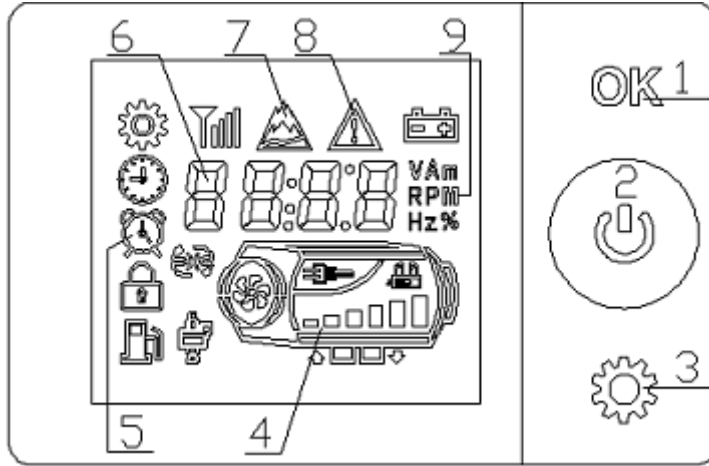


Operating instructions for using the control panel

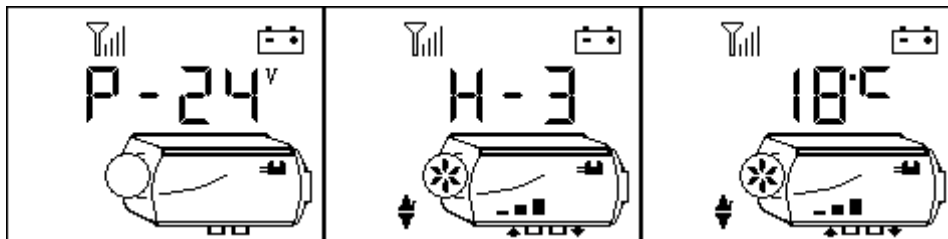
一、 The control panel is shown below



1, OK key; 2, coding switch; 3, set the key; 4, host diagram; 5, status symbol; 6, display data, parameters; 7, plateau symbol; 8, fault symbol; 9, data unit;

2. Use the operation

1. Open / shutdown operation



Shutdown state (manual mode) startup state (constant temperature mode)

1) Boot operation

In the shutdown state, long press "⏻" key 2S to start the device and display "boot state" as in the above.

2) Shutdown operation

In the boot state, long press "⏻" 2S, the device enters the shutdown blow-cooling process and displays "OFF". The equipment is shut down after cooling, showing "shutdown state" as in the above. **Do not force power off when "OFF" is displayed. Power failure will damage the accessories due to the high temperature in the body to dissipate heat!**, Wait for the machine to display in the shutdown state to power off!.

3) Manual mode operation

Manual mode has 6 gears (H1-H6) H6 indicates the maximum power, as shown above "boot state", rotate the coding switch, add / subtract gear.

4) Constant temperature, mode operation

The constant temperature mode, the above figure represents the setting of 20°C. Rotate the coding switch, add / subtract temperature value, set range 0~40°C.

Long press the "⚙️" key 2S to switch the manual / constant temperature mode.

2. Switch between the power-on and display data

Short press "OK" key to switch the display data, switch order: gear (or set temperature) -> Shell temperature-> working voltage-> ambient temperature-> carbon monoxide concentration.

3. Plateau mode operation

At the same time, long press "OK" + "⚙️" key 2s to enter the plateau mode, the icon "⚠️" shows the start plateau mode, in the plateau mode, the air-oil ratio is reduced to adapt to the plateau oxygen concentration, and then long press "OK" + "⚙️" key 2s to exit the plateau mode. Please use it carefully!

4. Function setting operation

In the shutdown state, long press "OK" key for 2s, enter the function selection interface, rotate the "code switch" switch function selection, order: adjust the clock "AC" -> set timing "SE" -> manual pump oil "Po" -> remote control match "┐ F" -> temperature unit switch "Un" -> Bluetooth number "n0" (switch with Bluetooth), select good function, "OK" key to enter the corresponding function

4.1. Adjust the clock operation

The indicator symbol '⚙️' '🕒' is displayed.

1) Rotate the "encoding switch" adjustment time value, the time adjustment range: 00:00~23:59

2) Press the "🔌" key to switch the adjustment number bit, and the corresponding number flashes.

