Test Instrument

for the Maintenance of Electric Power System

XIAN HENG INTERNATIONAL | Elecgene

We provide an easier way to test on field.

Xianheng International Science&Technology Co., Ltd.

Listed on the main board of Shanghai Stock Exchange, stock code 605056

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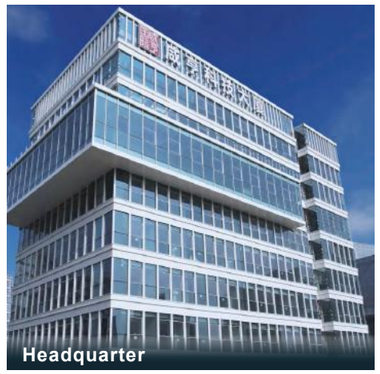
2025.6

We provide an easier way to test on field.

Founded in 2008, Xianheng intl is a leading company in the field of design and manufacturing of portable and rugged test equipment for electrical energy systems, power plants and electrical substations in China. Our engineers think portable and rugged instruments will help to prevent damage to electrical energy networks in a safe, fast and cost-efficient way. We are built for this.

We supply a complete range of test set for testing relays, power transformers, instrument transformers, circuit breakers, batteries and many other high voltage apparatus.

Through fast development and professional capability, we public listing on the main board of Shanghai Stock Exchange. Continuous efforts contribute a lot to our good reputation and wide acceptance from the market. In recent years, we have established a long-term and win-win cooperation with customers from America, Europe, Southeast Asia, Africa and Middle East. Welcome to our company to create a good business relationship in near future.


Headquarter


Industrial park

Showroom

Contents

INSULATION TESTING

- DC diagnostic
- DC high voltage or withstand
- AC insulation testing

5kV Utility Insulation Resistance Tester

D1103

Introduction

Suitable for electric power companies and enterprise power department to conduct insulation test on primary equipment such as transformers ,breakers,cables and so on. which is a necessary test instrument for high voltage tests.

High contrast large screen

Multiple test gears

Removable lithium battery

Benefit

- Large screen display, powered by lithium battery
- Five channel output voltage (up to 5000V)
- Fully automatic test, PI, DAR test
- Weight only 1.4kg

Specifications

Test voltage	250V, 500V, 1000V, 2500V, 5000V
Test voltage accuracy	+20%, -10%
Measuring range	250V: 0.25～600MΩ
	500V: 0.5～1.2GΩ
	1000V: 1.0～2.2GΩ
	2500V: 2.5～120GΩ
	5000V: 5.0～500GΩ
Insulation resistance accuracy	0.25MΩ～80GΩ: ±5%rdg±3dgt
	80～500GΩ: ±20%rdg
Short circuit current	1.5mA± 0.5mA
Voltage measurement range	DC±30～±600V
	AC 30～600V(50/60Hz)
Voltage measurement accuracy	± 2%rdg± 3dgt
Voltage measurement resolution	DC-1V, AC-5V
Insulation resistance	≥1000MΩ / DC 1000V (between circuit and outer case)
Battery capacity	5200mAh
Net size	150×202×70mm
Net weight	1.4kg (including battery)

60kV, 120kV, 200kV Portable DC High Pot

DHVT series

Introduction

Suitable for electric power companies and enterprise power department to conduct DC withstand voltage test and DC leakage current test on zinc oxide arresters, power cables, generators, transformers, circuit breakers, etc. which is a necessary test instrument for high voltage tests.

Features

Rugged and portable design
For on-site use

Easy connection of test cable

Touchscreen,
Fully automatic voltage

Leakage current meter

Benefit

- Easy for field test
- Accurate leakage current measurements
- Full-wave voltage doubling rectifier
- Up to 600kV DC output voltage (optional)
- Up to 5mA current rating (optional)

Applications

- Cables
- Switch gear
- Motors and generators
- Other electrical apparatus

Specifications

Ripple coefficient	≤0.5 %
Voltage adjustment accuracy	≤0.1%
Voltage stability	≤1%
Voltage and current measurement	4.1/2 digital display
Voltage measurement accuracy	1%+1 word
Current measurement accuracy	0.5%+1 word
Overvoltage protection	Dialing setting, errort 1%
Working type	Intermittent use, rated load for 30 minutes
Power supply	200~240VAC, 50/60 Hz
Environmental conditions	Operating temperature: -10°C-50°C
	Humidity: ≤90%

Model	Output voltage (kV)	Output current (mA)	Output power (W)	Control case weight (kg)	Voltage generator weight (kg)	Generator height(mm)
DHVT 60/2	60	2	120	9.3	2.85	440
DHVT 60/5	60	5	300	9.3	2.85	440
DHVT 120/2	120	2	240	9.3	2.85	540
DHVT 120/5	120	5	600	9.3	2.85	540
DHVT 200/2	200	2	400	9.3	10.3	970
DHVT 200/5	200	5	1000	9.3	10.3	970
DHVT200/400/5	200/400	5	2000	9.3	32	1580

★ The specifications shown above are only common specifications, output voltage and output current can be customized according to requirements

High-Voltage Test System

YTB-20 series

Up to 50kV$_{RMS}$ AC/70kV DC

Up to 100kV$_{RMS}$ AC/140kV DC

Introduction

The AC voltage test sets are suitable for kinds of electrical products, electrical equipments and insulated materials, testing the insulated level of products, discovering the insulated situation of tested objects.
These units can also be upgraded to function as DC test sets by mounting the rectifier attachment on top of the transformer (optional).

Benefit

- Separate control and HV units
- Continuously adjustable voltage
- DC testing via a rectifier
- In-built over-current protection
- Time counting function

Typical application areas

- Testing switchgears
- Testing voltage and current transformers
- Testing MV plants/components

The two piece design allows the operator to use the unit at a safe distance. The control unit is used to operate the high voltage transformer. The unit consists of a variac, current/ voltage display instruments, a timer for the test duration and a safety circuit.

