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SELECTION GUIDE

ACCURATE PROFESSIONAL

EFFICIENT CREDIBLE

Company Profile

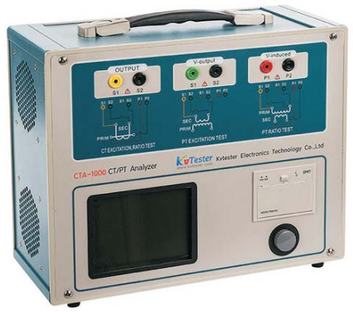
Kvtester Electronics Technology Co.,Ltd is a high technology company combines research, production and commerce as one. We are professional manufacture of electric equipments (design and production). Kvtester Electronics Technology Co.,Ltd supplys advanced HV test equipments and detection instruments for electric system ,scientific research institution and manufactures related to electric equipments. Our products widely used in electric power, water conservancy, oil, railroad, mine and chemical industry etc.

The power of development comes from our steady innovative science strategy, the root of the innovation is excellent human resource. Kvtester Electronics Technology Co.,Ltd relys on Wuhan HV research institute, Huazhong University of Science and Technology, and Wuhan University, commits to research, production and sale for testing and measuring equipments of electric power, HV test equipment, substation testing system on-site and software related to this. Kvtester Electronics Technology Co.,Ltd takes "Excellent quality, circumspect service, customer supreme ,integrity is essential" as our steady policy. We sincerely hope to cooperate with customers all over the world and make progress together.

Contents

CTA-1000C CT/PT Analyzer

CTA-1000C series transformer analyzer using the testing principle of the DC frequency conversion method, no need of pressure regulator and up flow device can be on-site to complete the comprehensive test of CT and PT, portable instrument, comprehensive function, the output voltage is low, effectively guarantee the safety of testing personnel.



Product Features

- With comprehensive functions, it can satisfy the test requirements of excitation characteristics (i.e. volt-ampere characteristic) of all kinds of CT (such as: protection, measurement, TP), transformation ratio, polarity, secondary winding resistance, secondary load, ratio error and angle error, and also can be used for the test of the excitation characteristics of all kinds of PT electromagnetic unit, transformation ratio, polarity, secondary winding resistance, ratio error, etc.
- On site calibration of current transformer doesn't need the standard current transformer, strong current generator, load box, voltage regulation control box and high-current conductor, and only very simple test wiring and operation can realize the calibration of current transformer, greatly reducing the working intensity and improving the work efficiency, and facilitating the on site calibration of current transformer. It can measure ratio error and angular error accurately. Max ratio error ±0.05% is permitted. Max angular error ±2min if permitted. It can measure 0.2S class CT and turns ratio range is 1-40000.
- It can test CT/PT volt-ampere characteristic curve and 5%,10% error curve based on the advanced frequency conversion method, only output maximum 180V of AC voltage and 12A AC current, but can cope with the CT test with inflection point of as high as 60 KV. The test can meet GB1208 (IEC60044-1), GB16847 (IEC60044-6), GB1207 and other kinds of transformers.
- With full English dynamic graphical interface, it can complete wiring and parameters setting without reference to manual. It can conduct dynamic display of parameter settings and automatic display of relevant parameters according to the currently selected test item. It also can conduct dynamic display of wiring diagram, and display corresponding wiring diagram according to the currently selected test item.
- Auto test CT/PT parameters on knee point voltage/current, 5% and 10% deviation curve measurement, accuracy limit factor (ALF), safety factor (FS), second time constants (Ts), residual magnetism factor(Kr), saturated and unsaturated inductance.
- It is easy to use. To test CT DC resistance, excitation and polarity only need one button. All CT tests adopt same one connect method except load test.
- Panel comes with printer, can automatically print the test report .The test results can be exported with USB disk, and program can be upgraded with USB disk, convenient and quick. It can store 1000 groups of test data, and data will not lose during power failure. With background analysis software to facilitate the test report of the preservation, conversion, analysis, can be used to test data comparison, judgment and evaluation.

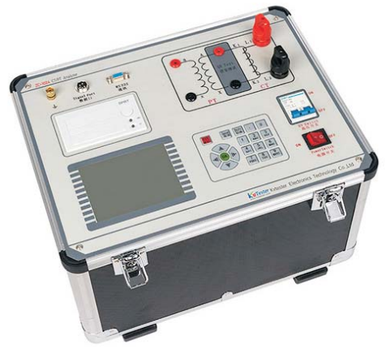
Technical Parameter

Type		CTA-1000C
Usage		CT,PT
Output		0～180Vrms,12Arms,36A(peak value)
Voltage measurement accuracy		0.1%
CT Ratio	Range	1～40000
	Accuracy	0.05%
PT Ratio	Range	1～40000
	Accuracy	0.05%
Phase	Range	2min
	Accuracy	0.5min
DC resistance	Range	0～300Ω
	Accuracy	0.2%±2mΩ

Burden	Range	0～1000VA
	Accuracy	0.2%±0.02VA
Power supply		AC 220V±10%,50Hz
Environmental Conditions		Operating temperature: -10℃～50℃
		Humidity: ≤90%
Weight and Dimensions		Dimensions: 365mm×290mm×153mm
		Weight: ≈10kg

ZC-102A CT/PT Volt-Ampere Characteristic Tester

ZC-102A Transformer comprehensive tester can measures of CT, I-V curve and curve, 5%, 10% error curve according to the polarity of the national standard, DC resistance, and ratio; direct measurement of voltage transformer turns ratio; qualitative measurement of voltage transformer ratio error and polarity; field measurements of the actual secondary load of current and voltage mutual inductor and so on.



Product Features

- Only need to set the test voltage, current and step, the device will boost and describe the voltage current characteristic test curve automatically, save manual pressure regulation, artificial record, tracing curves, and so cumbersome labor. Quick, simple and convenient.
- Wiring is simple, simple wiring can test the entire PT, CT.
- Comprehensive functions, which can test the volt ampere characteristics of CT, ratio and polarity, CT 5% and 10% error curve, flow test, AC withstand voltage test.
- If the output voltage cannot meet the requirements of the single machine, we also can use external booster test.
- Instrument using 220V power input, avoid the risk of using 380V.
- Volt ampere characteristics test unit output voltage 0-2500V, the current 0-20A; the booster output voltage 0-4000V, current 0-1.5A, can do the volt ampere characteristics test of current 0-1.5A grade 1A.
- Large screen liquid crystal display, the test can be showed by the volt ampere curve directly, intuitive and convenient.
- With a miniature printer, the test data can be printed conveniently, the digital keyboard is adopted, and the digital input is convenient.
- With a large capacity memory, can store 1000 sets of test data will not lost when power off.
- Rs232 communication interface can be connected to the computer for testing, test data can be uploaded to the computer to edit and save.

Technical Parameter

	Input voltage	Output range	Measuring range	Accuracy
Instrument Host	220V	0～600V, 0～20A	0～600V, 0～20A	0.5%
	380V	0～1000V, 0～20A	0～1000V, 0～20A	0.5%
	220V	0～600A	0～600A	Ratio Accuracy 1%
External booster	220V	0～1650V, 0～3A	0～1650V, 0～3A	0.5%
	380V	0～2000V, 0～3A	0～2000V, 0～3A	0.5%
External current generator	220V	0～1000A	0～1000A	Ratio Accuracy 1%
External voltage regulator			0～1000V, 0～30A	0.5%
Instrument Power supply	AC 220V/380V 50Hz	Dimension	420mm×330mm×320mm	Weight: 24kg

ZC-121A PT Excitation Characteristic Tester

ZC-121A PT excitation characteristic tester is developed specifically for PT excitation characteristic, no-load characteristic measuring equipment factory according to national standard 'GB/T 22071.2-2008 transformer test guidelines for Part 2: electromagnetic voltage transformer' provisions,combined with the actual needs of the transformer manufacturers, and China Electric Power Research Institute, Wuhan High Voltage Research Institute jointly.The instrument uses advanced DSP+FPGA technology, tracking and measuring speed, to capture the data accurately, more powerful, easy to use, in the domestic leading level.

Product Features

- Full automatic acquisition, measurement, display, storage, print all measurement parameters and excitation characteristic curve (voltage, current, power, frequency, etc.).
- Ultra large scale, can automatically and manually measure the set point of the excitation data.
- Supports up to 100 sets of preset test parameters, when doing the test only needs to enter the number of preset parameters of the test sample can be transferred out of the sequence value of the capture point, greatly improving the efficiency of the test.
- Built-in large capacity memory, storage test data, and the industry standard communication interface (RS232) uploaded to the PC machine, random software to achieve data upload, automatic generation and editing the typical test report, for the technical management and archiving.
- With the function of over-voltage and over current protection, the protection value is automatically adjusted according to the test parameters, which is simple and convenient and can ensure the safety of the test equipment.
- Aslo can do the test for the voltage (current) transformer, arc suppression coil volt ampere characteristic test.

Technical Parameter

Voltage measurement	0～300V	0.2 Level
Current measurement	0～20A	0.2 Level
Active power	0～6kW	0.5 Level
Frequency	40～75Hz	0.1 Level

ZC-121B PT Multiple Frequency Induced-voltage Test Set

ZC-121B is used for checking the vertical insulation between turns, layers, sections and phases of the transformer winding. It is small and light, with stable performance, and also easy to operate.

Product Features

- Multi-use of one machine Not only can be used as transformer induction voltage test, but also can be used to do the volt ampere characteristics test.
- Avoid over voltage With high impedance capacitive voltage divider can directly monitor the sideof the high pressure automatic completion of the induction voltage test.
- Simple operation Pressure can be divided into automatic compression and manual pressurization,optional 30Hz～200Hz frequency range of constant pressure output.
- Comprehensive protection The instrument has the perfect function of over voltage and over current protection, and can be set by the user.
- Show fresh Back light type large LCD screen, display a clear, simple and clear operation interface.
- Print fast Built-in miniature high-speed thermal printer can quickly print the contents of the display.

Technical Parameter

Capacity	10kVA (Extensible)	Output frequency	30Hz～200Hz
Input voltage	Three-phase, AC380V±10%(Note: single phase 220V can also be connected to the power input of A, C end; but this time the device output capacity by half)	Frequency resolution	0.1 Hz
		Voltage resolution	0.01V
		Current resolution	0.001A
Output voltage	0～400V	Precision of voltage and current	1%
Output current	0～17.5A	Output waveform distortion rate	<2%

ZCLC-6 Automatic CT/PT Test Bench

The test bench can do the simultaneous measurement of multiple transformer volt ampere characteristic / excitation characteristics, DC resistance and other functions only need connect the wire once time, and have the ability to operate the computer connection, a plurality of mutual inductor test results directly into the computer to form reporting standards, greatly improve the test efficiency and test accuracy.

Product Features

- Supporting the test function of the transformer excitation characteristic and DC resistance, and can expand the function according to the need.
- Full automatic acquisition, measurement, display, storage, prints all measured parameters (voltage, current, time, etc.).
- Output voltage, wide current range, high power, range automatic switching, support for automatic and manual two kinds of measurement mode.
- Built-in large capacity memory, storage test data, and the industry standard communication interface (RS232) uploaded to the PC machine and supporting software can realize data download, automatic generation and editing the typical test report, facilitating technical management and archive.
- Support 6/12 channel test, once time wire connection can be automatically completed more than one transformer test, greatly increasing the efficiency of testing. Support to capture the 18 sampling point settings, and can accurately capture the corresponding measuring point.
- With a large screen LCD, full Chinese menu interface, the cursor prompts, simple and convenient. Real time display test data with the curve, curve coordinate automatic scaling map reading more clearly.

Technical Parameter

Input Voltage	AC 220V±10%	DC output	Automatic/5mA/100mA/1A/5A/10A
Output capability	0～500V, 0～10	Resolution ratio	0.1μΩ
	0～4000V, 0～1.25	Direct resistance measurement range	0.1mΩ～200kΩ
Acapacity	5kVA	Excitation characteristic accuracy	0.2 Level
Measurement accuracy	0.5Level	DC resistance accuracy	0.2 Level
		Measurement accuracy	0.5 Level

ZCHG-12 High-speed Transformer Calibration Device

ZCHG-12 CT/PT error tester is for testing the voltage /current transformer error and impedance / admittance parameters and transformer power frequency withstand voltage, which is ideal equipment for power system and other departments' test of transformer.

The integral device is composed of a mutual inductor calibration instrument, a load box, a speed mutual inductor calibration table, a speed transformer control console, and other parts. Through PC transformer error management software to set the mutual inductance type, range, accuracy class, secondary load, power factor, measured transformer and the main parameters, a rise process flow (3-5 minutes) can do the work for 12 current transformers' error correction inspections with the realization of the real speed checking function.

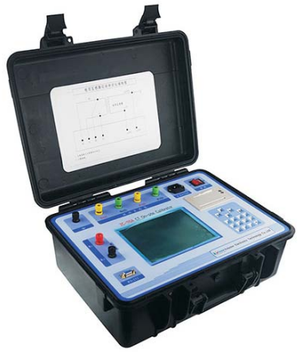
Product Features

- The device uses the programmed control technology for the fine adjustment, which makes the position of the test point more rapid and accurate.
- The device in a plurality of current transformer measurement speed with the improvement of quality, in 3 - 5 minutes of time can do the measurement for any twelve transformation ratio of current.
- The device configuration of the 5A standard current transformer, the current load box configuration of the 5A load value 2.5VA-60VA, the voltage load box configuration of the 100V load value from the 1.25VA-158.75VA basically meet the user's requirements. Load box can be automatically switched in the measurement.
- The device can be used for the measurement of the rules and non regulation of transformer, users can specify the measurement of any percentage point.

Technical Parameter

Standard accuracy	0.05SLevel	Impedance / admittance	0.0001～60.0
Measuring range	F(%): 0.0001～200.0	Impedance resolution	0.0001
	δ(min): 0.001～999.9	Accuracy grade: 2Level	△f=±(2%×f+2%×δ±2 words)
Resolution ratio	F(%): 0.0001		△δ=（ 2%×f+2%×δ±5 words)
	δ(min): 0.001	Voltage	100/3V, 100/√3V, 100V, 150V, 220V
		Current	1A, 5A

ZC-110 CT On-site Calibrator



Product Features

- Test and display the upper & lower limiting load and any error (ratio, phase-angle difference) of national standard test CT.
- Test and display any two groups actual load standard and any error (ratio, phase-angle difference)
- Test the known and the unknown CT ratio.
- 302×240 LCD; easy to connect wire and operate, convenient to carry.
- Can store and print all test results, convenient to users to review.
- Our portable power source is optional (rechargeable for 1 time, can test 100 current transformers).

Technical Parameter

Measurement Range	5A/5A-31500A/5A or 5A/1A-6300A/1A
CT Working Range	1%～120%
CT Secondary Load	2.5VA～300VA, COSϕ=0.1-1.0
CT Accuracy Range	1.0, 0.5, 0.5S, 0.2; 0.2S
Resistance Trans-admittance Error	≤5.0%
Resistance Trans-admittance Range	R: 0.00Ω～20.0Ω Y: 0.00mS～100.0mS
Power Consumption	20VA
Measurement Accuracy	0.05S
Dimension	460mm×350mm×135mm
Weight	10.0kg

ZC-105C Secondary Step-down & Load Tester

The composite error of the electric energy measurement is the key problem when testing the electric equipments, which composed by the resultant error of the current or voltage transformer, electric meter error and voltage drop error of the secondary circuit, among the four errors, the last one is the biggest.

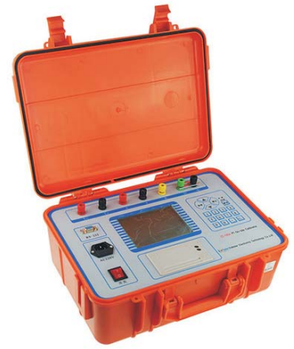
Product Features

- Can realize three phase three wire, three phase four wire and single test.
- Use industrial plastic case, strong and durable, ensure the safety of the test personnel and system.
- Can auto shift the measurement range , ensure the accuracy.
- Electronic circuit combined with DSP technique, good stability and strong anti-interface ability.
- Auto calculate all the parameters refer to load after finished the test, convenient customers to analyze and test.
- With LCD, menu operation, the test results can be stored after power off, can transmit the data connect with computer.
- Use high capacity 7.2V11Ah lithium battery as power supply, no effect to loop, prevent the protection of the system. It also can be used if there was not power supply source on site.
- Use clamp ammeter to sample current in the secondary load test, need not disconnect the secondary circuit. Realize online test without power off.

Technical Parameter

Secondary Voltage Drop	Measurement range	Ratio: 0.001%～19.99%
		Angle difference: 0.01'～599'
		Resolution: ratio: 0.001%
		Angle difference: 0.01'
		Intrinsic error: 1%
PT Secondary Load	Admittance measurement range	0.01ms～50.0ms
	Accuracy	1%
CT Secondary Load	Impedance measurement range	0.1Ω～50.0Ω
	Accuracy	1%

ZC-120A PT On-site Calibrator



Product Features

- Test and display the upper & lower limiting load and any error (ratio, phase-angle difference) of national standard test PT.
- Test and display any two groups' actual load standard percentage point and any percentage point error (ratio, phase-angle difference).
- Test ratio and polarity of the PT.
- 640×480LCD; easy to connect wire and operate, convenient to carry.
- Can store and print all test results, convenient to review.

Technical Parameter

Measurement Range	6kV, 6kV√3, 10kV, 10kV/√3, 15.75kV, 15.75kV√3, 20kV, 20kV/√3, 27.5kV√3, 35kV, 35kV√3, 100kV√3, 200kV√3
CT Working Range	20%～200%
CT Secondary Load	2.5VA～600VA、COSϕ=0.8
CT Accuracy Range	1.0, 0.5, 0.2, 0.1
Resistance Trans-admittance Error	≤5.0%
Resistance Trans-admittance Range	R:0.00Ω～5.0Ω Y:0.00mS～200.0mS
Power Consumption	20VA
Measurement Accuracy	0.05S
Dimension	460mm×350mm×135mm
Weight	11.0kg

ZC-120B Capacitive Voltage Transformer On-site Tester

To check the error of capacitive voltage transformer (CVT) are mostly used in series or parallel resonance boosting method, complex test wiring, required for a wide range of equipment are very bulky, site calibration of difficult to carry out.

ZC-120B capacitive voltage transformer field tester can measure the actual error of high voltage in the case of low voltage, the single equipment can meet the field capacitive voltage transformer error measurement.

Product Features

- No need to boost the source, the standard transformer, the load box, can realize the field test voltage transformer ratio difference, the angle difference, the test result completely satisfies the national mutual inductor verification Regulation.
- With polarity, ratio, connection check function; single testers can finish the measurement of voltage transformer error.
- The test instrument adopts frequency conversion technology, digital processing, with strong anti-interference ability.
- The maximum voltage of the test process is not more than 4KV, and takes multiple protection measures to ensure personal and equipment safety and reliability.
- Instrument with a dual USB communication port, the instrument can be imported into the U disk internal data greatly facilitate the field data management.
- Automatic test data for the whole, and to determine whether the data is ultra poor, super bad data using anti black display, the data characteristics of the device is intuitive and clear.

