



## PRODUCT BROCHURE



ELECTRIC POWER TEST EXPERT

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HV HIPOT ELECTRIC CO.,LTD.

# COMPANY PROFILE

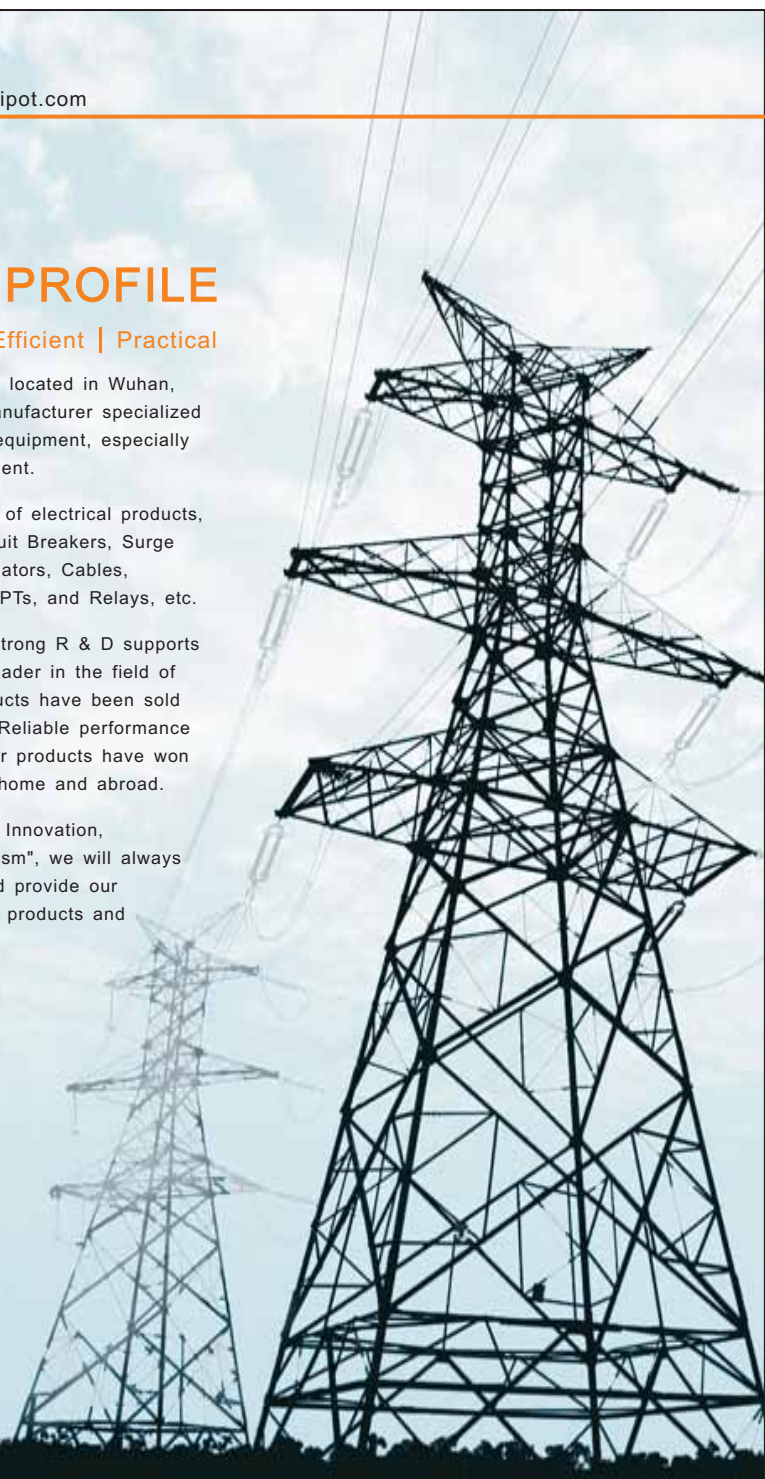
Honest | Creative | Efficient | Practical

HV Hipot Electric Co., Ltd., located in Wuhan, China, is a professional manufacturer specialized in electrical safety testing equipment, especially high voltage testing equipment.

We TEST for various kinds of electrical products, such as Transformers, Circuit Breakers, Surge Arresters, Generators, Insulators, Cables, Casings, GIS Systems, CT/PTs, and Relays, etc.

