

Foreword

Sincerely thank you for choosing our products, you will get the full technical support and service guarantee of the company. Please read this instruction manual carefully before using this product and keep it for future reference. If you have any questions during the use, please contact us in time.

About this instrument.

According to the national standard GB/T1029-2008 "three-phase synchronous motor test method" and JB/T8446-2005 "hidden-pole synchronous generator rotor turn-to-turn short-circuit measurement method" requirements, in the static state, the generator rotor is used for communication. The impedance method is used for measurement.

The instrument adopts a top-opening structure chassis, which is small in size, light in weight, powerful in function and easy to operate. It is designed for field testers. The instrument is exquisite in design, superior in performance and powerful in function. It adopts the latest domestic and foreign single-chip test technology and advanced A/D synchronous sampling and digital signal processing technology. External large-screen LCD display, Chinese menu prompt, easy to operate, equipped with high-speed thermal printer, designed with storage function, convenient for data printing and storage; The data can be directly stored in the mobile U disk, and the data in the U disk can be moved at the same time, and the file format of the TXT can be directly opened on the computer. The use of the site is extremely convenient, greatly reducing the labor intensity of the testers and improving the work efficiency.

safety warning

- ☆ Please read the instruction manual carefully before use and test wiring and operation according to the requirements of the instruction manual.
- ☆ Ground the ground terminal on the instrument panel reliably before use. And follow the relevant procedures to do other general safety measures.
- ☆ This tester is recommended to be used with the ultra-low harmonic isolation type regulator. Before the device is boosted (upstream), the tester's screen has a clear indication of “put the regulator to the zero position”. However, it is still emphasized that the operator must check the regulator before it is in the zero position before pressing the "confirm" button! In order to protect the equipment and instruments from high voltage and high current.
- ☆ This tester does not allow non-professionals to open the chassis and adjust the internal components at will, in order to prevent unnecessary losses.

Table of Contents

I.Overview	4
II.Function and Characteristics	4
III.The Performance Indicators	4
III.Panel Structure and Function Description	5
V. Operating Instructions	6
(I) Automatic test (recommended)	6
(II) Manual Testing	8
(III) View historical data	10
(III) System Settings	11
VI.Use Precautions	11
VII、 Maintenance and after-sales service	12

I.Overview

The generator rotor AC impedance tester is the latest enhanced AC impedance tester introduced by our company. It has display and print AC impedance characteristics and has U disk storage function.

The instrument uses the most advanced ultra-high-speed microprocessors today, with more powerful features, superior performance and easier use. It has the characteristics of high work reliability, easy operation and high test accuracy.

II.Function and Characteristics

1. Adopt high-speed synchronous measurement technology to automatically collect, measure, display, store and print all measurement parameters and impedance characteristics (voltage, current, impedance, power, frequency, device number, time, curve, etc.).

2. The voltage and current are super-large-range, and the AC impedance and its characteristic curve of the rotor of the generator set in the dynamic and static squats can be fully and manually measured.

3. Built-in large-capacity memory, can store 1000 sets of test data.

4.It has perfect over-voltage and over-current protection functions. The over-current and over-voltage protection value is automatically adjusted according to the setting of test parameters, which is simple and ensures the safety of the equipment under test.

5.Large-screen graphic LCD, full Chinese menu interface, simple and convenient; real-time display of test data and curves, curve coordinate automatic scaling, read more clear.