Technical Parameter

Accuracy of error measurement	0.05%	Voltage range	0～100V(Dial indicator error0.5%)
Accuracy of partial votage ratio measurement	0.5%	Ratio difference	0.001%～3%(100V)
Accuracy of voltage division capacitance measurement	2%	Angle difference	0.00′～50′(100V)
Accuracy of DC resistance measurement	0～0.1Ω 3%	Admittance	0.1mS～99.9mS
	0.1～50 1%	Error	X=(2%×X+2%×Y2 words)
Internal standard voltage transformer	0.02level		Y=(2%×X+2%×Y2 words)

ZC-202B Transformer Capacity and Load Tester

Product Features

- It can measure the no-load current, no-load loss, short circuit voltage and short circuit (load) loss of the transformer.
- The instrument automatically switches the range, allowing the measurement of voltage, current range wide, simple wiring.
- Do three-phase transformer no-load, load test, the instrument can automatically determine whether the wiring is correct, and display the three-phase voltage, current vector.
- All test results are automatically corrected. The instrument can carry out many kinds of correction, such as waveform correction, temperature correction, non rated voltage correction, non rated current correction and so on.
- The instrument can be preset by the user 40 sets of sample parameters, and these parameters can be deleted at any time as required, and the use is very convenient.

Technical Parameter

Measurement Range	Voltage: 10～650V
	Current: 0～100A
Frequency	45Hz～65Hz
Accuracy	Voltage, current, frequency: 0.2
	Power measurement error＜0.5% (Cosϕ＞0.1), ±1.0% (0.02＜Cosϕ＜0.1)

ZC-204B Transformer Short-circuit Impedance Tester

Low voltage short circuit impedance test is the identification of operation in the transformer under the impact of short-circuit current, which is the most direct method to check the winding deformation of the transformer affected by mechanical impact in the transportation and installation; it for the judgment of transformer can put into operation has important significance, is one of the examination to determine whether the transformer requirements disintegration .

ZC-204B transformer short-circuit impedance tester has the internal adjustable power output and do not need the outside pressure regulator, only need to provide 220V power supply can be tested, especially suitable for the field of 110kV level and above the main transformer for low voltage short circuit impedance measurement.

Product Features

- The tester with adjustable power output, both single-phase and three-phase transformer, can be used to complete all windings of the measurement only need connect the wire once time, testing and wiring simply; inside of the instrument uses a phase-locked loop technology, synchronous sampling AC signal, measurement data is accurate.
- Test and algorithm is to meet the <DL/T1093-2008 power transformer winding deformation detection and judgment>, and automatically calculate the short-circuit impedance, reactance and inductance value of each phase.
- Test data can be imported into the computer to facilitate further analysis or storage; support external power supply, expand the test power.
- Through the anti large screen liquid crystal, in the sun can be clearly displayed; all Chinese menu and operation tips, simple and intuitive operation.

Technical Parameter

Easurement accuracy: Voltage, Current: 0.2class	Power: Cosϕ＞0.1: 0.5 class; Cosϕ≤0.1: 1.0class
	Impedance: Cosϕ＞0.1: 0.5 class; Cosϕ≤0.1: 1.0class
Voltage measurement range	AC 3V～300V
Internal power output range	Voltage: 0～250V; Current: 0～10A
Current measurement range	AC 0.2A～20A
Working temperature	−10℃～50℃
Working humidity	0～80%
Working power supply	AC 220V ± 10%;50Hz ± 1Hz
Outline dimension	360mm×220mm×150mm
Weight	5Kg

ZC-203C Transformer Ratio Tester

Product Features

- The internal integrated amplitude of the instrument is stable and adjustable, the phase is constant, and the output current is large.
- The device can be used for testing various transformers, current transformers and voltage transformers, and is especially suitable for the test of the Z type winding transformer, the rectifier transformer and the balance transformer.
- The test precision is high, and the instrument adopts 16 bit high precision AD converter and DSP (digital signal processing) chip, which can ensure the accuracy of the measurement and the ability of anti disturbance.
- Measurement speed, a set of data test need a few seconds, in the multi - test process of the transformer only need set once the parameters can be completed all the sub - test, greatly improve the efficiency of work.
- According to the test sample, the instrument can automatically adjust the range, and according to the excitation current of the sample the output power can be adjusted automatically.
- The interior has a thermal protection, with automatic check wiring function.

Technical Parameter

Environment condition	Temperature: -5℃～50℃
Relative humidity	＜95%(25℃)
Altitude	＜2500mm
External interference	No special strong vibration, no special strong electromagnetic field
Power supply	160VAC～280VAC, 45Hz～55Hz
Output range	20V: Voltage0～20V Current 0～10V; 50V: Voltage0～50V Current0～5A
The ratio test range	1～4000
Group test range	0～11
Angle measurement range	0°～360° or -180°～180°

ZC-202A Transformer No-load & Load Tester

Product Features

- Configuration flexibility can increase or decrease the test item.
- With overload alarm, test reminders, misuse protection and other functions.
- It has high voltage precision current, voltage transformer, standard high voltage switch cabinet assembly, safe and reliable.
- Table set up test chain protection, over voltage protection, voltage, current, frequency of the whole monitoring, pressure time.
- Can effectively reversed pressure, test transformer, intermediate transformer, intermediate frequency generator, high voltage transformer is the implementation of remote control and monitoring to the operator's safety operation.
- The system has fully automatic operation mode and manual operation mode, which can effectively improve the efficiency of the test and the fault location.

Technical Parameter

Tested transformer capacity	500kVA～63000kVA
Voltage level	6kV, 10kV, 35kV, 110kV, 220kV
DC resistance measurement accuracy	0.2% electromagnetic field
Measure the current	2A, 5A, 10A, 20A
Measuring range	2mΩ~2KΩ
Ratio measurement accuracy	Ratio measurement accuracy: 0.2%, Measuring range: 1～10000
No-load current, short circuit impedance measurement accuracy	0.2%
Measurement accuracy of empty load loss	0.2% ± 0.05D; Power factor: 0.01～1.00
AC output voltage	50kV～100kV～200kV
Induced output voltage	800V～22kV～70kV

ZC-205A Transformer DC Resistance Tester

DC resistance measurement of transformer winding is an essential test during transformer delivery, repair and changing tapping switch. Usually, it is a time consuming task to use traditional methods (bridge method and voltage step down method) to measure transformer winding and DC resistance of high-power inductive device. In order to change this situation: shorten measurement time and reduce the staff's workflow, our company has developed ZC-205A Transformer DC Resistance Tester.

Product Features

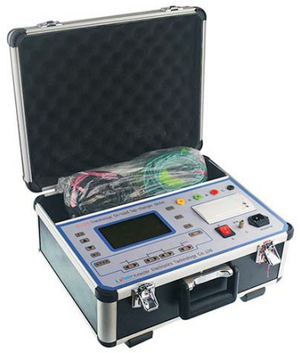
- The whole machine is controlled by the high speed single chip microcomputer, the automation degree is high, and the operation is simple.
- The instrument adopts new power technology, and the measuring range is wide.
- Protection function is perfect, can reliably protect the counter potential of the impact of the instrument, the performance is more reliable.
- Fast response speed, the instrument measurement data is stable, the instrument test process automatically refresh data.
- Intelligent power management technology, the instrument is always working in the minimum power state; effectively reduce the internal heat, save energy.
- The instrument has no power down clock inside.
- Instrument has no power down memory, can store data permanently.

Technical Parameter

Output current	Automatic, 10A, 5A, 1A, 200mA, 40mA, ＜5mA	Range	100Ω~200KΩ	＜5mA file
Resolving power	0.1μΩ		1Ω~500Ω	40mA file
Accuracy	0.2%		100mΩ~100Ω	200mA file
Working temperature	0~40℃		5mΩ~20Ω	1A file
Working humidity	＜90%RH,No condensation		1mΩ~4Ω	5A file
Outline dimension	390mm×205mm×290mm		0.5mΩ~2Ω	10A file

ZC-220 Transformer On-load tap-changer tester

ZC-220 Transformer On-load tap-changer tester applies to measure and analyze loading tap switch property index of power transformer and special transformer. It is controlled by computer; using special loops to test the transition time, transiting wave, transition resistance, and three-phase synchronism of tap switch, etc.



Product Features

- Test Y0 Y △type transformer, display the resistance without conversion;
- Data analysis of human nature, you can automatically identify the fault in the middle of the waveform, and make a mark;
- Waveform display is automatically adjusted according to the sampling data and the resistance to the magnitude of the time;
- The △type transformer can display the three-phase synchronization;
- The test can be carried out with or without winding;
- There are four terminal connection modes, to provide high precision resistance measurement, and no need to wire compensation.

Technical Parameter

Three phase constant current source charging,charging current	3A/1A gear; 0.6A/0.2A gear	Sampling rate	30k
		Time resolution	0.1ms
Port maximum voltage	24V	Resistance resolution	0.1Ω
Maximum range of resistance	100Ω	Accuracy	Excessive resistance: 5%reading±0.1Ω
Measurement range of excessive resistance	1A gear: 0.4Ω～20Ω		Excessive time: 0.5%reading±0.2mS
	0.2A gear: 10Ω～100Ω	Usage temperature	300ms
Waveform record time length	300ms	Using relative humidity	＜85% RH

ZC-206 Transformer Winding Deformation Tester

ZC-206 Transformer winding deformation tester quantizing windings parameter changes in different frequency domain, according variance, range, extent and trend of frequency response, to decide deformed extent of the windings, and then decide if the transformer was badly damaged or needed major repairs according the testing results. The device with compact structure, it is easy to operate.

Product Features

- Acquisition control using high speed, high integrated microprocessor;
- High resolution dB measurement, dual channel 16 bit A/D (field test to change the tap switch, and there is a significant change in output).
- The communication USB interfaces connect the notebook computer and the instrument; the wireless Bluetooth interface between the notebook computer and the instrument.
- Hardware movement using DDS dedicated digital high-speed scanning technology (the United States), through the test can accurately diagnose the winding distortion, drum package, shift, tilt, turn to short circuit deformation and the interphase contact short-circuit fault.
- The signal output amplitude can be adjusted by software, the maximum amplitude is ± 10V.

Technical Parameter

Scanning mode	Automatic, 10A, 5A, 1A, 200mA, 40mA, ＜5mA	Scanning measurement range	(0.5kHz)～(1MHz)	2000 Sweep frequency
Sweep frequency Measurement range	(1kHz)～(2MHz) 2000 Sweep frequency point; resolution ratio 1kHz range.		(0.5kHz)～(10kHz)	resolution ratio 0.02kHz
			(10kHz)～(100kHz)	resolution ratio 0.02kHz
Measurement accuracy	0.1dB		(100kHz)～(500kHz)	resolution ratio 1 kHz
Scanning frequency accuracy	＜0.01%		(500kHz)～(1000kHz)	resolution ratio 1 kHz

ZC-221 Tan Delta Tester

This device is a high accuracy tester to test tangent of dielectric loss and capacitance of various HV electrical equipments for generations and substations. It also applies to workshop, laboratory and R&D institutions.

Product Features

- LCD display, mass storage data, the instrument data can be exported through the U disk, and can generate a work report.
- Many test modes: internal high voltage, external high voltage,internal standard, external standard, positive connection method, reverse connection method, self excitation method in a variety of ways to test; under the high pressure of outside the standard can do the high voltage of more than 10kV) dielectric loss test.
- CVT test one-step process: to test the full sealed CVT (capacitive voltage transformer) C1, C2 dielectric loss and capacitance, to achieve the C2, C1 testing at the same. The instrument can also test the CVT ratio and voltage angle difference.
- Multiple protections safe and reliable:with input voltage fluctuation, output short circuit, overvoltage, over current, temperature and other multiple protection measures.
- The instrument is equipped with high voltage transformer, and takes safety protection measures against lightning, zero switching.

Technical Parameter

High voltage output: 0.5~10kV	Each files to increase the 500V, a total of twenty files, capacity: 1500VA	Power supply	AC 220V±10% 50±1Hz
		Measurement method	Power frequency: 50Hz
Accuracy	Tgδ: ±(reading×1.0%+0.04%); Cx:±(reading×1.0%+1PF)		Pilot frequency: 45Hz/55Hz Automatic frequency
Resolving power	Tgδ: 0.01% Cx:1pF	Harmonic adaptation	⩽3%
Measuring range	0.1%＜tgδ＜100%	Service condition	-15℃～50℃ relative humidity＜80%
	3PF＜Cx＜60000PF	Outline dimension	460mm×345mm×350mm
	10kV, Cx⩽30000PF	Weight	35Kg
	5kV, Cx⩽60000PF		

ZC-210B Automatic Insulating Oil Dielectric Strength Tester

This equipment was designed on basis of GB-86《Oil-insulating testing》, the process and result displayed by LCD, built-in EEPROM, can save 100 groups test results, all work can finished by mouse, test results printed by micro printer. This equipment is easy to operate, with powerful functions, stable and reliable, with strong anti-jamming ability, without death halt during the test.

Product Features

- The device has wide scope of the watchdog circuit to prevent the death machine;
- Various operation options, the instrument program has GB507-1986, GB507-2002(IEC 156:1995) two national standard methods and custom operation, can adapt to different user's various choices;
- The instrument oil cup is cast in a special glass, which eliminates the interference phenomenon such as oil leakage;
- The unique high voltage end sampling design of the instrument allows the test value to go directly into A/D converter, avoiding the error caused by the simulation circuit and making the measurement results more accurate;
- The instrument has the function of flow, overpressure, short circuit, etc., and has the strong anti-interference ability and electromagnetic compatibility;

Technical Parameter

Booster capacity	1.5kVA	Overall dimensions	410mm×390mm×380mm
Booster speed	2.0kV/s, 3.0kV/s, optional	Instrument weight	26kg
	Poor miss: 0.2kV/s	The environment temperature	0~40℃
Output voltage	0~80kV	Relative humidity	≤85%
Power distortion factor	<1%	Working power supply	AC 240V±20%
Display mode	Large screen LCD character display	Power frequency	50Hz±5Hz
The electrode spacing	Standard 2.5mm	Power consumption	<200 W

ZC-211 Resistivity & Dielectric Loss Tester

Product Features

- Oil cup uses three electrode type structures which consistent with the GB/T5654-2007 standard,pole spacing 2mm can eliminate stray capacitance and leaking of the influence on the dielectric loss to test results.
- The instrument adopts intermediate frequency induction heating, PID temperature control algorithm. This heating mode with heating oil cup and the body non contact, even heating, fast speed, convenient control advantages, so that the temperature in the preset temperature error range within the strict control.
- The internal standard capacitor is SF6 inflatable three electrode capacitor, the capacitance of the dielectric loss and capacitance is not affected by the environment temperature, humidity and so on, so that the precision of the instrument can still be guaranteed after long time use.
- AC test power supply using AC-DC-AC conversion, and effectively avoid the city electric voltage and frequency fluctuations affect the accuracy of dielectric loss test, even if the generator to produce electricity, the instrument is also able to run correctly.

Technical Parameter

Supply voltage	AC 220V±10%	Resolving power	Capacitance 0.01pF
Power frequency	50Hz/60Hz±1%		Relative capacitance 0.001
Measuring range	Capacitance 5pF~200pF		Dielectric dissipation factor 0.0001
	Relative capacitance 1.000~30.000	Temperature range	0～125℃
	Dielectric dissipation factor 0.00001~100	Temperature measuring error	0.5℃
	DC Resistivity 2.5MΩm~20TΩm	AC test voltage	500～2200V continuously adjustable Frequency 50Hz
Measurement accuracy	Capacitance ±(1% reading+0.5pF)	DC test voltage	0～500V continuously adjustable
	Relative capacitance ± 1% reading	Consumption	100W
	Dielectric dissipation factor ±(1% reading+0.0001)	Outline dimension	500mm×360mm×420mm
	DC Resistivity ±10% reading	Total weight	22kg

ZC-311 SF6 Dew Point Tester

ZC-311 SF6 Dew Point Tester is advanced ,intelligent. It is advanced in principle, degree of automation, convenience, especially it adopts Europe Standard technique, to ensure the data to be accurate and steady. This equipment with large measurement range, fast response, short test time, clearly display, easy to operate. This instrument applies to power system, petroleum chemical enterprise, metallurgical industry, research institute to test humidity of the air, nitrogen, inert gases and others gases which not included corrosive medium, especially to test the humidity of the SF6.

Product Features

- Portable design: With less weight, it can be moved or used more easily.
- Quick test: It can be used right after the switching on and gets the value of moisture.
- Saving gas in less time: Only 2L (101.2Kpa) gas is needed during the test.
- Self-locking joint: Self-locking joint from Germany is adapted to ensure security and to avoid gas leak.
- Data storage: A high-capacity design is used to store at most 50 groups of testing data.
- Clear display: On the LCD screen you can read values of dew point, minim moisture, environment temperature,environment moisture,time, date and battery level, etc.
- RS232 joint: It can be connected to a serial printer to acquire the needed data.
- Built-in power supply: A rechargeable lithium battery is used to ensure a ten-hour continuous work of the sensor.

Technical Parameter

Dew point	Range	-60℃～+20℃	Power	AC 220V
	Accuracy	2℃(-60℃～+20℃)		Built-in rechargeable battery
	Time	<3minutes (+20℃)	Battery Performance	At least 20 hours of charging provides 10 hours continuous work
Relative humidity		−40℃～+60℃	Weight	3kg
Working power supply		Humidity 0～100% RH	Dimension	250mm×100mm×300mm

ZC-312 SF6 Gas Recovery Device

Gas ZC-312 SF6 as an insulating gas, is nontoxic, nonflammable, and good insulation properties, the insulation in tensity of it is much higher than traditional insulated gas and has good arc extinguishing. So it is widely used in SF6 electrical equipment.

Because of the high price of SF6 gas, and under the action of arc, spark and corona discharge, the gas will decompose and produce toxic components. Therefore, when we use the SF6 electrical equipment, we need to recovery SF6 gas.

This device is a kind of special equipment for recycling and filling SF6 gas in order to make and maintain the SF6 electrical equipment.

Technical Parameter

Recovery	Initial recovery pressure≤0.8MPa.
	Final recovery pressure≤50KPa.
	Recovery time: For initial pressure 0.8MPa 1 SF6 m3 gas volume, recovery to final pressure 50KPa, recovery time is less than 2.5 hours.
Inflation	The initial pressure for the 133Pa 1 SF6 m3 gas volume charge to 0.8MPa, the charging time is less than 0.8 hours.
Vacuum pumping	Device limit vacuum degree is less than or equal to 10 Pa.
	The initial pressure for the 0.1MPa 1 SF6 m3 gas volume vacuum to 133Pa time required less than 1 hours.
Keep in storage	Storage container volume 0.05m3.
	Nominal storage 50kg.
	Maximum storage pressure 3.8 Mpa.
Purify	The content 1000ppm (volume ratio) following SF6 gas, after the purification of a recovery of the device, the water is less than 60ppm (weight ratio), the oil is less than 10ppm (weight ratio) Leakage rate in six years is≤to 1% of nominal storage capacity.

ZCAR-1600 Microcomputer Protective Relay Tester

ZCAR-1600 Protective Relay Tester Except detecting various relay protection testers (such as current, voltage, IDMT, power direction, impedance, differential, low-cycle, simultaneous, frequency, DC and time etc) and microcomputer protection, it can also simulate instantaneous, permanent and transformational faults to test from single-phase to three-phase. Moreover, it can finish all kinds of large-scale and complicated checkout work with high automatic level. This will also be convenient to test and scan various protective definite value, to carry out bug playback, to store testing data in the real time, to display vector diagram, to print report online and to test ATS, fast cutting and system shock etc. 6-phase current can conveniently proceed with 3-phase differential motion protective testing, while 12-phase output can be used in ATS testing.

