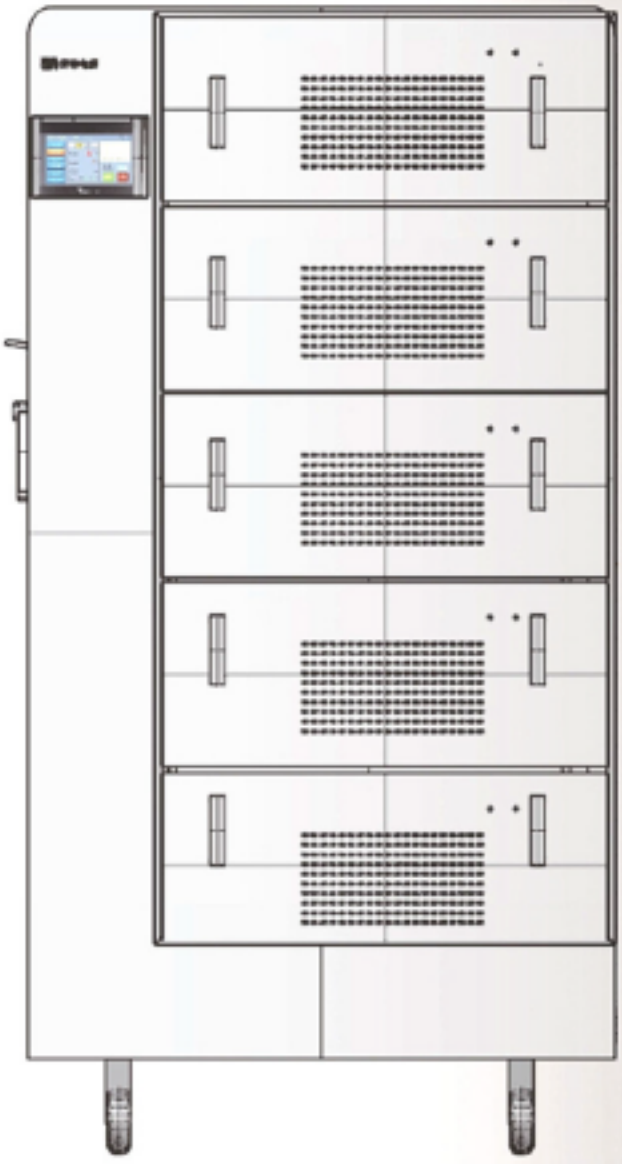
ATO



Intelligent high frequency switching power supply for industry.

(Suitable for all series of products)

# Product Manual

# Preface

Dear Customer,

Thank you for using ATO power products. Please read the manual carefully before operating the product. To ensure that this machine can work safely and stably for you for a long time.

