use cigarette lighter for startup.
5. Do not use the heater in closed and/or unventilated places.
6. The heaters shall be turned off when filling fuel.
7. Do not cut off the electric power in operation.
8. If the fuel leak or discharge from the fuel system of heaters, please contact VEVOR for repair.
9. Place the exhaust outlet outside to prevent any penetration of exhaust fumes.
10. In the process of work, it is forbidden to cut off the electric power directly to stop the heater from working.
11. Seal all gaps between the mounting plate and the car body.
12. The machine will stop heating after over-temperature protection. Please do not power off. After the machine is naturally cooled and turned off, it can be restarted.
13. After turning off the machine, please do not immediately disconnect the power supply. It takes 3-5 minutes for the machine to stop working completely.
14. After starting the machine for 3-5 minutes, it will work normally and heat up. Please wait patiently.
15. When the heater is just started, the current is relatively high, so an adapter with a voltage of 12V and a current of 15A or greater is required for the power supply.
16. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

#### **17. WARNING: Flammable material**



During installation/use, service, and disposal of the appliance, please pay attention that there should be no flammable substances around the exhaust pipe. The temperature of the exhaust pipe is very high when it is working. Take care to avoid causing a fire by igniting flammable material.

## 18. WARNING: Toxic material

19. During installation/use, service, and disposal of the appliance, please install the appliance with space for ventilation to prevent carbon monoxide poisoning. Place the exhaust outlet outdoors to prevent exhaust gas from seeping in.



## SAVE THESE INSTRUCTIONS

### FCC INFORMATION

**CAUTION:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment!

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This product may cause harmful interference.
- 2) This product must accept any interference received, including interference that may cause undesired operation.

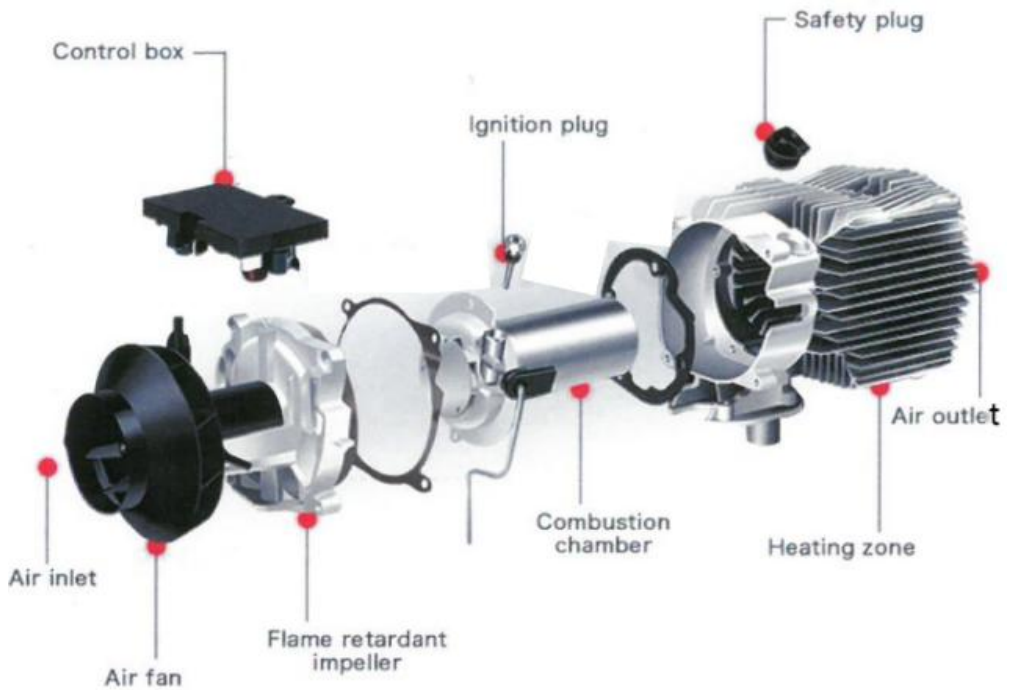
**WARNING:** Changes or modifications to this product are not expressly approved by the party. Responsibility for compliance could void the user's authority to operate the product.

**Note:** This product has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This product generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

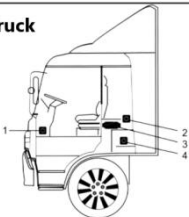
- Reorient or relocate the receiving antenna.
- Increase the distance between the product and the receiver.
- Connect the product to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

## INTERNAL STRUCTURE



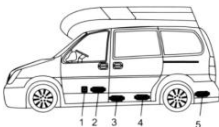
## INSTALLATION POSITION

**Truck**

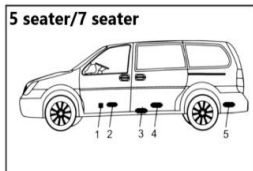


1. On the co-driver's legroom.
2. On the back wall of the cab.
3. Driver's seat backrest.
4. Within the tool box.

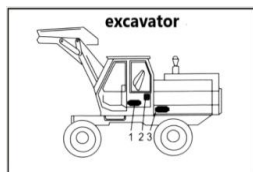
**RV**



1. In front of the passenger seat.
2. Between the driver seat and passenger seat.
3. & 4. Under the container.
4. In the trunk.



The heater is mainly installed in the passenger room or baggage room of the vehicle. If it cannot be installed, fix the heater under the underside of the vehicle, but be ware of splashing.



1. Inside the driver's seat.
2. On the back wall of the cab.
3. Inside the protection box.



**It is recommended to use high-grade diesel fuel when refueling the diesel heater. Other types of fuels, such as kerosene, vegetable oil, gasoline, waste oil, etc., cannot be used. Otherwise, the heater may have an unpleasant odor and malfunction during operation.**

## MODEL

Series Model	CY-5001			
Product Model	CY-18	CY-5 CY-6 CY-7 CY-14 CY-16	CY-13	CY-1 CY-2 CY-9 CY-10
Appearance				
Power ZWH	5KW	5/8KW	8KW	3/5KW
Heating medium	Air	Air	Air	Air
Fuel	Diesel	Diesel	Diesel	Diesel
Ratings	12V/40W	12V/40W	12V/40W	12V40W





## PACKING LIST

Machine fixing screws		1	1	1	1
Oil pipe		1	1	1	1
Liquid crystal switch		/	1	1	1
Liquid crystal switch		1	/	/	/
Remote control		/	1	1	1
Remote control		1	/	/	/
Rotary tuyere		2	1	/	2
Power cord		1	1	1	1
Oil filter		1	1	1	1
Fuel pump sheath with a screw		1	1	1	1
Ribbon		12	12	12	12
Oil pipe clip		12	12	12	12
Fuel tank		1	1	1	1
Oil tank accessories		1	1	1	1
Machine fixing piece		1	1	1	1
Fuel pump		1	1	1	1
User Manual		1	1	1	1
Muffler Accessories		1	1	1	1
Intake pipe		1	1	1	1
Exhaust pipe		1	1	1	1















Blowpipe		2	1	1	2
Silencer with 1fixing piece and 2 screws		1	1	1	1
Blowpipe clamp		4	4	4	4
Clamp		4	2	4	4
Pipe clip		2	2	2	2
Air filter element		1	1	1	1
Nut		6	6	6	6
The screw for the lock catch		6	6	6	6
Oil extractor		/	/	/	/
tee		1	1	/	1

## MODEL




Series Model	CY-5001			
Product Model	CY-11	CY-19	CY-8	CY-16
Appearance				
Power ZWH	8KW	5KW	2KW	5KW
Heating medium	Air	Air	Air	Air
Fuel	Diesel	Diesel	Diesel	Diesel
Ratings	12V/40W	12V/40W	12V/40W	12V40W

## PACKING LIST

Machine fixing screws		1	1	1	1
Oil pipe		1	1	1	1
Liquid crystal switch		/	1	/	1
Liquid crystal switch		/	/	1	/
Liquid crystal switch		1	/	/	/
Remote control		/	1	1	/
Rotary tuyere		2	2	1	1
Power cord		1	1	1	1
Oil filter		1	1	1	1
Fuel pump sheath with a screw		1	1	1	1
Ribbon		12	12	12	12
Oil pipe clip		12	12	12	12
Fuel tank		1	1	1	1
Oil tank accessories		1	1	1	1
Machine fixing piece		1	1	1	1
Fuel pump		1	1	1	1
User Manual		1	1	1	1
Muffler Accessories		1	1	1	1















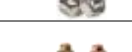


Intake pipe		1	1	1	1
Exhaust pipe		1	1	1	1
Blowpipe		4	2	1	1
Silencer with 1fixing piece and 2 screws		1	1	1	1
Blowpipe clamp		4	4	4	4
Clamp		8	4	2	2
Pipe clip		2	2	2	2
Air filter element		1	1	1	1
Nut		6	6	6	6
The screw for the lock catch		6	6	6	6
Oil extractor		/	1	/	/
tee		1	1	/	1

## MODEL





Series Model	CY-5004		CY-5002
Product Model	CY-24 CY-25 CY-26 CY-27	CY-28 CY-23	CY-36 CY-31
Appearance			
Power ZWH	5/8KW	5KW	5/8KW
Heating medium	Air	Air	Air
Fuel	Diesel	Diesel	Diesel

Ratings	12V/40W	12V/40W	12V/40W
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## PACKING LIST

Liquid crystal switch		/	1	1
Liquid crystal switch		1	/	/
Remote control		1	1	1
Rotary tuyere		1	/	1
User Manual		1	1	1
Muffler Accessories		1	1	1
Intake pipe		1	1	1
Exhaust pipe		1	1	1
Blowpipe		1	2	1
Silencer with 1fixing piece and 2 screws		1	1	1
Blowpipe clamp		4	4	4
Clamp		2	4	2
Pipe clip		2	2	2
Air filter element		1	1	1
Nut		/	/	/
The screw for the lock catch		6	6	6
tee		/	/	/