Specifications

	YTB-20(3/50)	YTB-20(5/50)	YTB-20(10/50)
Rated capacity	3kVA	5kVA	10kVA
Power supply	200~240VAC,50/60Hz	200~240VAC,50/60Hz	200~240VAC,50/60Hz
Output high voltage	0~50kV AC 0~70kV DC(optional)	0~50kV AC 0~70kV DC(optional)	0~50kV AC 0~70kV DC(optional)
Output current	0~60mA AC 0~20mA DC(optional)	0~100mA AC 0~35mA DC(optional)	0~200mA AC 0~70mA DC(optional)
Ratio	500	500	500
Insulation material	Insulating oil	Insulating oil	Insulating oil
Duty cycle	5 min ON / 15 min OFF at 3 kVA	5 min ON / 15 min OFF at 5 kVA	5 min ON / 15 min OFF at 10 kVA
Control unit			
Net weight	19kg	21kg	37kg
Net size	440*340*230mm	440*340*230mm	440*340*380mm
Transformer			
Net weight	37kg	42kg	67kg
Net size	305*245*630mm	325*255*640mm	375*275*720mm

	YTB-20(5/100)	YTB-20(10/100)
Rated capacity	5kVA	10kVA
Power supply	200~240VAC,50/60Hz	200~240VAC,50/60Hz
Output high voltage	0~100kV AC 0~140kV DC(optional)	0~100kV AC 0~140kV DC(optional)
Output current	0~50mA AC 0~15mA DC(optional)	0~100mA AC 0~35mA DC(optional)
Ratio	1000	1000
Insulation material	Insulating oil	Insulating oil
Duty cycle	5 min ON / 15 min OFF at 5 kVA	5 min ON / 15 min OFF at 10 kVA
Control unit		
Net weight	21kg	37kg
Net size	440*340*230mm	440*340*380mm
Transformer		
Net weight	100kg	115kg
Net size	465*350*1100mm	495*350*1120mm

AC Resonant Test System

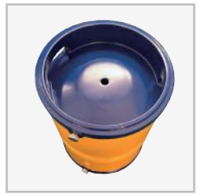
ESR 800 series

Introduction

Through the reactor of the combined device, it can output stable AC high voltage, which is mostly used for AC voltage withstand test of on-site electrical equipment, such as cross-linked cables, transformers, GIS, motors and generators.

According to different users, different tested equipment, different test requirements, the device can be customized according to needs.

Features

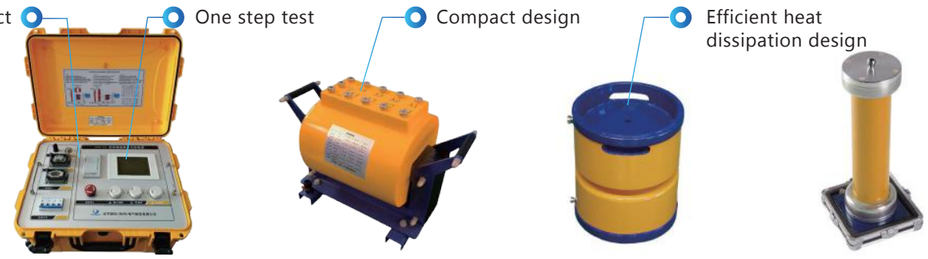


Easy to connect test cables

One step test

Compact design

Efficient heat dissipation design



Portable type with no oil

No PD type or high capacity type with oil insulation

Benefit

- Lower input power requirement
- Pure AC Sine Wave at output
- Easy to combine reactor to output different voltage.
- Automatically find the resonant frequency point, according to the setting of automatic voltage boost, timing, and reducing

Applications

- Cables
- GIS
- Motors and generators
- Other Possible Applications (Transformers, CTs, PTs; Bushings; PD Testing)

Model	Rated capacity	Rated voltage	The main purpose
ESR-800(160/60)	160kVA	0-60kV	1. Meet the 10kV/400mm² cable 3.0km, capacitance≤1.25μF, test frequency 30-300Hz, test voltage≤17.4kV, test time≤15min. 2. Meet the 35kV/300mm² cable 1.0km, capacitance≤0.19μF, test frequency 30-300Hz, test voltage≤52kV, test time≤60min.
ESR-800(240/130)	240kVA	0-130kV	1. Meet the 35kV/400mm² cable 2.0km, capacitance≤0.418μF, test frequency 30-300Hz, test voltage≤52kV, test time≤60min. 2. Meet the 35kV transformers, circuit breakers and other AC withstand voltage test, test voltage≤95kV, test frequency 30-300Hz, test time≤60min.
ESR-800(1800/600)	1800kVA	0-600kV	1. Meet the 400kV transformers, circuit breakers, GIS and other AC withstand voltage test, test voltage≤600kV, test frequency 30-300Hz, test time≤60min. 2. Meet the 110kV/630mm² cable 1.0km, capacitance≤0.165μF, test frequency 30-300Hz, test voltage≤128kV, test time≤60min.
ESR-800(4000/800)	4000kVA	0-800kV	Meet the 765kV transformer AC withstand voltage test, test voltage ≤800kV, test frequency 30-300Hz, test time≤60min.

★ Output voltage and capacity can be customized according to requirements.

POWER PROTECTION

Protective relay testing

- Single Phase Relay Tester
- Hand-held Relay Test System
- Multi-phase relay test systems

Circuit breaker testing

- Contact resistance testing
- Analyzer system
- Primary injection testing

Single Phase Relay Tester

SRPT 750

Introduction

Compact design and light weight makes SRPT-750 extremely portable, mostly used for almost all types of single phase relays test.