Product Features

- Meet all requirements of the field test. With standard six phase current, six phase voltage output at the same time, current 30A/ phase, voltage 125V/ phase. Six phases current is up to 180A. Can test the traditional relays and protection equipments, various tests were carried out on all modern microcomputer protection, especially on transformer differential protection and the equipment and automatic switching device. The test is more convenient and perfect.
- A variety of technical indicators fully meet the power of the Ministry of electric power DL/T624-1997 "relay protection microcomputer test device technical conditions" standard.
- It has classic Windows XP operation interface, friendly man-machine interface, easy and fast to operate. High performance embedded industrial control computer and 8.4 inch resolution 800×600 imported TFT color display can provide rich visual information, including equipment current status and all kinds of help information.
- Xp Windows's system comes with the recovery function, to avoid the illegal shutdown or false operation caused by the system crash.
- It use the high-grade stainless steel panel, panel with anti explosion buttons and touch panel mouse, key life of more than thirty years.
- Master control board adopts the structure of DSP + FPGA, 16 bit DAC output, the Jiboke produced weekly 2000 points of high density sine wave, greatly improve the waveform quality and to improve the accuracy of the test instrument.
- The using of the amplifier using high fidelity linear power amplifier, both to ensure the accuracy of the small current, but also to ensure the stability of the large current.
- It use of USB interface and PC direct communication, without any transfer line, easy to use.
- It connects the notebook computer (optional) operation. Notebook computer and industrial control computer using the same set of software, no need to re- learn the operation method.
- It has the GPS synchronous test function. Device with built-in GPS synchronous card (optional) is connected with PC through RS232 port, achieve different synchronous swap test of two test instruments.
- The output voltage is 110V (1A), 220V (0.6A), respectively. The output voltage is independent of the special DC auxiliary voltage source. To provide a relay or protection device that requires a DC working power supply.
- The software has the function of self calibration, which avoids the need to open the chassis to calibrate the accuracy by adjusting the potentiometer, thus greatly improving the stability of the accuracy.

Technical Parameter

Current generators	Setting range	6-phase AC(L-N)	6*0～30A
		3-phase AC(L-N)	3*0～60A
		1-phase AC(L-N)	1*0～180A
		6-phase DC(L-N)	6*0～10A
		3-phase DC(L-N)	3*0～20A
		1-phase DC(L-N)	1*0～60A
	Power	6-phase AC	6*260VA/W
		3-phase AC	3*400VA/W
		1-phase AC	1*1080VA/W
		6-phase DC	6*180VA/W
		3-phase DC	3*320VA/W
		1-phase DC	1*780VA/W
	General	Accuracy	＜0.2% typical
		Distortion	≤0.5%guaranteed
		Resolution	1mA
Voltage Generators	Setting rang	6-phase AC(L-N)	6*0～120V
		6-phase AC(L-L)	0～240V
		6-phase DC(L-N)	6*0～160V
		6-phase DC(L-L)	0～320V
	Power	6-phase AC(L-N)	6*70VA
		6-phase AC(L-L)	3*140VA
		6-phase DC(L-N)	6*80W
		6-phase DC(L-L)	3*160W

Voltage Generators	General	Accuracy	＜0.2%typical
		Distortion	≤0.5%typical
		Resolution	4.0mV
Generator, general	Frequency range	Ine signal	DC～1000Hz
		T signal	DC～3000Hz
		Frequency accuracy	0.01%
		Frequency resolution	0.01Hz
		Phase angle range	-360～+360
		Phase angle accuracy	0.1
Digital Input and Output	Digital input	Number	10
		Input characteristic	10-250VDC or free contact
		Time resolution	1ms
		Max.measuring time	9999s
	Digital output	Type	Free relay contact
		Number	8
		Break capacity AC	0.5A, 250V
		Break capacity DC	0.5A, 60Vdc
	General	Nominal supply voltage	240Vac
		Permissible supply voltage	220～264Vac
		Nominal frequency	50/60Hz
		Permissible frequency	45～65Hz
		Operating temperature	-5～+50℃
	Miscellaneous	PC-Connection	USB
		Ground Socket	4mm banana socket

ZCAR-702 Protection Relay Tester

ZCAR-702 Protection Relay Tester is operated by the convenient and flexible rotation mouse through the large LCD screen and all English display. It can complete the most testing work, including all sorts of relay and microcomputer protection test, and can simulate all kinds of complicated instantaneity, permanent, transform failure for the test. It can be used right after the starting up and operated conveniently. By using the English setting operation software on the Windows platform, it can work for all kinds of large, complex and higher degree automation check work and it is convenient to test and scanning all kinds of protection fixed value, as well as storage real-time test data, display vector chart, draw fault waveform, online print statements, and so on.

Product Features

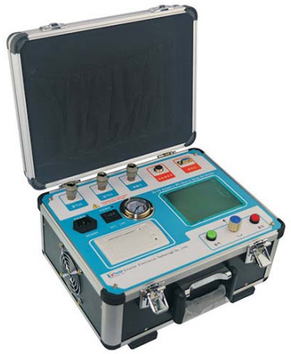
- The standard output of 4 phases of voltage and 3 phases of current
  It could combine various type of current or voltage conveniently and has diversity type of protective experiment. Every phase of voltage output is 120V, and the total of the parallel current is 120A. The fourth phase voltage Ux has many functions and it can be set to be 4 type of every three voltages or synchronism checking voltage, or output any value of voltage.
- Strong function of software
  It can complete all kinds of large complex check work requiring for high degree automation,such as three phase differential test, auxiliary power supply for fast cutting and automatic input test, line protection by synchronism checking voltage reclosing and so on. and it can easily test and scanning all kinds of protection setting for fault playback, storage real-time test data, display vector chart, online print reports, etc.
- The amount of switch quantity contacts is rich
  7 road contact input and 2 couples of empty output contact. The input contact is compatible for both empty contact and 0 ~ 250 v contact, and it has intelligent automatic recognition. Input and output contact can be expanded based on the user's need.
- Large LCD screen
  The device adopts large and high resolution radio graphics LCD screen with 320 x 240 lattices, and the whole operation process are set on the screen, whose operation interface and test results are both show in English, intuitional and clear.
- Self-protection
  Use reasonable design of the heat dissipation structure, has various reliable and perfect protection and power soft start, along with fault self-diagnosis and locking function.
- Independent DC power output
  The device is equipped with a way of 110v DC and 220v DC special adjustable power output.
- Cost-effective
  It is an interdisciplinary design production, integrating many advanced scientific and technological achievements of many areas. More important, its large tester performance, and small tester price, distinguishes it as a very cost-effective machine.

Technical Parameter

Alternating current output	Output accuracy	0.5 magnitude
	Phase current output (effective value)	0～40A
	Three parallel phase current output (effective value)	0～120A
	Phase current value with long time under permission (effective value)	10A
	Phase current maximum power output	400VA
	Three parallel phase current maximum power output	1000VA
	Three parallel phase current maximum work time	10s
	Frequency range (base wave)	20~1000Hz
	Harmonic frequency number	1~20 time
Direct current output	Output accuracy	6-phase DC
	Current output	3-phase DC
	Maximum output of load voltage	1-phase DC
Alternating current output	Output accuracy	0.5 magnitude
	Phase voltage output (RMS)	0～120V
	Line voltage output (RMS)	0～240V
	Phase voltage/line voltage power output	80VA/100VA

Alternating Current output	Frequency range (base wave)	20～1000Hz
	Harmonic frequency number	1～20 times
Direct voltage output	Output accuracy	0.5 magnitude
	Phase voltage output amplitude	0～+160V
	Line voltage output amplitude	0～+320V
	Phase voltage/line voltage power output	70VA/140VA
The switch quantity and time measurement	Switch parameters input (7ways)	Empty contact: 1～20mA, 24V
		Power contact access: "0": 0～+6V; "1": +11V～+250V
	Switch parameters output (2couples)	DC: 220V/0.2A
		AC: 220V/0.5A
	Time measurement	Measuring range:0.1ms～9999s
		Measuring accuracy: 0.1ms
Volume and weight	Appearance and size	400mm×300mm×180mm
	Weight of a single machine	22kg
Working environment	Supply power	AC 220V±10%，50/60Hz
	Environmental temperature	-10℃～+50℃

ZC-310 Automatic SF6 Density Relay Calibrator



SF6 switch is a high voltage electrical apparatus which is widely used in power system. The reliable operation of the SF6 switch has become one of the most concerned problems in the power supply department. SF6 density relay is used to monitor the operation of the internal SF6 switch SF6 gas density changes of the important parts; its performance directly affects the performance of the SF6 switch operation safety.

Product Features

- The high performance single chip microcomputer is used to detect and control the density relay, and the integration degree is high. It is mechanical and electrical integration design, high precision, good repeatability, high reliability.
- Configuration of a monochrome LCD screen and the rotation of the switch, the operation is simple beautiful interface, all parameters and status at a glance.
- The pressure and temperature are automatically compensated by the automatic pressure measurement and the 20℃ value conversion. And display the measured ambient temperature, pressure, temperature of 20℃, the ambient temperature, etc. It solves the problem of SF6 gas density relay field calibration difficult thoroughly.
- All the testing process is automatically controlled by the single chip microcomputer, without manual intervention.

Technical Parameter

Working voltage	50Hz, AC220V，55W	Instrument operating temperature	−10℃~60℃
Instrument precision	0.2	Humidity	90% RH
Pressure detection range	0~1MPa	Display mode	320×240 graphics dot matrix monochrome LCD screen
Pressure resolution	0.001MPa	Mode of operation	A key shuttle (rotary mouse)
Temperature display range	−20℃~80℃	Gas fast lock joint	All imported original device
Temperature resolution	0.1℃	Printer type	High speed thermal printer

ZCAR-600 Single Phase Relay Tester

ZCAR-600 Single Phase Relay Tester is newly developed calibration device. The application of the latest AC and DC voltage technology and current power source technology to the equipment makes its circuit design, component selection, panel layout, and the internal structure design to meet the advanced level in china. With many excellences for example perfect functions, excellent Components, clear measuring data, simple operation and so on, the equipment is the first choice for the power relay protection department.

Technical Parameter

Running Conditions	Power Supply	AC220V±10% 50Hz
	Work Environment	Temperature: -10℃～40℃; Humidity: ≤85 %RH
Output Supply	AC voltage	0~220V/3A
	AC current	0~100A/7.5V; 0~20A/25V; 0~5A/5V
	DC voltage	0~220V/3A
	DC current	0~20A/25V
	Constant voltage output	DC24V DC48V DC110V DC220V
Performance Specifications	Ammeter, voltmeter	41/2 potential
	Digital millisecond meter	0~99.9999s
Performance Description	Measuring Relay. A Measuring Relay is provided to measure current and the start value, return value and return coefficient/ drop-off to pick-up ratio of potential relay.	
	Time Relay. A Time Relay is provided to measure the start value, return value and operating time.	
	Auxiliary Relay. An Auxiliary Relay is provided to measure the start value, return value, holding value and operating time of all kinds of auxiliary relays with starting coil and holding coil.	
	Reclosing Relay. Reclosing Relays provide tests to Capacitance in charge time, reclosing time and intermediated elements.	
	Differential Relay. Differential Relays provide DC excitation test, braking characteristics test and volt-ampere characteristic test.	
	Other Uncommon Relays.	

ZC-315 SF6 Gas Analyzer

ZC-315 SF6 Gas Analyzer can test SF6 humidity, SF6 decomposition products, SF6 purity, which can finish two items detection in one on-site measurement, saving gas in the equipment.

Product Features

- Portable design: the instrument is light, portable and easy to use.
- Measure fast: no need to wait for the instrument after the boot, immediate measurement, the value of the purity quickly;
- Quick save gas: the gas consumption is only 0.5L (101.2kPa);
- Self locking joints: the use of German imports of self locking joints, safe and reliable, no leakage;
- Data storage: the use of large capacity design, can store up to 100 sets of test data;

Technical Parameter

SF6 Humidity	Measuring range	Dew point -80～+20℃ (support ppmv, etc.)	Power Supply	50Hz, AC220V	
	Dew point accuracy	0.5℃(when the dew point temperature is below 0℃, the sensor output for the frost point)		Built in rechargeable battery	
			Battery performance	Charging time 20 hours or more, can be used for 10 hours	
	Repeatability	0.5℃	Weight	4kg	
	Gas flow	SF6 adjustment in 0.5～0.9L/min;	Size	250mm×100mm×300mm	
SF6 Purity	Measuring range	0～100% SF6	Working temperature	−30℃～+50℃	
	Accuracy and repeatability	0.5%, nothing to do with the flow			
SF6 decomposition products	H2S	1～200ppm (standard)			
	SO2	1～100ppm (standard)			
	HF	0～10ppm (optional)			
	Accuracy	1ppm			

ZC-302C High-voltage Circuitbreaker Closing Resistance Tester

According to the relevant provisions of the state, the finished product,the new installation and maintenance of the high-voltage circuitbreaker resistance tester must have the closing resistor value and time test. <Power equipment handover and preventive test procedures> also requires to test the closing resistor value and time. Based on the closing resistance test, can be found in the internal fault of circuit breaker, so as to ensure the safe operation of equipment.

Our company developed ZC-302C High-voltage Circuitbreaker Closing Resistance Tester achieves the automatic test of circuit breaker closing resistor value and investment of time. Instrument uses a large screen LCD display, all the operation by the Chinese menu prompt, simple and intuitive. Instrument testing results are accurate and reliable, fast test retest is good, and the ability to store and print data, small volume, convenient carrying, strong anti-interference ability, can be used in a variety of test site meet all types of users.

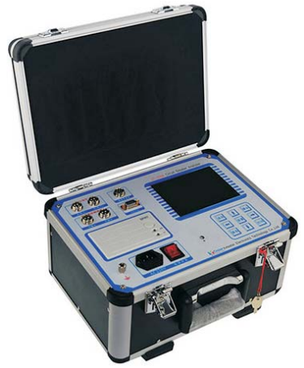
Product Features

- The instrument is used to measure the closing resistor,the test line linked to the both ends of the circuit breaker,it can measure the closing resistor and time in the opening and closing process. The whole test process is simple, efficient and safe;
- The tester uses a large screen LCD display, Chinese menu, with a clock, data storage and print functions;
- The operation is very simple, and the volume is small, the weight is light, so that the outdoor operation is convenient for carrying;
- Wiring is simple, strong anti-interference ability (can withstand the impact of 500kV substation pull arc over-voltage);
- High speed and data accuracy, greatly reducing the labor intensity of the test personnel, improve work efficiency.

Technical Parameter

Measuring range	Resistance: 50Ω～1000Ω	Measurement accuracy	Resistance: ±1%
	Time: 0～70ms		Time: ±0.3ms
Ambient temperature	−10℃～50℃	Working power supply	AC 220V±10%　50Hz±1Hz
Relative humidity	When the temperature is 25℃ is not greater than 90% (without dew)	Storing data	40

ZC-300 Circuit Breaker Analyzer



ZC-300A circuit breaker analyzer is a special instrument developed by our company in order to meet the needs of on-site test of high voltage switch. The MCU is the core sampling, processing and output, the main instrument is characterized by the use of man-machine dialogue mode, English characters display results and print output, has the advantages of multifunction, intelligent, accurate data, strong anti-interference, simple operation, small volume, light weight, beautiful appearance. Circuit breaker analyzer is suitable for various indoor and outdoor less oil, oil switch, vacuum switch, six sulfur hexafluoride switch dynamicacteristics test.

Product Features

- The instrument can automatically identify the fracture opening and closing state,and according to the reference state corresponding to the fracture tip and operation;
- Independent 6 fracture,can detect and indicate the connection state of the fracture, facilitate the user to check the wiring;
- The machine can store 100 groups of test results;
- Large screen LCD (320*240) LCD display, advanced gray screen, in the sun is not black reflective, graphic and English characters menu operation, user-friendly menu interface, easy to operate;
- Instrument has powerful function of graphic analysis,and the waveform and measurement data are displayed on the same screen;
- The utility model has the function of time delay protection, and the coil voltage can be automatically cut off after the circuit breaker is operated;
- The instrument do electric test and manual test;
- For high and low voltage test, automatically find the lowest score or closing voltage;
- Reclosing test, can be divided into points, points, points and parameters, can test the parameter for open-close, close-open, close-open-close.

Technical Parameter

Power supply	Input voltage	185Vac～250Vac
	Allowable input voltage	85Vac～264Vac
	Frequency	50/60Hz
	Allowable frequency	45Hz～65Hz
	Input power	40VA
	Joint	Standard AC socket 60320
Time measurement	Measurement channel	6
	Measurement items	The inherent opening (closing time); Opening (closing) in different phases Opening (closing) in different period; The closing (opening) bounce time
	Measuring range	0.1ms~999.99ms
	Accuracy	1% ± (1% reading+2 words)
Velocity measurement	Measurement items	Opening (Closing) speed; Average speed of a specified period of time (travel or angle)
	Measuring range	1mm sensor:0.01～25.00m/s; 0.1mm sensor: 0.001～2.50m/s; 0.5°Angle sensor: 1cycle/0.5°
Stroke measurement	Measurement items	Moving contact stroke (stroke); Contact travel (opening); Overshoot stroke or reverse stroke (overshoot)
	Measuring range	Linear sensor:50mm(selective matching 300mm); 360 Line sensor: 360°
	Resolving power	50mm Linear sensor: 0.1mm; 300mm Linear sensor: 1mm; 360°Line sensor: 0.5°
Other properties	Current measurement	Current is the maximum current value of the coil
	Display	320×240 LCD screen with adjustable contrast
	Data storage	100 sets of measurement data can be stored
	Printer	High-speed thermal printer
	DC power	Output voltage: 25～260V continuously adjustable, output current ≤15A (short time)
Environment conditio	Operating temperature	-10℃～+50℃
	Storage temperature	-25℃～+70℃
	Relative humidity	5%～95%, No dewing
Physical characteristics	Size	380mm×280mm×140mm
	Weight	≈7kg (Excluding attachments)

ZC-302A Contact Resistance Tester

Product Features

- High current switching power supply: using the latest technology, continuous output large current for a long time, overcomes the drawbacks of pulse power supply transient current, breakdown can switch contact film effectively and get good test results.
- High stability: under severe interference conditions,the last bit of LCD screen data can be stabilized in the range of ±1 word, reading, stability, good repeatability.
- High precision: the dual high-speed 16 bit Σ-Δ AD sampling,the digital signal processing technology, the highest resolution of 0.01μΩ,is currently the only contact resistance tester can reach 0.01 ohm resolution and very stable, performance more than the imported high current micro ohmmeter.
- Intelligent: the use of imported high-performance CPU,measuring system according to the size of the signal automatically switch range, to ensure the accuracy of the test of the product.The over temperature protection circuit can automatically stop the output current when the instrument exceeds the set temperature,so as to ensure the safe use of the instrument.
- High quality: the key parts are made of imported components, eliminated by the temperature compensation circuit clever design of the effective influence of environmental temperature on the measurement results, the use of military connectors to enhance the anti vibration performance.
- Powerful: current available in freedom of choice 100A and 50A, the test time can be set in the 5S ~ 599s arbitrary, overcomes the shortcomings of other similar instruments cannot set the measurement time or continuous work time is too short for defects, far more than the performance of other similar instruments.
- Friendly man-machine interface: through the rotation of the mouse input data, convenient and quick, you can set the instrument date, time, real-time preservation of measurement data, real-time print measurement results.