## MODEL

Series Model	CY-5002			
Product Model	CY-38	CY-35	CY-32	CY-39
Appearance				
Power ZWH	5KW	8KW	5KW	8KW
Heating medium	Air	Air	Air	Air
Fuel	Diesel	Diesel	Diesel	Diesel
Ratings	12V/40W	12V/40W	12V/40W	12V/40W

## PACKING LIST

Liquid crystal switch		1	/	/	/
Liquid crystal switch		/	/	1	1
Liquid crystal switch		/	1	/	/
Remote control		1	/	/	1
Remote control		/	1	/	/
Remote control		/	/	1	/

Rotary tuyere		/	1	1	1
User Manual		1	1	1	1
Muffler Accessories		1	1	1	1
Intake pipe		1	1	1	1
Exhaust pipe		1	1	1	1
Blowpipe		2	1	1	1
Silencer with 1fixing piece and 2 screws		1	1	1	1
Blowpipe clamp		4	4	4	4
Clamp		2	2	2	2
Pipe clip		2	2	2	2
Air filter element		1	1	1	1
The screw for the lock catch		6	6	6	6
Oil extractor		/	/	/	/
tee		/	/	/	/

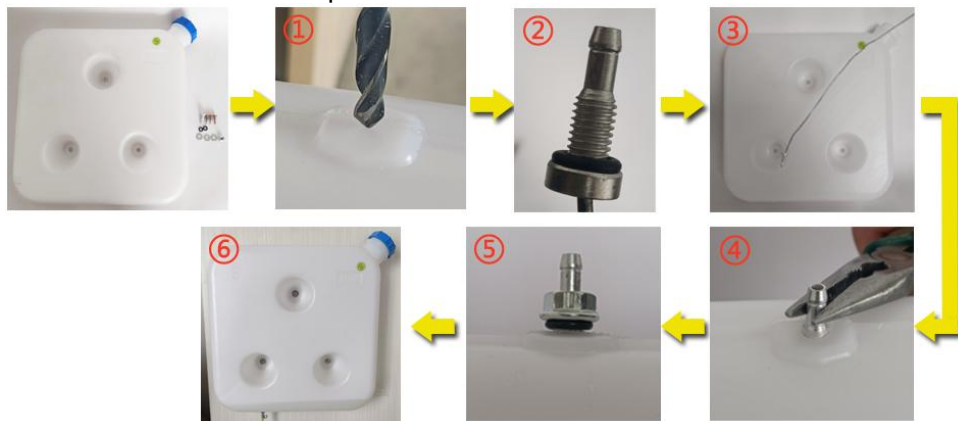
## INSTALLATION OF FUEL TANK AND NOZZLE

### 1. Splitting machine

**Please strictly follow the following diagram to avoid inevitable losses caused by oil leakage during use:**

- ① Drill holes with a 7.5mm drill bit at the protruding position of the fuel tank
- ② Cover the fuel tank nozzle with a gasket
- ③ Fix the fuel tank nozzle with iron wire and thread it into the punching position along the fuel tank opening
- ④ Swivel the pointed pliers to remove the fuel tank nozzle
- ⑤ Insert washers and nuts for locking

⑥The three installation holes of the fuel tank are fixed with bolts and washers, and the installation is completed



Fuel Tank Installation Diagram

Refer to the installation diagram below and carefully read the precautions when installing or using:

### 1. No Side Installation:

※ Side installation of the diesel heater will result in oil leaks inside the machine after a period of use, producing a large amount of smoke and carbon monoxide poisoning. During installation, leave a space of 10cm around the heater to ensure good ventilation.

※ If installing the heater inside a building:

① With the heater placed indoors: Make holes in the wall for the exhaust pipe to be placed outdoors. Pay attention to insulating the exhaust pipe as it can become very hot and could cause a fire.

② With the heater placed outdoors: It's necessary to extend the exhaust pipe to avoid the exhaust from being sucked into the building from the back fan position of the heater, which can lead to carbon monoxide poisoning.



## Incorrect Installation Direction

## Correct Installation Direction

※ If installing the heater inside a building: ① With the heater placed indoors: Make holes in the wall for the exhaust pipe to be placed outdoors. Pay attention to insulating the exhaust pipe as it can become very hot and could cause a fire. ② With the heater placed outdoors: It's necessary to extend the exhaust pipe to avoid the exhaust from being sucked into the building from the back fan position of the heater, which can lead to carbon monoxide poisoning.



Indoor installation  
(wooden floor exhaust pipes need to be protected)

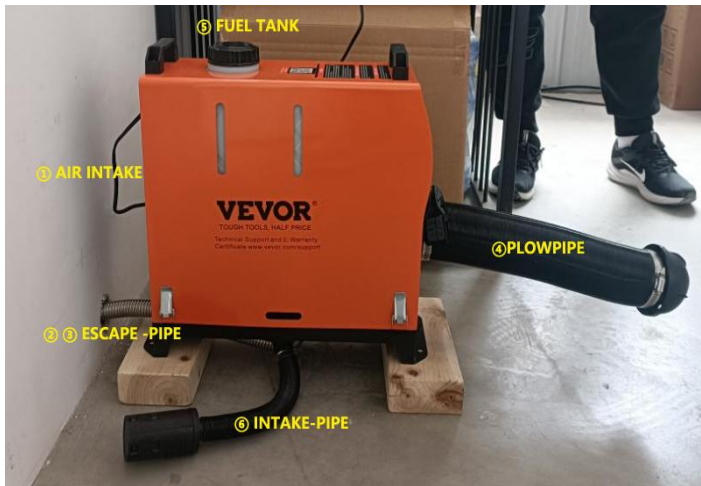


Outdoor installation diagram

### ※ Installation position and precautions

- ① Reserve a 4-inch gap between the air inlet for unobstructed air intake
- ② Keep the bottom exhaust pipe at a distance of 2 inches from the ground, and prevent fires if the exhaust pipe temperature is high;
- ③ Do not bend the exhaust pipe excessively, as it may cause uneven exhaust flow;
- ④ The air outlet duct is not easily too long and multiple bends can cause heat to be unable to be discharged, resulting in a high temperature fault;
- ⑤ When refueling the fuel tank, do not flow onto the casing, as it will flow along the inside of the machine to the exhaust pipe position, causing smoke. Fill the oil level close to the fuel tank port;
- ⑥ Do not block the intake pipe, which will cause insufficient oxygen and the heater will not work;





Installation location precautions - schematic diagram

## 2. Precautions for the power supply:

※ The power supply for the diesel heater must meet the following requirements:  
Voltage: 12V; Current:  $\geq 20A$ , either from a direct power source or a battery. When powered by a battery, do not charge the battery while using the heater as insufficient current can cause malfunction. Ensure a firm and secure connection to the battery. Using clamps for fixation can result in poor contact.



1. Do not use the heater when charging the battery
2. The current is low and it does not work

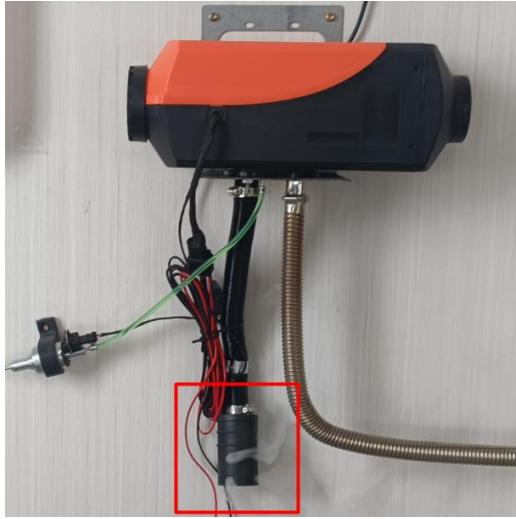
Suggest using energy storage power, batteries, and adapters for power supply

※When extending the power cable for the diesel heater, the wire diameter should be  $>2\text{mm}^2$ . Using a thin wire can lead to insufficient current, causing the heater not to work. After connecting, use insulating tape to protect the connection and prevent electrical leakage, which might lead to fires.



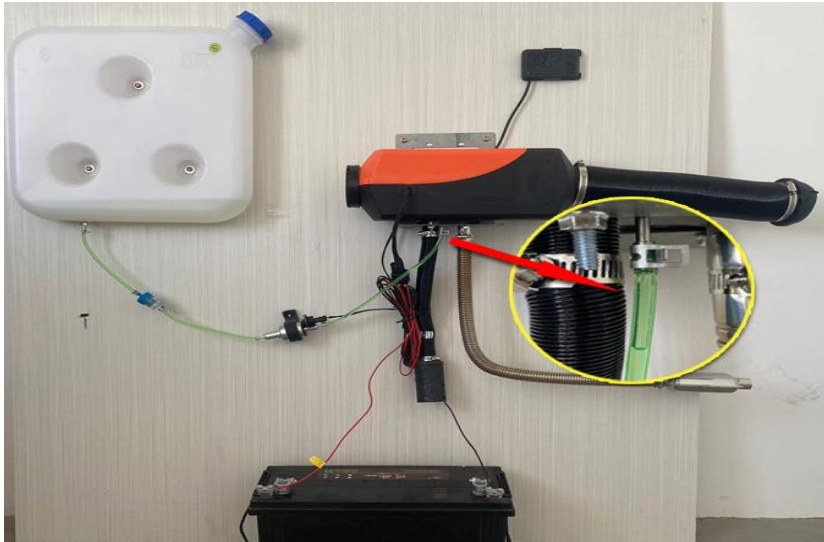
※Do not disconnect the power when the diesel heater is operating at high temperatures. This can cause backfire due to high temperatures. Repeatedly doing so can cause permanent damage. Solutions:

- If power is cut and you immediately turn on the heater: Wait until the internal heat of the heater has completely dissipated before turning it on for normal operation.
- If the heater is turned on a long time after a power cut: Incomplete combustion inside may produce a large amount of smoke. Wait for the smoke to clear, and the heater will automatically start and operate normally.