Benefit

- Designed for rugged field use
- 0 to 100 Amp output current (overload 150A)
- Suitable for testing many different types of relays such as power, voltage and current
- Easy to operate

Specifications

Ammeter

Measurement method	AC true RMS
	DC mean value
Range	Internal: 0.000~150.0A;
	External: 0.000~6.000A (AC or DC)
Accuracy	0.5%

Voltmeter

Measurement method	AC true RMS
	DC mean value
Range	0.0~600.0V (AC or DC)
Accuracy	0.5%

Timer

Measurement method	0~999.999s, automatically reset after full scale
Range	1mS
Accuracy	±1mS

General

Environmental Conditions	Operating temperature: -10℃~50℃
	Humidity: ≤90%
Power supply	200~250VAC, 50/60Hz
Power consumption	1000W
Net size	420mm×350mm×200mm
Net weight	18kg (without measuring cables)

Current outputs-AC

Range	No-load voltage (min)	Full-load voltage (min)	Full-load current (max)
0 ~ 10A	90	10	10A
0 ~ 40A	25	22	40A
0 ~ 100A	10	8	100A

Voltage outputs-AC/ DC

Range	No-load voltage (min)	Full-load voltage (min)	Full-load current (max)
0 ~ 250V(AC)	250	240	3A
0 ~ 300V(DC)	320	250	4A

Auxiliary DC output

Range	Voltage	Max current
0 ~ 110V DC	120V DC	0.5A
110 ~ 220V DC	220V DC	0.5A

Auxiliary AC output

Range	Voltage	Max current
0 ~ 250V(AC)	120V AC	0.5A
0 ~ 300V(DC)	5V AC	8A

Hand-held Relay Test System

PRE 431S Pro

Introduction

The PRE 431S pro Hand-held Relay Test System weighs just 3.2kg and battery inside.The tester also is the engineer's ultimate toolbox that addresses the increasing need for three-phase testing capability in electrical distribution substations, renewable power generation stations and industrial applications.

The intuitive user interface is presented on the LCD touch screen. It has three current and four voltage sources and a versatility of measurement possibilities.

Benefit

- Individually 3 current & 4 voltage sources
- Light weight and portable, just 3.2kg
- 10.1" industrial Hi-bright touch screen
- Stand-alone functionality
- Built-in lithium battery, convenient for outdoor use

Typical application areas

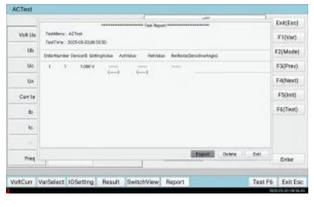
- Commissioning and maintenance of distributed and generator power Substation
- Protection relays
  - Electromechanical relays
  - Static relays
  - Numerical relays
  - Self-powered relays

Features

Color touch screen, clear and visible

Output interface

Built-in battery, continuous working for 4 hours



Test report

Multiple interfaces, easy to use

Specifications

Voltage generators

Output range	4-phase AC(L-N)	4×0~125V
	2-phase AC(L-L)	2×0~250V
	1-channel DC(L-N)	1×0~±125V
	1-channel DC(L-L)	1×0~250V
Power	4-phase AC	4×30VA
	1-channel DC	1×30VA
Inaccuracy AC	<10mV, at 0~2V	
	±0.2%, at 2~125V	
Inaccuracy DC	<10mV, at 0~5V	
	±0.2%, at 5~125V	
Output time	Continuous	
Resolution	10mV	

Current generators

Output range	3-phase AC(L - N)	3×0~12.5A
	1-channel DC(L-N)	1×0~±6A
	4-phase AC	4×30VA
	1-channel DC	1×30VA
Power	<2mA, at 0~0.5A	
	±0.2%, at 0.5~12.5A	
Inaccuracy AC	<5mA, at 0~1.0A	
	±0.2%, at 1~6.0A	
Inaccuracy DC	0~3A	Continuous
	3~10A	60s
Output time	10~12.5A	30s
Resolution	10mA	

Binary inputs

Number	2
Modes	Potential-sensing(0~250VDC) or potential-free (automatic recognition)
Max measuring time	Infinite

General

Frequency	Range	10~1000Hz
	Resolution	0.001Hz
Phase	Angle range	-360°~360°
	Accuracy	<0.2°(at 50/60Hz)
	Resolution	0.1°
Time measurement	Range	0.1ms~3600s
	Resolution	0.1ms

Binary outputs

Number	2
Type	Quick output contacts
Update rate	100μs
Breaking capacity	Vmax: 250VDC/ Imax: 0.3A

Power supply

Input charge voltage	100~240VAC
Nominal frequency	50/60Hz
Permissible frequency	45~65Hz
Charging voltage	16.8V
Battery	12.8Ah

Others

Environmental conditions	Operating temperature: -10°C~50°C
	Humidity: ≤90%
PC connection	Ethernet, 10M/100M
Ground socket (earth)	4mm banana socket
Net size	270×190×60mm
Net weight	3.2kg

6 Current and 6 Voltage Relay Test System

PRE 661

Introduction

The internal modular design of the instrument can independently complete the testing and debugging of devices and components in the professional fields of relay protection, excitation, metering, wave recording, etc.