Years of experiences and strong R & D supports have made us become a leader in the field of electrical testing. Our products have been sold nationwide and worldwide. Reliable performance and competitive price of our products have won customer satisfaction from home and abroad.

With the spirit of "Integrity, Innovation, Responsibility, Professionalism", we will always develop better products and provide our customers with high quality products and satisfactory services.



Supply High Voltage Test Equipment  
and Excellent Service  
for Global Power Industry



## QUALIFICATION



## PARTNERS



- Standard Test Demonstration
- Various Product Show
- Friendly Communication
- Professional Guide

# CUSTOMER VISIT



Strict 5S Management System  
Professional Technical Engineer  
Strong Research and Development Team  
Standard Pre-sale and After-sale Test

# PRODUCT & TEST





# GDTF

For Substation Equipment

## Variable Frequency AC Resonant Test Set

GDTF Series Variable Frequency AC Resonant Test System of Substation Equipment is designed for AC withstand voltage test of 6kV-500kV power transformers, GIS, switchgears, bus bar, bushings, CT/PTs as well as high voltage power cables. It is suitable for handover and preventive test of substation test objects with high voltage and large capacitance. With wide application range, it is the ideal AC voltage test equipment for high voltage testing department and electric power engineering unit.



Model No.	Application	The main configuration parameters			
		Variable-frequency power source	Resonant reactor	Excitation transformer	Voltage divider
GDTF-108-108-27	31500kVA and below, 35kV power transformer	5kW	27kV/1A 4 sets (dry type)	5kVA (dry type)	110kV
	35kV Switch, busbar, PT, CT, etc.				
	10kV(300mm <sup>2</sup> ) cable 2km				
	35kV(300mm <sup>2</sup> ) cable 0.5km				
GDTF-270-270-45	110kV GIS switch and power transformer	15kW	45kV/1A 6 sets (dry type)	15kVA (dry type)	300kV
	10kV(300mm <sup>2</sup> ) cable 5km				
	35kV(300mm <sup>2</sup> ) cable 2km				
GDTF-200-200-50	220kV GIS switch and power transformer	20kW	50kV/1A 8 sets (dry type)	20kVA (dry type)	400kV
	10kV(300mm <sup>2</sup> ) cable 8km				
	35kV(300mm <sup>2</sup> ) cable 3km				

Series resonance test system are mostly customized solutions, the above parameters are for reference only, specifications are determined by customer demand.

- ▶ Frequency modulation range can be set up on demand, speeding up the tuning process at maximum.
- ▶ Automatically track and maintain stable test voltage, voltage stability up to 1%.
- ▶ With good filtering characteristics after resonance.



- ▶ With protection functions of over-voltage, over-current, out of resonance, zero, flash-over.



- ▶ Test voltage, test frequency, measured frequency, low voltage, low current, withstand test time can be displayed.
- ▶ Exchange calculation for capacitance, inductance and frequency. The parameter can be queried.
- ▶ The voltage curve can be displayed, and directly determine accuracy and stability of testing resonant frequency.
- ▶ The frequency resolution is preset according to the demand, to achieve optimization and balance between the tuning efficiency and accuracy.
- ▶ With functions of boosting voltage, tuning, boosting and timing in stages, fault prompt.



# GDTF

For Cables

## Variable Frequency AC Resonant Test Set

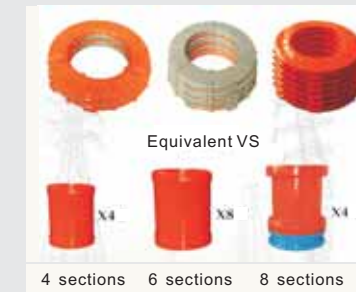
GDTF Series Variable Frequency AC Resonant Test System for Cables is designed for AC withstand voltage test of 6kV-200kV high voltage power cables, also other electric power equipment such as bus bar, bushings, CT/PTs. It meets the test condition requirement of equipment with high voltage and low current, also with low voltage and high current.



- ▶ With software calibration function.
- ▶ Frequency resolution is set according to the needs.
- ▶ Real-time monitoring the test voltage waveform.
- ▶ The action time is up to  $\mu$ s level.