Abnormal power outage and smoke coming from the intake pipe  
**3. After the heater is installed, you need to manually pump oil before turning it on:**

※ The fuel line of the heater is long. Before initially starting the heater, manually pump oil up to the fuel inlet. Otherwise, when turned on, the heater will take over 30 minutes to detect the fuel (during this time, it will continuously check for the fuel signal). Once the ignition plug detects the fuel, it will ignite and heat. Refer to the LCD switch user guide for detailed instructions on manual fuel pumping.



The first work requires manual pumping of oil to the position shown in the diagram and starting up

※ When manually pumping fuel, pump just up to the fuel inlet. Over-pumping can result in the heater emitting a large amount of white smoke. Quick solution: Detach the fuel line, turn on the heater and let it stop naturally, then restart it. Repeat this process until no smoke is emitted. Reconnect the fuel line and turn the heater on to resume normal operation.

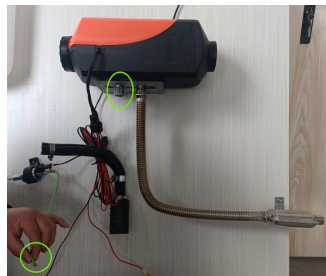
※ After starting the diesel heater, continuously blow air into the air pipe using an air pump or a high-speed blower until the heater starts and functions normally. If white smoke appears after operating for a period: This indicates that the atomizing net is clogged. Remove the ignition plug, take out the atomizing net, clean its surface or replace it with a new one.



Excessive pump oil produces white smoke



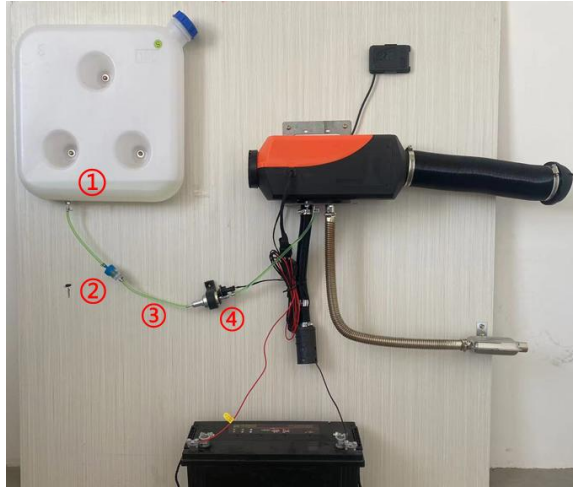
Blow the air gun towards the intake pipe to assist combustion



Remove the oil pipe and insert it after it is normal

※ Oil circuit fault, such as E4/E8/E10 fault code, indicates that there is no oil heater or heat in the machine. The following steps need to be followed for troubleshooting:

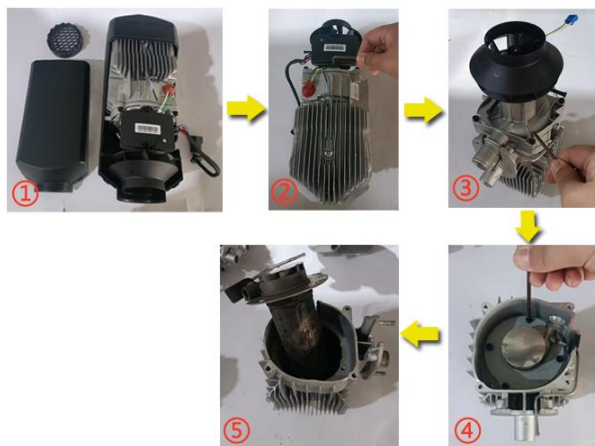
- ① Is there a shortage of oil in the fuel tank;
- ② Whether the oil filter is blocked;
- ③ Is there any bending of the oil pipe that cannot accommodate oil;
- ④ Is the oil pump not working;



Inspection diagram

※ **Maintenance:** If black smoke is found during the operation of the heater for a period of time or the second year of use, it indicates that there is carbon accumulation in the combustion chamber that needs to be cleaned in a timely manner. The operation method is as follows:

- ① Remove the outer shell;
- ② Remove the motherboard bolts with an Allen wrench;
- ③ Remove the four bolts of the fan assembly with an Allen wrench;
- ④ Remove the four bolts of the combustion chamber with an Allen wrench;
- ⑤ Remove the combustion chamber and replace it with a new recovery heater;



Schematic diagram of combustion chamber replacement

### Cautions for Diesel Heater Power Supply:

※ Diesel heater power supply requirements: Voltage: 12V; Current:  $\geq 20A$ ;  
 Use either a power source or a battery. (Avoid charging the battery while supplying power to the heater, as low current may lead to malfunctions. Ensure a secure battery connection without using clamps to prevent poor contact. Using the car's cigarette lighter as a power source is not recommended due to insufficient current.)



Fixing the battery clamp can easily cause poor contact

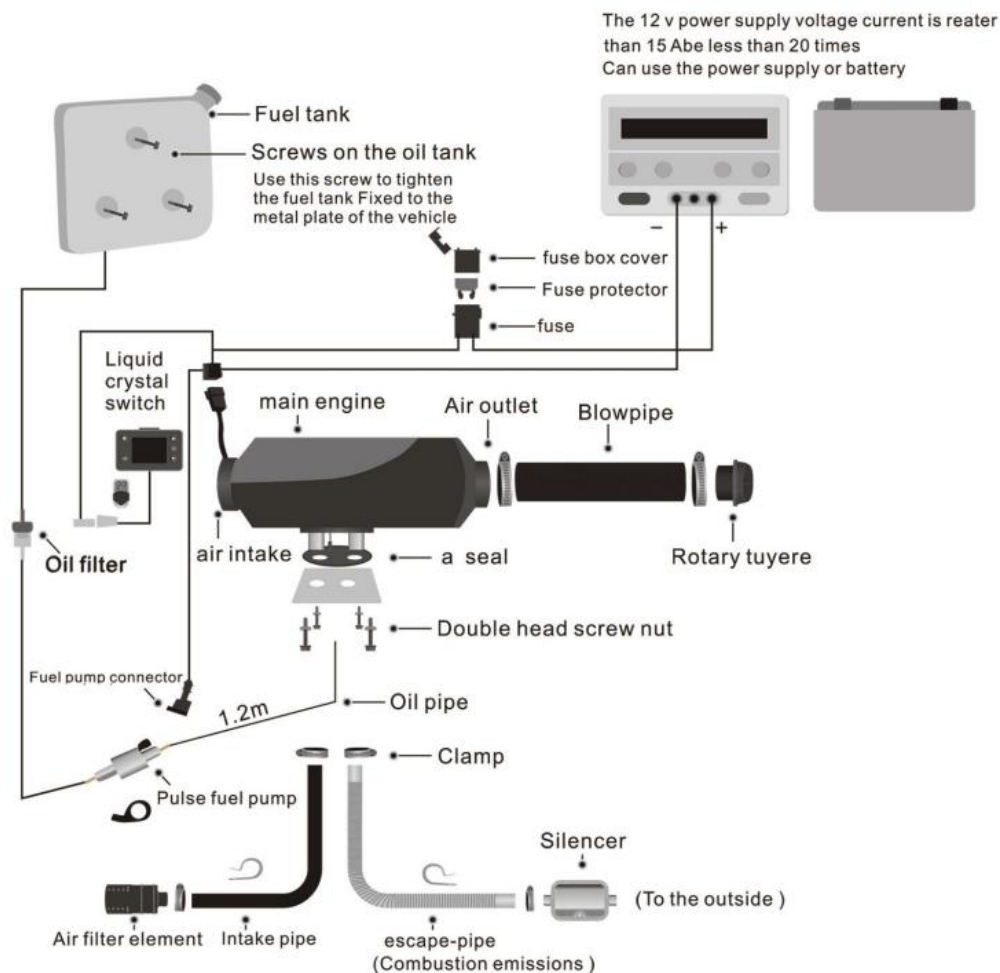


Cigarette lighter current low does not work

CY-5001:

(CY-1,CY-2,CY-3,CY-4,CY-5,CY-6,CY-7,CY-8,CY-9,CY-10,CY-11,CY-12,CY-13,CY-14,CY-15,CY-16,CY-17,CY-18,CY-19,CY-20,CY-21,CY-22)

(Split type)



