CPL-R30-P programmable DC load

Directory

1. Overview

1.1. CPL-R30-P load bank is mainly used for power station, power supply, data center and other testing occasions. The dummy resistive load can detect the performance of different loads of the power supply of the power station.The power input is segmented uniformly optimized to meet the different needs of loads.

1.2. Resistive load adopt new type of consumption components,Resistor thermal shrinkage and sealing installed in stainless steel tube, steel tube with insulation radiator, so with good moisture and anti-corrosive, good heat dissipation, high insulation, safe and reliable. High power density of resistance elements,3-phase current balance，no red heat phenomenon， The independent cooling fan ensures the heat dissipation and service life of the whole system.

1.3. The load overcomes the fact that the water resistance test system cannot accurately control the resistance value, the water is easy to boil, easy to scale, cannot perform sudden loading and load reduction test, and is difficult to control. It is an upgraded product of water resistance. This product has high safety, low maintenance cost, low noise and strong overload capability.

1.4. The fan adopts axial flow fan, with large wind volume, good heat dissipation, low noise and other characteristics.

1.5. The above features make the whole machine better than imported products in terms of safety, reliability and noise reduction.

2. Function

With * is the optional function.

2.1、Over temperature alarm& protection

When the load temperature is higher than the set value (75℃), the over temperature alarm indicator flashes with beeping prompt; if the temperature continues up to 75℃, the Load bank contactor will automatically powered off and unload.

2.2、Over voltage protection

When the total voltage is greater than the set value , the meter gives relay signal and drives protection relay to act, thereby cutting off the contactor to control power and forced unload.

2.3、Emergency stop protection

When emergency occurs during the test, immediately take the emergency stop button and the load bank will power off.

3.Technical parameters

3.1、Working environment conditions

3.1.1, Ambient temperature: -10 ~ +50 ° C;

3.1.2, Relative humidity: ≦ 95%, no condensation;

3.1.3, altitude: ≦ 2500mm;

3.1.4, Seismic index: VIII degrees;

3.1.5, Noise: ≦75dB;

3.1.6,Other conditions: For indoor use only, and no debris above 1 meter at inlet and outlet

3.2、Rated electrical parameters

3.2.1, Rated voltage:DC1500V.

3.2.2, Rated current:20A.

3.2.3, Rated power: 30KW.

3.2.4, Power factor: -.

3.2.5, Operating power: AC220V/50Hz.

3.3、Technical indicators

3.3.1, Overload capacity (current loop): 1.1 times of rated current for over-current protection.

3.3.2,Cooling Mode:Force-air cooling， air flow entry from side,out from other above.

3.3.3. Local panel button control contactor. The customer shall close the button according to the test needs. divide into load steps: 100W、200W、200W、500W、1kW、1KW、2KW、5KW、10KW、10KW;

3.3.4. Display mode: AC multi-function meter displays load voltage, current, power, etc..

3.3.5,Load measurement accuracy: ≤5%;

3.3.6.Continuous running time> 200h;

3.3.7. Box frame: 600*750*1332mm (width * depth * height).

4. Operation guide

4.1、Control panel

The control panel is composed of touch screen, emergency stop switch, selection switch and buzzer.

4.1.1 Touch screen. Load power switch, load switch, AC110V/220V voltage selector switch, gear switch control; Display the voltage, current, active power, reactive power, frequency, etc., of the load.

4.1.2 Emergency stop switch. In case of emergency, press the emergency stop button to cut off the load.

4.1.3 Select switch. Switch the control mode of the local touch screen/remote upper computer to "local", touch screen startup, you can use the local touch screen control, or you can choose to use the touch screen remote operation mode (for details, see the Touch Screen Remote Operation Instructions). When you switch to Remote mode, the touch screen is off. In this mode, users can develop their own software through the RS485 communication port on the patch panel and integrate it into their own PC software for control.

4.1.4. There is a fault alarm on the panel. When the load is overheated or overloaded, the buzzer flashes and an alarm sounds.

4.2、Description of operation steps

4.2.1. Inspection before power-on: Before power-on, the load box that has been stored and transported should be checked for damage during transportation, such as whether the screws are loose, whether the appearance is abnormal, whether the power cord and connectors are shaken off and whether they are damp, etc. If the above phenomenon occurs, it should be dealt with promptly and properly.

4.2.2. Wiring: ①Insert the random distribution auxiliary power cord into the AC220V socket of the box baffle, and connect the other end to the mains AC220V-50Hz. ② In the case of disconnecting the power supply, according to the test needs, press the connectors marked (DC+, DC-) on the front baffle to connect the connection between the device under test and the load box (the total cross-sectional area of each phase wire is not less than 4mm2). Confirm that the connection is correct and that the connection to the connector is firm.

4.2.3、**Local control operation step：**

1) Confirm the correct connection between the control power supply and the load power supply, and choose to operate locally;

2) Press the "power switch" indicator to start the "load switch" fan;

3)Testing: ① Close the corresponding power resistor "gear switch" according to the required power for testing;

② When unloading, gradually disconnect the closed power "gear switch".