Technical Parameter

Measuring range	0～2999.9μΩ	Communication mode	RS232 serial port or USB (optional)
Resolution power	0～99.99; 0.01μΩ	Working power supply	AC 220V ± 10% 50Hz
	100.0～2999.9; 0.1μΩ	Power	＞500W
Test current	Fixed output of DC50A, 100A	Maximum storage record	200
Measurement accuracy	(0.2% rd+2d)	Working environment	Temperature: －10℃～40℃; humidity: ≤80%RH
Continuous working time	5s～599s	Volume	313mm×270mm×235mm
Display mode	240×128 Chinese LCD	Weight	7kg (No attachments)

ZC-301 DC Breaker Mechanical Characteristic Teste

Product Features

- The instrument can be used separately or linked to PC.
- 320*240 LCD screen, thermal printer, interactive keyboard operation, and intelligent operation system.
- Power electronics controlling technique has been adopted to output high current, which is high speed, high precision and continuous adjustability.
- Current range can be automatically switched by multiple high precision sensors.14 digit AD acquisition chip of high capacity.
- Automatic data storage. Be capable of saving 200 testing results, which will not lose in power failure.
- Optional for ampere-second characteristic test or through current characteristic test.
- When linking to PC, it is available to do following operations, such as controlling the instrument, data importing, data saving, data graph generation.
- Protection functions for overheat, over-current and over voltage. Anti-interference capacity and good EMC(electromagnetic compatibility).

Technical Parameter

Power input	220V ± 10%, frequency 50Hz	Minimum time resolution	0.1Ms
Test current range	0～1000A	Exterior size	230mm×450mm×500mm
Test current ripple factor	Less than 1%	Including aluminum alloy box	290mm×530mm×550mm
The output current stability	Less than 1%	Packing	Aluminum alloy box
Time record range	0.1ms～1000s	Does not require any protective measures, can be directly tested	

ZC-330 HV/LV Switchgear Test Equipment

ZC-330 HV/LV Switchgear Test Equipment is provided for manufacturers to do different energizing tests of HV/LV Switchgear before delivery. It can supply a variety of AC and DC power supplies, which is convenient to measure the switchgear and improve work efficiency.

Product Features

- Integrated multi AC, DC power supply.
- Convenient to measure the switchgear and improve work efficiency.

Technical Parameter

Input Power	Three-phase four-wire AC 380V
Output Voltage and Current	Three-phase AC 100V output (fixed value)
	Three-phase AC 0～10A output (＜100V, adjustable value)
	AC voltage output AC 0～400V,220V,current less than 10A
DC operating voltage output	DC 0～260V
Fixed DC voltage	24V,36V,110V,220V output
Single-phase	AC 220V output(fixed value,socket)
Three-phase	AC 380V output(fixed value,terminal)
Dimension	550mm×750mm×800mm
Weight	45kg

ZC-316B SF6 Gas Leak Detector

ZC-316B SF6 gas leak detector is a new-generation product for detection of gas leak. Due to its imported sensor which guarantees its high sensitivity, great stability, quick response, smooth operation and large successive range, it's capable of accurate detection of the leak points and annual leakage rage of SF6 Breaker and GIS in both quantitative and qualitative measures.

Product Features

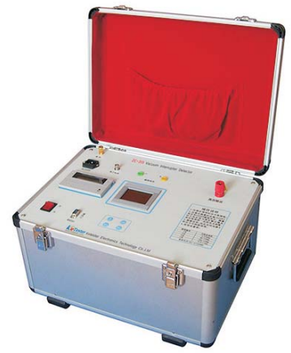
- Small size, low weight, portable handheld serpentine sensor and increased wire flexibility.
- High sensitivity: the device can locate any leakage over 3g per year due to its great sensitivity of halogen gas in small amount.
- Wide detection range: the device can detect the leakage amount of SF6 which is below the leakage rate of the SF6 switch gear.
- High accuracy: based on advanced method of calibration, the device can provide a high calibration line which guarantees the liability of the detection results and the accuracy of its quantitative detection.
- Visualized display and sound & light alarm: LCD display with backlight display function to guarantee a simple visualized data display. Once SF6 is detected, the sound and light alarm will be activated.
- Quick response and short recovery time: increased response speed and shortened recovery time provided by the new circuit structure makes on-spot detections more convenient.
- Rechargeable Ni-MH Battery AC/DC and a continuous working time of 5 hours: perfectly fit on-spot detections, SF6 high-pressure switch manufacturers and research institutes.

Technical Parameter

Minimum Detection Amount	1($\times10^{-6}$ volume ratio)	Indication Methods	LCD display and multi-frequency sound alarm
Detection Range	1～1000($\times10^{-6}$ volume ratio)	Length of Probe Wire	Handheld serpentine sensor can reach to 1 meter's length
Response Time	＜1 seconds	Continuous Working Time	5 hours
Recovery Time	＜10 seconds	Device Battery	Rechargeable Ni-MH Battery AC/DC
Display Value Error	≤ 3%	Environmental Requirements	Temperature: -5℃～50℃
Repetitiveness	≤1%		Relative Humidity(RH): ≤85%
Maximum Motionless Sensor Sensitivity	3g/year	Overall Weight	2 kg
		Size of Device	230mm×130mm×46mm

ZC-313 Vacuum Interrupter Detector

ZC-313 is designed to measure the vacuum degree of vacuum switches. It uses an electromagnetic discharge measuring method, to ensure the testing results accurate and reliable. The testing data can estimate vacuum switch's health and life span.



Product Features

- No need to dismantle the vacuum switch in measurement.
- Two types of magnetic coil for different measuring method.
- Can test many types of vacuum switch.
- Menu on LCD screen, easy to operate.
- Data storage, Viewed and Printed functions.
- RS-232 port to Computer.
- Light weight, Portable.

Technical Parameter

Detection object	Various types of vacuum switch tube.
Detection method	A new type of excitation coil is used to carry out the measurement of the vacuum tube.
Scope of application	This instrument is one machine multi-purpose, can measure many kinds of models vacuum switch.
Detection range	10^{-5}～10^{-1} Pa
Measurement accuracy	10^{-5}～10^{-4} Pa, 10%
	10^{-4}～10^{-3} Pa, 10%
	10^{-3}～10^{-2} Pa, 10%
	10^{-2}～10^{-1} Pa, 10%
Field Voltage	30kV
Pulsed electric field high voltage	−20℃～40℃
Use environment	−20℃～40℃
Outline dimension	410mm×320mm×370mm
Sampler	Magnetron coil

ZC-320 Type Leakage Protector Tester

ZC-320 type leakage protector tester is mainly used to test the leakage action current, leakage current and leakage action time, testing current is divided into ten files for 0-500mA, the test range of time 0-799ms, 16 character type liquid crystal display screen.It is the best instrument for a variety of leakage protection device on-site or indoor testing, hand-held, small size, light weight, easy to carry.

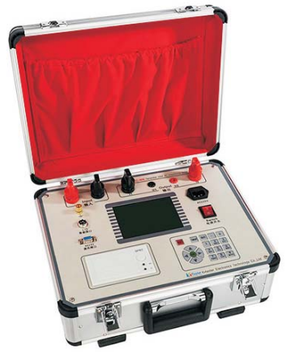
Product Features

- Hand held, compact, flexible, easy to operate.
- Single phase and three phase leakage protection device can be tested.
- Automatic detection of leakage current.
- Can directly test the leakage action time.
- LCD screen display, intuitive reading.

Technical Parameter

Rated voltage	AC220V/380V
Test line voltage	AC 250V below
Leakage current	15, 30, 50, 75, 100, 150, 200, 250, 300, 500mA
Test leakage time range	0～799ms
Leakage current accuracy	1
Motion time display accuracy	0.5
Environment temperature	0℃～40℃
Environmental relative humidity	＜85%
Outline dimension	195×101×42mm

ZC-401B Generator Rotor AC Impedance Tester



ZC-401A Generator Rotor AC Impedance Tester is the latest enhanced AC impedance tester launched by our Company. The instrument adopts the state-of-the-art high speed microprocessor technology with more powerful functions,preferable performances and more convenient use.The tester has a series of characteristics such as high reliability, easy operation, high test precision, being compact and lightweight and etc., and currently is in the domestic leading level.

Product Features

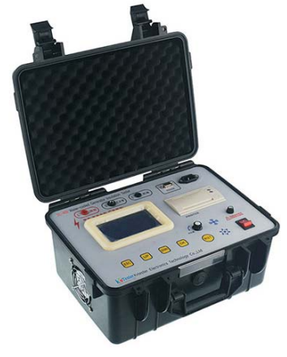
- The tester can provide full automatic acquisition, measurement, display, storage and printing of all the measurement parameters and impedance characteristic curves (including voltage, current, impedance, power, frequency, equipment number, time, etc.)
- The tester is characterized by ultra-wide measuring range, which can fully automatically or manually measure AC impedance and their characteristic curves of all the generator rotors.
- The tester has built-in storage with super-large capacity, which can store the test data. and upload the data to PC through the standard industrial communication interface (RS232). The downloading of data, automatic generation and compiling of typical test reports can be achieved using the software attached with the tester which was developed by our company, so as to facilitate technical management and archiving.

Technical Parameter

AC impedance	Test range	0Ω～6000Ω
	Resolving power	0.01Ω
	Accuracy	0～1Ω: 0.2%FS±2 words
		1～6000Ω: 0.2%
AC voltage	Test range	0～600V
	Resolving power	0.001V
	Accuracy	0～50V: 0.2%FS±2 words
		50～600V: 0.2%
Frequency	Test range	40～75Hz
	Resolving power	0.001Hz
	Accuracy	0.2%
AC current	Test range	0～120A
	Resolving power	0.001A
	Accuracy	0～10A: 0.2%FS±2 words
		10A～120A: 0.2%

Active power	Test range	0～72kW
	Resolving power	0～1kW: 0.1＞CosΦ＞0, 1%FS±2 words
	Accuracy	0～50V: 0.2%FS±2 words
		CosΦ＞0.1, 0.5%FS±2 words
		1kW～72KW: 0.1＞CosΦ＞0, 1%FS±2 words
		CosΦ＞0.1, 0.5%FS±2 words
Frequency	Test range	40～75Hz
	Resolving power	0.001Hz
	Accuracy	0.2%
Power supply	Input voltage	AC 220V 10%; 50Hz 5%
Environment condition	Operating temperature	-10℃～+50℃
	Storage temperature	-25℃～+70℃
	Humidity	Relative humidity: 5%～95%, no de
Physical characteristics	Size	415mm×225mm×200mm
	Weight	≈5kg (Excluding attachments)

ZC-402 Water-cooled Generator Insulation Tester



Product Features

- Menu operation is easy for use.
- The instrument can realized the automatic measurement of insulation resistance,the absorptance, polarization index and other parameters.
- Keep 15 seconds and data for tenth minutes, and automatically time.
- The instrument can store 10 sets measurement data. It is convenient to analyze and rechive at any time.
- With comprehensive functions, testing, storage, alarm, access and other functions.
- Automatically discharge after testing.
- Output short circuit current, strong anti-interference ability.

Technical Parameter

Test range	5MΩ～10000MΩ	Output short circuit current	5MΩ～10000MΩ
Resolution	Minimum 0.01M	Display mode	Minimum 0.01M
Accuracy	+ (10% R+2words)	Power supply mode	+ (10% R+2words)
Test voltage	2.5kV	Using environment	Temperature: 0～40℃; Humidity: ＜90%RH, no condensation

ZC-403 Vibration Swing On-line Monitor

ZC-403 pendulum vibration monitor real-time online monitoring of rotating shaft swing vibration and fixed parts, it also use non contact type electric eddy current sensor and contact (ultra low frequency vibration sensor to collect the pendulum, vibration signal, special industrial machinery have very strong anti-interference ability and stability.

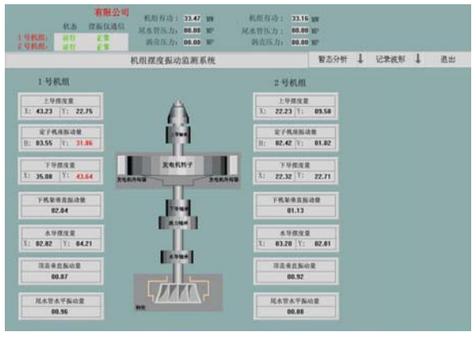
Equipped with dedicated server software and units in the implementation of monitoring information can be through the data acquisition server connected to the power plant ZCS network and information with real-time and remote monitoring personnel according to the permission information storage and analysis of operation.

Product Features

- The non contact eddy current probe is used to measure the swing of the rotating machinery in the rotating state, and the contact type high stability vibration sensor with different lower limit operating frequency is adopted to measure the vibration of the unit.
- The clamping block is used for fixing the non contact eddy current probe, which effectively prevents the probe from loosening due to vibration, and the contact vibration sensor is adopted to avoid such problems.
- The instrument has the function of recording the wave, and the speed of the unit and the process value of the vibration swing are measured.
- The instrument is a real-time online monitor, real-time measurement of the unit's swing and vibration, improve the safe operation of the unit. Using RS485 communication with the PC, the intelligence is not only of fontal machine is also a substitute for vibration of the dial indicator runout measuring instrument, high measuring accuracy and easy to use. All of the modular connector improve the performance of the instrument, convenient maintenance and replacement .
- Has the function of setting the slope / amplitude, to facilitate the practical application, or to require a large range of measurement, or the need for high precision measurement.
- The alarm value, baud rate, communication address and the sensitivity sensor can be setted online.

Technical Parameter

Working power supply consumption	AC 220V±5%; Power: ＜10W
Maximum number of channels	Channel vibration swing+1 channel speed
Measurable vibration range	0~2.0 mm
Measurable speed range	0~3000 r/min
Speed resolution	1 r/min
Measured signal frequency	0.5~200 Hz
Maximum absolute error of vibration	△8μm
Vibration minimum resolution	2μm



Server system

- With functions of measuring the analog quantities and detecting the speed, waterhead and power
- With the set of operating conditions of the switch signal acquisition function
- Through the data acquisition server to automatically store the unit of all acquisition signals (including a variety of transition process) automatically; to establish of data files for the long-term operation of the unit and the changing trend.
- Has the time domain waveform analysis function, may seek the average value, the exchange effective value and so on.
- Have to vibration, pendulum to measure real time spectrum analysis, can display the spectrum distribution, resolution, hydraulic and mechanical causes frequency components. List the ten spectral components, which are the largest and the second largest frequency and phase.
- With the trend analysis function, the analysis of the data for the detection of time change.
- With transient recording analysis function, open/ down, throwing meet, emergency shutdown transient process were recorded, not only has the accident automatic worm function.
- Units to implement through the data acquisition server connected to the power plant ZCS network information monitoring, and remote transmission channel to Corporation ZCS network.
- Information with real-time, remote monitoring personnel according to authority with information storage, analysis and other operations.
- It has the axis trajectory analysis and maintenance positioning function.

ZC-410 DC System Earth Fault Detector

ZC-410 DC System earth fault detector applies to all DC system in any voltage class, equipped with high-precision tester, expanded the tested range and strengthened the anti-interference ability by processing many kinds of signal. Adopted excellent method of calculation and advanced Fuzzy control calculation theory, show us the advancement of the measured circuit branch by numerical value, which reflect the superiority of artificial intelligence sufficiently. Correctly detect the position of the earthing contact each time.

Product Features

- Easy to use, customers can directly operate only need turn on the power switch.
- Safe and reliable, do not need power off the charger or other power source, without effects to DC system.
- Applies to various voltage class, DC system 220V, 110V, 48V, 24V.
- Wide range of application, any power plant, transformer substation, colliery, chemical plant and others power supply departments.

Technical Parameter

Signal generator	Output signal frequency	2.5Hz	Signal generator	Input insurance	2A
	Signal no-load output voltage	20V±5%		Dimension	275×225×100mm
	Signal voltage amplitude error	＜5%	Signal receiver	Signal current measurement sensitivity	0.5mA
	Output terminal shock resistance capability	400V DC impulse		Display of receiver	Number 0～19
	Supply voltage	AC220V±10%		Dimension	195×100×30mm
	Voltage frequency	50Hz±5%		Dimension	38×69×30mm

ZC-412 Clamp-On Ground Resistance Tester

ZC-412 Clamp-On Ground Resistance Tester is a major technological breakthrough in traditional grounding resistance measurement. It is widely used in the grounding resistance measurement of electric power, telecommunications, meteorology, oilfield, construction and the industrial and electrical equipment.

ZC-412 series Ground Clamp Meter, in the measurement of a grounding system with loop current, does not require disconnecting the grounding wire, and need no auxiliary electrode. It is safe, fast and simple in use.

Product Features

- Applies to all kinds of ground lead. (Round bar, flat bar, angle iron)
- Non-contact measured resistance, safe, fast.
- Need not use assistant ground rod.
- With double protecting insulation.
- With strong anti-interference ability and high accuracy.
- Use dry batteries, convenient for customers.

Technical Parameter

Power	6V DC	External magnetic field	＜40A/m
Temperature	-10℃～55℃	External electric field	＜1V/m
Humidity	10%～90%	Single measuring time	1 second
LCD	Four and half LCD, 47mm×28.5mm	Resistance measuring frequency	＞1KHz
Span of clamp	Square clamp: 28mm, round clamp: 32mm	Resolution for resistance measurement	0.001Ω
Weight of meter	Square clamp: 1320g, round clamp: 1120g	Resistance measurement range	0.01～1000Ω
Explosion–proof symbol	Exia II BT3	Current measurement rang	0.00～30.0A
Meter dimension	Square clamp: 293mm×90mm×66mm	The measured current frequency	45～65Hz
	Round clamp: 260mm×90mm×66mm	Groups of saved test data	50
Protection class	Double insulation	Set range for resistance critical value alarm	1～199Ω
Structure feature	Clamp	Set range for current critical value alarm	1～499mA
Measuring range gear shifting	Auto	Remark: "*"only for ZC-412C	

ZC-413 Ground Network Earth Resistance Tester

This device applies to test frequency ground resistance, contact voltage, pace voltage and earth electric resistivity. It adopts different frequency anti-jamming technique, can get the data under 50Hz in strong interference circumstance. The maximum measured current is 5A , which will not cause the electric potential of the grounding device too high, it with strong anti-interference ability at the mean time, so it does not need power off during the test.

Product Features

- Good frequency equivalence. The measured current waveform is sine wave, the difference between frequency and power frequency is 5Hz, use 45Hz and 55Hz two frequency to test.
- Strong anti-jamming ability, use different frequency method , assorted with modern hardware and software filtering techniques, make the device with strong anti-jamming ability, test results stable and reliable.
- High precision, intrinsic error 0.005Ω, can test the ground network of small impedance.
- Powerful. can test current pile, voltage pile, ground resistance, pace voltage, contact voltage
- Can measure the field disturbance, user estimate measuring error conveniently.
- With the disconnection alarm function, the error measurement is avoided.
- Easy to operate, menu operated, directly display the test results.

Technical Parameter

Impedance measurement range	0～200Ω	Measured current frequency	45Hz, 55Hz, double frequency.
Resolution	0.001Ω	Maximum output current	5A
Measurement error	（Reading×1%+0.001Ω)	Maximum output voltage	200
Anti ground voltage Interference ability	30V power frequency interference voltage error is not greater than 0.002 (test current is not less than 3A)	Measured wire required value	Section surface of current wire copper core≥2.5mm^2
		Section surface of voltage wire copper core	≥1.0mm^2
Measured current wave form	Sine wave	Power supply	AC 220V±10%, 50Hz

ZCDT-10A Ground Continuity Tester

Electric Power Industry Standard DL/T475-2006 "Earthing Device Characteristic Parameters Measurement Guide" provides that the electrical conductivity should use special instruments to measure. The instrument resolution is 1mΩ; accuracy is not less than 1.0 class. Based on this standard, our company designed this high degree of automation and portable tester. It is specially used to test the electrical integrity of earthing device; its technical specification has reached or exceeded the relevant standards. The instrument is characterized by simple operation, high accuracy, fast test speed, good reproducibility, and intuitive readings. It is an ideal special instrument that meets the requirements of regulations and standard.