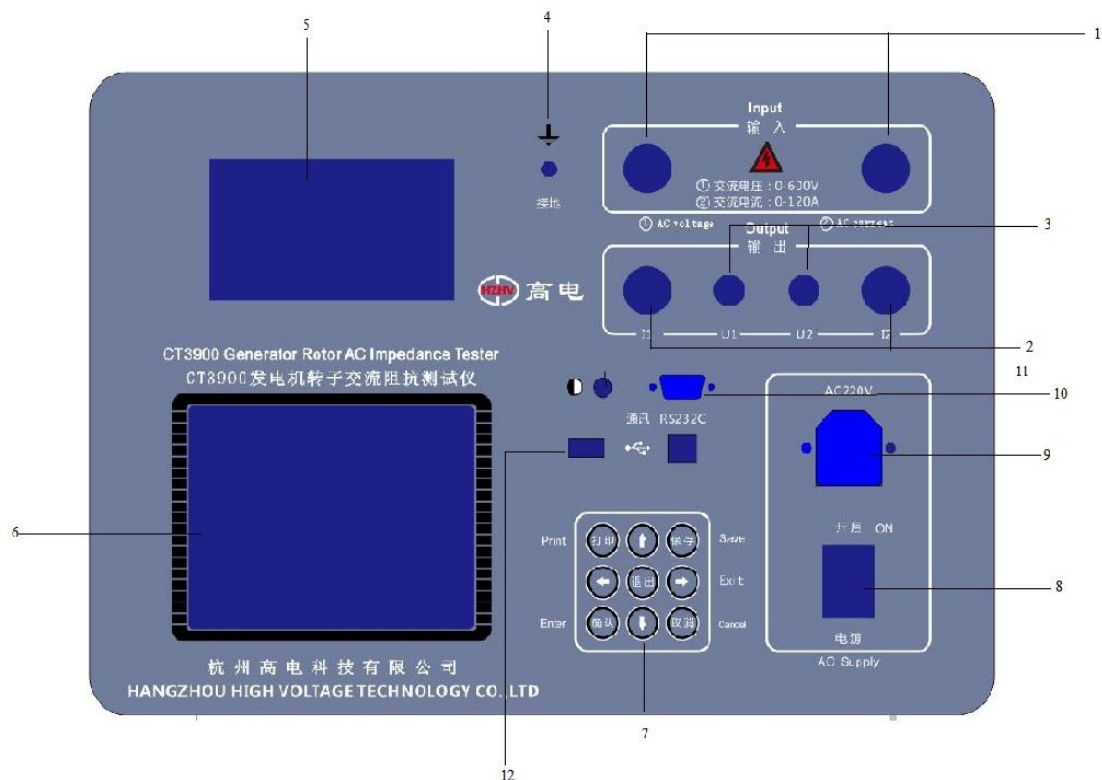
6.With U disk storage function, easy to collect and save data.

7.With its own micro printer, it can print AC impedance test report and AC impedance characteristic curve in real time.

III.The Performance Indicators

- | | | |
|------------------|--------------------|----------------|
| 1, AC impedance | 0~999.999Ω | 0.5% |
| 2, AC voltage | 0 ~ 600V | 0.2% ± 2 words |
| 3, AC current | 0 ~ 120A | 0.2% ± 2 words |
| 4, active power | 0 ~ 72KW | 0.5% ± 2 words |
| 5, frequency | 45 ~ 65HZ | 0.1 level |
| 6, working power | 220V ± 10% | 50HZ |
| 7, volume | 385 × 265 × 160 mm | |
| 8, weight | 5 kg | |

III. Panel Structure and Function Description



Picture 1. Panel structure

1. The input of the test circuit is connected to the output button of the test regulator. This machine uses a dedicated high current quick connection

The head should be rotated slightly when it is accessed and removed.