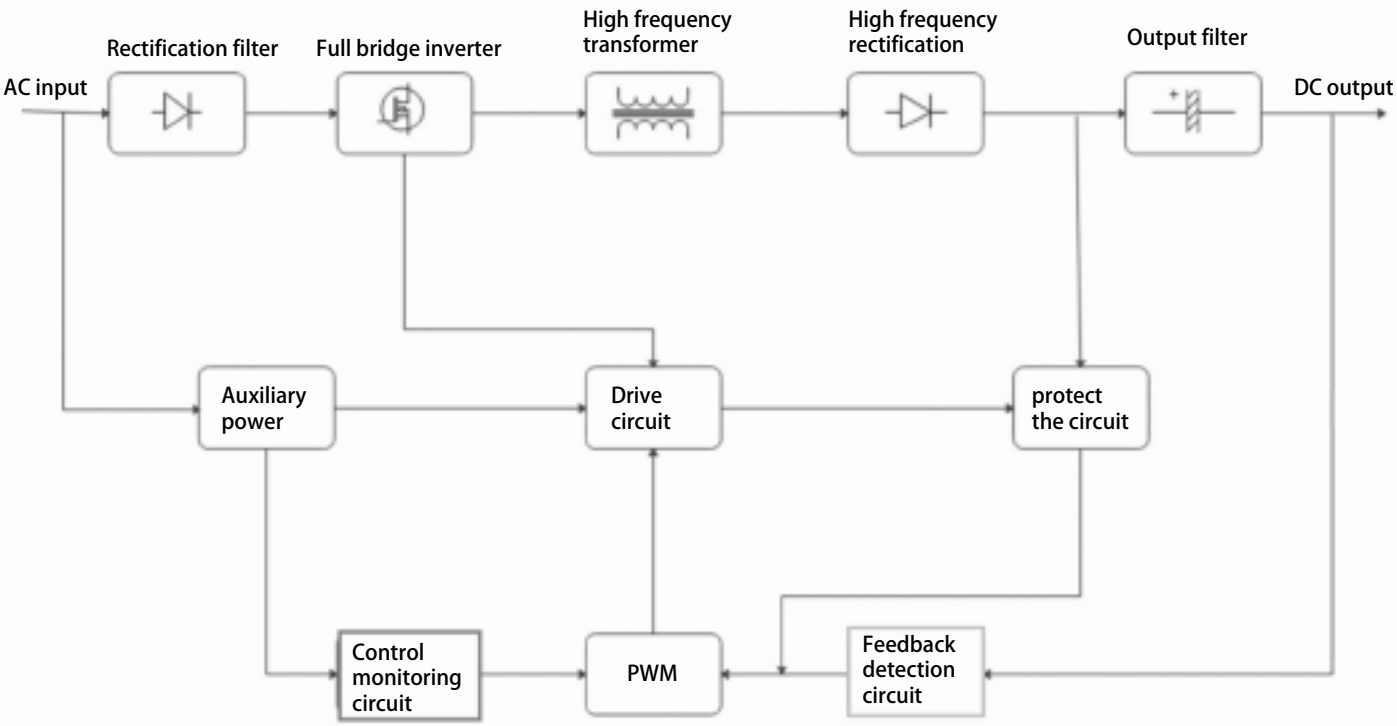
The input power cord and ground wire must be connected when using (to prevent leakage of heating rods and other load objects), the output copper bar needs to be connected tightly, and put the machine in a dust-free, well-ventilated dry environment, keep away from heat sources and humid areas. The aviation plug must be aligned and tightened, please use this machine according to the above requirements, to work safely for a long time. Otherwise, the machine will be damaged due to the above reasons and improper operation, our company has the right to refuse any responsibility. In case of special circumstances or questions, please contact our technical staff for assistance, for your safety, please do not operate without authorization. Last all the staff of ATO wish you happiness and health.