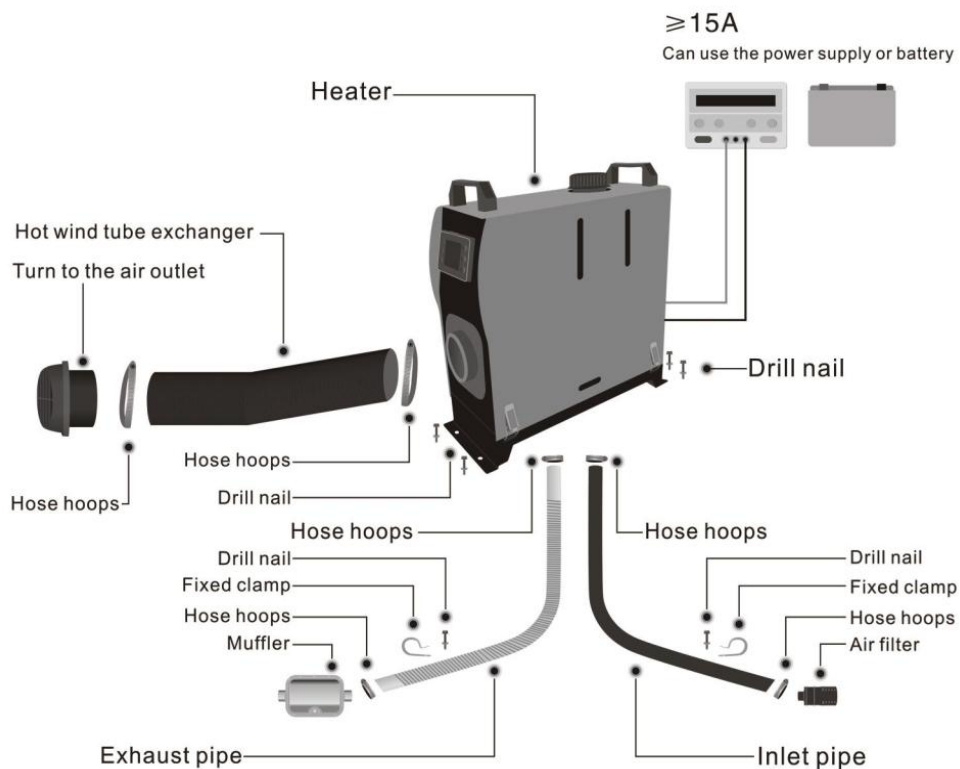
During installation, the oil tank should be properly placed above the main engine to facilitate the operation of the fuel pump.



CY-5002:

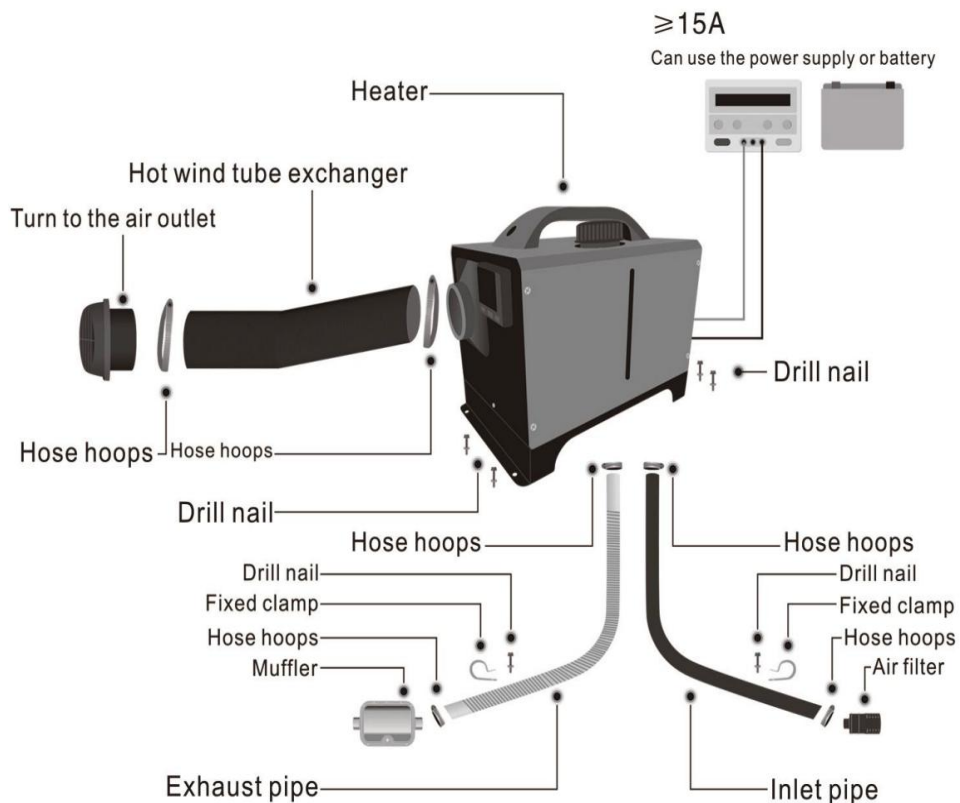
(CY-30,CY-31,CY-32,CY-33,CY-34,CY-35,CY-36,CY-37,CY-38,CY-39)

(Vertical type)

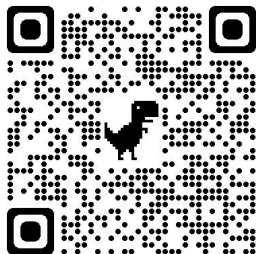




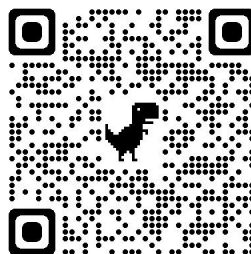
**CY-5004:**  
**(CY-23,CY-24,CY-25,CY-26,CY-27,CY-28,CY-29)**  
**(Horizontal type)**



**For specific installation, please scan the QR code to view the installation video**



CY-5001video QR code

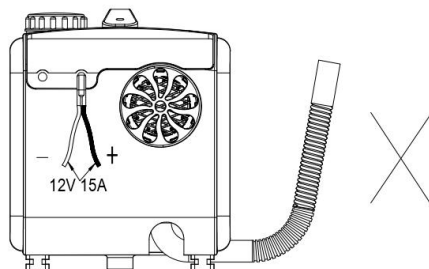
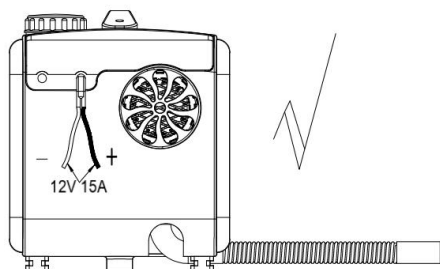


CY-5002/CY-5004 video QR code



## Warning:

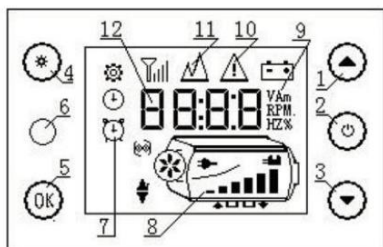
1. The air inlet shall not be blocked, and keep the inlet open and clear.
2. Keep the exhaust pipe clear. The exhaust pipe outlet shall be kept away from anything flammable, and avoid heating and igniting the flammable goods and loading cargo on the ground.
3. To ensure optimal combustion, please remember that the smoke exhaust pipe cannot be placed upward, but must be placed horizontally or downward.



## REMOTE CONTROL OPERATION INSTRUCTIONS

### Panel operation instructions

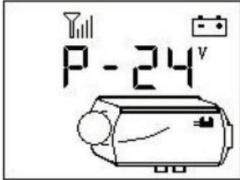
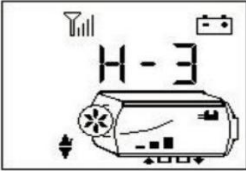
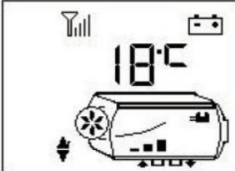
#### 1. The control panel is shown in the following figure



1. Adding keys;
2. On/Off button;
3. Subtraction key;
4. Set key;
5. OK key;
6. Infrared receiver head;
7. State symbols;
8. Host schematic diagram;
9. Data unit;
10. Fault symbols;
11. Plateau symbol;
12. Display data and parameters;

## 2. Usage operation

### 1. On/off Operation

		
Power off status	Power on status (manual mode)	Power on status (automatic mode)

#### 1) Power on operation

In the shutdown state, press and hold the "o" button for 2 seconds to turn on the device, and the display will show "Power on status" as shown in the above picture.

#### 2) Shutdown operation

In the power on state, long press the "o" button for 2 seconds, and the device enters the shutdown and cooling process, displaying "OFF". After the device cools down, it shuts down and displays the "shutdown status" as shown in the above picture. Do not force power off when displaying "OFF". Power off may damage accessories due to high temperature inside the machine and inability to dissipate heat! Wait until the machine is displayed in the shutdown state before powering off!.

#### 3) Manual mode operation

The manual mode consists of 6 gears (H1-H6). H6 represents the maximum power, as shown in the "power on state" in the figure above. Use the "▲" or "▼" key to increase/decrease the gear.

#### 4) Automatic mode operation

Automatic mode, as shown in the above figure, with a setting of 20 °C. Use the "▲" or "▼" keys to increase or decrease the temperature value, and set the range to 5-30 °C. Long press the "☀" button for 2 seconds to switch between manual/automatic modes.

### 1. Switching to display data on startup

Short press the "OK" button to switch between displaying data in the following order:

Power on status: gear(or set temperature)->shell temperature ->working voltage ->ambient temperature ->scheduled power on time ->scheduled shutdown time.

Shutdown status: working voltage ->ambient temperature ->timed startup time ->timed shutdown time.


### 2. Temperature unit switching

Simultaneously press and hold the "o"+"▲" keys for 2 seconds to switch the temperature unit to "Fahrenheit/Celsius".



### 3. Manual oiling operation

In the shutdown state, press the "▲" or "▼" button simultaneously for 2 seconds to manually control the oil pump to pump oil. Release the button and stop pumping oil. Please use with caution!

### 4. Plateau mode operation

Simultaneously press and hold the "☀"+"▲" keys for 2 seconds to enter high-altitude mode. The icon  displays the start of high-altitude mode. In high-altitude mode, the wind oil ratio decreases to adapt to high-altitude hypoxia, and then press and hold the "☀"+"OK" keys for 2 seconds to exit high-altitude mode. Please use with caution!