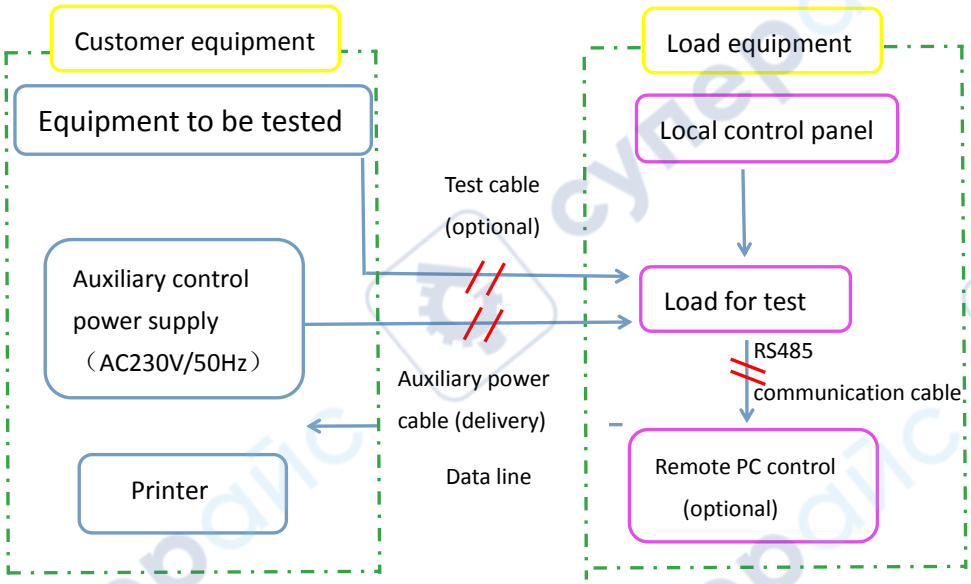
4) After fully unloading the gear, the fan will continue to run for 10 minutes and then disconnect the "power switch" indicator button, causing the load to stop working;

5) Finally, remove all power cables

4.2.4、Handling faults: If it is found that the Load Bank not working properly after start-up, “Power switch” should be turned off and “emergency stop button” should be turned off and the input power line should be cut off. Check

whether the connection of load bank is correct and the connector is loose. And Whether switch is normal, if the problem is difficult to handle, please contact our company for assistance.

5、Working schematic diagram



6、Circuit schematic diagram

Figure (2): Schematic diagram of primary and secondary loop.

7、Factory test

7.1、Test items

7.1.1, Wire On-off test: check whether each control line is connected properly;

7.1.2,Short-circuit test: check the circuit whether short circuit;

7.1.3,Switch on&off test: check whether the load control switch can work normally;

7.1.4. Load resistance measurement: Measure whether the resistance value of each gear position is consistent with the rated value;

7.1.5, load power-on test: check whether the load works normally under the rated voltage;

7.1.6. Insulation test: Detect the insulation resistance of power supply and other live parts of cabinet.

7.2、Test Tools

Bridges, multimeters, clamp meters, 3-phase smart meters, megohm meters, computers, etc.

7.3、Test content

7.3.1. Circuit continuity test: use a multimeter to measure the continuity of each circuit according to the circuit diagram, and the result is normal;

7.3.2. Short-circuit test: measure whether each component and line is short-circuited;

7.3.3. Switch on-off test: measure each switch with a multimeter, and the on-off is normal;

7.3.4. Load resistance measurement: first clamp the two measuring probes of the bridge on the (DC+, DC-) terminals of the terminal, and then gradually close the switches of each gear. The rated value is the same, the error is less than ±5%;

7.3.5. Load power-on test: The load auxiliary power socket "AC220V socket" is connected to the mains AC220V-50Hz. The load terminal is connected to the DC1500V test power supply. Manually test each power gear with load, and compare the current obtained by the clamp meter with the data displayed by the built-in voltage and current meter,

and the results are almost the same.

7.3.6 Insulation test: Use a megohm meter to test the insulation resistance of the cabinet of the power supply and other live parts, and the monitored values are all greater than 100MΩ.

7.4、Test Summary

After a comprehensive inspection of the load at the factory, it is ensured that the load can work normally and the power value does not change significantly when working for a long time, and the various indicators and functional parameters of the load reach the rated value.

8、Attention

- When the load is working, the fan inlet and outlet ports are free of debris at least 1 meter. After the load is stopped, the fan still needs to work for about 10-20 minutes until the outlet temperature is equal to the room temperature.
- The emergency stop switch can only be used in an emergency, the emergency stop switch is pressed, and the entire load is powered off (including remote control).
- When the temperature is too high, the temperature probe normally opens the contact to close, the buzzer alarms, and the contactor is powered off, that is, the load is automatically unloaded. When the internal temperature of the load bank returns to normal, you need to manually resume the load.
- Tighten the screws of each component at load bank per half-year!
- The load must be used with grounding!

9、Shipping List

Packed in wooden cases.

No	Name	Specification	Quantity
1	Load bank 负载箱	600*750*1332mm(W *D * H) Package size:600*750*1332mm 包装尺寸	1
2	Circuit diagram 电路图	English 英文	1
3	Operating manual 操作说明书	English 英文	1
4	Power cord 工作电源线	Chinese standard socket, 1.5 meters 国标标准插座，1.5 米	1
5	Warranty Card 保修卡		1
6	Certificate 合格证		1
7	Export wooden case 出口木箱		1