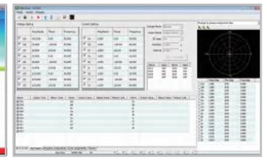
Benefit

- Manual and PC remote control
- Easy to use
- Excellent software provides great visuals and simple setup
- Light weight and portable

Applications

- Commissioning and maintenance of distributed and generator power substation
- Protection relays
  - Electromechanical relays
  - Static relays
  - Numerical relays

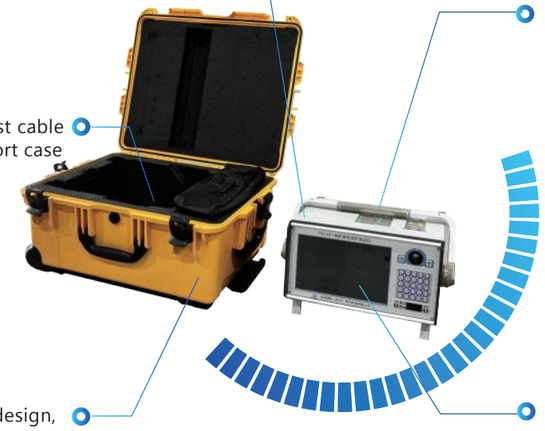
Features

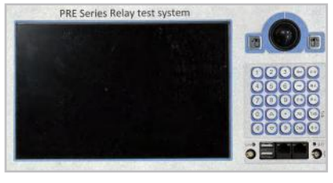


Built-in various relay protection test program modules

The test terminals are designed on the back of instrument for easy field use

Main unit and test cable all in one transport case





Highly portable design, easy to carry

Built-in 10.1 " large screen industrial computer, no need to connect to an external PC

Specifications

Voltage generators

Output range (effective value)	6-phase AC (L-N)	6×0~120V
	2-phase AC (L-L)	2×0~240V
	DC (L-N)	6×0~±160V
	DC (L-L)	2×0~±320V
Power	AC (L-N)	80VA
	AC (L-L)	100VA
	DC (L-N)	70VA
	DC (L-L)	140VA
Accuracy	AC output	≤0.1%
	DC output	≤0.2%
Output time	Continuous output	
Resolution	10mV	

General

Frequency	Range	0~1200Hz
	Resolution	0.001Hz
Phase	Angle range	-360°~360°
	Resolution	0.1°
Time measurement	Range	0.1ms~9999s
	Resolution	0.1ms

Binary inputs

Number	10 (each fully isolated)
Modes	Potential-free or potential-sensing (automatic recognition)
Max measuring time	Infinite

Auxiliary DC supply

Voltage	110V/220V (switch between)
Power	＞100W

Current generators

Output range (effective value)	6-phase AC (L-N)	6×0~30A
	1-phase AC (6L-L)	1×0~180A
	1-phase AC (L-L)	1×0~30A
	DC (L-N)	6×0~±10A
	DC (3L-N)	1×0~±30A
Power	AC (L-N)	450VA
	DC (L-N)	200VA
Accuracy	AC output	≤0.1%
	DC output	≤0.2%
Output time	0~10A	continuous
	10~20A	30s
	20~30A	10s
	30A	5s
Resolution	1mA	

Others

PC connection	Ethernet, 10M/100M
Ground socket(earth)	4mm banana socket
Net Size	400×200×402mm
Net Weight	20kg

Binary outputs

Number	8
Type	4 (1-4) relay and 4 (5-8) quick output contacts
Breaking capacity	Vmax: 250VAC/ Imax: 0.5A
	Vmax: 250VdC/ Imax: 0.3A

Power supply

Nominal input voltage	175~260VAC
Nominal frequency	50/60Hz

3 current and 4 voltage relay test system

PRE 431

Offers four voltage and three current channels,other technical parameters are the same as PRE 661.

Hand-held 200A Micro-ohmmeter

HLR-200

Introduction

Weighing just 1.7kg and battery inside, the HLR -200 is capable of carrying out tests at currents up to 200A for 60s. With a measurement range of 0.1μΩ to 20mΩ, this makes it a convenient and time saving alternative.

Features

4 wire kelvin test method

Easy to get test result by printing it or send to U disk

All in one box for easy carry

Stand-alone printer (Standard configuration), easy to connect

Benefit

- Easy-to-read display
- Easy to get paper results on field
- Light weight,easy to carry out for field use
- High current and accuracy
- 30A-200A current output for different use

Applications

- Circuit breaker testing
  - Test of circuit breaker contacts
  - Test of the connections to the breaker
- Testing of bus-bar
  - Test of Bus-bar joints
  - Test of connections
- Everywhere you need to test a low resistance/ high current connection
  - Switches
  - Disconnecting devices
  - Safety ground connections
  - Welding points
  - Fuses
  - Cables

Specifications

Output current	200A, 100A, 80A, 50A, 30A (optional 220A)		
Measuring range	200A, 0~1000μΩ		
	150A, 0~2000μΩ		
	100A, 0~5000μΩ		
	80A, 0~8mΩ		
	50A, 0~10mΩ		
	30A, 0~20mΩ		
Accuracy	±reading×0.5%+1μΩ		
Resolution ratio	0.1μΩ		
Display digit	Four and a half		
Test power supply	Constant current limit voltage, about 2V		
Input voltage	Maximum 5V		
Measuring time	Fast measurement 10~60 seconds optional		
Battery	9Ah power lithium battery		
Testing times	More than 500 times (full charge, fast measurement mode)		
Test cable	Resistance less than 8mΩ		
Power supply	Built-in lithium battery or external charger, charger input 100~240VAC, 50Hz/60Hz		
Charging voltage	12.6V	Charging current	≤3A
Charging time	Abour 3 hrs	Auto shut off	5 minutes automatic shutdown without operation
Environment temperature	-10°C~50°C	Relative humidity	≤90%, no dew
Net weight	1.7kg (exclude test cables)	Net size	246×156×62mm

200A Micro-ohmmeter

LR-200

External power supply, Up to 200A output current with a measurement range of 0.1μΩ to 100mΩ, net weight as little as 6.7kg.

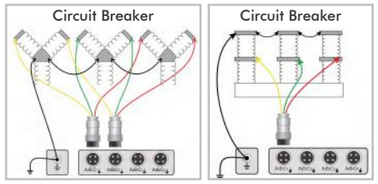
Circuit Breaker Analyser System (with PIR test)

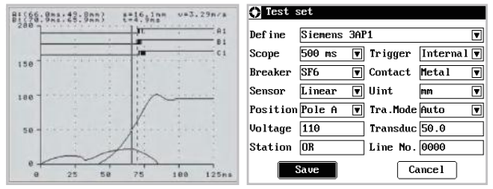
HVS-50T

Introduction

Easy to carry out complete tests on medium and high voltage circuit breakers. Analysis can be performed quickly, easily, automatically with only once connect to circuit breakers.