2. Test loop current measurement terminal, range 0~120A.

3. Test loop voltage measurement terminal, range 0~600V.

4. Safety ground.

5. Micro high speed printer.

6. LCD.

7. Button.

8. Instrument (220V) working power switch.

9. Instrument (220V) working power input socket.

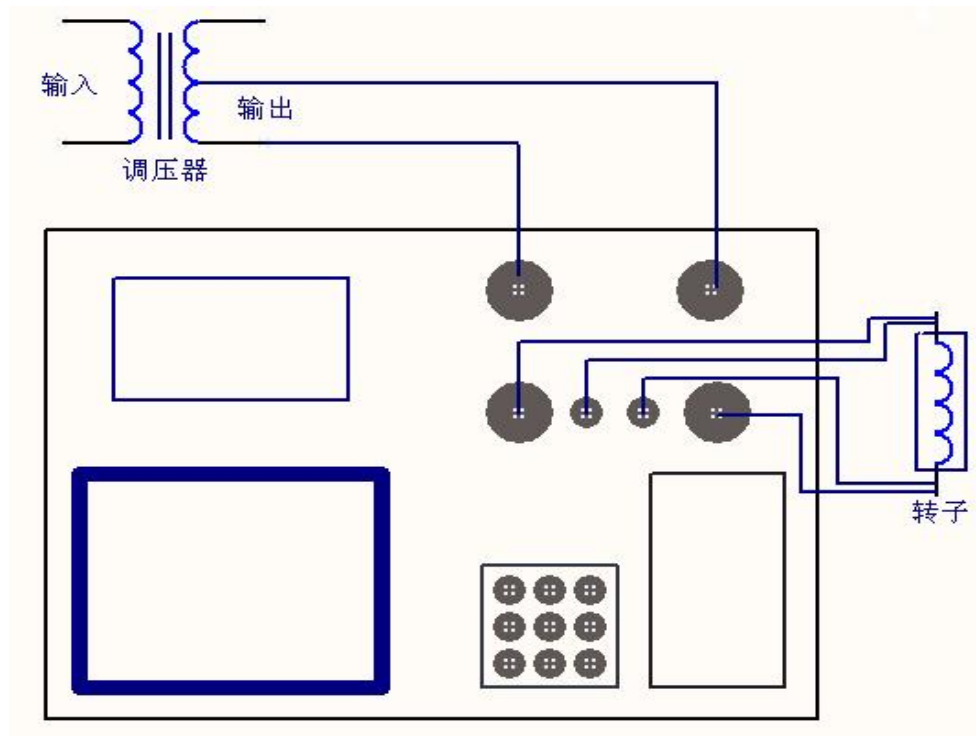
10. RS232 standard industrial communication interface, square USB port. (alternate port, not opened)

11. Display contrast adjustment hole (side). Generally, no adjustment is needed. If necessary, use a small clock driver after fully warming up. Insert fine adjustments into the holes to adjust to the best visual effect.

12. U disk interface.

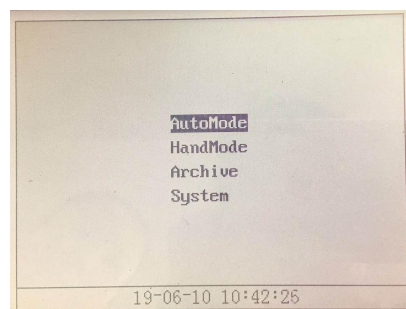
V. Operating Instructions

(I) Automatic test (recommended)

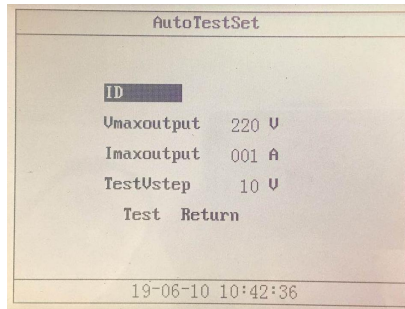


Picture 2. Rotor AC impedance test wiring diagram

- 1、 After the wiring is correct, the “working power switch” is turned on, and the main menu is displayed on the screen after the instrument passes the self-test.



- 2、 Use the cursor to select “Auto Test” and press “Enter” to enter. After entering, the screen will display “Auto Test Parameter Settings” interface.



Among them: equipment number - is used to distinguish different equipment, different test properties, times. For easy searching and technical management in historical data.