Model No.	Variable Frequency Source	Reactor(Dry Type)	Excitation Transformer(Dry Type)	Voltage Divider	Application
GDTF-44-22	2.5kW	1A/22kV Two Sets	2.5kVA/1kV	25kV	10kV cable $\leq$ 1km
GDTF-88-22	4kW	2A/22kV Two Sets	4kVA/1kV	25kV	10kV cable $\leq$ 2km
GDTF-132-22	6kW	2A/22kV Three Sets	6kVA/1/3kV	70kV	10kV cable $\leq$ 3km 35kV cable $\leq$ 1km
GDTF-176-22	7.5kW	2A/22kV Four Sets	7.5kVA/1/3kV	60kV	10kV cable $\leq$ 4km 35kV cable $\leq$ 1km
GDTF-246-22	10kW	2A/22kV Six Sets	10kVA/1/3kV	60kV	10kV cable $\leq$ 6km 35kV cable $\leq$ 2km
GDTF-330-22	15kW	2.5A/22kV Six Sets	15kVA/1/3kV	100kV	8kV cable $\leq$ 8km 35kV cable $\leq$ 2km
GDTF-640-32	25kW	2.5A/32kV Eight Sets	25kVA/1/3/5kV	200kV	10kV cable $\leq$ 10km 35kV cable $\leq$ 4km 110kV cable $\leq$ 1km

### Light revolution • Arbitrary combination ---First choice of AC withstand voltage test for long cables



- ▶ Ultralight hollow-core reactor.
- ▶ For 35kV/10km cable, only 4 sections reactors are necessary.
- ▶ Single section lifted by single hand, light and portable.
- ▶ Sections in series or in parallel, arbitrary combination.



# GDTL

For Generator

## Power Frequency AC Resonant Test System

GDTL Series Power Frequency AC Resonant Test System (for Generator) is designed for AC withstand voltage test of generator/electromotor of output voltage 20kV or below. Single section or multi-section reactors in series or parallel can be used to adjust the inductance to achieve resonance state. When making partial discharge test for generators, all components including excitation transformer, reactors, voltage divider should be partial discharge source.



Model No.	Application : AC voltage withstand test for generators or motors with output voltage 20kV and below, test frequency is 50Hz					
	Control Unit	Voltage regulator	Reactor	Excitation transformer	Voltage divider	Application
GDTL-200-25	30kW	30kVA (electric)	200kVA/25kV adjustable 1set	30kVA (dry type)	30kV	Hydroelectric generator 0.4-1.0μF (10kV/40MW)
GDTL-300-50	60kW	60kVA (electric)	300kVA/50kV adjustable 1set	60kVA (oil-immersed type)	50kV	Fire power generator 0.27-0.33μF (20kV/300MW)
GDTL-600-50	60kW	60kVA (electric)	200kVA/50kV adjustable 1set 400kVA/50kV adjustable 1set	60kVA (oil-immersed type)	50kV	Fire power generator 0.45μF (20kV/600MW)
GDTL-1200-50	120kW	120kVA (inductive)	200kVA/50kV fixed 2sets 800kVA/50kV adjustable 1set	120kVA (oil-immersed type)	50kV	Hydroelectric generator 1.8μF (20kV/250MW)
GDTL-2750-55	300kW	300kVA (inductive)	750kVA/55kV fixed 2sets 1250kVA/50kV adjustable 1set	330kVA (oil-immersed type)	60kV	Hydroelectric generator 3.3μF (20kV/770MW)

Series resonance test system are mostly customized , the above parameters are for reference only, specifications is determined by customer demand.

- ▶ With dry column type voltage regulator, good output waveform and stability.
- ▶ With good resonant point even for different test objects, no resonant blind area.
- ▶ Prevent damage of fault point after breakdown expansion.



- ▶ After resonance, the system has good filtering.
- ▶ Partial discharge test set can be customized.
- ▶ It can not only adjust voltage and inductance, but also real-time monitor power factor of loop circuit.
- ▶ Excitation transformer is double output for high voltage and low voltage. It can make DC hipot test for generators when it works together with silicon rectifier.







# GDTL-C

For CVT

## Power Frequency AC Resonant Test Set

GDTL-C series CVT AC Resonant Test System is used for CVT boosting and calibration test with voltage 35kV, 66kV, 110kV, 220kV, 330kV, 500kV,750kV.

- ▶ It can make CVT calibration test if standard VT is supplied.
- ▶ Fine adjustment function can be added, easy for CVT calibration.