Features





One step connect, nearly all test results can be get

So many kinds of CB models inside the software

Rotary, linear and universal transducer are all standard configuration

All in one box for easy carry

Benefit

- Timing and travel analyzer
- Coil and motor supply of 2.4 kW
- Rotary, Linear and Universal transducer are all standard configuration
- One step connect, nearly all test results can be get
- So many kinds of CB models inside the software
- Support PIR(Pre-insertion resistor) function

Applications

- Timing of main and PIR contacts
- Coil current analysis of close and open coils
- Timing measurements
- Motion and travel measurements
- Vibration measurements
- Minimum pickup voltage test for close and open

Specifications

Time fracture	12 metal contacts, 25V, curent limit 50mA	
Safety performance	Insulation resistance: > 2M2; Leakage current: <3.5mA; Dielectric strength: AC 1500V 50Hz, 1min	
Time test	Range	0-16s
	Accuracy	±(0.001% 012 words)
	Resolution	0.1ms
Travel test	Range	0-800mm
	Accuracy	0.5%±0.1mm
	Resolution	0.1mm
Speed test	Range	0.01-20.00m/s
	Accuracy	1%
	Resolution	0.01m/s
DC power supply	Adjustment range	10-265V
	Max instantaneous current	20A
	Accuracy	±(0.01+1 word)
	Lcad change rate	s0.01
Store and print	Built-in high-speed thermal printing, fast and silent, data can be stored in real time	
Power supply	200~240VAC, 50/60Hz	
Environmental conditions	Operating temperature: -10℃~50℃; Humidity: ≤90%	
Net size	380×280×200mm	
Net weight	7kg (without measuring cables)	

Primary Current Injection Test System (1000A)

HCG-1000 Pro

Introduction

This powerful test system is designed for primary injection testing of protective relay equipment and circuit breakers. It is also used to test the turns ratio of current transformers and for other applications that require high variable currents.

Applications

- Primary current injection testing and breaker testing
- Testing current transformers
- Testing integrity of ground grids and safety-ground devices
- Heat runs

Specifications

Output capacity	Max 5000VA
Output current	0-1000A: 1000A, 60s; 900A, 90s; 500A, 30min; ≤300A, 24h
Primary current range	0-1100A
Secondary current range	0-6A
Secondary load test range	1A: 0-10Ω @ 5A: 0～2Ω
Accuracy	Primary current: ±(0.005+0.2A)
	Secondary current: ±(0.005+3dig)
	Voltage: ±(0.005+5dig)
	Turns ratio: ±(0.005+3dig)
Storage and print	Built-in printer and storage
Current output cable	70mm², 5m (length can be customized upon request)
Power supply	200~240VAC, 50/60 Hz
Environmental conditions	Operating temperature: -10℃~50℃
	Humidity: ≤90%
Net size	530×290×480mm
Net weight	38kg (without measuring cables)

Features

5m high current test cable

Portable, lightweight, and trolley case design, easy to carry

Built-in printer easy to get test results

6 channels CT TTR test, save time

Fully automatic test

POWER TRANSFORMER TESTING

- Tan delta test system
- CT testers
- Turns ratio systems, TTR
- Transformer ohmmeters
- Multifunction test systems
- Sweep frequency response analysers

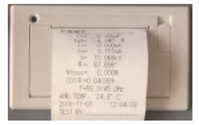
Tan Delta Test System (12kV)

DLT-800

Introduction

The DLT-800 is an automatic 10kV (12kV can be customized) insulation power factor/dissipation factor (tanð) test set designed for immediate condition assessment of electrical insulation.

Features



Built-in printer easy to get test datas

Safe design, high voltage channel at the back

One button test dissipation factor (tanð), capacitance and current

Applications

- Power transformers
- Distribution transformer
- CTs
- Bushings
- Circuit breakers

Specifications

tg δ test	Range: unlimited
	Resolution: 0.001%
	Accuracy: ±(Rdg*1%+0.0004)
Capacitance test (Using internal high voltage)	Range: 3pF-60000pF/10kV, 60pF-1μF/0.5kV
	Resolution: 0.001pF, 4 digits
	Accuracy: ±(Rdg*1%+1pF)
Output current	Up to 200mA (Rms)
Output voltage	0.5-10kV (12kV can be customized)
Test frequency	40-70Hz single frequency can be set at will
Frequency accuracy	±0.01Hz
Measure time	About 40s, related to the measurement method
Power supply	180~270V AC, 50/60Hz
Environmental conditions	Operating temperature: -10°C~50°C
	Humidity: ≤90%
Net size	530×290×480mm
Net weight	30kg (without measuring cables)

CT and PT Analyzer

TCT-200F

Introduction

The TCT-200F test set is a lightweight, robust, portable unit capable of testing saturation, ratio, polarity, winding resistance tests on CT and PT.