### 5. Time on/off time operation

When the timer function is not enabled, press and hold the "OK"+"▼" keys for 2 seconds to enter the timer setting interface, and the indicator symbol "☀"  will be displayed. Display  to set the shutdown time and not to set the startup time.




1) Press the "▲" or "▼" key to adjust the time value. The time adjustment range is from 00:00 to 23:59

2) Press the "o" key to switch and adjust the number position, and the corresponding number will flash.

3) Press the "OK" button or operate without a button for 15 seconds to save the set value. If you are setting the startup time, switch to the shutdown time setting, and then turn on the timer function.  If it stays on, exit this interface.

4) Press the "☀" key to not save the set value. If you are setting the startup time, switch to the shutdown time setting. Otherwise, exit this interface. If set to 00:00, it means that the corresponding timing function is disabled.

5) When the timer function is running, press and hold the "OK"+"▼" keys for 2 seconds to turn off the timer function, and the  symbol will turn off.

After activating the timer function, the clock will automatically start up when it reaches the scheduled startup time; Automatically shut down when the scheduled shutdown time is reached. When the panel is powered off, the timer function status will be saved, and after power on, the timer function status will be restored.

If the timer function is not manually turned off, as long as the clock reaches the scheduled on/off time, the device will automatically turn on/off.

## 6. Clock synchronization operation

Press and hold the "OK" button for 2 seconds to enter the clock adjustment interface, and the indicator symbol ☀🕒 will be displayed.

- 1) Press the "▲" or "▼" key to adjust the time value. The time adjustment range is from 00:00 to 23:59
- 2) Press the "o" key to switch and adjust the number position, and the corresponding number will flash.
- 3) After adjusting the time, press the "OK" button or operate without a button for 15 seconds to exit this interface.

## 7. Remote control matching operation

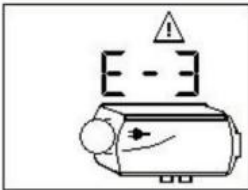
In the shutdown state, press and hold the "o" keys simultaneously to enter the remote control matching interface, as shown in the following figure.

HFA I

- 1) Press the "▲" or "▼" key to adjust the fourth digit value to the remote control number, with a value range of 1-4, corresponding to four remote controls.
- 2) Select the remote control number, press any key on the remote control, the machine will successfully match the code and exit the match status.
- 3) Press the "o" key to exit the remote code pairing.

## 8. Fault alarm

As shown in the figure below, the corresponding fault symbol flashes, and the corresponding faulty component icon flashes. The displayed data is the fault code, and its meaning can be found in the fault table.



\*Spark plugs, oil pumps, fans, sensors, power supplies, and other symbols flash to indicate that the corresponding components have malfunctioned.

## Instructions for use

1. It is prohibited to use in environments with high humidity, conductive dust, flammable and explosive gases, dust, materials, corrosive media, strong light exposure, and strong magnetic, high-voltage, and high current equipment in the vicinity.

2.Power supply voltage range: DC24V controller applicable(18-32)V; DC12Vcontroller is suitable for(9-16)V; Different voltage controllers are not interchangeable and are prohibited from exceeding the applicable voltage range.

3.The 5kW controller can only be used on a 5kW engine body; The 2kW controller can only be used on a 2kW engine.

4. If the controller or external components are damaged, the same model and parameter components must be selected and replaced by professional personnel.

5. Do not open the controller shell without permission.

6.The equipment must be installed strictly according to requirements and used under safe conditions.

7.Our company is not responsible for any losses or damages caused by incorrect connections, short circuits, or damages to external components or circuits in the controller.

8. When the body is hot and the fan cannot operate normally, it is necessary to quickly cool down the body, Blow cold air into the combustion intake hole to cool down and lower the body temperature below 80 °C .Prevent high-temperature damage to components or fire.

9. When heating the equipment, it is necessary to ensure that each air duct is unobstructed and that the pipeline is free of bends, pressures, and blockages in order to effectively ensure the heating efficiency and normal operation of the equipment. Blocked channels can cause high temperatures in the body, reduce heating efficiency, shorten equipment lifespan, or damage equipment. The use of qualified fuel is essential to ensure the normal use and lifespan of the equipment.

\*We are not responsible for any losses or liabilities caused by failure to install and use according to the above provisions.

\*The ignition point of cotton and sponge is 150°C, the ignition point of paper is 130 C, the ignition point of cloth is 270 °C, and the ignition point of diesel is 220 °C, The hot air outlet can be higher than 150 °C, and the exhaust temperature of waste pipes can be higher than 270°C.

**Fault table**

Fault code	Cause of malfunction	treatment
E-2	Power supply voltage range	Normal range:24V(18-32V), 12V(9-16V)Check if the battery or generator is functioning properly,and check if the fuse is aging

E-3	Ignition plug malfunction	1) Check if the ignition plug connection plug is loose or if the wire is short circuited to the casing 2) Check if the ignition plug is damaged
E-4	Oil pump malfunction	Check if the oil pump connection wires and connectors are damaged, loose, oxidized, short circuited, or disconnected.
E-5	High temperature alarm (inlet air > 50°C; casing > 230°C)	1) Check if the heating air duct is unobstructed 2) Check if the fan is running normally 3) Check if the temperature sensor is functioning properly
E-6	Fan Failure	1) Check if the impeller is stuck 2) Check if the connecting plug is loose 3) The gap between the magnet on the wind turbine and the Hall sensor on the controller is too large 4) Whether the circuit is short circuited or open circuited; Motor leakage
E-7	Communication Failure	Detecting wiring harnesses
E-8	Turn off the engine	1) Check for oil shortage, low temperature solidification of oil, blocked oil circuit, and stuck oil pump 2) Check if the oxygen intake and exhaust ducts are unobstructed 3) Check if the casing temperature sensor is in full contact with the casing and if the pressure spring is strong.
E-9	Sensor fault	Is the temperature sensor connection wire and connector damaged or loose, and is the sensor damaged
E-10	Unsuccessful startup	1) The temperature of the casing is too high, and it failed to cool the casing after starting for 3 minutes 2) There is a large amount of white smoke in the exhaust gas 2.1) Check if the filter screen next to the ignition plug is clean. If it is not clean, clean or replace it 2.2) Check if the oil pump sprays oil forcefully

		<p>2.3)Check if the ignition plug is aging</p> <p>3)There is a small amount of white smoke or no smoke in the exhaust gas</p> <p>3.1)Check for oil shortage, frozen or blocked oil circuits</p> <p>3.2)Check if the oil pump is stuck or damaged, and if the oil pump is not functioning properly</p> <p>3.3)Check if the combustion intake and exhaust channels are unobstructed</p> <p>3.4)Check if the ignition plug is damaged</p> <p>3.5)Is the clearance between the inner wind turbine too large</p> <p>4)Ignite normally but still report ignition failure fault</p> <p>Check if the casing temperature sensor is in full contact with the casing, if the pressure spring is strong, and if the sensor is functioning properly</p>
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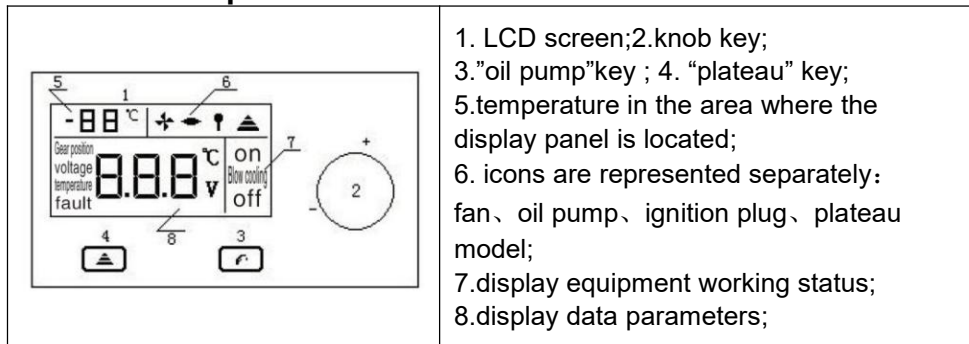
## Code of use

- 1 .It is prohibited to use in high humidity, conductive dust, flammable and explosive gases, dust, materials, corrosive media, strong light, strong magnetic, high voltage and high current equipment nearby.
  3. Voltage range of power supply: DC24V controller is suitable for (18-32)V;DC12V controller is suitable for (9-16) V, different voltage controllers are not universal, and it is forbidden to use beyond the applicable voltage range.
  - 3.The 5KW controller must be used on the 5KW organism, the 2KW controller must be used on the 2KW organism.
  - 4.If the controller or external device is damaged, it must be replaced by the prototype device and professionals.
  - 5.It is forbidden to open the controller shell privately
  - 6.Equipment must be installed strictly and must be used under safe conditions.
  - 7.The company is not responsible for the loss and liability of the controller due to the misconnection short circuit and damage of the external devices and lines.
  - 8.At the high temperature of the body, the fan can not operate, so it must be cooled quickly for the body to make its temperature. Cooling air is injected from the combustion inlet to make the body temperature less than 100 °C . Prevent high temperature from burning parts or causing fire.
- \*Our company is not responsible for any loss or liability caused by the failure to install and use according to Article 1 to 6.



## Operation instructions for parking heater

### 1. The control panel is shown below



### 2. Use operation

#### 1. work Operation

shutdown status	Boot mode	cooling status

#### 1) on/off operation

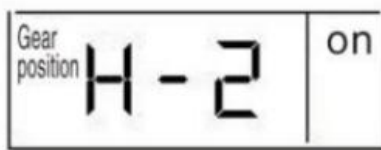
In shutdown state, long press "knob button" for two seconds, the device boots.