Product Features

- Power technology: For latest power supply technology, the instrument outputs 10A current and can continuously work for a long time which overcomes the weakness of instantaneous current produced by pulsed power. It can effectively puncture the oxide layer of the switches and then get precise results.
- Strong anti-interference ability: The last number of test data will stably show in the LCD screen only with ±1 error even in strong Interference situation.
- Long service life: All the precise resistances used in the instrument can reduce the temperature's impact on the measurement results and military connectors can enhance vibration resistance.
- Simple operation: just pressing "test" key, you can get the measured result. The LCD backlight display is easy for reading and has good reproducibility.
- Convenience: Small size, light weight, and easy to carry. Panels and chassis is an organic whole that having good shock resistance.

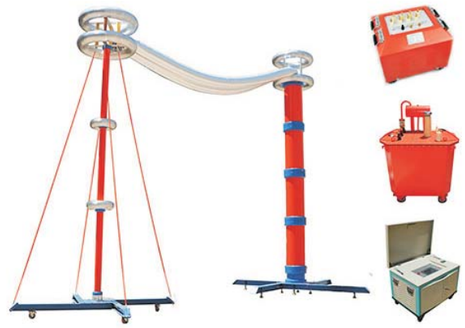
Technical Parameter

Measurement Range	1～1999μΩ	Work Mode	Continuous
Resolution	1μΩ	Power Supply	AC 220V±10% 50Hz
Test Current	DC 1A, 2A, 5A, 10A.Four fixed current input selections.	Work Environment	Temperature: -10℃～40℃
Measurement Accuracy	（0.5%+2d)		Humidity: ≤80% RH
Measuring Radius	50m	Dimension	300mm×270mm×200mm
Display	LCD backlight display	Weight	5kg(Accessories excluded)

ZCVF-A Resonant Test System For Substation Electrical Equipm

Transformer, GIS, SF6 switch, CT/PT, insulator, bus bar, cable, bushing, and others capacitive devices are the common primary electric equipments.

The resonant test system is composed by power control cabinet, excitation transformer, reactor, voltage divider; let silicon rectifier stack and micro ammeter connect with the voltage divider, then can finish the DC voltage withstand test.



Product Features

- Device with over-voltage, over flow, zero start-up and loss of harmonic flashover protection functions such as over voltage and over current protection value can be setted according to user needs, flashover protection action and can remember the flashover voltage value, for experimental analysis.
- The whole unit weight is very light, the maximum not more than 40kg, to facilitate the use of the scene.
- The device has three modes of operation, which is convenient for users to choose flexibly according to the field condition, and the test speed is improved. Working modes are: automatic mode, manual mode, automatic tuning manual boost mode.
- Can store and print data in different places, the data stored in the number is digital, easy to help users to identify and find.
- Device automatic sweep frequency starting point can be within the scope of the provisions set arbitrarily, sweep direction can be upward, downward selection, also the large screen liquid crystal display scanning curve, convenient user intuitive understand whether find resonance point.
- Using the DSP platform technology, it can be convenient according to the needs of users to add and add changes and upgrades, but also makes the man-machine exchange interface more humane.
- The required power supply capacity is greatly reduced. Series resonant inverter is resonant reactor and utilization by capacitance resonance high voltage and large current, in the whole system power only need to provide part of the active power consumption, therefore, the power required for testing only 1/Q of the test capacity.
- The weight and volume of the equipment is greatly reduced. Series resonant power supply, not only eliminates the need for a bulky high power adjustable pressure device and ordinary high power frequency testing transformer and resonant excitation power supply is just 1 / Q test capacity, makes the system weight and volume is greatly reduced, generally 1 / 10-1 / 30 of common experiment device.
- Improve the output voltage waveform. The resonant power supply is a resonant filter circuit, which can improve the waveform distortion of the output voltage, get a good sinusoidal waveform, and effectively prevent the peak value of the harmonic.
- To prevent large short-circuit current burn fault point. In series resonant state, when the insulation weakness of the test sample is broken down, the circuit immediately takes off the harmonic and the circuit current drops rapidly to the 1/Q of the normal test current. And by using the parallel resonance or test transformer way to do voltage test, the breakdown current rise several times, both compared to the short circuit current and the breakdown current difference hundreds of times. Therefore, the series resonance can effectively find the insulation weakness, and there is no large short-circuit current burn fault point of the suffering.

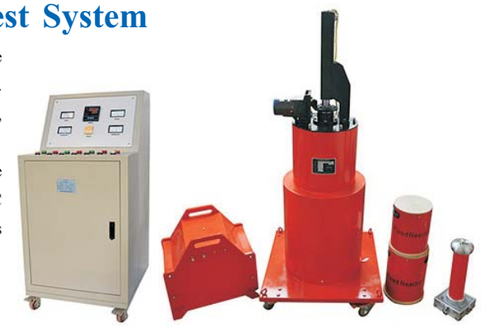
Technical Parameter

Rated voltage	180kV——AC withstand voltage test for 220kV cable 540kV——AC withstand voltage test for 220kV system 720kV——AC withstand voltage test for 500kV system
Output voltage waveform distortion rate	＜1.0%
Allow continuous working hours	60 minutes of work under rated conditions, in the case of 220kV cable pressure, to meet the continuous work for 60 minutes
Device self quality factor	Q＞50
Quality factor under full load in cable test	Q＞30 (related with the load)
Quality factor of main transformer test	Q＞30 (related with the load)
GIS, switches and other test full load quality factor	Q＞50 (related with the load)
Input power	Frequency regulation range：20Hz～300Hz, Three phase 380V
System measurement accuracy	1.5%
The device has the functions of over-voltage, over current, zero starting and so on.	

ZCVF-C Variable Frequency Resonant Test System

Working mode of this series test system is several reactors in parallel.By regulating the inductanceoftheadjustablereactor,andparallelconnectingfixedreactorstoachieveresonance. Serial resonant system is better than traditional equipment in power capacity, device weight, measuredwaveformandcost.

Serial resonant system actually is a current filter circuit, make the current which through it be fundamentalcurrent,theoutputvoltagedistortion(THD)isverysmall,andbetterthanalltheAC voltagewithstandequipments.Autoblowouttheafterflashover,itisalongandstableprocess torecovertheserialresonantvoltage,safe.



Product Features

- Device with over-voltage, over flow, zero start-up and loss of harmonic flashover protection, overvoltage and current protection value can according to user needs setting,flashover protection action and can remember the flashover voltage value, for experimental analysis.
- The whole unit weight is very light, the maximum not more than 40kg, to facilitate the use of the scene.
- The device has three modes of operation, which is convenient for users to choose flexibly according to the field condition, and the test speed is improved.
- Working mode is: automatic mode, manual mode, automatic tuning manual boost mode.
- Can store and print data in different places, the data stored in the number is digital, easy to help users to identify and find.
- Device automatic sweep frequency starting point can be within the scope of the provisions set arbitrarily, sweep direction can be upward, downward selection, also the large screen liquid crystal display scanning curve, convenient user intuitive understand whether find resonance point.

Technical Parameter

Rated voltage	40kV AC voltage withstand test of 10kV generator
Output voltage waveform distortion rate	＜1.0%
Allow continuous working hours	5 minutes at a time under rated conditions
Device self quality factor	Q＞50
Quality factor under full load of generator test	Q＞15 (related with the load)
Input power	Three phase 380V
Frequency regulation range	20Hz～300Hz

Serial product and application

Model	Application (AC voltage withstand test for generator, voltage≤20kV, measured frequency: 50Hz)					
	Control Cabinet	Regulator	Reactor (Dry type)	Excitation Transformer (Dry type)	Divider	Application
ZCVF-C-200/25	30KW	30kVA(electric)	200kVA/25kV adjustable1 set	30kVA (Dry type)	30kV	Hydroelectric generator 0.4-1.0μF(10kV/40MW)
ZCVF-C-300/50	60KW	60kVA(electric)	300kVA/50kV adjustable1 set	60kVA (Oil immersed)	50kV	Hydroelectric generator 0.27-0.33μF(20kV/300MW)
ZCVF-C-600/50	60KW	60kVA(electric)	200kVA/50kV fixed 1 sets 400kVA/50kV adjustable 1 set	60kVA (Oil immersed)	50kV	Hydroelectric generator 0.113-0.45μF(20kV/600MW)
ZCVF-C-1200/50	120KW	120kVA(inductive)	200kVA/50kV fixed 2 sets 800kVA/50kV adjustable 1 set	120kVA (Oil immersed)	50kV	Hydroelectric generator 0.6-1.8μF(20kV/250MW)
ZCVF-C-2750/55	300KW	300kVA(inductive)	750kVA/55kV fixed 2 sets 1250kVA/55kV adjustable 1 set	300kVA (oil immersed)	60kV	Hydroelectric generator 1.6-3.3μF(20kV/770MW)

ZCVF-B Cable Resonance Test System

Product Features

- The frequency conversion power supply is placed in a vertical and horizontal direction, and is especially suitable for the field operation and observation.
- The inner and outer parts are provided with a special damping rubber support foot and a protective aluminum box, which can effectively slow down the impact of the vibration and the hoisting during the transportation. The long-term stability and reliability of the frequency conversion power supply is guaranteed.
- Parameters display: touch or external mouse large screen LCD screen display system.
- Can display the resonant voltage (i.e. before the test set of target voltage), test frequency, frequency measurement, low voltage, low voltage current, pressure time, overvoltage protection, current protection, flashover protection, phase voltage and phase timing, switch the operation mode, capacitance, inductors, frequency rate swaps are calculated, parameter query, display frequency curve, voltage curve can be used to visually judge when test resonant frequency accuracy and stability.

Technical Parameter

Rated output voltage	≤0～220kV(AC effective value)
Output frequency	30～300Hz
Resonate voltage waveform	Sine wave, distortion ≤1.0%
Full load working time	Continuous working time: 60min
System quality factor	≥20 under maximum load
Frequency adjustment	0.1Hz
Instability	≤0.01%
Power supply	Single phase: 220V or three phase: 380V±10%, frequency: 50Hz±5%

Configuration table of cable (≤35kV) voltage withstand device

Model	Control cabinet	Reactor(dry type)	Excitation transformer (dry type)	Divider	Application
ZCVF-B44/22	2.5kW	1A/22kV:2 sets	2.5kVA/1kV	25kV	10kV cable≤1kM
ZCVF-B88/22	4kW	2A/22kV:2 sets	4kVA/1kV	25kV	10kV cable≤2kM
ZCVF-B132/22	6kW	2A/22kV:3 sets	6kVA/1/3kV	60kV	10kV cable≤3kM 35kV cable≤1kM
ZCVF-B176/22	7.5kW	2A/22kV:4 sets	7.5kVA/1/3kV	60kV	10kV cable≤4kM 35kV cable≤1kM
ZCVF-B264/22	10kW	2A/22kV:6 sets	10kVA/1/3kV	60kV	10kV cable≤6kM 35kV cable≤2kM
ZCVF-B330/22	15kW	2.5A/22kV:6 sets	15kVA/1/3kV	100kV	10kV cable≤8kM 35kV cable≤2kM
ZCVF-B640/32	25kW	2.5A/32kV:8 sets	25kVA/1/3/5kV	200kV	10kV cable≤10kM 35kV cable≤4kM 110kV cable≤1kM

Configuration table of cable (≥110kV)voltage withstand device

Model	Control cabinet	Reactor(dry type)	Excitation transformer (dry type)	Divider	Application
ZCVF-B1300/130	50kW	5A/130kV:2 sets	50kVA/3/5kV	150kV	35kV cable≤2kM 110kV cable≤2kM
ZCVF-B2600/130	100kW	5A/130kV:4 sets	100kVA/3/5/10kV	220kV	35kV cable≤3kM 110kV cable≤3kM 220kV cable≤1.5kM
ZCVF-B3200/220	160kW	4A/220kV:4 sets	160kVA/5/10kV	160kV	110kV cable≤5kM 220kV cable≤3kM
ZCVF-B6400/220	320kW	8A/220kV:4 sets	320kVA/5/10kV	320kV	110kV cable≤10kM 220kV cable≤5kM 500kV cable≤1kM

ZC-FRC AC and DC High Voltage Divider

The series AC / DC high voltage divider is a special instrument used in the field measurement, which can not only measure the DC high voltage, but also can measure the AC high voltage. The whole equipment is composed of two parts: the divider and the measuring instrument. The divider with balanced equipotential shielding structure, in completely sealed insulating cylinder internal use of high-quality electronic components, and the whole device with accurate testing, good linearity, stable performance, reasonable structure, easy to carry, simple operation, intuitive display characteristics. Therefore, it is an ideal field measurement instrument.

Product Features

- When the equipment is used, there must be no debris around, so as not to affect the accuracy of the measurement.
- Strict attention to maintain operating distance, ensure operation safety.
- Check all parts of the connection is reliable, especially the strong connection of the ground wire.
- After the measurement is completed, the user can enter the scene until the instrument measurement is zero.
- Super pressure is strictly prohibited to use, and pay attention to the surface of the clean, it should be placed in a cool dry place if do not use.

Technical Parameter

Voltage level		AC/DC 50kV	AC/DC 100kV	AC/DC 200kV	AC/DC 300kV
Voltage ratio		1000:1	1000:1	1000:1	1000:1
Impedance		400 MΩ	600 MΩ	1000 MΩ	1600 MΩ
Accuracy	DC value	0.5 lecel	0.5 lecel	0.5 lecel	0.5 lecel
	AC value	1.0 lecel	1.0 lecel	1.0 lecel	1.0 lecel

ZC-ZGF Series DC High Voltage Tester

This product adopts new technique, new material and new component with features of high output power, small volume, light weight, etc. And it is with the function of stable over-voltage, over-current, zero position switching protection, 0.75 times voltage latch function, equipped with time relay, can set audio alarm when testing. The whole device is reliable, easy to operate and carry, especially applies to the power department field tests.

Product Features

- Chassis using aluminum alloy chassis.
- By using the intermediate frequency voltage doubling circuit, the PWM pulse width modulation technology and the high power IGBT device are used.
- Using voltage feedback, output voltage stability, ripple coefficient is less than 1%.
- Full range smooth regulator, voltage regulating fineness regulating precision ≤0.5%, stability ≤1%, voltage and current error ±(1.5%+2words), current error±(1.5% + 2words).
- Boost potentiometer zero boost.
- $0.75U_{DC1mA}$ function button facilitates the Zinc Oxide arrester test, the accuracy of ±(1.5%+2words).
- Overvoltage protection is using the code setting, at a glance, the error ±2% .
- Voltage-multiplying is using new materials, light, strong. The appearance use special insulating material, good electrical performance, moisture proof ability.
- ZGF products meet the DL/T848.1-2004 technical requirements, and tested by the Ministry of electrical equipment quality testing and testing center, strict implementation of the factory specifications.

Technical Parameter

Power	AC 220V±10%, 50Hz±1%	Relative humidity	Less than 85% under 25℃, without moisture
Indication accuracy of output voltage	＜1	Working	Discontinuously work for 30 minutes
Indication accuracy of output current	＜1	Temperature	−10～40℃
Ripple factor	≤0.5%	Altitude	＜1500m
0.75 times output voltage indication accuracy	＜1, with latch function		

ZC-524 Frequency AC Withstand Voltage Equipmei

Ultra low frequency insulation withstand voltage test is an alternative method for power frequency withstand voltage test.

Using 0.1Hz ultra low frequency withstand voltage test replace power-frequency withstand voltage test, not only is equivalent to the same equipment, and greatly reduces the volume and the weight, so the ultra-low frequency withstand voltage device is widely used in large generators, cables, power capacitor test AC voltage withstand test products.

Product Features

- Data of current and voltage are obtained directly through the sampling of high-pressure side and it is true and accurate.
- Over-voltage protection: the instrument will shut down to protection within 20 ms when the output voltage is exceeding limiting values of setting.
- Over-current protection: design for dual protection of high and low voltage, downtime protection can be accurately set in high-pressure side. Shut down to protection times is within 20 ms when the current of low-voltage sides exceeds reacted current.
- High-voltage output protection resistor design in the body boost and it is no need to additional outside resistor.
- Closed-loop negative feedback control circuit of high and low voltage.

Technical Parameter

Model no	Rated Voltage/current	Load Carrying Capacity	Power FuseTube	Product Structure and Weight
ZC-524-30	30kV/20mA(Peak)	0.1Hz, ≤1.1μF 0.05Hz, ≤2.2μF 0.02Hz, ≤5.5μF	5A	Controller: 4kg Booster: 25kg
ZC-524-50	50kV/30mA(Peak)	0.1Hz, ≤1.1μF 0.05Hz, ≤2.2μF 0.02Hz, ≤5.5μF	10A	Controller: 4kg Booster: 50kg
ZC-524-90	90kV/30mA(Peak)	0.1Hz, ≤0.5μF 0.05Hz, ≤1μF 0.02Hz, ≤2.5μF	15A	Controller: 4kg Booster Grade 1(40kV): 25kg Booster Grade 2(50kV): 50kg

ZC-500 Operation Cabinet

Product Features

- The monitor function: output current meter voltage zero indication or indication timing indicator.
- Protection function: over current protection time relay.
- With new time relay, the time range is more extensive.
- Using a new type of current relay, more accurate and more reliable, to ensure the safety of personal and equipment.
- Reasonable structure, small size, light weight.

Technical Parameter

Model	Output Voltage (V)	Adapter test capacity (KVA)	Rated output		High voltage voltmeter kV/V
			Voltage(V)	Current(A)	
ZC-0.5	220	0.5	200	2.5	50/100
ZC-1.5	220	1.5	200	7.5	50/100
ZC-3	220	3	200	15	50/100
ZC-5	220	5	200	30	50/100
ZC-6	220	6	200	30	50/100
ZC-10	220	10	200	50	100(140)/100
ZC-15	380	15	400	37.5	50/100, 100/100,150/100
ZC-20	380	20	400	50	50/100, 100/100,150/100
ZC-25	380	25	400	62.5	50/100, 100/100,150/100
ZC-30	380	30	400	67.5	50/100, 100/100,150/100
ZC-50	380	50	400	125	50/100, 100/100,150/100
ZC-100	380	100	400	250	50/100, 100/100,150/100

ZC-501 Experiment-transformer

The test also called transformer booster, it is the basic equipment for power station, power supply system and scientific research units. Used for the dielectric strength test of various electrical appliances, electrical equipment, insulation materials in the prescribed voltage, test products insulation level, it is found that the insulation defects sample measure to bear voltage capability.

ZC-501A series oil immersed transformer; ZC-501B series SF6 test transformer; ZC-501C dry testing transformer.

Oil Immersed Transformer

- ZC-501A series oil immersed transformer AC test using single frame core type iron core structure.
- The primary winding is wound on the iron core, and the high voltage winding is outside, and the coaxial arrangement reduces the leakage flux and increases the coupling between the windings.
- The outer shell of the product is made of the best shape of the octagonal structure with the core, the overall appearance is beautiful and generous.
- Voltage level: 10kV~200kV.
- Capacity range: 3kVA~100kVA.

