Huazheng®

HZ-5371L
Primary Current Injection Tester

Huazheng Electric Manufacturing (Baoding) Co., Ltd

Foreword

1. Sincerely thank you for choosing our company's products. You will receive our company's comprehensive technical support and service guarantee.

2. This instruction manual is applicable to HZ-5371L Primary Current Injection Tester

3. Before using this product, please read this manual carefully and keep it properly for future reference.

4. If you have any doubts while reading this manual or using the instrument, please consult our company.

Contents

I. Overview

1. Use

HZ-5371L high current generator (referred to as the current riser), our company developed its own test equipment, it sets the advantages of similar products at home and abroad in one, the use of numerical control technology, strong anti-interference ability, and the previous generation of current riser, due to the use of low power consumption, large capacity of autoregulator and high permeability of the core converter, with large output power, small size, Light weight and other advantages. Mainly used for thermal relay, motor protector, contactor, breaker, air switch, switch cabinet, circuit breaker, protective screen calibration; Used for primary bus protection and various current transformer ratio test projects, is widely used in electric power, railway, petrochemical, metallurgy and mining enterprises scientific research, production and electrical test site.

2. Main functions

◆Output 0 to 1000A current

◆ Can synchronize the operation time of the test equipment

◆ Automatic identification of normally open and normally closed contacts

◆ Several checks can be connected in series at the same time to improve work efficiency

◆ Direct display of primary current, secondary current test value, easy to observe and record the test.

3.Performance characteristics

◆6 and a half display, the country's first 6 and a half display, the display accuracy is higher, the experimental results are more accurate

◆ Large screen LCD display, display data more intuitive, faster reading

◆ Instrument display locking function, especially for the transformer change than the test can be more accurate and faster degree

◆ The use of beautiful and generous PVC panel, make the panel more resistant to dirt and wear

◆ High measuring accuracy 0.5

◆ Large power, small size, strong load capacity

◆ Small size, light weight, the volume is only 30% to 70% of similar products, it is very convenient to carry.

4.Operational attention

(1) After the wiring is completed, it should be checked again to see if there is a wiring error and whether the connector is in good contact.

(2) During the test, if there is a spark, and no abnormal phenomenon such as any display when starting, the power supply should be turned off immediately and the wiring should be checked again.

(3) In the actual wiring, the current output terminal should form a loop, otherwise the instrument will not output current.

(4) The current riser with random output wire; The output external copper wire is selected by 10A/mm100. (Two 1 meter test lines are standard)

(5) The capacity of the equipment is designed according to the short-time work of 5 minutes, such as for batch tests, the working time should be less than 5 minutes, and then the next work. If the temperature rise is done (30 minutes -24 hours), it should be prepared according to long-term working temperature rise.

II. Technical Characteristics

1. Name and classification

(1) Name: HZ-5371L Primary Current Injection Tester.

(2) Environmental group: Group III instruments in GB6587.1-86 "General Outline of Environmental Test for Electronic Measuring Instruments" (can be used in outdoor environment).

(3) Input AC 50Hz, 220V.

(4) Output single-phase 0-1000A AC current; The current can be smoothly and continuously adjustable, the accuracy is higher than 0.1 level;

The output current is the standard sine wave, the burr is small, better than the power system requirements indicator standard, ripple system

The number is less than 0.3%.

(5) Output current mode: the true RMS value is continuously adjustable;

(6) Output waveform: standard sine wave;

(7) Output opening voltage: 5-6V.

(8) Current accuracy: Each current can be smoothly and continuously adjustable, and the accuracy is higher than 0.5. The current voltmeter is displayed as the true effective value, with high precision and high stability;

(9) Current stability: 0.1%;

(10) Current waveform distortion: THD 1%;

(11) Protection Settings: overcurrent, overvoltage;