On-state, long press "knob button" for two seconds, equipment enters "blown-cold state" of shutdown process, display "OFF"

At this time, as a blower, do not force power off, direct power failure can damage parts because the body temperature is too high to dissipate heat, only when the machine is shown to be shut down can the power be cutoff!



#### Automatic catch





#### manual transmission



#### 2) Manual mode operation

Manual mode has six gears (H1-H6) h6 represents maximum power, as shown above, on-state, switch gears by knob key, clockwise clocks are overshifting operations, whereas downshifting operations are.

### 3)automatic mode operation

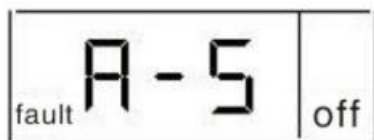
automatic mode as shown above, A20 represents a constant temperature of 20 degrees. On-state, long press “” two seconds, enter automatic gear and adjust temperature, if there is a temperature on the left side, the control temperature can be adjusted by rotating the knob key. short press “” to exit to adjust temperature.

\*Symbols are always bright to indicate the operation of corresponding devices, its symbols represent the following meanings


✱ : fan;  : oil pump;  : ignition plug

### 4)The fault alarm display is as follows.




If the corresponding symbol of the device fault flickers, the third bit is shown as the fault code. Please refer to the fault table for its meaning.



### 2、 manual oiling operation



In shutdown state, after long press “” key two seconds, manual control of pumping, stop oiling after releasing the key. please use cautiously!

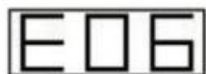
### 3、 plateau model operation

Long press “” key 2 seconds into plateau mode, “” Display Start Plateau Mode. In the plateau mode, the ratio of wind to oil is reduced to adapt to the plateau hypoxia, and then long press the “” key two seconds to exit the plateau mode.

please use cautiously!

### 4、 Timing operation





In the stop state, after pressing the “” and “” for two seconds, enter the timing settings, as shown below.



**Timing boot**



**timing shutdown**

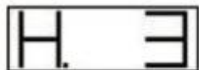
- 1) press the “” switch timing boot or regular shutdown setting.
- 2) press “” or “” key to adjust values
- 3) according to the "on/off" button to save Settings, and exit timing Settings.
- 4) press the “” exit timing setting does not save the Settings.

\* Unit is hour, maximum setting time is 24 hours. "E06" means a delay of 6 hours and "C03" means a delay of 3 hours.

5) In the state of shutdown, At the same time, press

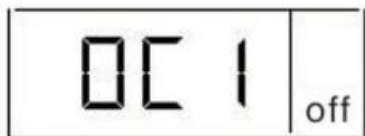
the "▲" and "◻" button two seconds for a long time to start the machine at a regular time. In the working state, press the "▲" and "◻" button two seconds for a long time at the same time, start and shut down at a fixed time, the first decimal flicker after start, as shown in the following figure.

Timely start-up status, long press "▲" and "◻" button two seconds, close the timing; short press "◻" button, show the remaining time.



## 5、Remote control code-matching operation

In the shutdown state, after pressing "◻" and "knob button" for 2 seconds, enter the remote control code as follows.



1) Rotating the "knob key" to adjust the third digit value to the number of the remote controller, the numerical range is 1-5, corresponding to five remote controllers.

2) Select the number of the remote control, press one key of the remote control at will, and the machine successfully checks the code and exits the checking state.

3) Press the "Knob Press" button to exit the remote control code.

\*Requirements for remote control: frequency band 433MHZ, 24 bits code. The remote control function is an optional function. Please specify the order.

## Fault table

Fault code	Cause of failure	solutions
2	Power supply voltage range	Normal range:24V(18-32V), 12V(9-16V) Check whether the battery or generator is normal
3	Oil pump Failure	Check for damage, loosening of oil pump connections and connectors
4	Ignition plug Failure	Check whether the ignition plug connector is loose

5	Failure of Fan	1)Check whether the impeller is stuck 2)Check if the connecting plug-in is loose
6	Sensor failure	Whether the temperature sensor connectors and connectors are damaged or loosened, whether the sensor is damaged or not
7	Unsuccessful startup	1) The shell temperature is too high to blow the cooling shell for 3 minutes after starting. 2) There is a lot of white smoke in the exhaust gas 2.1) Check whether the fan is working properly 2.2)Check whether the filter beside the ignition plug is clean, not clean or replaced. 2.3) Check whether the intake and exhaust passages of combustion are unobstructed 2.4) Check whether the ignition plug is aging 3)A small amount of white smoke or no smoke in the exhaust gas 3.1) Check for oil shortage, frozen oil pipeline, and blocked oil pump. 3.2) Check whether the ignition plug is damaged 3.3) Check whether the housing temperature sensor installation is loose
8	High temperature alarm (intake>50℃; casing>200℃)	1) Check whether the heating duct is unobstructed 2)Check whether the fan is working properly
9	Flameout alarm	1)Check for oil shortage, frozen oil pipeline, oil pump jam 2)Check whether the fan is working properly

## Code of use

- 1.It is forbidden to use in excessive humidity, conductive dust, corrosive medium, strong light, strong magnetism, high voltage, high current and other environments.
- 2.Voltage range of power supply: 24V controller is suitable for (18-32)V;12V controller is suitable for (9-16) V; different voltage controllers are not universal, and it is forbidden to use beyond the applicable voltage range.
- 3.The 5KW controller must be used on the 5KW organism, the 2KW controller must be used on the 2KW organism.
- 4.If the controller or external device is damaged, it must be replaced by the prototype device and professionals.
- 5.It is forbidden to open the controller shell privately

- 6.Equipment must be installed strictly and must be used under safe conditions.
- 7.The company is not responsible for the loss and liability of the controller due to the misconnection short circuit and damage of the external devices and lines.
- \*Our company is not responsible for any loss or liability caused by the failure to install and use according to Article 1 to 6.

Operating instructions for parking heater

1. The control panel is shown in the following figure

1. Indicator

Power symbol; 
 Fan symbol; 
 Temperature sensor symbol; 
 Oil pump symbol; 
 Communication symbol; 
 Igniter plug symbol; 
 Wireless symbol; 
 Set symbol; 
 Clock symbol; 
 Timing symbol; 
 Plateau symbol;

2. Display ambient temperature;

3. Unit symbol ;

4. Display data and parameters;

5.Key;

Keying; 
 ON/OFF; 
 Subtractive key;

2. Use operation

1. On/off Operation

shutdown status	Power on status (manual mode)	Power on status (automatic mode)

1)Power on operation

In the shutdown state, press and hold the "o" button for 3 seconds to turn on the device, and the display will show "Startup status" as shown in the above picture.

## 2) Shutdown operation

In the power on state, long press the "o" button for 3 seconds, and the device enters the shutdown and cooling process, displaying "OFF". After the device cools down, it shuts down and displays the "shutdown status" as shown in the above picture. Do not force power off when cooling the machine body. Direct power off may damage components due to high body temperature and inability to dissipate heat! Wait until the machine is displayed in the shutdown state before powering off!

## 3) Manual mode operation

There are a total of 6 gears (H1-H6). H6 represents the maximum power, as shown in the figure "power on state(manual mode)", Use the "◀" or "▶" key to increase or decrease the gears.

## 4) Automatic mode operation

Automatic mode, as shown in the above figure, "power on state(automatic mode)" indicates setting 18 °C. Use the "◀" or "▶" keys to increase or decrease the temperature value, set the range to 5-35°C, and switch between manual/automatic modes by pressing the "◀" + "o" keys while in the startup state.

## 2. Switching to display data on startup

Short press the "o" key to switch between displaying data in the following order: In the startup state: gear(or set temperature)->working voltage->casing temperature->time startup time ->time shutdown time.

In shutdown mode: working voltage->time startup time ->time shutdown time.

## 3. Manual pump oil operation


In the shutdown state, press the "o"+"▶" keys simultaneously to enter the manual oil pumping mode, display HoF, then press the "◀" key again, display HoN, and start oiling. Press the "▶" button or no button for 3 minutes to exit the manual oil pumping mode and stop pumping.

This function is for the convenience of oil-free use in the oil circuit, please use it with caution!

## 4. Temperature unit switching operation

In power on state, press the "o"+"▶" keys simultaneously to switch between Fahrenheit/Celsius temperature units.

## 5. Plateau mode operation


At the same time, press the "◀" or "▶" keys to enter high-altitude mode. and the icon  displays the activation of high-altitude mode. In high-altitude mode, the wind oil ratio decreases to adapt to high-altitude hypoxia, Press the "◀" or "▶" keys simultaneously to exit plateau mode.

## 6. Time on/off time operation

Press and hold the "◀" keys for 2 seconds to enter the timing interface, and the



will light up.  indicates that the time can be set.

Displaying  indicates a scheduled shutdown, and vice versa indicates a scheduled startup.


10:00

1) Press the "◀" or "▶" key to adjust the time value. With a time adjustment range of 00:00 to 23:59

2) Short press the "o" key to switch and adjust the number position.

3) Long press the "o" button for 2 seconds to save the set value. If the scheduled startup time is set, it will enter the scheduled shutdown time setting. Otherwise exit

the time setting, turn on the timer, and the  will remain on.


4) If there is no button operation for 15 seconds, save the current set value, exit the time setting, turn on timing, and the  will remain on.

If set to 00:00, it means that the corresponding timing function is disabled.

When the timer function is turned on, press and hold the "◀" button for 2

seconds to turn off the timer function and turn off .

## 7. Clock synchronization operation

In the shutdown state, press the "o"+"◀" keys simultaneously to enter the clock adjustment interface, and the indicator symbol  will be displayed. Power on the switch to directly enter the clock adjustment interface.