- ▶ The design of adjustable reactor is iron core structure.
- ▶ Save working time and easy to find resonance point.



Model No.	Control Unit	Reactor	Excitation transformer	Typical application
GDTL-C-40-80	3kW/220V	40kV/0.5A 2sets	3kVA/5kV	110kV CVTs, with capacitance $\leq 0.02\mu\text{F}$
GDTL-C-80-80	5kW/220V	40kV/1.0A 2sets	5kVA/5kV	110kV CVTs, with capacitance $\leq 0.04\mu\text{F}$
GDTL-C-80-160	4kW/220V	40kV/0.5A 4sets	4kVA/8kV	220kV CVTs, with capacitance $\leq 0.01\mu\text{F}$
GDTL-C-160-160	8kW/220V	40kV/1.0A 4sets	8kVA/8kV	220kV CVTs, with capacitance $\leq 0.02\mu\text{F}$
GDTL-C-120-240	10kW/220V	40kV/0.5A 6sets	10kVA/20kV	330kV CVTs, with capacitance $\leq 0.075\mu\text{F}$
GDTL-C-240-240	20kW/380V	40kV/1.0A 6sets	20kVA/20kV	330kV CVTs, with capacitance $\leq 0.015\mu\text{F}$
GDTL-C-180-360	15kW/380V	60kV/0.5A 6sets	15kVA/30kV	500kV CVTs, with capacitance $\leq 0.005\mu\text{F}$
GDTL-C-360-360	30kW/380V	60kV/1.0A 6sets	30kVA/30kV	500kV CVTs, with capacitance $\leq 0.01\mu\text{F}$
GDTL-C-260-520	20kW/380V	80kV/0.5A 7sets	20kVA/35kV	750kV CVTs, with capacitance $\leq 0.003\mu\text{F}$

- ▶ Enameled wire winding, dry silica gel pouring.
- ▶ Glass fiber winding insulating cylinder shell for reactors.
- ▶ The iron core is adjusted infinitely, ensure the user accurately find resonance point.
- ▶ Only to adjust inductance of single reactor, no need to adjust all reactors.



- ▶ Electric type adjustment technology, with special inductance adjustment mechanical transmission structure.
- ▶ Iron core clearance is adjusted by manual, and the inductance is changed accordingly.
- ▶ With sufficient electrical, mechanical strength and necessary heat dissipation capability. (Note: Electric inductance adjustment type can be customized.)



GDYD-A Series AC/DC Hipot Test Set is automatic withstand voltage test devices with advanced performance. It is used to carry out dielectric strength test under rated voltage for all kinds of electrical equipment, components and insulation materials. It checks dangerous flaws which assures electrical equipment continuous working.



# GDYD-A

## Automatic AC/DC Hipot Test Set

Basic Specifications	
Input Voltage	AC 220V or AC 380±10%, 50Hz±1
Low Voltage Output	AC 0-250V or AC 0-430V
LV Current	0-250A
Output Capacity	0-300kVA (Can be Customized on demand.)
HV Voltage	0-300kV (Can be Customized on demand.)
HV Current	0-2A
Timing Range	0-9999S
Voltage Accuracy	≤1.5%±1digit(F.S)
Current Accuracy	≤2.0%±1digit(F.S)



### Box type+Dry transformer

- ▶ Obtain voltage and current peak value.
- ▶ With system diagnosis and analysis functions.
- ▶ Dry testing transformer, epoxy resin insulated, no pollution and light weight.



### Table type+Gas transformer

- ▶ Fully automatic operation process.
- ▶ Double over-current protection, more safe.
- ▶ SF6 gas insulated testing transformer, with good nonflammability, little corona, unaffected by climate.



### Cabinet type+Oil transformer

- ▶ LCD screen, with extension function.
- ▶ Testing process displays on one screen.
- ▶ Insulation oil testing transformer, with high insulation strength and good heat dissipation, cost-effective.