Features

Only 9.5kg for easy field use

Test results can be easily export and print

One-button automated test

Benefit

- Fast test(＜1min)
- Ability to test both CT and PT
- Portable to carry
- CT kneepoints up to 60 kV
- Performs secondary burden tests
- Meet IEC 61869, IEEE C57.13, GB 61869 standards

Applications (Range of CT or PT measurements)

- Ratio and phase accuracy winding resistance
- Excitation characteristics (knee points)
- Composite error (ALF, FS)
- Burden impedance
- Transient CT classes and parame ters (TPS, TPX,TPY and TPZ type CTs)
- Transient dimensioning factor (Ktd)
- If missing/unknown:CT type, class, ratio, knee point, power factor, nominal burden, operating burden etc

Specifications

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	±0.5%
Phase	Accuracy	±2min
	Resolution	0.5min
DC resistance	Range	0~300Ω
	Accuracy	0.2%±2mΩ
Burden	Range	0~1000VA
	Accuracy	0.2%±0.02VA
Power supply	160-240 VAC, 50/60 Hz	
Environmental conditions	Operating temperature: -10℃~50℃	
	Humidity: ≤90%	
Net size	410×340×195mm	
Net weight	9.5kg (without measuring cables)	

TRUE 3-phase turns ratio meter

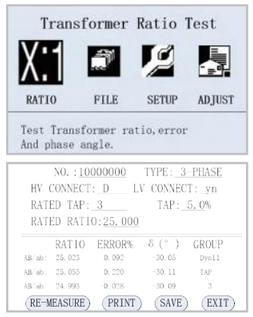
STRT-100

Introduction

The STRT-100 is designed to test all power, instrument (CTs and PTs), and distribution transformers without the need of traditional high voltage excitation. With true three phase output voltage , testing is up to five times faster than previous phase-by-phase switching single instruments, easier to test phase shift measurement, vector recognition, phase angle deviation, excitation current, winding balance.

Features

Rugged design and light weight



Once set, one button test to get all test results

Built-in printer, easy to get test results on filed

Benefit

- True 3-phase test voltage-fast testing of all transformers
- Ability to measure turns ratio test, phase shift, vector recognition, phase angle deviation, excitation current (optional), winding balance
- Protable to carry
- Displays % error vs. name plate value
- Built in printer
- Battery powered (optional)

Applications

(Range of transformer, CT or PT measurements)

- Turns ratio test
- Phase shift measurement
- Vector recognition
- Phase angle deviation
- Excitation current
- Winding balance

Specifications

Range	0.5～10000
Accuracy	±0.1%rdg (≤1000)
	±0.2%rdg (1001-2000)
	±0.3%rdg (2001-4000)
	±0.5%rdg (4001-10000)
Vector recognition	1-12
Transformer phase measurement	Range: 0~360°
	Accuracy: ±0.5°
Excitation current measurement (optional)	Range: 0.1mA-2A
	Accuracy: ±1% ±0.1mA
Power supply	160-240V AC, 50/60 Hz
	Battery powered (optional)
Environmental conditions	Operating temperature: -10°C~50°C
	Humidity: ≤90%
Net size	350×290×150mm
Net weight	4.9kg (without measuring cables)

Handheld 3-phase TTR Test

HTRT-10

Introduction

The HTRT-10 is an automatic hand-held battery operated transformer turns ratio test set, allows the user to operate the test set while holding it in one hand. It effectively eliminates the user from having to kneel or bend down to operate the instrument and speeds up testing time, with a weight only 1.7kg.

Features

Automatic calculate turns ratio balance

3 phase test with once connect

Easy to get test result by printing it or send to U disk

All in one box for easy carry

Removable printer, easy to connect

Benefit

- Simple, one-button operation
- Lightweight, handheld, battery powered
- Ability to record via a removable printer
- Rugged metal connectors on leads and unit

Specifications

Range	0.9～10000
Accuracy	±(0.1%rdg+2digit) (≤500)
	±(0.2%rdg+2digit) (>500≤3000)
	±(0.3%rdg+2digit) (>3000)
Resolution ration	0.9～9.9999(0.0001)
	10～99.999(0.001)
	100～999.99(0.01)
	1000～9999.9(0.1)
	10000 and above(1)
Power supply	Built-in battery or external charger, charger conditions of use, input 100-240 VAC, 50/60 Hz
Charging time	About 2 hr
Use of temperature	-10℃～50℃
Relative humidity	≤90%, no dew
Net size	246×156×62mm
Net weight	1.7kg

3-phase TTR

TRT-20

Built in printer, IP 67 protect (closed case), wide test range, easy to operate.

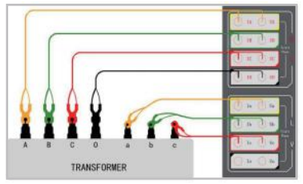
20A Automated Six-winding Transformer Ohmmeter

DRT-320L

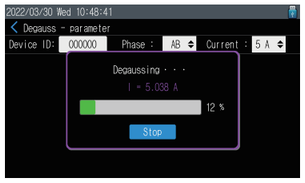
Introduction

The DRT series of automated six-winding transformer ohmmeters delivers full eight-terminal resistance measurement capability. It's designed to save you time by testing all normal six windings without having to disconnect and reconnect leads during testing. Also, the simultaneous winding magnetization (SWM) method gives fast and reliable measurements, even on large transformers with delta configuration on the low voltage side.

Features



Faster testing with one-time connection principle, measures all phases and windings without disconnecting or reconnecting leads



Built-in demagnetization circuitry allows the operator to demagnetize the transformer core, or as a stand-alone function

Ability to show three phase winding resistance balance

Test and result can be managed easily

Benefit

- One-time connection principle results in faster setup time eliminating safety risk
- Automated eight-terminal/ six-winding measurement capability
- Simultaneous winding magnetization for fast and accurate dc winding resistance measurements of high inductive loads
- Built-in auto-demagnetization
- Built-in printer
- DC test current up to 20A or 40A (optional)