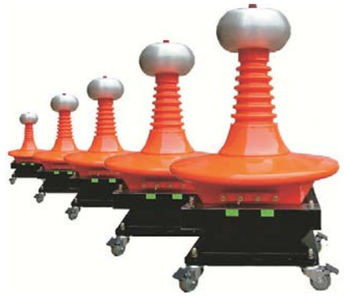
Sf6 Test Transformer

- ZC-501B series transformer design concept, material selection and process are the latest, so not only small size, light weight, beautiful appearance.
- The high quality cold rolled DQ 151 oriented silicon steel sheet is folded into a multi-stage cylindrical iron core, and a QZ type wire is directly wound and wound on a special high strength insulating tube. The shell is cylindrical and is filled with SF6 gas.
- The high voltage rectifying silicon stack is skillfully arranged in the high pressure sleeve through the insertion and extraction of the short circuit rod and the YDQ is a power frequency high voltage AC output or a high voltage direct current output.
- Voltage level: 10kV~200kV.
- Capacity range: 3kVA~100kVA.

Dry Testing Transformer

- ZC-501C series dry test transformer light weight, compact structure, no oil leakage, maintenance free.
- ZC-501C series dry test transformer connection is simple and intuitive, easy to use.
- Good insulation reliability, beautiful appearance.
- The series of dry test transformer has over-voltage protection function.
- Dry testing transformer is the use of the coil vacuum epoxy resin casting molding and CD type iron core, new technology, new material and dry testing transformer can output AC and DC high voltage and high voltage test, dry testing transformer compared with the same capacity experiment of oil immersed transformer has the advantage is light weight, convenient operation, no oil leakage, etc., especially for power system and the power users in field testing a variety of electrical equipment insulation and withstand voltage test of insulated tools.
- Voltage level: 10kV~200kV.
- Capacity range: 3kVA~100kVA.

Supporting product introduction



- ZC-500A series box: capacity: 1kVA-5kVA Input voltage: 0.22kV
- ZC-500B series box: capacity: 300kVA-10kVA Input voltage: 0.22kV, 0.38kV
- The Protection type digital microammeter MSA-I
- Resistance capacitance AC DC voltage divider RCF-50, 100, 150, 200kV
- High voltage DC discharge rod FZ-70, 140, 210kV
- High-voltage silicon stack 2DL-150, 300, 450kV
- Insulating support50, 100, 200, 300kV
- High voltage filter capacitor 0.01uF-0.1uF, 40-100kV
- Pressure ball
- Protective sphere gap Q-50, 100, 150, 200, 250, 500
- Standard test cup 400ml
- Medium oil cup
- Folding trolley 150, 300
- Water resistance
- High-voltage electroscope 10kV, 35kV
- High pressure phase detector 10, 35, 110, 220kV

ZC-505 Insulating Boots(Gloves)Withstand Voltage Test Equipment

This equipment is designed according the insulating boots (gloves) tests requirement and customers suggestions. It full-automatically boosts (drops) voltage, reads the leakage current of each tested equipment, and prints the results automatically, which solved the problem of non-standard tests, simplified the testing process, and increased fast the testing speed.

Product Features

- Instruments can be carried out the test for 8pcs insulated boots or insulated gloves at the same time, and measure the leakage current of each test product.
- The dry tesing is placing small ball inside of the insulated shoes, get rid of the traditional irrigation way which is not easy to dry .
- Measuring the leakage current is displayed on the high pressure side to ensure the accuracy of the measured current value.
- High and low voltage separate, which is greatly protect the personal safety.
- Each tested product has a breaking mechanism, any one breakdown or more than the value of the leakage current, the tested product will be automatically out of the test, and does not affect other tested products for testing.
- Insulating boot test has a special 304 metal grounding tray, insulated gloves test has a special container, easy to operate.

Technical Parameter

Input voltage	AC 220V±10% 50Hz	Digital timing	999 second
Control box output voltage	0～250V	Ambient temperature	-10℃～40℃
Control box output current	25A	Humidity	≤90% RH,no dewing,instrument do not flash
Rated output voltage	50kV	Continuous running time	≤30min intermission
Rated output capacity	5kVA	Control box size	425mm×288mm×320mm
The maximum range of leakage current meter	19.9mA	Testing machine dimensions	300mm×700mm×600mm
Voltage measurement error	1%+3words	Control box weight	20kg
Leakage current measurement error	1%+3words	Weight of testing machine	10kg
Leakage current resolution	0.01mA		

ZC-510 High current generator

ZC-510 High current generator is essential equipment used for electrical debugging to generate high current, which be widely used in power plants, power distribution stations, electrical plants, scientific research, laboratories and other units. It is a short-term or intermittent work device and characterized by small size, light weight, good performance, easy use and maintenance.

Product Features

- Large current generator as the current source for the test of electrical equipment for thermal stability, dynamic stability test when low-voltage high current power supply, such as air circuit breaker, contactor, relay temperature rise test and tripping.
- Single phase high current generator to test the three phase should be carried out separately.
- Three phase high current generator is mainly used for three-phase electrical products testing, and also can be used to test single-phase electrical products. The control scheme of three phase and single phase high current generator is the same, but the three-phase current generator output of three-phase current.
- The high current generator is composed of three parts: the transformer, the voltage regulator and the control.

Technical Parameter

Type	Rated capacity(kVA)		Boost converter rated input		Boost converter rated output		Resistance voltage(%)	Unload current(%)	Structure
	Voltage regulator	Boost converter	Current (A)	Voltage (V)	Current (KA)	Voltage (V)			
ZC-510/500A	3	3	13.6	220	0.5	5	＞8	＞6	Integrated
ZC-510/1000A	5	5	22.7	220	0.5/1	10/5	＞8	＞6	Integrated/Partial
ZC-510/2000A	10	10	45.4	220	1/2	10/5	＞8	＞6	Partial
ZC-510/4000A	20	20	50	400	2/4	10/5	＞8	＞6	Partial
ZC-510/5000A	25	25	62.5	400	2.5/5	10/5	＞8	＞6	Partial
ZC-510/10000A	50	50	125	400	5/10	5	＞8	＞6	Partial

ZC-506 Electronic Multi Frequency Power Generatc

Induction withstand voltage test of transformer and PT/CT transformer is an important test to ensure the quality of products meet the national standard. Transformer winding turns, layers, and between the phase and the phase of the longitudinal insulation induction voltage test is an important project in the transformer insulation test. Longitudinal insulation test needs to be carried out by frequency doubling power supply device, the test voltage is applied to carry out the pressure test.

ZC-506 Electronic multi frequency power generator is to meet the above requirements and design and manufacture, after the majority of users proof which has the advantages of simple operation, reliable performance, can better meet the requirements of the transformer, the transformer induction withstand voltage test need.

Product Features

- The device uses power electronic technology, the internal core part of it use the frequency converter.
- Parameter preset, protection setting, frequency selection, voltage regulation control, all adopt digital control technology.
- Built- in computer, 8 inch color LCD display, data storage can reach 3200 groups
- Touch operation mode, equipped with thermal printer to print Chinese characters.
- Can preset 50Hz, 100Hz, 150Hz, 200Hz frequency test (optional), touch voltage regulation (step can be real-time adjustment, 1V and 2V and 5V, 10V), the device of multi frequency test voltage output can be realized.
- External LC filters circuit, to ensure that the waveform distortion rate in the target range.
- The external band tapped compensation inductor to compensate the capacitive current of the tested equipment and to improve the load capacity of the device.
- It is small size, light weight, easy to carry and easy to high power.
- Not only produces three frequency multiplication, but also produces 1, 2, 3, 4 frequency multiplication test voltage output.
- Operation, wiring is simple, the requirements of the power capacity of the field test, and there is a great degree of reduction.

Technical Parameter

Capacity	0～150kVA
Power frequency	50Hz
Input voltage	AC, three-phase, 380V±10%
	Note: when single-phase 220V is used, the output capacity is halved.
Output voltage	0～500V Note: Using step-up transformer,the voltage more higher.
Output frequency	50Hz，100Hz，150Hz，200Hz
Waveform distortion rate	＜3%

Comparison between three and multi frequency

No.	SBF triple frequency			Multi frequency		
1	Input must be three-phase AC380V			3-phase AC 380V		
				2-phase AC 380V;220V		
2	Output only 150Hz			50, 100, 150, 200Hz		
3	Manual adjustment of output			Manual and automatic adjustment of output		
4	Large volume, large weight, 2 or 3 pcs			Small size, light weight, 1pcs		
5	Pointer display, electromagnetic			Digital display, power electronics		
6				Print, save, LCD		
7	No function			Effectively monitor Ronshen effect and avoid equipment damage.		
8	KVA/V	Voltage	Weight	KVA/V	Voltage	Weight
	5/500	500V	45	5.5	400V	15
	10/500		65	11		25
	15/500		85	15		35
	20/500		100	22.5		55
	50/1000		100	30		75

ZC-700A Cable Fault Tester

Product Features

- China's leading industrial embedded computer platform system, the whole computer XP system operating platform, integrated software testing, and with the cable fault test software.
- 12.1 inch large screen, touch mouse operation, bright screen show that adapt to outdoor sunlight, lithium battery powered, convenient field test. Engineering aluminum chassis, shock proof and moisture to achieve a very strong stability.
- Using the latest USB communication interface, collecting signal is stable, the host can automatically select the lowest 6.25mhz, up to 100MHz five sampling frequency, adaptive pulse width, meet the test requirements of different lengths of cable, reducing the raw measurement error, improve the accuracy of the test.
- Software waveform can be arbitrary compression, expansion, with the screen random display two more close standard waveforms for your accurate comparison and analysis, the dual cursor moving can be accurate to 0.15 meters, improve test accuracy, and reduce the error.
- Various types of faults can be tested under different voltage levels, different sections, different media and various materials of 35KV, including open circuit, short circuit, low resistance, high resistance leakage, high resistance to flashover fault.

Technical Parameter

Test distance	Not less than 60kM
The shortest test distance (blind area)	0-5 meters or no blind spot accurate fixed-point error: + 0.2m
Test error	The system error is± 1%
Display mode	XP system, 12.1 inch LCD screen
Storage space	Fixed 8G
Standby time	Can be used continuously for 6 hours or so
Host weight	7kg

ZC-700B Full Intelligent Multi-Pulse Cable Fault Tester

Product Features

- China's first industrial use of embedded computer platform system, industrial use of the environment, to achieve a very strong stability. The lithium electricity supply, convenient on-site test.
- China's first 12.1 inches large screen touch system, the entire computer XP operating platform integrated software, complete farewell to the era of SCM cable.
- Using the USB communication interface of the collected signal is stable, with a computer can realize double control and dual display, host can automatically select the lowest 6.25mhz, up to 100MHz five sampling frequency, which can meet the test requirements of different lengths of cable, reducing the coarse measurement error.
- Software implemented fault automatic searching, automatic distance display, error card automatic alarm function, double vernier movement can be accurate to 0.15 m, the waveform can be any compression and expansion, overlapping, screen with random display ten low pressure pulse waveform for you to select the location of superposition, to improve the measurement accuracy, error reduction.
- Support the opening of the new 3G communication terminal or wireless network card, special 3G software can realize remote expert on-site real-time testing technique, expert users to remotely control the host, to the user site testing provides timely, accurate waveform analysis and the exchange of guidance, so you worry free.
- Critical for accurate positioning instrument part, direct digital display test distance from the point of failure is another innovation of the domestic fixed-point technique, rapidly and accurately search the cable fault and reduce power loss to provide a strong guarantee.
- Multiple pulse generator once discharge, ten times of low voltage pulse, the short circuit waveform intuitive superposition, easy to analyze, multiple pulse generator small size, weight is only 5KG, the real realization of a full set of equipment light.
- There are three parts of the high voltage discharge for the user to choose, the first high-frequency high-voltage power supply 8.9kg replacement 65kg test transformer and the operation of the box to fill a gap in the country.
- Various types of faults can be tested under different voltage levels, different sections, different media and various materials of 35KV, including open circuit, short circuit, low resistance, high resistance leakage, high resistance to flashover fault.
- Can test the railway communication control cable, street lamp cable, all kinds of airport signal cable fault.
- Can measure the speed of propagation of waves in any cable which we know the length.
- Can test the power cable laying route and buried depth.

ZC-701 Cable Identifier

ZC-701 Cable Identifier includes a transmitter and a receiver, it can be used to locate trace and depth of the underground cables and metallic pipes, also to identify the cable from a bunch of cables.

Product Features

- Accurate identification of a single target cable from a beam of charged or not charged cables, and with the function of finding the path of a charged cable.
- Be able to accurately identify 35mm^2-300mm^2 single core or multi-core high voltage power cable.
- In the identification of the target cable, the identification error caused by the quality of the product, the security measures to ensure the safety of the operation of the cable.
- In the identification of live cable is to ensure the safety of the operator.
- Cable identification function with two voltage modes of AC and DC.

Technical Parameter

Pulse voltage	55V, DC
Pulse current	0~100A
Pulse emission frequency	128Hz, 1KHz, 8KHz, 33KHz
Pulse width	72ms

ZC-702 Line Parameter Tester

ZC-702 type line parameter tester is used to test the power frequency parameters and transformer loss parameters. The instrument design is exquisite, superior performance, powerful, the internal use of advanced multi A/D synchronous AC sampling and digital signal processing technology, successfully solved the problem of multi-channel signal synchronization measurement and calculation.

Product Features

- Quickly and accurately complete the line capacitance of the positive sequence, measurement of positive sequence impedance and zero sequence capacitance, zero sequence impedance parameters. At the same time, it can measuring line mutual inductance and the coupling capacitance measurement.
- Strong anti-interference ability, it can make accurate measurement under the condition for the ratio is 1:10 between the transponder signal and frequency interference signals.
- External wiring is simple, only need to connect the down lead of the measured cable once time and all the line parameters will be tested.
- Instrument with industrial control computer as the core, to achieve the test power, instrumentation, calculation model integration. Using the full Chinese menu operation interface, the Chinese character micro printer printing results, the operation is very simple.
- Test process is quick, the instrument automatically test mode control, buck boost control and data measurement and calculation, and print the measuring results, a sequence parameter measurement need about one and a half minutes to complete, shorten the test time, can greatly reduce the workload, two hours of completion of the traditional method of workload only need 30 minutes now.
- High precision measurement, instrument itself to provide AC variable frequency power supply(52.5Hz and 47.5Hz), easy separation power and clutter interference and effectively realize high precision measurement of small signal.
- Just a connection can complete all the order parameter measurement, completely solve the problem existing in wiring switching cumbersome, anti-jamming, stability and accuracy.

Technical Parameter

Voltage measurement range	AC 25V～500V	Relative humidity	When the temperature is 25℃, not greater than 90% (without dew)
Current Current range	AC 0.025A～50A	Working power supply	AC 220V±10%; 50Hz±1Hz
Measurement accuracy	Voltage, current, impedance: 0.2 level	Outline dimension	360mm×260mm×160mm
	Power: power factor＞0.1: 0.5 level	Instrument weight	5kg
	Power Factor≤0.1: 1 level		Power Factor≤0.1: 1 level
Ambient temperature	-10℃～50℃	Ambient temperature	-10℃～50℃

ZC-710B Three Phase Zinc Oxide Arrester Tester

Liquid crystal display, finished printing, intuitive interface, high degree of automation. The use of advanced digital signal processing technology, strong anti-jamming performance, high precision measurement results. The user can observe the signal waveform directly from the liquid crystal display screen, and has the function of the oscilloscope, and is safe and reliable. Using isolation transformer and high resistance voltage, so as to avoid the small size of PT two side short circuit, light weight, easy to carry electricity, power outages, test rooms are applicable.

Product Features

- Instrument standard configuration without high-energy lithium ion battery, optional with built-in battery.
- 5.7 inch 320×240 liquid crystal display, high speed thermal printer; graphic display, intuitive interface, easy to operate and use at the scene.
- Apply to the lightning arrester,power cut off and test room to use.
- Current and voltage sensors are completely isolated, safe and reliable. Truly three-phase current, three-phase voltage be tested at the same time, improve work efficiency;
- Instrument can be continuous testing, display voltage and current curves, and can quickly print data and curves.
- Internal configuration memory, 200 sets of test data can be dropped.
- Optional RS232 communication interface, can be carried out by the host computer to test and derive the test data.

Technical Parameter

Working power supply	AC 220V/50Hz With high energy lithium ion battery
Measuring range	Leakage current: 0～10mA (Can expand)
	Voltage: 30～100V (Can expand)
Measurement accuracy	Current: all current＞100 mA, + 5% reading + 1words
	Voltage: reference voltage signal＞30V, +2% reading + 1words
Sampling method of voltage reference signal	20 meters
Instrument size	360mm×260mm×140mm

ZC-711 Zinc Oxide Arrester DC Parameter Tester

ZC-711 zinc oxide arrester DC parameter test instrument is specially used for detection of 10kV and below the power system with zero gap zinc oxide arrester MOA valve electrical contact between adverse internal defects and measuring MOA DC reference voltage U1mA and 0.75 U1mA leakage current. The instrument will be DC high voltage power supply, measurement and control system composed of one, and all the elements are concentrated in a box, with the characteristics of small volume, light weight, etc., is the power system and essential for zinc oxide lightning arrester production plant to test equipment.

Product Features

- Full automatic measurement, easy to operate, fast and easy to use;
- High precision sampling and processing circuit, advanced Fourier harmonic analysis technology, to ensure that the data is more reliable;
- The instrument uses a unique high speed magnetic isolated digital sensor to collect the input voltage and current signal, which ensures the reliability and security of the data.
- Has the resistance current fundamental wave peak output, the side phase correction and so on;
- Instrument equipped with a calendar clock, micro printer, can store measurement data;
- If the alarm lamp does not light, indicating that MOA internal good contact and connection problems, instrument will automatically enter the measurement U1mA and ID, and the test results displayed in the header, and when the light bright, the test is over, removal of test wiring or replace the trial product for next test.

Technical Parameter

Measurement range	Voltage 0～30kV	Relative humidity	25℃; ≤85%
	Current: 0～1000Apoint error: + 0.2m	Altitude	＜1000M
Measurement accuracy	Voltage1%	Supply voltage	AC 220V ± 10%
Ambient temperature	0～+40℃	Power frequency	50Hz ± 5Hz

ZC-712 Lightening Protection Components Tester

Product Features

- Applies to test the DC parameters of Oxide Zinc arrester (voltage dependent resistor), cermet second, third electrode discharge tube, vacuum lightning tube and others over voltage protection components. It also can be considered as stable power source and constant current power supply.
- With HV short circuit protection, over current protection, high voltage preset, range adjustment functions, HV self discharge time less than 0.5 second.
- It has self calibration function.
- LCD display, high precision, strong reliability.
- Pre-set the measurement range when testing, there will be sound alarm if exceed the measurement range.
- Choose continuous measurement can make continuous test for mass measured equipments.
- Panel function is simple, easy to operate.
- Light in weight, easy to carry.

Technical Parameter

Pressure sensitive resistance measurement	Initial action voltage: 0～1700V	Error: ≤2%±1d
	Leakage current: 0～199.9μA	Error: ≤ 2μA ±1d
Discharge measurement	DC Spark-over Voltage : (20～1700)V	Error: ≤ 2%±1d
Insulation resistance	6MΩ (500V)	
Withstand voltage	AC 1.5kV 50Hz 1ZCn	
Working temperature and humidity	0～+40℃, ≤85%RH	
Storage temperature	−10℃～+50℃	
Power supply	DC 12V dedicated power supply	
Consumption	8W	
Instrument size	208mm×190mm×70mm	
Instrument weight	1.5kg	

ZC-713 Arrester Discharge Counter Detector

ZC-713 arrester discharge counter test instrument used to verify the reliability of various arrester counter action. The reliability of counter action is very important to the power system. It is an important parameter to record the frequency of lightning in the normal operation. It can provide an important basis for the electric power system to provide a specific test for the arrester. This instrument is mainly used for high voltage lightning arrester above 35kV.