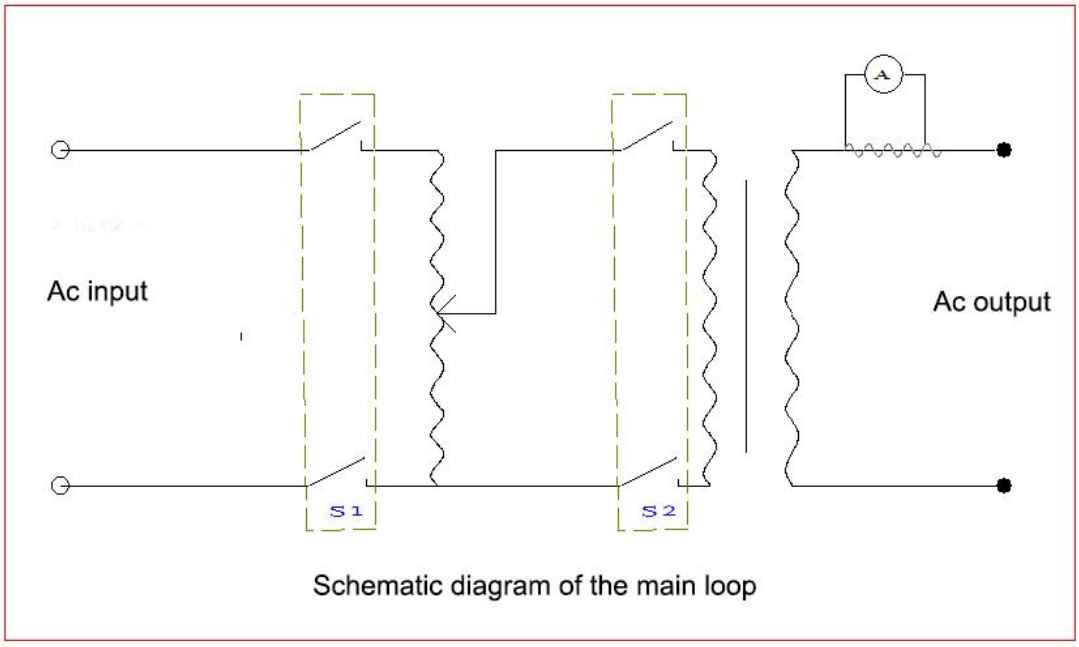
(12) The current action time of the measured component can be measured, and the locking action time can be recorded synchronously. Automatic identification of normally open and normally closed contacts.

(13) Measuring range: 0.0001S --9999.9999S, accuracy: 0.0001S

(14) Power: 5000VA

III. Working Principle

1. Block Diagram (omitted)



Schematic diagram of the main loop

2.Working principle

(1) The instrument measurement circuit includes a current measurement circuit and a current measurement circuit. (Voltage test can be increased as required) Extensible volt-ampere characteristics.

(2) The current measurement circuit includes micro-current zero-impedance CT, program-controlled amplification circuit and sampling circuit.

(3) The voltage measurement circuit includes PT isolated signal acquisition circuit, programmed amplifier circuit and sampling circuit.

(4) The 16-bit single chip microcomputer uses the digital real-time acquisition method of computer, by measuring the voltage signal amplitude, according to the voltage proportion relationship, can calculate the high voltage measurement voltage value, by measuring the voltage signal amplitude and the set voltage value to realize the automatic timing function, according to the current proportion relationship, can calculate the output current of the device. The function of overcurrent protection is realized by measuring the amplitude of the current/voltage signal and comparing it with the set value.