Specifications

Test model	Single phase or three phase	
Test current	Single phase: 20A, 10A, 5A, 1A, 0.1A, 10mA, <1mA	
	Three phase: 10A+10A, 5A+5A, 1A+1A, 0.1A+0.1A	
Test range	Single phase:	Three phase:
	20A (0.5mΩ ~ 1Ω)	10A+10A (0.5mΩ ~ 0.8Ω)
	10A (1.0mΩ ~ 2Ω)	
	5A (10mΩ ~ 4Ω)	5A+5A (10mΩ ~ 1.6Ω)
	1A (0.1Ω ~ 20Ω)	1A+1A (0.1Ω ~ 8.0Ω)
	0.1A (2.0Ω ~ 100Ω)	
	10mA (50Ω ~ 2kΩ)	0.1A+0.1A (2.0Ω ~ 80Ω)
	<1mA (500Ω ~ 25kΩ)	
Accuracy	±0.2% rdg+2digt	
Power supply	220VAC, 50Hz	
Use of temperature	-10°C ~ 50°C	
Relative humidity	≤90%, no dew	
Net size	400×315×223mm	
Net weight	9kg	

40A Automated Six-winding Transformer Ohmmeter

DRT-340L

Up to 40A output current, net weight is 13.4kg. Other technical parameters are the same as DRT-320L.

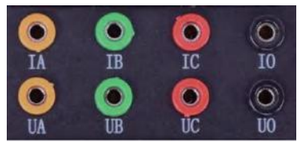
10A Handheld Three-winding Transformer Ohmmeter

HDRT-310

Introduction

The HDRT-310 is an automatic hand-held battery operated transformer ohmmeter, allows the user to operate the test set while holding it in one hand. It offers 3 test channel up to 10A with a range from 500μΩ to 50kΩ. It effectively eliminates the user from having to kneel or bend down to operate the instrument and speeds up testing time, with a weight only 1.6kg.

Features



Removable printer, easy to connect

3 channel test with only once connect

All in one box for easy carry

Handheld operate, no need to bend down

Benefit

- Three channel test
- One button test, no need to select current
- Lightweight, handheld, battery powered
- Ability to show three phase winding resistance balance

Specifications

Test model	Single phase or three phase
Test current and range	10A (500μΩ ~ 0.2Ω)
	5A (10mΩ ~ 1Ω)
	1A (100mΩ ~ 20Ω)
	100mA (10Ω ~ 200Ω)
	10mA (50Ω ~ 2kΩ)
	1mA (500Ω ~ 50kΩ)
Accuracy	±0.2% rdg+2digt
Power supply	Built-in battery or external charger, charger conditions of use; Input 100-240 VAC, 50/60 Hz
Charging time	About 2 hr
Environmental	-10°C ~ 50°C, humidity: ≤90%, no dew
Net size	246×156×62mm
Net weight	1.6 kg

10A Handheld Transformer Ohmmeter

HDRT-10

Compared with HDRT-310, output channels reduced to two. But also has a removable printer.

3-phase Ratio and Winding Resistance Analyzer

MFTS-2A

Introduction

The three-phase transformer winding analyzer can perform polarity validation, turns ratio and winding resistance tests with the same one-time lead connection. Guided by colorcoded leads and extendable clamps with on-screen vectors that match the transformer nameplate, the easy to follow setup ensures the right result the first time - just click start!

Benefit

- With TTR and winding resistance tests
- TTR, range up to 10000,±0.1 % accuracy
- Winding Resistance, with dual channel high and low side excitation up to 20A DC, ±0.2% accuracy
- Save time and protect operators with efficient one-time lead connection for tests
- Battery powered

Applications

- Loose connections
- Turn-to-turn shorts
- Broken strands
- Winding deformation
- Tap changer contact problems
- Winding balance

Specifications

Winding resistance test

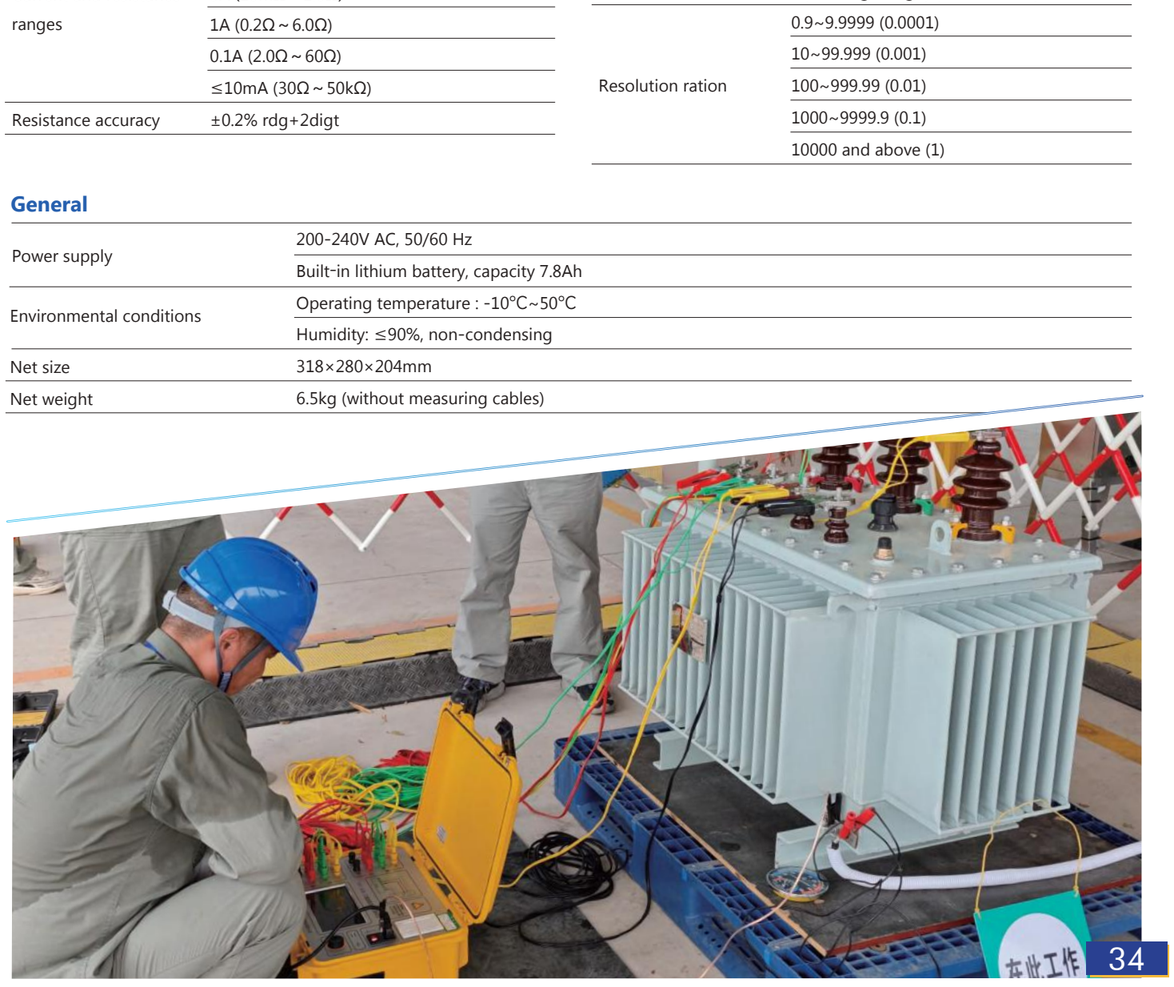
Measurement methods	3-phase wye, delta or 1-phase
Current and resistance ranges	20A (500μΩ ~ 0.1Ω)
	10A (1.0mΩ ~ 0.3Ω)
	5A (10mΩ ~ 1.0Ω)
	1A (0.2Ω ~ 6.0Ω)
	0.1A (2.0Ω ~ 60Ω)
	≤10mA (30Ω ~ 50kΩ)
Resistance accuracy	±0.2% rdg+2digt