ATO

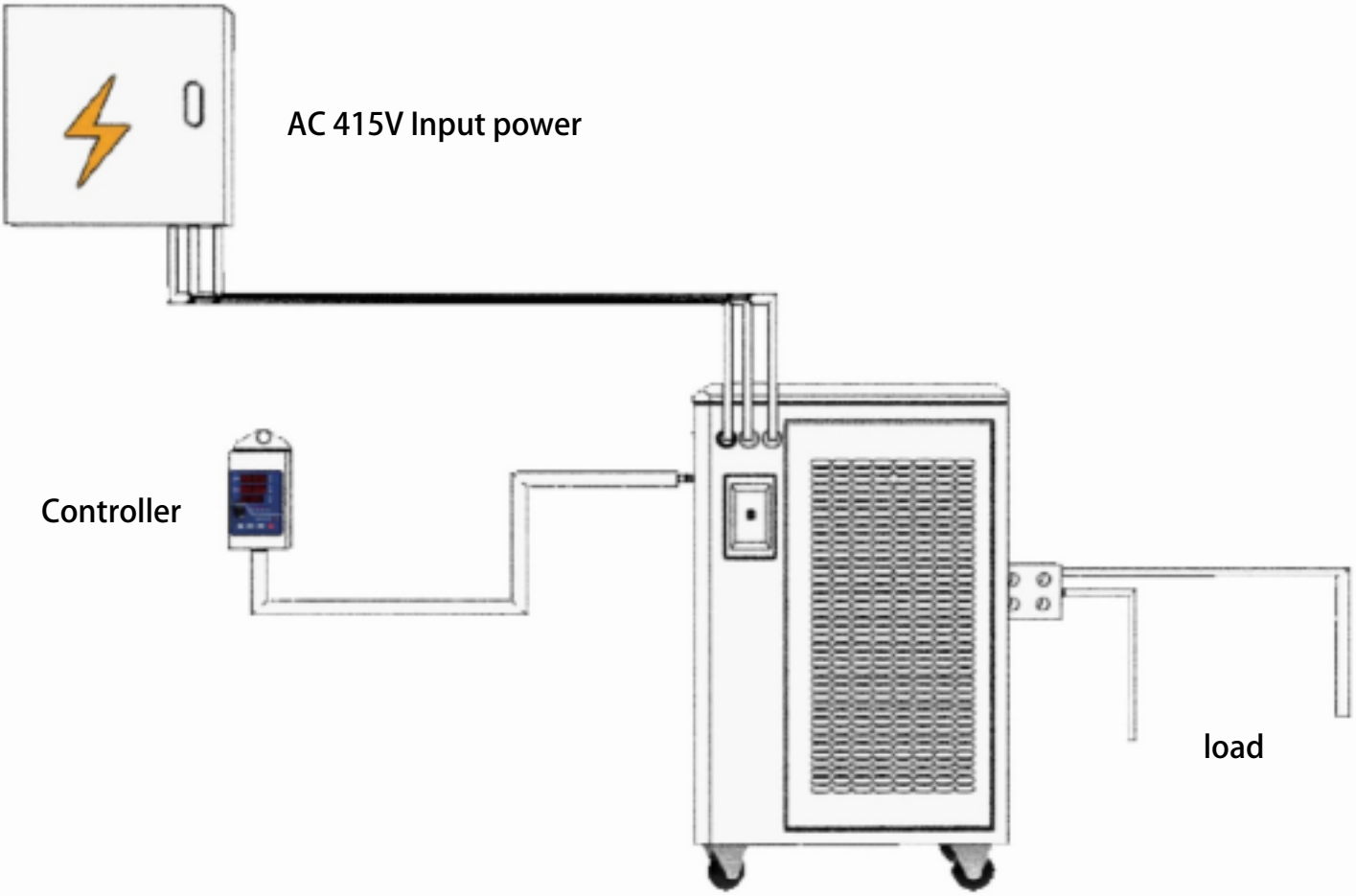
# Product Specifications

| | |
|---|---|
| Input voltage | AC 220V 380V 440V±10%, 50/60HZ |
| Stable accuracy | ≤1% |
| Steady flow accuracy | ≤1% |
| Ripple factor | ≤2% |
| rated power | ≥92% |
| Power factor | ≥0.98 |
| cooling method | Water-cooled or air-cooled |
| operational state | 24 hours at full load |
| Working temperature | -20-50℃ |
| Rated output voltage | 0-500V Continuously adjustable |
| Rated output current | 0-30000A Continuously adjustable |
| Protective function | Undervoltage, overvoltage, overload, short circuit protection, thermal protection. |
| Power-off DC protectiontime | Greater than 20 milliseconds |