IV. Panel Description

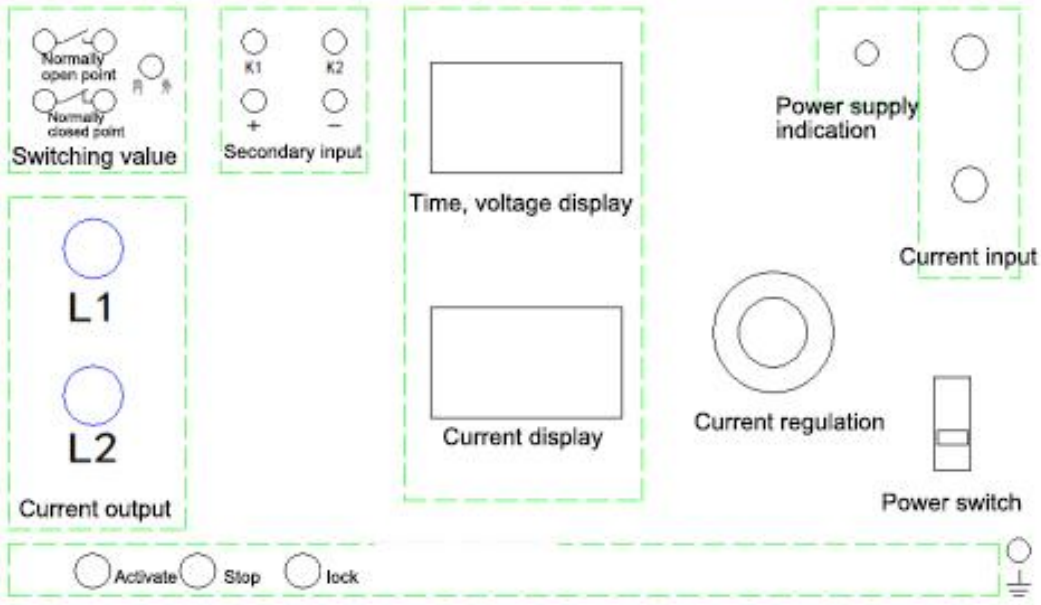


Figure 2

1, power switch: press the switch ammeter and control circuit to start working

2, start: the main circuit power supply is connected, "L1, L2" has current output

3, stop: the main circuit power supply is disconnected, "L1, L2" no current output

4, current adjustment: After the start of the test, the adjustment knob output current from the "L1, L2" end

5, time display: time detection: If the overload current is 100A, first turn out 10A, the voltage of the displayed instrument, press the "stop" switch, disconnect the test, and then start, adjust the voltage to 10 times the voltage, connect the test, press the "start" button again, the contact action, the output stops, at this time the value on the "time display" is the operation time of the tested equipment (experimental wiring is shown in Figure 2).

6, primary current: monitor the output current value of the "L1, L2" end

7, secondary current: monitor the input current value of "K1, K2" end

8, locking function: primary current, secondary current ratio locking/real-time detection switch

V. Operation Instruction

(1). action value, action time detection

1. Before the power is switched on, the "power switch" should be turned off first, and the "current adjustment" handle should be turned back to zero counterclockwise.

2, the power input end is connected to AC220V voltage, and then the "current output" terminal "L1, L2" and "switching quantity" terminal are connected to the normally open and normally closed contact of the relay under test, switch or circuit breaker with a special test line. (Note: When testing the normally open point, the "normally closed point" terminal should be short-connected with the test line, otherwise, the instrument will not start and will not be able to test.)

3, after the connection is completed, close the "power switch", and press the "start" button, clockwise slowly adjust the "current adjustment" handle, you can output current from the "current output" end, adjust to the relay action, then the current value displayed in the "primary current" table is the relay action current, after the end of the experiment press the "stop" button.

4, time detection: If the overload current is 100A, after 100A, press the "stop" switch, press the "reset" button, press the "start" button again, the contact action, the output stops, at this time the value on the "time display" is the operation time of the tested device (experimental wiring is shown in Figure 2).

(2）.Variable ratio detection:

1. Before connecting the power cord, first adjust the "current adjustment" handle counterclockwise to the zero position. The normally closed contacts are connected with short wires, the current output terminals "L1, L2" are connected to the primary side of the current transformer under test, and the secondary side of the current transformer under test is connected to "K1, K2" of the equipment.

2. Turn on the power, close the "power switch", press the "start" button, turn the "current adjustment" handle clockwise, adjust the required output current, and then conduct a characteristic test on the device under test ("primary current" display At this time, the current value output to the primary side of the transformer and "secondary current" display the output current on the secondary side of the transformer at this time. The transformation ratio of the measured transformer can be calculated based on the primary and secondary current values). After the experiment, press the "Stop" button and turn off the "Power Switch".

VI. Safety Precautions

(1) For the safety of operators and instruments, ensure that the instrument is well grounded.