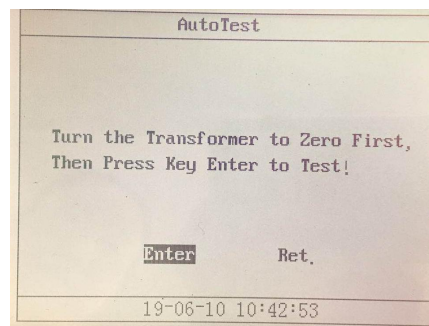
Voltage step size - refers to the value of the interval voltage between each data acquisition when data is collected on the basis of voltage; the range (5 to 50 V).

Maximum output voltage—Refers to the maximum voltage value to be tested in the test, the range (0 ~ 600V), 1.1 times the set value is the instrument's default overvoltage protection action value.

Maximum output current—Refers to the maximum current value to be tested in the test, the range (0 ~ 120A), 1.1 times the set value is the default overcurrent protection action value of the instrument.

Tip: The instrument can test up to 50 sets of data at a time. When the ratio of the maximum output voltage to the voltage step is greater than 50, the instrument will judge that the parameter setting is invalid.

3、 According to the test needs to set the above parameters, move the cursor to select "test" and then press the "confirm" button, the screen prompts:



4、 Press the “Confirm” button and the test starts. The screen displays the automatic test interface:

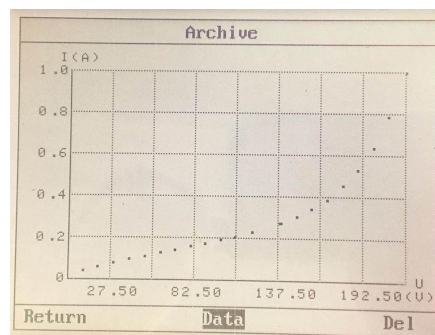
SM	U (V)	I (A)	Z (Ohm)	P (W)	F (HZ)
05	50.19	0.10	482.682	3	49.98
06	60.03	0.11	504.470	6	49.96
07	69.30	0.13	529.061	6	49.98
08	80.62	0.14	541.114	8	49.98
09	89.76	0.16	547.323	10	49.98
10	98.69	0.17	557.576	12	49.98
11	109.28	0.19	554.730	15	49.98
12	120.75	0.22	553.917	18	49.97
13	137.50	0.25	539.243	24	49.96
14	139.07	0.25	539.034	24	49.96
15	149.34	0.28	518.555	28	49.97
16	161.00	0.33	487.900	33	49.97
17	170.04	0.37	459.578	37	49.97
18	180.62	0.43	419.076	42	49.96
19	189.53	0.49	379.833	47	49.96
20	200.47	0.51	325.969	56	49.96

U=0.00 I=0.02
Graph Ret.

5、 Adjust the regulator booster instrument under this interface will automatically collect and display the measured values of all parameters at each test point. Until the maximum set voltage value is reached, the instrument buzzer sounds to indicate that the data measurement is completed. At this point, the regulator should be quickly returned to zero.

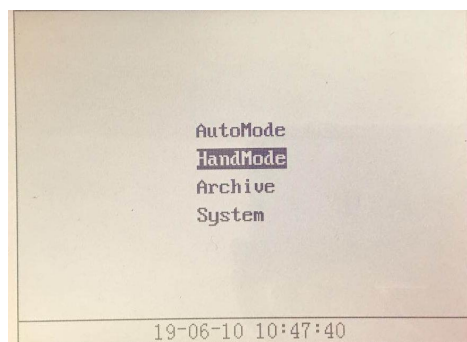
Tip: When there is a misoperation such that the output voltage or current has exceeded 1.1 times the set maximum value, the protection circuit of the instrument will operate and cut off the test circuit.。

6、 You can also move the cursor to select “Curve”. Press “Enter” to switch the screen display to the curve coordinate interface for testing. (The size of the curve coordinates is automatically generated according to the parameter size set by the experiment.) Under the curve coordinate interface, the instrument automatically measures the acquisition and dynamically draws all the test points to generate a point curve (the dotted curve helps to find the corresponding current and voltage). value). Until the maximum set voltage or current value is reached, the instrument will beep to indicate that the data acquisition is complete. At this point, the regulator should be quickly returned to zero. After the regulator returns to zero, the cursor can be selected to view the test results under the “Data” and “Curve” interfaces; in the “Data” interface, press the “Print” button. The instrument will print the “AC Impedance Test Report”; in the “Curve” interface, press the “Print” button. The instrument will print an “AC Impedance Characteristic Curve”.