3) Press the "OK" key to confirm the time and enter the setting week.

4) Press the "⚙️" key to enter the setting week.

5) Exit the clock adjustment interface after 10S.

When connecting to the APP, you will automatically synchronize the

mobile phone time.

4.1.1. Set up the weekly operation

Digital display "EE-1"

- 1) Rotate the "encode switch" for adjusting the mantissa,
- 2) Press OK to confirm the time and exit the clock adjustment interface.
- 3) Press the "⚙️" key, or exit the clock adjustment interface without pressing the 10S.

4.2. Set the timing

The indicator symbol '⚙️' '🕒' is displayed. Display "🕒" is the shutdown time, not the startup time. If the timing function is on, turn off the timing function and the "🕒" symbol disappears.

1) Adjust the time value by rotating the "encoding switch", and the time adjustment range is: 00:00~23:59.

2) Press the "🔌" key to switch the adjustment number bit, and the corresponding number flashes.

3) Press the "OK" key or no key operation for 15s to save the set value. If the startup time is set, switch to the shutdown time setting, otherwise exit the timing setting.

4) Press the "⚙️" key not to save the setting value. If the startup time is set, switch to the shutdown time setting; otherwise, exit the timing setting.

5) In the unset state, press the "⚙️" key to cycle the timing time of the day.

After opening the timing function, the clock will automatically start the timing startup time and the timing shutdown time. The panel is set to the cycle mode "executed daily".

4.3. Pump the oil manually

Show "HOIL". After pressing any key or for 3 minutes, exit the manual pump state. Please use it carefully!

4.4. Remote control matching

Show "HFA 1".

1) Turn the "knob switch" to adjust the third digit value of the remote control number, and the value range is 1 to 4, corresponding to 4 remote controls.

2) Press any key of the remote control, the machine successfully matches

the code and exits the remote control matching state.

3) Press the "⚙️" key to exit the remote control matching status.

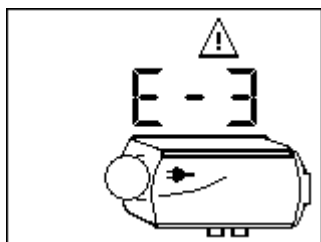
* Remote control requirements: frequency band 433 MHZ, 24-bit code.

4.6. Bluetooth number (switch with Bluetooth)

Display such as "1234" is the number of the switch Bluetooth name 4 digits.

Exit by pressing any key or the 3S.

5. Failure alarm



The following figure is displayed, the corresponding fault symbol flashes, and the corresponding fault device icon is flashing. The display data is the fault code, and its meaning, please check the fault table.

* Symbols of spark plug, oil pump, fan, sensor, power supply, etc., flashing indicates the failure of the corresponding device.

fault list

fault code	failure cause	method of disposition
E-2	Input voltage is beyond the range	Normal range: 24V (18-32V), 12V (9-16V), Check the battery or generator for normal operation and check the fuse for aging
E-3	Ignition plug failure	1) Check whether the ignition plug connector is loose or the wire is short circuit to the casing

		2) Check whether the ignition plug is damaged
E-4	Oil pump failure	Check the oil pump connection line and connector for damage, loosening, oxidation, short circuit and open circuit.
E-5	High temperature alarm (air intake> 50 ℃ ; casing> 230℃)	1) Check whether the heating air duct is unobstructed 2) Check whether the fan is operating normally 3) Check that the temperature sensor is normal
E-6	Fan failure	1) Check that the impeller is stuck 2) Check the connection plug-in for loose 3) The gap between the magnet on the wind wheel and the Hall sensor on the controller is too large 4) Whether the circuit is short circuit, open circuit; motor leakage
E-7	Communication failure	Check for the blue connecting cable
E-8	flameout	1) Check whether there is a lack of oil, solidification of oil at low temperature, oil circuit blocked, oil pump stuck 2) Check the incoming oxygen and exhaust duct for unobstructed 3) Check whether the casing temperature sensor is in full contact with the casing, and whether the pressure spring is strong.
E-9	Sensor failure	Whether the temperature sensor cable and connector are damaged or loose, and whether the sensor is damaged
E-10	The startup was unsuccessful	1) The temperature of the casing is too high and the casing cannot be cooled for 3 minutes 2) There is a lot of white smoke in the exhaust gas 2.1) Check whether the filter screen beside the ignition plug is clean, cleaned or replaced 2.2) Check whether the oil pump injection is powerful 2.3) Check the ignition plug for aging 3) There is a small amount of white smoke or smokeless exhaust gas 3.1) Check whether the lack of oil, the oil road is frozen or blocked 3.2) Check whether the oil pump is stuck or damaged and weak 3.3) Check whether the combustion intake and exhaust channels are unobstructed 3.4) Check the ignition plug for damage 3.5) Whether the inner wind wheel clearance is too large 4) The ignition is normal, but the ignition failure fault is still reported