1) Press the "▲" or "▼" key to adjust the time value. The time adjustment range is from 00:00 to 23:59

2) Press the "o" key to switch and adjust the number position, and the corresponding number will flash.

3) Press and hold the "o" button for 2 seconds, or operate without a button for 15 seconds, save the setting and exit this interface.

## 8. Remote control matching operation

In the shutdown state, press and hold the "▶" button for 2 seconds to display

HFA1.

1) Press the "◀" or "▶" key to adjust the fourth digit value to the remote control number, with a value range of 1-4, corresponding to four remote controls.

2) Select the remote control number, press any key on the remote control, the machine will successfully match the code and exit the match status.

3) Press the "o" key to exit the remote code pairing.

\*Remote control requirements: frequency band 433MHz, 24 bit code. The remote control function is an optional feature. please specify when ordering.

## 9. Fault alarm



As shown in the figure, the displayed data is a fault code. Please refer to the fault table for its meaning, and the corresponding faulty component icon will flash.

## Instructions for use

1. It is prohibited to use in environments with high humidity, conductive dust, flammable and explosive gases, dust, materials, corrosive media, strong light exposure, and strong magnetic, high-voltage, and high current equipment in the vicinity.

2. Power supply voltage range: DC24V controller applicable (18-32)V; DC12V controller is suitable for (9-16)V; Different voltage controllers are not interchangeable and are prohibited from exceeding the applicable voltage range.

3. The 5kW controller can only be used on a 5kW engine body; The 2kW controller can only be used on a 2kW engine.

4. If the controller or external components are damaged, the same model and parameter components must be selected and replaced by professional personnel.

5. Do not open the controller shell without permission.

6. The equipment must be installed strictly according to requirements and used under safe conditions.

7. Our company is not responsible for any losses or damages caused by incorrect connections, short circuits, or damages to external components or circuits in the controller.

8. When the body is hot and the fan cannot operate normally, it is necessary to quickly cool down the body. Blow cold air into the combustion intake hole to cool down and lower the body temperature below 80 °C. Prevent high-temperature damage to components or fire.

9. When heating the equipment, it is necessary to ensure that each air duct is unobstructed and that the pipeline is free of bends, pressures, and blockages in order to effectively ensure the heating efficiency and normal operation of the equipment. Blocked channels can cause high temperatures in the body, reduce heating efficiency, shorten equipment lifespan, or damage equipment. The use of qualified fuel is essential to ensure the normal use and lifespan of the equipment.

\*We are not responsible for any losses or liabilities caused by failure to install and use according to the above provisions.

\*The ignition point of cotton and sponge is 150 °C, the ignition point of paper is 130 °C, the ignition point of cloth is 270 °C, and the ignition point of diesel is



220 °C , The hot air outlet can be higher than 150 °C , and the exhaust temperature of waste pipes can be higher than 270 °C.

**Fault table**

Fault code	Cause of malfunction	treatment
E-2	Power supply voltage range	Normal range:24V(18-32V), 12V(9-16V)Check if the battery or generator is functioning properly,and check if the fuse is aging
E-3	Ignition plug malfunction	1) Check if the ignition plug connection plug is loose or if the wire is short circuited to the casing 2) Check if the ignition plug is damaged
E-4	Oil pump malfunction	Check if the oil pump connection wires and connectors are damaged, loose,oxidized,short circuited,or disconnected.
E-5	High temperature alarm (inlet air>50°C ; casing>230°C)	1) Check if the heating air duct is unobstructed 2) Check if the fan is running normally 3) Check if the temperature sensor is functioning properly
E-6	Fan Failure	1)Check if the impeller is stuck 2)Check if the connecting plug is loose 3) The gap between the magnet on the wind turbine and the Hall sensor on the controller is too large 4)Whether the circuit is short circuited or open circuited; Motor leakage
E-7	Communication Failure	Detecting wiring harnesses
E-8	Turn off the engine	1) Check for oil shortage,low temperature solidification of oil, blocked oil circuit, and stuck oil pump 2) Check if the oxygen intake and exhaust ducts are unobstructed 3) Check if the casing temperature sensor is in full contact with the casing and if the pressure spring is strong.

E-9	Sensor fault	Is the temperature sensor connection wire and connector damaged or loose, and is the sensor damaged
E-10	Unsuccessful startup	<p>1) The temperature of the casing is too high, and it failed to cool the casing after starting for 3 minutes</p> <p>2) There is a large amount of white smoke in the exhaust gas</p> <p>2.1) Check if the filter screen next to the ignition plug is clean. If it is not clean, clean or replace it</p> <p>2.2) Check if the oil pump sprays oil forcefully</p> <p>2.3) Check if the ignition plug is aging</p> <p>3) There is a small amount of white smoke or no smoke in the exhaust gas</p> <p>3.1) Check for oil shortage, frozen or blocked oil circuits</p> <p>3.2) Check if the oil pump is stuck or damaged, and if the oil pump is not functioning properly</p> <p>3.3) Check if the combustion intake and exhaust channels are unobstructed</p> <p>3.4) Check if the ignition plug is damaged</p> <p>3.5) Is the clearance between the inner wind turbine too large</p> <p>4) Ignite normally but still report ignition failure fault</p> <p>Check if the casing temperature sensor is in full contact with the casing, if the pressure spring is strong, and if the sensor is functioning properly</p>

### Code of use

1. It is prohibited to use in high humidity, conductive dust, flammable and explosive gases, dust, materials, corrosive media, strong light, strong magnetic, high voltage and high current equipment nearby.

Voltage range of power supply: DC24V controller is suitable for (18-32)V; DC12V controller is suitable for (9-16) V, different voltage controllers are not universal, and it is forbidden to use beyond the applicable voltage range.

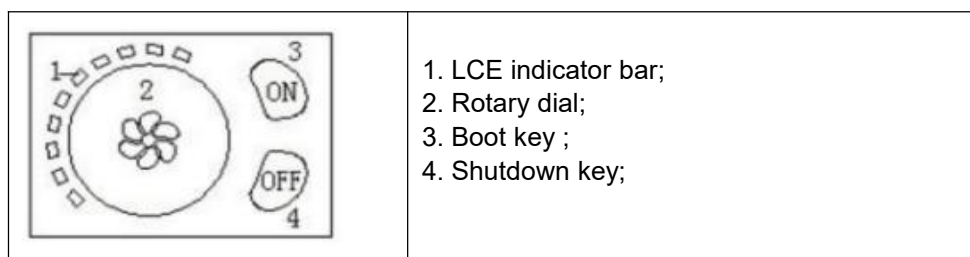
3. The 5KW controller must be used on the 5KW organism, the 2KW controller must be used on the 2KW organism.

4. If the controller or external device is damaged, it must be replaced by the prototype device and professionals.

- 5.It is forbidden to open the controller shell privately
  - 6.Equipment must be installed strictly and must be used under safe conditions.
  - 7.The company is not responsible for the loss and liability of the controller due to the misconnection short circuit and damage of the external devices and lines.
  - 8.At the high temperature of the body, the fan can not operate, so it must be cooled quickly for the body to make its temperature. Cooling air is injected from the combustion inlet to make the body temperature less than 100 °C. Prevent high temperature from burning parts or causing fire.
- \*Our company is not responsible for any loss or liability caused by the failure to install and use according to Article 1 to 6.

## Operation instructions for parking heater

### 1. The control panel is shown in the figure below



## 2. Operation

### 1. work Operation

#### 1) on/off operation

In the shutdown state, press "ON" to start the device. The symbol of the fan blade is green, and the led indicator bar displays the gear.

In the startup state, press "OFF", the symbol of the fan blade is red, and the equipment enters the shutdown process "cooling state",. At this time, for cooling the engine body, please do not forcibly cut off the power. "If the power is cut off directly, the accessories will be damaged because the temperature of the engine body is too high to dissipate heat!", The power can be cut off when the fan blade symbol is off.

#### 2)Gear shift operation

In the power on state. Rotate the rotary dial to realize gear up/down adjustment.There are 6 gears in total.

#### 3) Manual oiling operation

In the shutdown state, long press the "OFF" key for 2s, manually control the oil pump to pump oil, and release the key to stop pumping oil. Please use with caution!

#### 4) Plateau mode operation

Press the "OFF"+"ON" keys at the same time to enter the plateau mode, and the 10th LED is on. In the plateau mode, the wind oil ratio is reduced to adapt to plateau hypoxia, and then press the "OFF"+"ON" keys at the same time to exit the plateau mode.