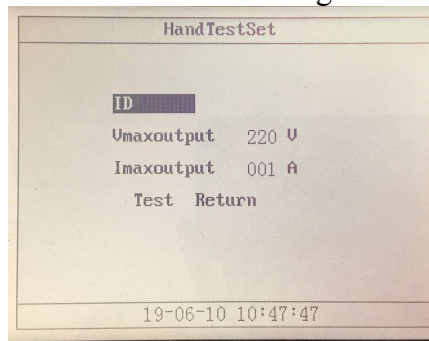


(II) Manual Testing

1. Wire as shown in Figure 2.
2. After the wiring is correct, turn on the “working power switch”. After the self-test, the screen will display the main menu.



3. Move the cursor to select “Manual Test” and press “Enter” to enter. After entering, the screen displays “Manual Test Parameter Settings” interface.



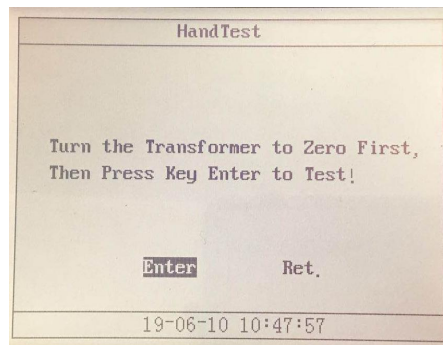
Among them: equipment number - is used to distinguish different equipment, different test properties, times. For easy searching and technical management in historical data.

Maximum voltage - refers to the maximum voltage value to be tested in the test, the range (0 ~ 600V), 1.1 times its set value is the instrument's default overvoltage protection action value.

Maximum current - refers to the maximum current value to be tested during the test, the range (0 ~ 120A), 1.1 times its set value is the instrument's default overcurrent protection action value.

4. Set the above parameters according to the test requirements, press the “confirm” button, the

screen prompts:



5. Press the “Confirm” button and the test starts. The screen displays the manual test interface:

Hand test					
SM	U(V)	I(A)	Z(Ohm)	P(W)	F(HZ)
18	98.79	0.17	574.3883	1.7	50.03
19	103.54	0.19	571.3000	1.9	50.01
20	113.33	0.20	566.1607	2.2	50.03
21	124.36	0.22	562.4559	2.7	50.01
22	129.45	0.23	555.7559	2.9	50.02
23	138.37	0.25	544.775	3.4	50.02
24	143.82	0.27	532.677	3.9	50.01
25	156.14	0.30	506.948	4.6	50.02
26	162.45	0.33	489.319	5.3	50.01
27	171.23	0.37	457.895	6.3	50.02
28	176.29	0.40	440.500	7.0	50.01
29	183.36	0.44	412.058	8.1	50.00
30	186.02	0.46	399.193	8.6	50.00
31	189.92	0.49	380.603	9.3	50.00
32	197.13	0.57	344.033	11.1	50.01
33	203.35	0.65	311.889	13.2	50.00

U=0.00 I=0.00
Graph Enter net

4. Adjust the voltage regulator boost under this interface. When the required voltage (or current) test point appears in the immediate value, move the cursor to OK. Press the “Confirm” button. The instrument will automatically collect and display a group under this test point. Measurement data for each parameter; and so on... until all required test points have been tested and the regulator is returned to zero.