		Check whether the casing temperature sensor is in full contact with the casing, whether the pressure spring is strong, and whether the sensor is normal.
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Use the code

1. It is forbidden to use it in high humidity, conductive dust, flammable and explosive gases, dust, materials, corrosive media, strong light irradiation, strong magnetic, high voltage, high current equipment operation and other environments nearby.
2. Power supply voltage range: DC 24V controller (18~32) V; DC12V controller (9~16) V; different voltage controllers are not universal and are prohibited beyond the applicable voltage range.
3. 5kW controller can only be used on 5kW body; 2kW controller can only be used on 2kW body.
4. If the controller or external device is damaged, the same model and parameters must be selected and replaced by professionals.
5. Do not open the controller shell without permission.
- 6, the equipment must be installed in strict accordance with the requirements, and must be used under safe use conditions.
7. The company shall not be responsible for the loss and responsibility caused by the misconnection, short circuit and damage of the external devices and lines of the controller.
- 8, when the body is high in the temperature, the fan can not operate normally, it must quickly cool the body. Cold air is blown from the combustion intake vent to cool down, so that the body temperature is below 80°C. Prevent high temperature from burning the parts or causing fire.
9. When the equipment is heated, it should ensure that the air duct is smooth "without folding, pressure and blocking", so as to effectively ensure the heating efficiency and normal operation of the equipment. The unblocked channel

will cause high temperature of the body, reduce the heating efficiency, reduce the service life of the equipment or damage the equipment. Use the standard fuel oil to ensure the normal service and service life of the equipment.

10. The external CO sensor is only used to auxiliary check the CO concentration around the sensor.

*** The Company is not responsible for the loss and liability caused by the failure to install and use according to the above article.**

* Burning point of cotton and sponge 150℃, paper ignition point 130℃, cloth ignition point 270℃, diesel ignition point 220℃. The hot air outlet can be higher than 150℃, and the exhaust gas pipe outlet air can be higher than 270℃.

6、Hidden function operation

In the shutdown state, long press "⏻" + "⚙️" key for 2s to enter the password input,

- 1) Rotate the "encoding switch" adjustment value,
- 2) Press the "⏻" key to switch the adjustment number bit, the corresponding number flashing.
- 3) Press the "OK" key to check the password value, and successfully enter the corresponding interface.

6.1. CO calibration (password: 5678)

CA20: The CO concentration to be determined is 200 PPM.

C150: means the CO concentration detected by the sensor is 150 PPM.

1) Rotate the "coding switch" to adjust the CO concentration value to be determined, and the adjustment range is 5~60 (indicating 50 ~ 600 PPM).

2) "🔌" is the zero clearing key. Please place the sensor in the no-CO environment, power on and stand for 1 minute, and press this key to clear the zero.

3) "OK" is the calibration determination key. Please place the sensor in the stable CO concentration environment, and change the calibrated CO concentration value to the corresponding value. After standing for 1 minute, press this key to calibration the sensor.

4) Press the "⚙️" key to exit this interface.

6.2. CO alarm value setting (password: 7070)

L300: representation CO The alarm concentration value is 300 PPM. If the CO concentration exceeds this value, automatically stop the equipment heating, 60% = 180 PPM alarm prompt.

1) Press "▲" or "▼" to adjust the value in the range from 50 to 999 PPM.

2) Press the "🔌" key to switch the adjustment number bit, and the corresponding number flashes.

3) Press the "OK" key to save the alarm value and exit this interface

4) Press the "⚙️" key to exit this interface.

FCC WARNING

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment 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 equipment 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 equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment 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 separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum 20cm distance between the radiator and your body: Use only the supplied antenna.