(2) When preparing for the test, connect the ground wire first, and when the work is completed, remove the ground wire last.

(3) The power supply connected to the instrument must be able to withstand 30A current impact.

(4) When connecting the instrument to the test sample, pay attention to check whether the wiring is wrong to avoid damage to the equipment due to wiring errors.

(5) The maximum current value set for overcurrent protection should not exceed the rated output current value of the instrument.

(6) Do not plug or unplug any wiring while the power is on.

VII. Transportation And Maintenance

1.transportation

This product must be packed when transported. The packaging box should be a wooden box, and the packaging box should be padded with a shock-proof layer such as foam. Packaged products should be able to be transported by road, railway, or air. During transportation, it shall not be placed in an open-air carriage. Warehouses shall be protected against rain, dust, and mechanical damage.

2.store

The instrument should be stored in a ventilated room with an ambient temperature of -40℃~60℃, a relative humidity not exceeding 85%, and no corrosive gases. It should not be placed close to the ground or walls.

3.Moisture-proof

In humid climate areas or humid seasons, if the instrument is not used for a long time, it is required to be powered on once a month (about two hours) to allow moisture to dissipate and protect electronic components.

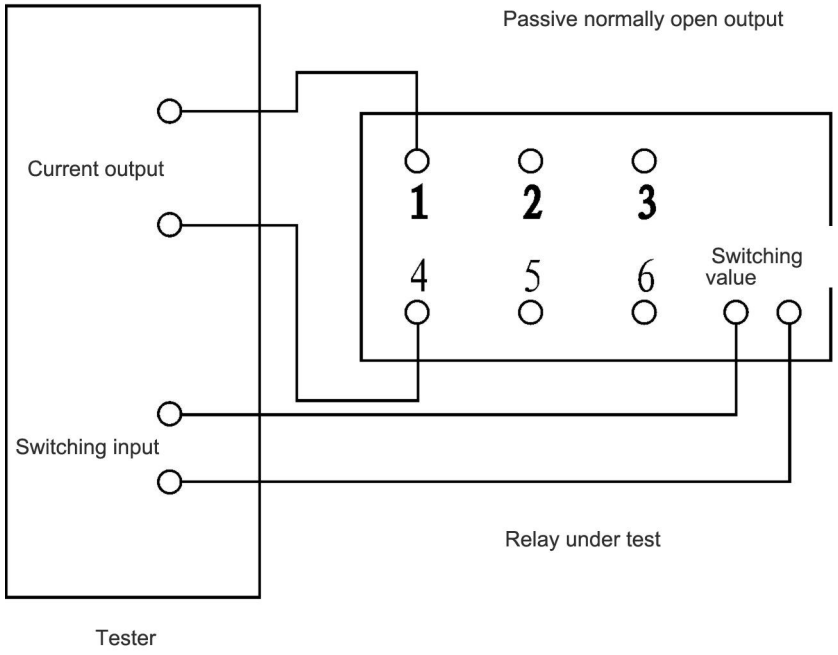
4. Protection from sun exposure

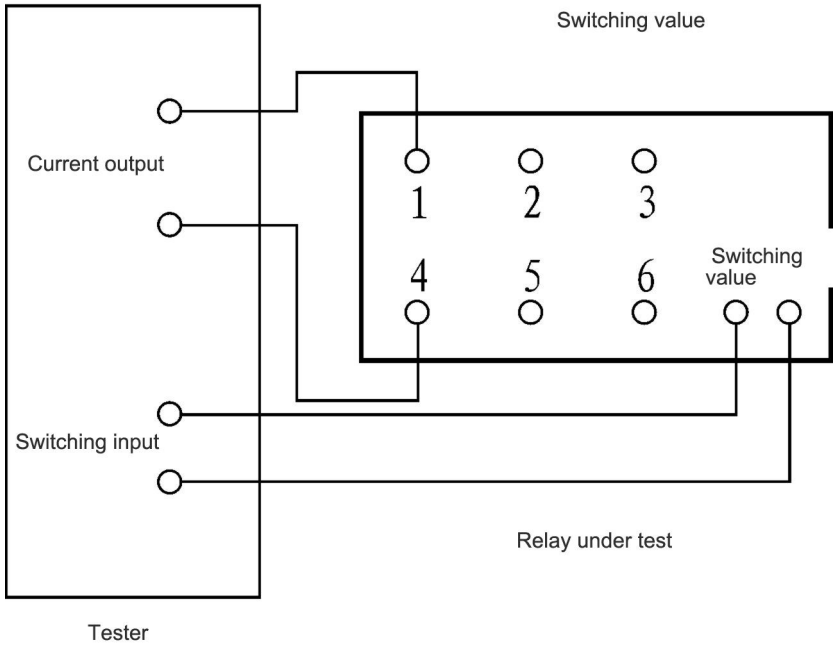
When the instrument is used outdoors, try to avoid or reduce direct exposure to sunlight to the display screen, and it cannot be placed in a particularly humid warehouse.