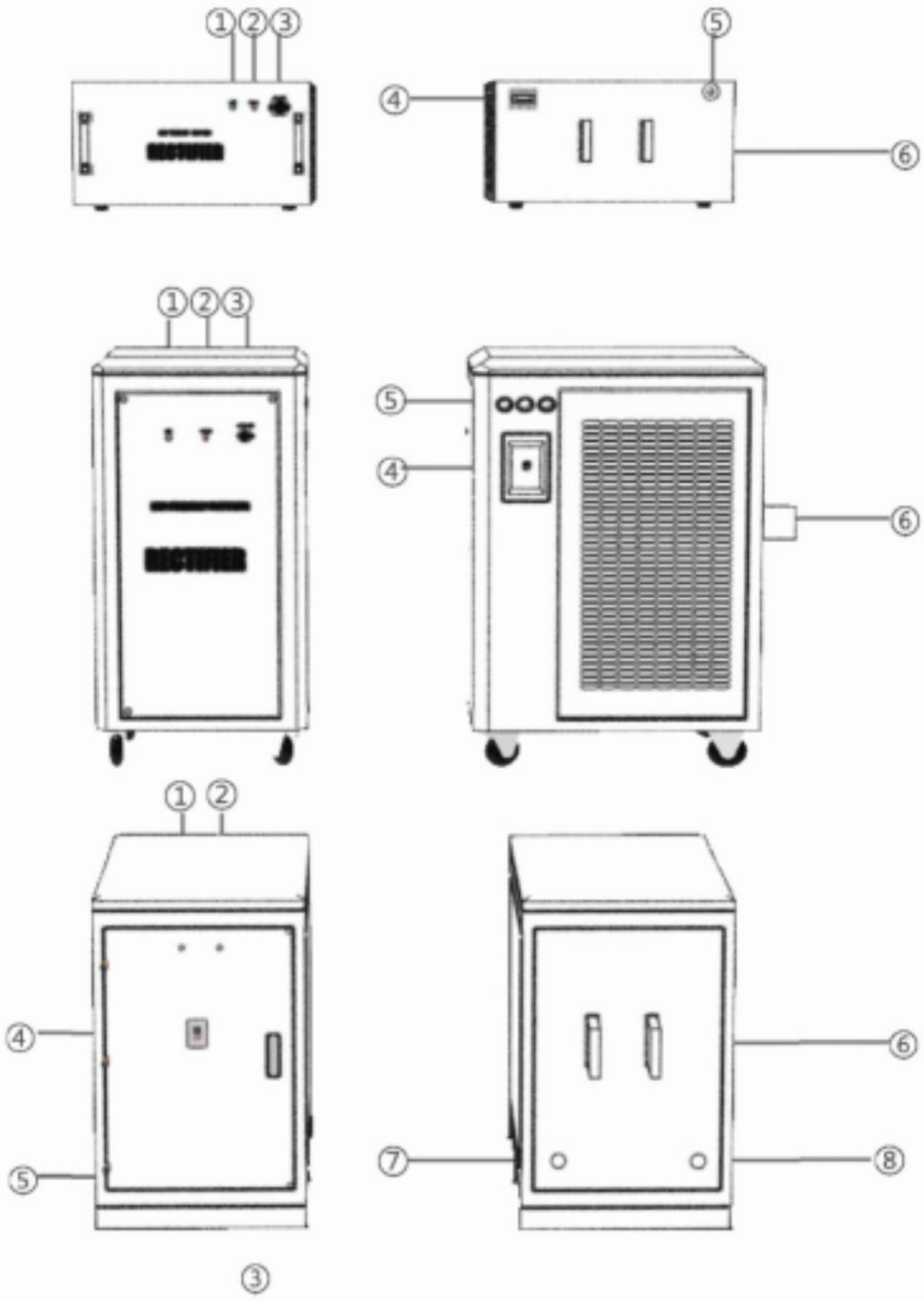
# Machine schematic



# Installation diagram



# Appearance structure diaaram




| | |
|---|---|
| ① | Running lights |
| ② | Fault indicator |
| ③ | Remote contril terminal |
| ④ | Electrical switch |
| ⑤ | Input power |
| ⑥ | Output copper bar |
| ⑦ | Water inlet |
| ⑧ | Water outlet |

# Control panel function introduction


(1) Voltage display window.

(2) Current display window.

(3) Time display window.

(4) Steady current indicator, light on indicates steady current mode, light off indicates voltage stabilizing mode.

(5) Communication interface indicator light, light on indicates RS485 control mode, light flashing indicates that the communication signal has been connected normally, light off indicates panel control.

(6) Fault indicator, the light is on to indicate machine failure protection, and the current display window shows OC to indicate module protection, and show OH to indicate machine overheat protection.

(7) Work indicator, the light is on to indicate that the machine is in the starting state, and the light is off and the machine stops.

(8) Machine start stop button.

(9) Panel and RS485 control switch button.

(10) Switch button for stable voltage and stable current.

(11) Function setting buttons.

(12) Voltage/current output adjustment ootentiometer.

# installment and debugging

1. Place the power supply well and keep it stable. To ensure the power supply is well ventilated, do not have any objects within 0.5m around it. In addition, avoid the power supply working in an environment full of dust and corrosive gas, and keep away from heat sources and humid areas. he relative temperature is 5%~70%, and the ambient temperature is 25 C-40 C to extend the life of the machine.