Product Features

- The output end of the instrument is connected with both ends of the arrester counter, the red end is connected with the upper end, and the black end is connected to the ground.
- After the power cable is connected, check the instrument and the wiring is correct, and then start the test after the confirmation.
- Close the power switch (power light), to be stable voltage (1000V), you can begin to check.
- By pressing the measuring key, the output voltage drops immediately, and the action of the counter can be observed.
- For multiple tests, when the output voltage to achieve stable value, and then press the check key, and observe the action of the counter.
- After the test is completed, immediately turn off the power supply, the output voltage is completely zero, to remove the connection.
- If the key is pressed, the output voltage is not decreased, the power should be turned off, after the voltage is zero, check whether the circuit has a breakpoint, or discharge counter is not suitable for the technical specifications of the model.

Technical Parameter

Output voltage	DC 600V±5%	Impulse current	≥100A (8/20μs)
Interval time	≥30s	Volume	255×195×175mm
Power supply	AC 200V±10% 50Hz±2%	Weight	4kg

ZC-600 Power Quality Analyzer

Product Features

- Special instrument be used to do power quality detection and analysis.
- Memory using ARM and DSP as well as 16M bytes.
- This table uses the touch screen to make the operation more simple and convenient.
- Can be measured, and save the data, upload it to the PC machine analysis.
- Modular structure, reasonable design, reliable operation.
- Chinese / English menu operation, simple and easy to operate.
- USB disk can be used to update the instrument software; software upgrade is simple and convenient.
- The measurement data are analyzed in detail by using power quality data analysis software on the PC machine.

Technical Parameter

Voltage signal input circuit	Direct access, input impedance	1MΩ, 20pF	Current input circuit	Indirect access measuremen trange	Current real effective value 100A, 500A, 1000A, 3000A (Select the appropriate current sensor)
	Measurement range	Voltage really effective value 700V (effective value)			
	Power consumption	Less than 0.5VA phase		Power consumption	≤0.5VA

ZC-601 Handheld Three-phase Meter

ZC-601 hand-held three-phase electricity tester is a low voltage electrical diagnosis can metering is normal, and both intelligent electric can meter calibration and with electrical supervision function, performance to price than high intelligent instrument.

Product Features

- Using high precision A/D (16 bits), the acquisition rate is high and the precision is high.
- Using ARM kernel, processing speed, software function is rich greatly improve the test efficiency.
- The 3.2 inch color LCD Chinese characters under the sun, clear display.
- Automatic or manual calibration of single phase, three-phase three wire, three-phase four wire active and reactive full series of electric energy meter;
- Automatic calibration of low-voltage metering device of CT ratio, angle difference, comprehensive error and low pressure metering device;
- Real- time measurement of AC voltage, AC current, power, frequency, power factor, phase and other electrical parameters.
- Visual display vector diagram, provide common error wiring identification tips.
- Using high performance lithium battery power supply, a charge for 8 hours.
- Carry out the word error test of electric energy meter at the scene.
- Can save 200 sets of measurement data, and can be viewed on the instrument, the shutdown data is not lost.

Technical Parameter

Voltage range	AC 0V～600V
Active voltage, current, power accuracy	0.5 class
Power accuracy	0.2class (5A clamp table), 0.5class (500A clamp table)
Clamp meter range	5A, 50A, 100A, 500A, 1000A, 1500A, 2000A (Can be selected according to user requirements)
Working frequency	45Hz～65Hz
Accuracy of reactive power	0.5 class
Working temperature	-20℃～+50℃
Outline dimension	195mm×100mm×40mm
Weight	0.5kg

ZC-602 Two-Way Transformer Area Identification Instrument

ZC-602 two-way transformer district identification device is a new generation of high reliability identification tool fully meets the area user identification and phase attribute recognition, the product based on power frequency over zero communication patented technology, with strong anti-interference and point to point communication capacity and far communication distance. This product is mainly used in the area of the distribution network of the census, transformer district contract, electricity inspection, production scheduling and operation and maintenance, and other fields.

Product Features

- The instrument adopts aluminum alloy portable integrated box body design, has good mechanical properties and corrosion resistance, the whole weight of the whole machine is light, the terminal can be placed in the main body, which is very suitable to carry and use at the scene.
- Terminal and the host are used in large screen dot matrix liquid crystal display, display all simplified Chinese, intuitive operation and with a background lamp, convenient for use in the shadow of the light.
- Flexible configuration of the terminal and the host, there is no binding relationship, the configuration does not need to re set. The host number can be changed flexibly by the keyboard, so that the user identification of the multi distribution power supply area under the complicated condition can be realized.
- The host has the real power protection function, when the 220V power supply is mistakenly connected with 380V; the instrument will quickly and automatically cut off the circuit protection equipment and operator safety.
- With the function of countdown prompts and voice prompts (after receiving the signal) when the terminal is waiting, very convenient for users.

ZC-611 HV CT Ratio Tester

ZC-611 High & Low Voltage CT Ratio Tester can test the HV primary current, LV secondary circuit of the HV measuring equipments (35kV or less than 35kV systems) without disassembling the wire or power off, and calculate the ratio.

Product Features

- Measurement of 35kV and below high voltage current transformer.
- The polarity of 35kV and the following high and low voltage current transformer can be measured.
- 35kV and the following current transformer can be detected high and low pressure side of the corresponding.
- Can measure the current amplitude of 35kV and the following high and low voltage lines.
- High capacity lithium polymer rechargeable battery, continuous work over 10 hours.
- Closed clamp design, opening design accuracy is improved greatly.
- Long U shaped jaws, measured the width of up to 55mm, can easily measure the wide aluminum row.
- Wireless transmission distance is far, the ability to cross obstacles.

Technical Parameter

Current measurement range	High voltage current transformer	0～600A
	Low voltage current transformer	0～6A
Ratio Measure Range	Ratio Measure Range	1-5000
Accuracy	High voltage current	0.5%
	Low voltage current	0.5%
	CT ratio	1%
Measuring the maximum Size of the conductor	High pressure clamp meter	55mm×35mm
	Low pressure clamp meter	Φ8mm
Voltage resistance	High pressure clamp table (iron core - hand between)	38000V/1 minutes
	Low voltage clamp table (iron core - hand between)	2000V/1 minutes
	Host (plug - shell)	2000V/1 minutes
Weight	Mainframe	0.3kg
	High pressure clamp table	0.65kg
	Two clamp table	0.15kg
Exterior dimension	Host	180mm×80mm×35mm
	High pressure clamp meter	290mm×90mm×32mm

ZC-610A Clamp Phase Meter

ZC-610A digital dual clamp phase volt ampere meter is designed for the field measurement of voltage, current and phase and the design of a high precision, low price, portable handheld, dual channel input measurement equipment. The table can be easily between the field measurement U-U, I-I and U-I phase discrimination of inductance and capacitance circuit and three-phase voltage phase sequence, detecting the transformer connection group, test secondary circuit and the mother difference protection system, read the phase relationship between the differential protection CT in these two groups, check meter wiring correct and not used.

Product Features

- ingenious structure, easy to operate.
  (A)hand held structure
  (B)you should not disconnect the circuit or change the measurement range under 10mA-10A, 3V-500V.
  (C)use high contrast LCD, character can be 25mm, the screen angle can be 700, to obtain the best visual effects.
  (D)the function and layout of the switch are reasonable, rotating can read the measuring voltage ,current and phase.
- high resolution
  adopt new type patent current clamp , current resolution up to 0.1mA; voltage resolution up to 0.1V.
- Low power consumption
  this product with micro power consumption design and with the function of testing the voltage of battery.

Technical Parameter

Display number	$3^{1/2}$	Shell size	140×40×19
Sampling rate	3 times per second	Jaw size	Φ7×8
Power supply	A single 9V stack battery, the power supply current is less than 5mA	Weight	Body: 280g; Measuring pliers: 2×200g
Case size	186×86×33mm	Storage condition	Temperature: －10℃～50℃

ZC-610B Handheld Three-phase Meter

ZC-610B handheld three-phase meter is designed with high speed M3 Cortex processor and 24 bit high speed ADC for measurement and calculation of electric parameters, fully graphical interface, true color display resolution of 320×240, touch screen man-machine interface is friendly, the instrument is easy to carry.

Product Features

- Simultaneous measurements of three phase voltage and four current (including zero line current).
- At the same time measuring phase, three-phase AC voltage and current phase angle, angle.
- Measurement of power frequency and phase sequence.
- Automatic identification of transformer winding, capacitive and inductive loads.
- Six angle chart display, color sequence analysis.
- Active power, reactive power, apparent power, three-phase power and power factor measurement.
- Data save and view..
- Data static save function, can save 50 groups of data.
- 3.2 inch TFT color display with touch function.
- Lithium battery powered, rechargeable continuous standby for more than 20 hours.

Technical Parameter

Type	Measuring range	Unit	Error	Resolution ratio
Voltage	1～600	V	0.5%×Range	0.01V
Electric current	0.001～20	A	0.5%×Range	0.0001A
Active power	0.001～5000	W	0.5%×reading (PF=1)	0.1W
Reactive power	0.001～5000	VAR	0.5%×reading (PF=0)	0.1VAR
Apparent power	0.001～5000	VA	0.5%×reading	0.1VA
Frequency	45～65	Hz	0.1%×reading	0.01Hz
Phase	0～360		2°	0.1°

ZC-620A Clamp Watt-hour Meter On-site Calibrator

The instrument is used for testing the on-the-spot accuracy all kinds of single phase electric energy meter, and can also be used in the measurement of power frequency alternating current parameter.

Product Features

- Pliers type current transformer and precision electrical energy design standard combined with touch type color liquid crystal display, simple appearance and smooth operation.
- Intelligent power management, high efficiency and energy saving. Lithium battery power supply, the working hours of the most up to 24 hours.
- Voltage and current measurement range, voltage: 5～220V, current: 0.01～50A.
- Measurement parameters of a screen display, easy to operate.
- Instrument internal automatic compensation measurement error, measurement accuracy up to 0.1.
- Clamp table design, easy to carry, the ability to resist interference.

Technical Parameter

Measuring range	Voltage	10～240V (r.m.s)	Measurement accuracy	Voltage accuracy	0.1%
	Current	50mA～60A (r.m.s)		Current accuracy	0.1% (2.5～50A), 0.2% (0.05～2.5A)
	Phase angle	0～359.99º		Phase error	≤0.1 º M
	Frequency	45～65Hz		Frequency error	≤0.005 HzM

ZC-620B Multi-functional electric energy meter field calibrator

Product Features

- The instrument is a high precision measuring instrument, which can be used in the power quality problems such as the electric energy meter calibration, the electric parameter test and the detection of the power quality problems such as wave distortion, voltage fluctuation and flicker, three-phase unbalance and so on.
- Without power failure, without changing the metering circuit; without opening the metering device, on-line test the integrated error of the real load testing and metering equipment.
- The precise measurement of voltage, current, active power, no power, phase angle, power factor, frequency, etc. many electric parameters to calculate the measurement error of the test equipment circuit.
- Can display the measured voltage and current vector diagram, the user can get the correct connection of the measurement equipment through the analysis of vector diagram. At the same time, in the three-phase three wires connection mode, can automatically determine the 48 connection mode.
- The current circuit can be measured using clip on transformer; operating personnel without interrupting current loop can be convenient and safe measure.
- Can check voltage meter, current meter, power meter, phase meter and other indicators as well as three-phase three wire, three-phase four wire, single phase 1A, 5A all kinds of active and reactive power meter.
- Can use photoelectric, manual, pulse and other methods of electric energy meter calibration.
- Measurement and analysis of the power quality of the power supply from the utility grid, the measurement and analysis of the frequency deviation, voltage deviation, voltage fluctuation, flicker, three phase voltage and power grid harmonics.

Technical Parameter

Input characteristics	Voltage measurement range	50V, 0～400V, 100V, 200V, 400V four automatic switching range.
	Current measurement range	0～5A, built-in transformer is divided into 5A (CT) file. A transformer is 5A (Q), 25A (Q), 100A (Q), 500 (Q)
	Phasor measurement range	0～359.9°

ZC-D900 Digital Transformer Substation Multimeter

Intelligent substation / digital substation data from the source to achieve digital, truly realize the information integration, network communication and data sharing. In the acquisition module of Smart Substation Voltage and current AD sampling, through the optical fiber will collect value is transmitted to a combination (MU) unit, the merging unit will be merged after the signal according to the IEC61850-9-1/2, IEC60044-8 protocol is transmitted to the optical digital relay protection device. In addition, substation intelligent use of goose message through the network transmission switch quantity signal, through the intelligent terminal of the operation of the traditional circuit breaker, the circuit breaker is tripping operation. Therefore, there is a great difference between intelligent substation and traditional substation, the test and monitoring of relay protection device, merging unit and intelligent terminal are all new and important development direction.

ZC-D900 digital universal table uses ARM and DSP dual CPU architecture, powerful. Using Linux embedded operating system, beautiful interface, easy to use. With beautiful and light appearance, easy to carry, it is suitable for a variety of laboratory and field testing.

Product Features

- The combined unit can simulate the output of IEC61850-1/2 optical digital message, and test the digital relay protection device.
- Communication fault simulation test can be carried out, such as frame loss, communication delay, channel abnormalities, and so on, the comprehensive evaluation of digital power meter communication function and fault tolerance ability.
- It can analyze the network message of IEC61850-9-2 IEC61850-9-1/, such as network address, ASDU number, sampling rate and so on.
- Support the total station system configuration file (SCL) to import, so as to extract the device instance configuration information needed to complete the test configuration.
- With the light receiving serial multiplexing technology, support FT3 data transceiver and IRIG-B timing.
- Portable design, 5 inch TFT true color touch LCD screen display, convenient testing, support for touch screen and keyboard input, with friendly man-machine interface.
- Product adaptability, scalability, to meet the needs of the future digital substation technology upgrades.

ZC-D910 Photoelectric Transformer Calibrator

The utility model is suitable for the laboratory and the field precision calibration of the electronic mutual inductor which conforms to the IEC61850 (-9-1, -9-2, -9-2LE) standard digital output and the non traditional mutual inductor of the small signal output.

Product Features

- Using the traditional transformer calibration device (BHE) and 3458A Agilent digital multi meter to achieve the value of transmission.
- It can use the built-in GPS or high stability crystal output pulse synchronous signal (Guang Xian).
- Integrated design, external wiring requires only standard wire signal, digital fiber signal, and synchronization signal (optional).
- You can use automatic parameter setting function; users do not need any input. Automatically completed by the system and includes the ratio.
- ST/SC dual optical fiber Ethernet interface and dual RJ45 Ethernet interface to improve reliability, while convenient access to different interfaces of electronic transformers.
- 6 order quasi synchronization algorithm makes the algorithm error of non synchronous sampling approach to zero.
- Using AD 24Bit chip and 512 times over sampling technology, greatly expand the bandwidth to improve the accuracy.
- The dynamic range and the signal to noise ratio are improved by using multi stall automatic switching and FIR filter.
- Display synchronization signal, waveform, ratio difference, angular difference, variation, verification points, polarity, and other key information at the main interface in time.
- With industrial control computer, 800*600 color LCD touch screen. Can be equipped with soft keyboard, wireless keyboard and mouse operation
- Additional features: holographic recording, protocol analysis, signal analysis, automatic capture verification point, etc.
- In accordance with the industrial standard design, strong anti-interference ability.
- Using of LabView development and management software, beautiful interface, easy to use.
- It can meet the needs of customers by the way of built-in or external hardware modules.

ZC-D905 Merging Unit Tester

ZC-D905 Merging Unit Tester instrument series products are mainly used in the laboratory and field test of the combined unit based on analog input, digital input, non traditional small signal input and mixed input.

Product Features

- Support for synchronous and non synchronous mode (interpolation), the effective channel for the merging unit amplitude, phase and frequency tested with all channel waveform display, vector graph display and harmonic column chart display function.
- The electrical parameters (amplitude, phase, frequency) and power measurement can be measured by the input and output parameters of the combined unit.
- Can be used to test the phase difference between the sampling synchronization error, the bus voltage and the interval voltage and current between the different analog channels of the merging unit.
- With the existence of the whole unit cycle delay test for analog input.
- The influence of frequency, harmonics, unbalanced current and voltage on the merging unit can be tested.
- The merging unit synchronization error, timekeeping error, sampling values published dispersion, sample response time (frame absolute delay) for the test of high accuracy.
- The digital sampling value of the output simulation, which is out of step, is not valid or not, can be used to test the sampling value of the merging unit, which can be used to analyze the SV and GOOSE messages.
- With the Smart Substation SCD and CID configuration files of the analytical functions, and automatically complete the parameter configuration; according to the user's choice of test items, automatic testing, automatic generation of test reports.
- Laboratory and field verification of merging unit suitable for analog input, digital input, non traditional small signal input and mixed input.
- By using Ad 24Bit chip and 512 times over sampling technology, the bandwidth is greatly expanded, and the sampling precision of standard channel is improved.
- The dynamic range and signal to noise ratio of the standard channel are improved by using multi stall automatic switching and FIR filter.
- 6 order quasi synchronization algorithm makes the algorithm error of non synchronous sampling approach to zero.
- Support B light code output, light B code input, light PPS output, light PPS input, electric PPS output, electric PPS input, IEC 61588 protocol time synchronization mode and synchronous way of accuracy test.

ZC-D920 Portable Power Distribution Network Automatic Checking Instrument

ZC-D920 portable distribution network automation calibration instrument is based on MAC DSP 1.2G, large-scale FPGA, high speed and high precision DA and high fidelity power amplifier composed of a new generation of high precision automatic calibration instrument. Mainly used in smart grid distribution network automation terminal products on-site verification.

Product Features

- Can output three-phase high precision voltage, current signal, analog power two transformer output.
- Can output two kinds of frequency voltage; realize the frequency difference, the pressure difference, the angle difference test.
- AC source test distribution network automation terminal speed, the general 85 calibration points only need 4 minutes; for the short time to complete the inspection of multiple devices to provide a guarantee.
- The error detection function of the power meter can be extended to realize the error calibration of the electric energy meter.
- Can do the same period test, complete the pressure difference, angular difference, frequency difference test, complete the lock value, the action value test, and obtain the first-hand information. To ensure that the distribution network automation terminal after the normal operation of the same period.
- It is fast and stable output. Inspection speed, fast source, very satisfied with the requirements of the rapid detection of the same period (10ms) the characteristics of the source of the lift.
- With load adjustment rate is fast,will not cause the slightest fluctuation of the source output under rated load.
- Output harmonics up to 50 times.
- AC sampling automatic test speed, 78 points as long as 4 minutes.
- The weight of the instrument is light (about 8 kg), easy to carry, the first domestic volume of the smallest high precision standard source.

ZC-800B Capacitance & Inductance Tester

ZC-800B Capacitance & Inductance Testeris specially developed for problems existing in substation field measurement of capacitance value of capacitor, it solved the following problems:

(1) Field measurement capacitor needs dismantling cables, not only the big workload but also easy to damage the capacitor.

(2) Low capacitance meter output voltage causes the fault detection rate is low.

(3) The instrument has characteristics of small measured workload, fast and simple, stable performance, high measurement accuracy, high fault detection, etc.

(4) Reactor inductance measurement.