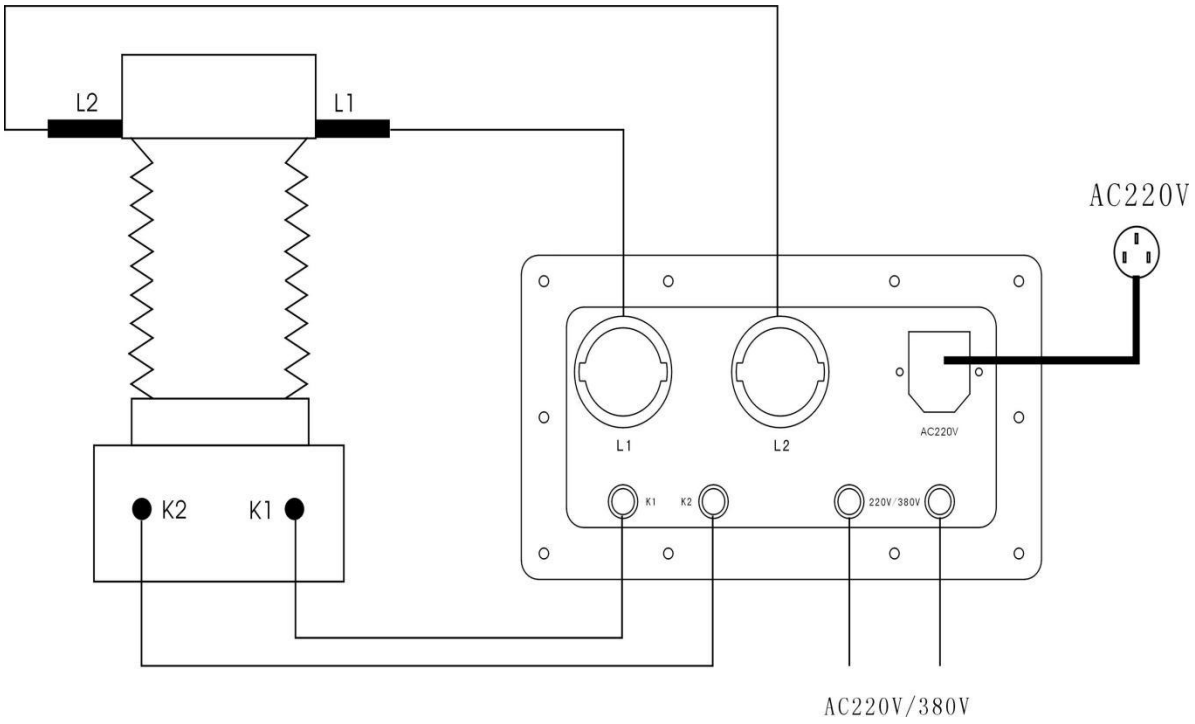
VIII. Random Accessories

No.	Item	Qty
1	Power cable	1
2	User's manual	1
3	Certificate	1
4	Warranty card	1

IX. Attached pictures






L2
L1
K2
K1
L1
L2
AC220V
K1
K2
220V/380V
AC220V
AC220V/380V