TTR test

Turns ratio range	0.9~10000
Turns ratio accuracy	±(0.1%rdg+2digit) (≤500)
	±(0.2%rdg+2digit) (501~3000)
	±(0.3%rdg+2digit) (3001~10000)
Resolution ration	0.9~9.9999 (0.0001)
	10~99.999 (0.001)
	100~999.99 (0.01)
	1000~9999.9 (0.1)
	10000 and above (1)

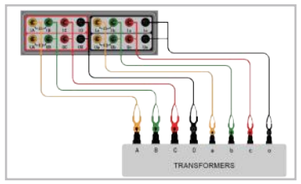
General

Power supply	200-240V AC, 50/60 Hz
	Built-in lithium battery, capacity 7.8Ah
Environmental conditions	Operating temperature : -10℃~50℃
	Humidity: ≤90%, non-condensing
Net size	318×280×204mm
Net weight	6.5kg (without measuring cables)



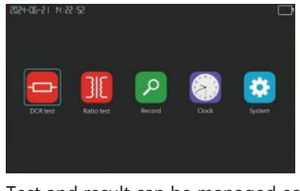
Features

Simultaneous three-phase testing for faster results



No lead changes = faster, safer, and gives more time for testing

Built-in battery, no power supply required



Test and result can be managed easily

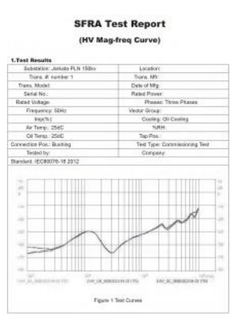
Sweep Frequency Response Analyser (SFRA)

WDT-200

Introduction

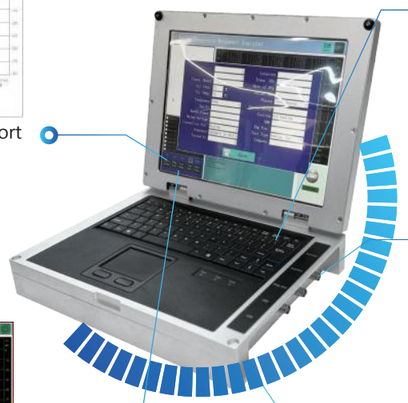
WDT-200 use SFRA method to assess whether or not a transformer has been subject to mechanical damage. It is built into a tough carry case which includes an on-board computer making it even more transport-able. There is a large bright screen to make it comfortable to use even in bright sun light. Data can be stored on the hard-drive and can be downloaded using the USB port.

Features


SFRA Test Report
(HV Mag-freq Curve)
1.Test Results

Test report


Built-in all functional PC




Meet IEC 60076-18 standard


9 test sweeps can be loaded together at one window


One solution in one box for easy and comfortable testing

Benefit

- Small and light-weight for easy use
- Reproducible results thanks to innovative connection technique
- Meet IEC 60076-18 standard
- Analysis software allows further diagnostics
- Built-in all functional PC with keyboard and touch pad

Applications(Detects transformer problems such as:)

- Winding deformations and displacements
- Shorted turns and open windings
- Broken clamping structures
- Core connection problems
- Partial winding collapse
- Faulty core grounds
- Core movements

Specifications

Output voltage	Vpp-25V automatic adjustment during test
Input impedance	1MΩ (built-in 50Ω matching resistance in the tes channel)
Frequency sweep range	10Hz-16MHz (30MHz optional)
Output impedance	50Ω
Measuring dynamic range	-120dB~20dB
Frequency accuracy	0.00001
Power supply	180-270V AC, 50/60Hz
Environmental conditions	Operating temperature: -10°C~50°C
	Humidity: ≤90%
Net size	310×240×75mm
Net weight	4.5kg
Total weight	15kg (including case and test cable set)

Sweep frequency response analyser controlled by PC

Mini-WDT

Mini-WDT and its software on a PC allows repeatable fingerprinting of transformers so that a scan can be run whenever it experiences a traumatic event such as transportation, severe fault or overhaul, allowing it to go back on line faster.