Technical Parameter

Instrument measurement range and accuracy	Capacitance measurement	Measurable capacitance range: 0.1μF～3,300μF
		Measurable capacity range: 5～20,000kvar
		Measurement accuracy: ±1.0% readings +0.02μF
		Resolution: 0.001μF
	Current measurement	Current measurement range: 0～20A
		Measurement accuracy: ±3.0% readings + 0.05A
		Resolution: 0.01A
	Inductance measurement	Inductance measurement range: Small inductance mode: 0.1mH～5mH; Large inductance mode: 5mH～50H
		Inductive reactance measurement range: 50mΩ～20KΩ
		Measurement accuracy: ±(3.0% readings +0.05mH)
		Resolution: 0.01mH

Instrument measurement range And accuracy	Resistance measurement	Resistance measurement range: Small resistance mode: 50mΩ～1Ω; Large resistance mode: 1Ω～20KΩ
		Measurement accuracy: ±(3.0% readings +0.05Ω)
		Resolution: 0.01Ω
Working power supply	Rated voltage	Power frequency: 120V±10%
	The rated frequency	60Hz
	The rated output	2V/20V/500VA
Equipment normal working conditions	Environmental temperature	-10℃～+50℃
	Relative humidity	≤90%
Display and print mode	LCD display with Chinese characters, Panel high speed printer	
Shape	370×260×220mm	
Weight	15 kg	

ZC-810 Salt Density Tester

This product special designed for salt density tests, system built-in insulator equivalence salt density formula, directly reading. Using rotating mouse, easy to operate, with micro-printer, convenient to store and compare test results. LCD display, all parameters and test results directly displayed. Built-in high capacity rechargeable lithium battery, convenient for field tests.

Product Features

- Automatic range switching function.
- Wide measurement range, salt density measurement range: 0.0001mg/cm^2~9.9999mg/cm^2.
- Automatic temperature compensation, it can directly display of the standard electrical conductivity and the equivalent of 20℃ (ESDD).
- The use of electrical conductivity is greater than 10 s/cm of the cleaning solution, with automatic cleaning solution to remove their own conductivity and the original salt content, reducing the requirements of the cleaning fluid;.
- The salt density (ESDD) of the non charged measurement is converted to the salt density (ESDD) by means of the charge correction factor.
- With storage, printing, data upload and other functions, and can store 400 sets of data.
- Built in high-capacity rechargeable lithium battery, suitable for field use.

Technical Parameter

Measurement range	Salt density	0.0001mg/cm^2～9.9999mg/cm^2 (According to the X-4.5 type insulator)
	Measuring temperature	0℃～100℃
	Measurement of electrical conductivity	0～200000μs/cm
Intrinsic error	Measurement of salt density	Resolution 0.0001
	Full scale accuracy	2%
	Measuring temperature	Resolution 0.1, precision 0.5℃
	Measurement of electrical conductivity	Resolution 1 s/cm

ZC-811 Insulator Ash Density Tester

ZC-811 Insulator Ash Density Tester is developed by our company a "gray density" complete sets of measuring equipment according to the needs of China's power grid pollution prevention work, with the power grid pollution level classification of the new standards. The apparatus is in accordance with the GB / T 16434 - 2004 "polluted condition selection and size of high voltage insulator determine part 1: definition, information and general principles (instead of GB / T 16434-1996, GB / T 5582-1993, JB / T 5895-1991) and the State Grid Corporation of Q / GDW 152 - 2006 the high voltage overhead lines and substation environmental pollution classification and external insulation selection standards" requirements.

ZC-811 Insulator Ash Density Tester is a complete set of measuring equipment. It contains precision electronic balance, air blast drying equipment, filtration speed devices and accessories, such as the measurement of components. The whole set of device is simple and accurate.

Product Features

- The filtering speed device has the advantages of mature technology, convenient use and high efficiency. Contains a number of taps, can be a number of filtering process. The use of water circulation device to replace the oil circulation pump, more convenient, low failure rate.
- The air blast drying device adopts German technology, the air duct is advanced, the fan noise is small, the performance is stable.
- Microcomputer intelligent control, set the temperature, the instrument to determine the power required to heat, and display the heating state, temperature control precision and stability.
- Adjustable air inlet, control the temperature and gas emissions.

Technical Parameter

Balance precision	0.1mg	The maximum degree of vacuum filtration	0.098Mpa
Maximum weighing	200g	Single head exhaust air filtration	10L/min
Temperature range	Room temperature +10℃～250℃	The number of air filtration	2pcs
Temperature resolution	1℃	Supply voltage	AC 220V±10% 50Hz±5Hz
Temperature fluctuation degree	1℃	Ambient temperature	5～40℃
Temperature uniformity	1℃	Relative humidity	85%
Filtration flow	60L/Min		

ZC-820 Wire-less HV Phasing Tester

ZC-820 Wireless HV phasing tester, used in power lines, phase tests and phase sequence tests for substations, with functions of phase testing, phase sequence testing, electrical inspection, with strong anti-interference, in line with (EMC) standards, adapt to a variety of electromagnetic interference occasions. High voltage phase signal will be taken out by the collector, discharge directly after treatment.

Product Features

- Use high capacitive non-maintenance lithium battery to supply power, special for field test.
- Long transmission distance, up to 200M.
- LCD display phase ,waveform, frequency , safe and reliable.
- Telescopic insulation bar, easy to use.
- Portable receiver with non-skid treatment.
- Uses advanced technique, small in volume, light in weight.

Technical Parameter

Accuracy of phase difference	Error≤5°
Self correcting error	＜2°
Frequency accuracy	0.1Hz
The measured voltage level of this product is	0.22～220kV
The transmitter and the receiving host transmit a distance greater than 130 meters, the maximum distance between the two transmitters is about 260 meters;	
The judge (in-phase and out of phase) using a standard phase difference of more than 30 degrees out of phase, the phase difference of <30 degrees for phase;	
The voice prompt, male and female "event" "out of phase" note";	
At the same time, the screen shows the phase difference, frequency, waveform and loss of two lines;	
Host display battery power, half an hour without the operation of automatic shutdown;	
Two transmitters and receivers are built in rechargeable lithium battery;	

ZC-821 High Pressure Phase Sequence Indicator

ZC-821 high voltage phase sequence indicator (hereinafter referred to as the "instrument") for determination of the difference in phase between the three-phase line sequence, ABC, can also be used for nuclear operations. The instrument is suitable for live working on 6kV~220kV transmission line, and has the function of high voltage test.

The instrument adopts the wireless transmission technology, the operation is safe and reliable, and the use is convenient. The direct measurement of high voltage transmission line phase becomes possible. In line with the national electrical safety equipment quality supervision, inspection and testing related standards.

Product Features

- The instrument is composed of X transmitter, Y transmitter, Z transmitter and receiver. The three transmitters send the phase and the frequency signal of each line to the receiving host. The phase between the three lines of the poor by the receiving host computing, judge the phase sequence.

Technical Parameter

Phase difference accuracy	The error is≤10
Frequency accuracy	0.1Hz
Measuring voltage level	6kV～220kV
The distance between the transmitter and the receiver transmission more than 130 meters.	
Result	A->B->C two phase difference of 120 degrees for non order is the reverse order;
The nuclear phase judgment	The phase difference is greater than or equal to 30 degrees out of phase, the phase difference of <30 degrees for phase.
With real voice prompt measurement results.	
Host display battery power,it will shutdown automatically if do not operate in half an hour.	
Three transmitters and receivers with built in rechargeable lithium battery.	
Leakage current of high voltage measurement＜10uA.	

BY2571 Digital Ground Resistance Tester

The instrument applies to power industry, post and telecommunications, railway, communications, mining and other sectors to measure the grounding resistance of the various devices and the conductor resistance of low resistance; this instrument can also measure soil resistivity and ground voltage.

Product Features

- Using the DC/AC transform technology, set the three end button, four button measurement mode as a whole, the use of power supply can be AC, DC.
- The PLL synchronous tracking and demodulation of switched capacitor filters, the strong anti-interference ability.
- Abandon the traditional way of artificial hand power generation, without human work.
- Do not need to manually adjust the balance, the panel touch key operation, LCD digital display makes the measurement is very convenient and rapid, eliminating the visual error of the pointer meter.
- Allow the auxiliary grounding resistance, better ensure the accuracy of measurement, high resolution.
- In addition to the test ground resistance, the resistance value of the low-voltage conductor, the soil resistivity and the AC ground voltage can be measured.

Technical Parameter

Measuring range	Constant current value	Measurement accuracy and error	Resolving power	Auxiliary grounding resistance
0～1.999Ω	10mA (2Ω file)	0～0.2Ω＜（ 3%+1d)	0.001Ω	Rc: 2Ω
2～19.99Ω	10mA (20Ω file)	0.2～199.9Ω	0.01Ω	20Ωfile＜1kΩ
20～199.9Ω	1mA (200Ω file)	＜（ 1.5%+1d)	0.1Ω	200Ωfile＜10kΩ
AC:0～19.99V	＜（ 10%+1d)	1～20V=±(3%+1d)	0.01V	Rp: ＜50kΩ
				Error: ＜ 5%
Voltage to ground: 5V power frequency effective value 5%		Humidity ≤85%RH	Maximum power consumption≤2W	Volume: 200mm×200mm×110mm
Power: DC7.2～9V or AC 220V		Temperature: 0℃～40℃	Weight: 1.8kg	

BY2671 Digital Insulation Resistance Tester

BY2671 Digital Insulation Resistance Tester used in large scale integrated circuit, and use the batteries as the power supply by the DC / AC conversion of DC high voltage from e to l current. After I / V transform through the divider operation is complete, the directly measured insulation resistance value by the LCD display.

Product Features

- This table can output four level voltage: 500V, 1000V, 2000V, 2500V is equivalent to four hand pointer megohmmeter.
- High output power, high loading capacity, good anti-jamming performance, without human work.
- Range can be automatically converted, at a glance of the touch panel key operation makes the measurement more convenient, quick, and power supply can be AC-DC dual-use.
- The measurement results show that the LCD digital display, the readings are intuitive, eliminating the visual error of the pointer meter.
- To open the high pressure key of the instrument after one minute, automatic alarm, lock the value of 5 seconds, in order to calculate the absorption ratio (/R15 seconds R60 seconds).
- Not afraid of short circuit, output short circuit current is greater than 1.6mA, can be directly measured, do not need to estimate the load.

Technical Parameter

Rated voltage	500V	1000V	2000V	2500V
Measuring range	0.2～20GΩ	5MΩ～20GΩ	100MΩ～20GΩ	100MΩ～20GΩ
Accuracy	0.2～20GΩ, 5%	5MΩ～20GΩ, 5%	100MΩ～20GΩ, 5%	100MΩ～20GΩ, 5%
	200MΩ～20GΩ, 10%	200MΩ～20GΩ, 10%	200MΩ～20GΩ, 10%	200MΩ～20GΩ, 10%
Open circuit voltage	DC 500V; 0%～+20%	DC 1000V; 0%～+20%	DC 2000V; 0%～+20%	DC 2500V; 0%～+20%
Short-circuit current	1.6mA 2500V file			
Power	7.2～9V DC or 220V AC			
Consumption	=160 MW static state =2.5W dynamic			
Humidity	≤85% RH	Temperature	0～40℃	
Weight	＜1.8kg	Volume	200mm×200mm×110mm	

BY2677 Insulation Resistance Tester

BY2677 Insulation Resistance Tester embedded real-time industrial microcomputer operating system, ultra-thin wire-shaped sheets header with the perfect combination of dot matrix liquid crystal display, the instrument is with a variety of voltage output level (250V,500V,1000V,2500V,5000V,10000V), high capacity, strong anti-interference, the pointer and digital synchronous display, AC-DC dual-use, simple operation, automatic calculation of various insulation index (absorption ratio, polarization index), all measured characteristics with the anti-power-down function. It is suitable for measuring high capacity transformers, transformers, generators, high voltage electric motors, power capacitors, power cables, surge arresters and other ideal insulation resistance test equipment.

Technical Parameter

Rated Voltage	250V	500V	1000V	2500V	5000V
Measuring Range	0.0～99.9MΩ 100～999MΩ 1.00～10.0GΩ	0.0～99.9MΩ 100～999MΩ 1.00～9.99GΩ 10.0～20.0GΩ	0.0～99.9MΩ 100～999MΩ 1.00～9.99GΩ 10.0～40.0GΩ	0.0～99.9MΩ 100～999MΩ 1.00～9.99GΩ 10.0～100GΩ	0.0～99.9MΩ 100～999MΩ 1.00～9.99GΩ 10.0～99.9GΩ 100～200GΩ
Open circuit Voltage	DC 250V; 0%～+20%	DC 500V; 0%～+20%	DC 1000V; 0%～+20%	DC 2500V; 0%～+20%	DC 5000V; 0%～+20%
Short-circuit Current	Approx 3.3mA				
Accuracy	5%±3dgt		100GΩ or more ±20%		
Operating system	Dual integration		Display	Liquid crystal display(Max. 9999counts)	
Low battery warning	Battery mark display (in 4 levels)		Over range indication	″----″Mark appears on insulation resistance range.	
Sample rate	Approx 0.5～5 times/sec		Operable altitude	2000m or less above sea level	
Dimension	230(L) ×190(W) ×90(D) mm		Weight	Approx 3.5kg (battery included)	
Power source	DC15V/4A Adapter Power Or DC9.6V: charging battery size AA×8pcs				

ZC-5050 Three Phase Programmable Power Supply Tester

Product Features

- When the operation error, such as voltage short circuit, open circuit or wiring error, can automatically stop the output and alarm.
- Instrument full key operation, the whole machine does not have a mechanical contact; all key control settings.
- The panel is provided with a fine adjustment potentiometer, which can arbitrarily adjust the amplitude of each phase voltage and current in the three-phase.
- Equipped with RS232 communication interface, can be carried out by the host computer software.
- Voltage, current, phase, frequency using high-resolution digital tube display.
- Power amplifier using imported high-power VMOS devices, the work is absolutely reliable.
- Using single chip microcomputer control, super large scale integrated circuit technology, small size, light weight, high technology content.

Product Features

Voltage range	600V, 380V, 220V, 100V, 57.7V, 30V, all files can range from 0 to 120% consecutive ratings;
Current range	60A, 20A, 10A, 5A, 1A, 0.2A, all files can range from 0 to 120% consecutive ratings;
Output signal frequency	−70Hz, 40Hz, adjust the fineness of 0.01Hz;
Output power	Each phase voltage: 30VA; each phase current: 50VA
The phase output 0-360°is continuously adjustable, and has six quick test points 300°, 330°, 0°, 30°, 60°, 90°and adjust the fineness of 0.01°.	
Output voltage, current, power stability is better than 0.05% (PF=1100S), waveform distortion is less than 0.5%; (in the maximum output power, waveform distortion is less than 1%);	
Voltage, current, phase, frequency high definition digital display, display precision 0.5%;	

ZC-3030 Three Phase Harmonic Source

ZC-3030 series three-phase harmonic source is a new generation of high precision standard power source based on MAC DSP 1.2G, large-scale FPGA, high speed and high precision DA and high fidelity power amplifier. Applicable to electric power system test, thermal, remote control, scheduling and measurement, testing and high precision standard signal source of power departments and enterprises need, and is suitable for occasions where need do the measurement and inspection of the high precision standard signal source.

Product Features

- It can output pure, distortion in 0.03% (typical value) of the sinusoidal power signal.
- It can superimpose on the fundamental wave of the harmonic output.
- Frequency output from 40Hz to 65Hz adjustable, resolution 0.002Hz, accuracy 0.002Hz
- The AB phase is a frequency reference, the C phase is a separate frequency reference, so it can be split phase frequency.
- Phase 0～360 degrees can be arbitrarily adjusted, can facilitate the simulation of a variety of power supply situation, and even the case of power transmission
- Strong load capacity, can be with capacitive, inductive, resistive load or compound type load, and the load adjustment rate is better than 0.01%RG.
- Frequency per cycle up to 50000 waveform kneading, internal signal output without smoothing filter,to ensure the accurate waveform output, the system can output accurate harmonic and also make the system have excellent harmonic distortion index.
- Can be connected with PC by RS232, expand other functions.
- Perfect over current, over voltage, over heat, short circuit, open circuit, overload protection.

Product Features

Output power frequency voltage	Output range	0V～720V
	Rated voltage range	25V, 50V, 100V, 200V, 400V, 600V
	Accuracy	Each rated range error ≤ 0.06% (reading) ± 0.04% (full) 0.1 class
		The error is not more than 0.03% (reading) + 0.02% (full) 0.05
Harmonic output	Harmonic frequency	2～32
	Scope	0～20%

ZC-830 Partial Discharge Detector

Partial discharge (PD) is refers to the insulator due to electric field distribution is uneven, local field is too high and lead to insulation medium within the scope of local discharge or breakdown phenomenon is causing the main reason for the deterioration of the insulation, and deterioration of the important symptom and manifestation, and is closely related to the insulation deterioration and hit wear.

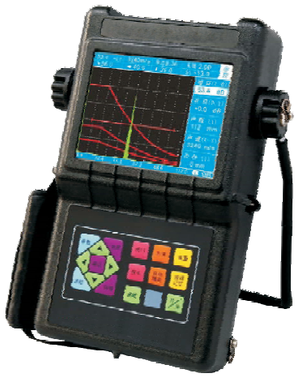
ZC-830 Partial Discharge Detector can provide a package of state maintenance program. It defines the scope of the ultrasonic testing; the human hearing range extends to the extreme! It can not only detect the partial discharge fault of electrical equipment, but also can detect the pressure vessel of the power plant and the inner and outer gas liquid leakage of the pipeline.

Product Features

- It is easy to use, no power failure. ZC-830 Partial Discharge Detector release instrument can be realized at any time and place in the operation of electrical equipment partial discharge detection.
- Intelligent operation. No need to be concerned with PD discharge frequency, discharge phase results, even without analysis of complicated and changeable discharge pattern, the instrument complex data processing and intelligent judgment for non professionals can efficiently and accurately realize the measurement of partial discharge in electrical equipment.
- Super anti- interference. ZC-830 Partial Discharge Detector adopts German original aluminum alloy casing, which can effectively shield the external strong electromagnetic interference and ensure the reliable data collection.
- Sensor diversity. Through the configuration of different sensors can achieve detection on the transformer, switch cabinets, GIS, cable, high voltage lines and other equipment to greatly improving the flexibility of the instrument;
- High sensitivity imported sensor. ZC-830 Partial Discharge Detector the high sensitivity of the sensor gain compared to conventional sensors at least higher than 6dB;
- Long and powerful power supply system. ZC-830 Partial Discharge Detector uses imported high energy lithium polymer battery, so that the instrument's life time to reach 12 hours;
- Secure laser positioning technology. The utility of the laser positioning function makes no trouble for you if can not find the discharge area.

ZC-840 Ultrasonic Flaw Detector

Product Features



- Wave crest memory: display defect of the highest wave constantly, the maximum value of the record defects, it is helpful to the defect accurate positioning and rapid scanning, but also can use the envelope waveform to the defect characterization
- Automatic gain: automatically adjust gain to set wave height
- Alarm function: incoming / lost wave alarm
- Real time clock: automatically record the date and time of the storage waveform
- Display freezing: at any time to capture the waveform and harmonic data, and when it be frozen can move the lock gate to measure echo parameter.
- Defect location: real time acoustic distance S, the level of X, depth Y, height of H
- Digital suppression: 0-80%, by 1% increments, does not affect the linearity and gain.

Product Features

Working frequency	(0.5-15) MHz
Detecting range	(0-4500) mm
Material sound velocity	(1000-9999) m/s
Working mode	Pulse echo, crystal twin
Pulse Shift	(0-1000) mm
Probe of zero	(0-199.99) us
Gain adjustment	(0-110) dB, 0.1dB, 2dB, 6dB step, automatic regulation
Vertical linearity error	≤3%
Horizontal Linearity deviation	≤0.3%
Resolving power	≥32dB (5P14)