Tip: When there is a misoperation such that the output voltage or current has exceeded 1.1 times the set maximum value, the protection circuit of the instrument will operate and cut off the test circuit.

7. After the regulator returns to zero, the moving cursor can be freely selected to view the test knot under the two interfaces of “data” and “curve”.

Press the "Print" button in the "Data" interface. The instrument will print the "AC Impedance Test Report";

Press the “Print” button under the “Line” interface. The instrument will print the “AC Impedance Characteristic Line”.

(III) View historical data

1. Move the cursor under the main menu to select “Historical Data”, press “Enter”, the instrument will display

All saved historical data (in chronological order).

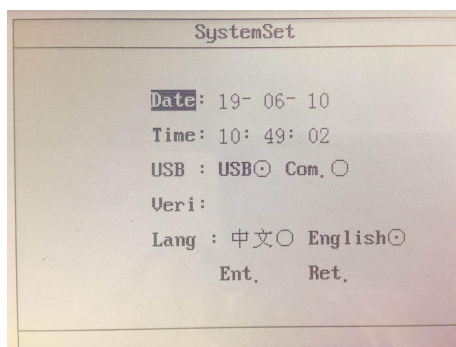
2. According to the test time and equipment number, move the cursor to select “↑” or “↓” to find the required historical data. After finding it, select it with the cursor and press “Enter”. The instrument will display all the test data of this test and Characteristic curve.

3. If you want to use U disk to export data, select Copy to U disk and press “Confirm” button. All historical data will be imported into U disk (USB should be set to U disk in system setting menu).

Archive		
Ret.	Del.	(Used11 Last989)
SN	ID	TestTime
11		2019-06-10 09:27:47
10		2019-06-10 09:27:47
9		2019-06-10 09:27:47
8		2019-06-06 16:13:39
7		2019-06-06 16:13:09
6		2019-06-06 16:12:38
5		2019-06-06 16:11:31
4		2019-06-06 16:10:43
3		2019-06-06 16:09:48
2		2019-06-06 15:12:46

(III) System Settings.

1. Move the cursor under the main menu to select “System Settings”, press “Enter”, the instrument will display the “System Settings” interface.



2. Use the “←” and “→” keys to select the modified object, press “OK” after selecting, and then use the “↑” and “↓” keys to modify the data size.

3. U disk interface: If you want to use U disk to export data, you should set the USB to U disk. It is useful if you switch from communication to U disk and you need to reboot.

4. After all the modifications are completed, move the cursor to select OK. Press the “Confirm” button, the instrument will update and save the previous settings. If you press Return, all will not change.

VI、 Use Precautions

1. Before using the instrument, you should carefully read the product manual and master the correct method of use.

2. Correct wiring during the test. Power can be supplied after checking that the wiring is correct and the connection is reliable.

3. Among the two wires of the test tong, the slightly thicker wires are current wires (I1, I2), and the slightly thinner wires are voltage wires.

(U1, U2). This instrument uses a special high-current quick connector, which should be rotated slightly when plugging and unplugging.

4. Correct operation. When testing, the regulator should be slowly boosted near the test point to ensure the reliability of data acquisition.
5. If there is a protection action during the test, it is necessary to find out the cause of the
6. abnormality and continue the test. Do not operate blindly to avoid unnecessary losses.

VII、 Maintenance and after-sales service

1. The instrument should be placed in a dry, ventilated place to prevent damage to internal components due to moisture.
2. the instrument should be kept clean at ordinary times, the panel and the chassis can be wiped with a clean moist towel; it is strictly prohibited to wipe the panel with alcohol, gasoline, banana water and other solvents, otherwise it will cause adverse consequences.
3. Care should be taken during the handling and placement of the instrument to avoid violent vibration and falling.
4. Under normal circumstances, it is not allowed to open the chassis and insert and remove internal parts to avoid unnecessary loss. 。
5. the warranty period of this product is one year, lifetime maintenance, if there is quality problem within one year, our company is responsible for free repair or replacement.