2. Check whether the casing of the machine is loose, whether the port is damaged during transportation, and confirm that the switch is in the off position.

3. Find out the power input wires, connect the leads separately, insert the remote control wires into the concave and convex parts of the socket firmly and tighten them.

4.The machine shell has Logo, please link the earth to prevent static electricity

5. Turn the power adjustment knob counterclockwise to the end (Minimal state)

6. Close the switch and the fan starts to rotate

7. Press the ON-OFF button and turn the adjustment knob clockwise,With the voltmeter reading increases, the working light is on.

8. Turn the adjusting knob to the maximum, the voltmeter should indicate the rated voltage value, and the ammeter will give corresponding instructions according to the load.

9. disconnect the switch, turn off the power.

10. When the machine is working normally, due to the influence of the high frequency magnetic field inside the machine, The outer casing will generate eddy currents to heat the outer casing and carry static electricity.

After the above running,If there is no abnormality that means the power supply is intact, then connect the load and it will work normally.

# Instructions for use

1. Turn on the power and press the * key, the time period is splayed as the 1 period,then adjust * Key to set the required time value, which can be selected between 0-9999, press *key, Output adjustment potentiometer selection (single digits, Tens digit, hundreds digit, thousands digit) to set the time. Press * again, the voltage display window was flashes, adjust the potentiometer and set the output voltage. Stable current mode is set in the current window. Press * again to set the 2 period, the method is the same as the first period. In total have 3 periods.
2. Only the 1 period is needed, and the other periods are set o 0. After setting the time voltage/current parameters, the panel display stops flashing, the parameters are automatically, press the *key to start the power supply. If you need to reset the working mode inusing, press the * key to stop working and restart the timer to the power-on (start) state,than you can restart.
3. No need to set the time, you can set the maximum time (as 99), the machine can run for a long time
4. When the protection indicator light indicates, please chec whether the input 415V AC is lack of phase, whether the voltage is higher than 450V or less than 370V. If the voltage is normal, the connection between the wires and the output copper bar is tight and reliable. Please carefully read the item "Problems and Countermeasures". If the protection indicator is on for a long time, please contact the technical department of our company.
5. When shutting down, shut down according to the start-stop wer switch sequence.

# Product use environment and maintenance

## I、Use environment

1. The altitude does not exceed 1000 meter
2. Relative humidity: The monthly average maximum relative hu dity is 90%, and the minimum is 15%.
3. The use environment shall not exceed the following limi
1) Maximum ambient air temperature 40° C
2) The monthly average ambient air temperature is 35°
3) The annual average ambient air temperature is 20°
4) Minimum ambient air temperature is-15"
4. There should be no gas, steam, chemical deposits, dirt, mo , and other flammable, explosive and corrosive media that seriously affect the use of the product, and there should be no severe vibration and bumps.
5. The product must not be used outdoors unless protective me ures are taken.

## II、Daily maintenance

1. Due to the harsh operating environment of the air-cooled m hine, after the equipment is used for a period of time, there will be chemical deposits and dust accumulation on the surface of the aluminum radiator. Excessive accumulation will affect the heat dissipation of the equipment, resulting in unstable operation of the equipment, and damage to the equipment in severe cases.
2. Therefore, you should open the side panel of the case regu rly (the time interval does not exceed once every two months) to clean the inside of the case. Ensure the smooth circulation of air, so that the heat in the chassis can be dissipated smoothly to extend the service life of the equipment.

## II、Overhaul and maintenance

In the process of using the power supply, the user regularly cleans and inspects the machine according to the working environment of the machine, and proceed as follows:
1. Before opening the case, disconnect the external power sup y for 30 minutes
2. After opening the case, clean the dust in all parts. You c use dry cloth or brush, or compressed air to test, but pay attention to the air pressure not to be too high, so as not to damage the components.
3. Check whether the power supply is normal and whether the a switch is disconnected reliably.
4. Check whether the fan group is abnormal and whether there noise.
5. Check whether the output copper bar is oxidized. and clean t reaularly.
6. Check whether the screws and nuts are loos