## 2. trouble display

The LED indicator flashes to show the fault number. Fault table corresponding to No

**Fault table**

Fault code	Cause of failure	Treatment
2	Supply voltage range	Normal range: 24V(18-32V), 12V(9-16V) Check whether the battery or generator is normal and whether the fuse is aged
3	Ignition plug fault	1) Check whether the connector of ignition plug is loose or whether the wire is short circuited to housing 2) Inspect the ignition plug for damage
4	Oil pump Failure	Check the oil pump connecting wire and connector for damage, looseness, oxidation, short circuit and open circuit
5	High temperature alarm (air inlet > 50°C; enclosure > 230°C)	1) Check whether the heating duct is smooth 2) Check whether the fan operates normally 3) Check whether the temperature sensor is normal

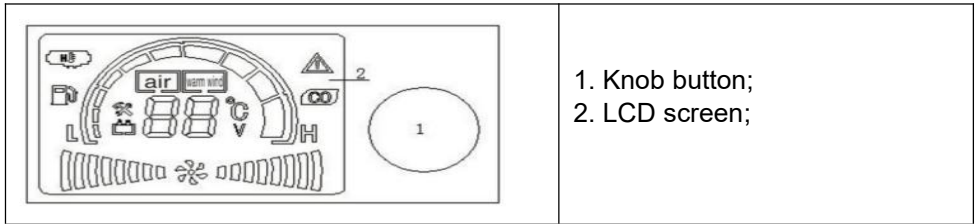
6	Fan fault	<p>1) Check whether the impeller is stuck</p> <p>2) Check if the connecting is loose</p> <p>3) The clearance between the magnet on the wind wheel and the hall sensor on the controller is too large</p> <p>4) Whether the line is short circuited or open circuited; Motor leakage</p>
8	Unsuccessful startup	<p>1) The casing temperature is too high, and the casing fails to be cooled after 3 minutes of startup</p> <p>2) Large amount of white smoke in exhaust gas</p> <p>2.1) Check whether the filter screen beside the ignition plug is clean, clean or replace it if it is not clean</p> <p>2.2) Check whether the fuel injection of the oil pump is powerful</p> <p>2.3) Check whether the ignition plug is aged</p> <p>3) Exhaust gas has a small amount of white smoke or smokeless</p> <p>3.1) Check whether there is oil shortage, oil circuit is frozen or blocked</p> <p>3.2) Check whether the oil pump is stuck or damaged</p> <p>3.3) Check whether the combustion intake and exhaust passages are smooth</p> <p>3.4) Check whether the ignition plug is damaged</p> <p>3.5) Whether the clearance of the inner wind turbine is too large</p> <p>4) The ignition is normal, but the failure of ignition is still reported</p> <p>Check whether the casing temperature sensor is in full contact with the casing, whether the compression spring is strong, and whether the sensor is normal</p>
9	Sensor failure	<p>Whether the connecting wire and connector of the temperature sensor are damaged or loose, and whether the sensor is damaged</p>

## Code of Practice



1. It is prohibited to use it in environments with high humidity, conductive dust, flammable and explosive gases, dust, materials, corrosive media, strong light, strong magnetism, high voltage, and high current equipment in the vicinity.
  2. Power supply voltage range: DC24V controller applicable(18-32)V; DC12V controller is suitable for(9-16)V; Different voltage controllers are not interchangeable and are prohibited from exceeding the applicable voltage range.
  3. The 5kW controller can only be used on a 5kW engine body; The 2kW controller can only be used on a 2kW engine.
  4. If the controller or external components are damaged, the same model and parameter components must be selected and replaced by professional personnel.
  5. It is forbidden to open the controller shell without permission.
  6. The equipment must be installed in strict accordance with the requirements and must be used under safe conditions.
  7. The company will not be responsible for the loss and liability caused by the wrong connection, short circuit and damage of external components and lines of the controller.
  8. When the machine body is at high temperature and the fan cannot operate normally, the machine body must be cooled quickly. Blow cold air from the combustion intake hole to cool down, so that the body temperature is lower than 80 °C. Prevent high temperature from scalding parts or causing fire.
  9. When heating the equipment, it is necessary to ensure that all air ducts are unblocked "without folding, pressing or blocking", so as to effectively ensure the heating efficiency and normal operation of the equipment. The blocked passage will cause high temperature of the body, reduce the heating efficiency, shorten the service life of the equipment or damage the equipment. The normal use and service life of the equipment can only be ensured by using qualified fuel.
- \*The company will not be responsible for any loss or liability caused by the failure to install and use according to Article 1 to 6.
- \*The ignition point of cotton and sponge is 150°C, the ignition point of paper is 130 °C, the ignition point of cloth is 270°C, and the ignition point of diesel is 220 °C, The hot air outlet can be higher than 150°C, and the exhaust temperature of waste pipes can be higher than 270°C.

## Instructions for using and operating the parking heater

### 1. The control panel is shown in the figure below



### 2. Operation

		
Automatic mode	Manual mode	

#### 1.on/off operation

In the shutdown state, briefly press "knob button" to start the device.

In the power on state, briefly press the "knob button" to enter the shutdown process of "cooling state" and display "OF".At this time, please do not forcefully cut off the power to cool the body. "Directly cutting off the power will damage the accessories due to the high temperature of the body being unable to dissipate heat!" Wait until the display is turned off before cutting off the power!

#### 2.Manual mode operation

The manual mode consists of 6 gears, 06 representing maximum power.As shown in the above figure, switch gears by rotating the rotation button" to "clockwise for up shifting, and vice versa for downshifting"

#### 3. Automatic mode operation

The automatic mode is shown in the figure above, indicating an automatic constant temperature of 18 degrees. The temperature can be adjusted and controlled by rotating the "rotation button", with a temperature setting range of 5-35°C.

In the power on state, press and hold the "knob button" for 2 seconds to switch between manual/automatic modes.

#### 4.Engineering mode operation

In the shutdown state, press and hold the "knob button" for 3 seconds to enter engineering mode. Rotate the "Rotate Button"

Switching engineering options: power voltage-ambient temperature-manual pump oil-wireless remote control code matching.

#### 1)Manual oil pump operation

When the engineering option displays "Ho",briefly press the"rotation button" to display "p-". The oil pump starts pumping oil, and then briefly press the "rotation button" or for 3 minutes to exit manual pumping,and the oil pump stops working.

#### 2)Wireless remote control code matching

When the engineering option displays "rF", briefly press the "Rotate button" to display "rI". The trailing value is the remote control number,ranging from 1 to 5, corresponding to 5 remote controls. Rotate the "Rotate button" to select. Press any key on the remote control, the machine will successfully check the code and exit the check status

\*Remote control requirements: frequency band 433MH7, 24 bit code.

### **5.The fault alarm display is shown in the following figure.**

If the corresponding symbol for the device fault flashes, please refer to the fault table for the meaning of the fault code



## **Instructions for Use**

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- 2.Power supply voltage range: DC24V controller applicable(18-32)V; DC12V controller is suitable for(9-16)V; Different voltage controllers are not interchangeable and are prohibited from exceeding the applicable voltage range.
- 3.The 5kW controller can only be used on a 5kW engine body; The 2kW controller can only be used on a 2kW engine.
4. If the controller or external components are damaged, the same model and parameter components must be selected and replaced by professional personnel.
5. It is forbidden to open the controller shell without permission.
6. The equipment must be installed in strict accordance with the requirements and must be used under safe conditions.



7. The company will not be responsible for the loss and liability caused by the wrong connection, short circuit and damage of external components and lines of the controller.

8. When the machine body is at high temperature and the fan cannot operate normally, the machine body must be cooled quickly. Blow cold air from the combustion intake hole to cool down, so that the body temperature is lower than 80 °C. Prevent high temperature from scalding parts or causing fire.

9. When heating the equipment, it is necessary to ensure that all air ducts are unblocked "without folding, pressing or blocking", so as to effectively ensure the heating efficiency and normal operation of the equipment. The blocked passage will cause high temperature of the body, reduce the heating efficiency, shorten the service life of the equipment or damage the equipment. The normal use and service life of the equipment can only be ensured by using qualified fuel.

\*The company will not be responsible for any loss or liability caused by the failure to install and use according to Article 1 to 8.

\*The ignition point of cotton and sponge is 150°C, the ignition point of paper is 130 C, the ignition point of cloth is 270°C, and the ignition point of diesel is 220°C, The hot air outlet can be higher than 150°C, and the exhaust temperature of waste pipes can be higher than 270°C.

**Fault table**

Fault code	Cause of failure	Treatment
1	Power supply voltage range	Normal range: 24V(18-32V), 12V(9-16V) Check if the battery or generator is functioning properly, and check if the fuse is aging
2	Oil pump Failure	Check if the oil pump connecting wire and connector are damaged, loose, oxidized, short circuited, or open circuited
3	Ignition plug malfunction	Check if the ignition plug is damaged, and if its connector is loose, oxidized, or if the wire is short circuited or open circuit.

4	Fan failure	<p>1) Check if the impeller is stuck</p> <p>2) Check if the connecting plug is loose or oxidized.</p> <p>3) The gap between the magnet on the wind wheel and the hall sensor on the controller is too large, or the magnet is installed in the opposite direction.</p> <p>4) Is there a short circuited, or open circuit; or motor coil leakage or short circuit in the circuit.</p>
5	High temperature alarm (air inlet>50℃; enclosure>230℃)	<p>1) Check if the heating duct is smooth</p> <p>2) Check if the fan operates normally</p> <p>3) Check if the temperature sensor is normal</p>
6	Flameout alarm	<p>1) Check if there is a shortage of oil, if the oil circuit is frozen, or if the oil pump is stuck</p> <p>2) Check if the oxygen intake and exhaust ducts are unobstructed</p> <p>3) Check if the installation of the casing temperature sensor is in full contact with the casing.</p>
7	Unsuccessful startup	<p>1) The casing temperature is too high, and the casing cannot be cooled after 3 minutes of startup</p> <p>2) There is a large amount of white smoke in exhaust gas</p> <p>2.1) Check if the filter screen next to the ignition plug is clean, clean or replace it if it is not clean</p> <p>2.2) Check if the oil pump injection is strong</p> <p>2.3) Check if the ignition plug is aging</p> <p>3) There is a small amount of white smoke or no smoke in the exhaust gas.</p> <p>3.1) Check if there is shortage of oil, if the oil circuit is frozen or blocked</p> <p>3.2) Check if the oil pump is stuck or damaged, and if the oil pump is weak.</p> <p>3.3) Check if the combustion intake and exhaust channels are unobstructed.</p> <p>3.4) Check if the ignition plug is damaged</p> <p>4) The ignition is normal, but the failure of ignition is still reported</p> <p>Check whether the casing temperature sensor is in full contact with the casing, whether the compression spring is strong, and whether the sensor is normal</p>

8	Sensor failure	Whether the connecting wire and connector of the temperature sensor are damaged or loose, and whether the sensor is damaged
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