### Customized model



# GDYD-D

## Digital AC/DC Hipot Test Set



Instruction of Model Selection:

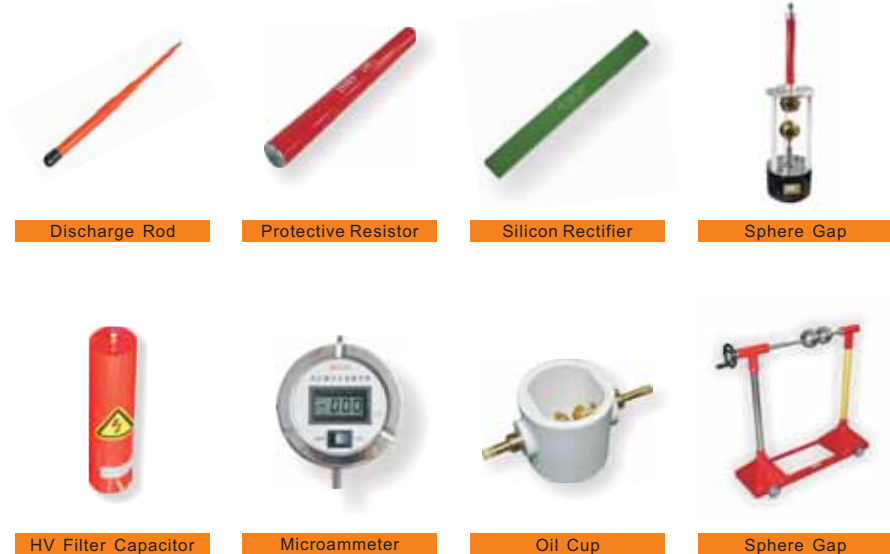
Oil type, dry type or SF6 gas type transformer is optional.

AC/DC and series transformer are selected according to user's demand.

Special specifications can be made according to user's demand.



### Optional accessories



Discharge Rod

Protective Resistor

Silicon Rectifier

Sphere Gap

HV Filter Capacitor

Microammeter

Oil Cup

Sphere Gap

# GDYD-P

## Programmable AC/DC Hipot Test Set



- ▶ Full keypad operation. All functions can be set by button, more reliable and safety.
- ▶ Over-current, over-voltage protection, zero-starting protection, sound and light alarm.
- ▶ LED display with high resolution.
- ▶ Real time display HV voltage, HV current, LV current and time.
- ▶ The HV current or LV current can be set. The output will be cut off automatically if setting value is exceeded.



# GDZG-300

## DC Hipot Test Set

GDZG-300 Series DC Hipot Test Set is testing DC high voltage for zinc oxide arresters, magnetic blowing arresters, power cables, generators, transformers, circuit breakers and other equipment, which is suitable for electric power branch, power department of factories, scientific research units, railway, chemical industry, and power plants.



Below 200kV



Above 200kV

Specification	60/2	120/2	120/3	160/2	180/2	200/3	250/2	300/2	400/3	Other Level
Output Voltage(kV)	60	120	120	160	180	200	250	300	400	600-800kV can be customized.
Output Current(mA)	2	2	3	2	2	3	2	2	3	
Output Power(W)	120	240	360	320	360	600	500	600	1200	
Controller Weight(kg)	4.3	4.3	5.0	4.5	5.0	5.5	5.5	5.5	5.5	
Booster Weight(kg)	6.3	6.8	7.0	7.2	7.2	7.2	7.6	7.5	12.6	
High Voltage Polarity	Negative voltage polarity, zero voltage start, continuous adjustment.									
Power Supply	AC 220V±10%, 50Hz									
Voltage Measurement Error	1.0% (Full Scale)±1 digit, max. resolution 0.1%kV									
Current Measurement Error	1.0% (Full Scale)±1 digit, max. resolution 0.1%μA									
Ripple Factor	≤1%									
Voltage Stability	Random fluctuations, ≤0.5% when the power supply voltage changes ±10%.									
Working Mode	Interrupted use, 30mins for rated load, 10mins for 1.1 times of rated voltage.									



- ▶ With PWM(pulse width modulation) technology.
- ▶ Smoothly regulating voltage in full range.
- ▶ Dial code setting for over-voltage protection.
- ▶ 75%UDC1mA functional button.
- ▶ Small ripple coefficient ≤1%.



GDZG-S 80kV/300mA



# GDVLF

## VLF AC Hipot Test Set

GDVLF Series Very Low Frequency AC Hipot Test Set is the direct method to identify the insulation strength of XLPE power cables. It uses 0.1Hz very low frequency technology, the capacity is only 1/500 of power frequency. With small size and light weight, it is suitable to make withstand voltage test for large capacitance equipment such as power cables, power capacitors, large and medium generators/motors.



Specification	GDVLF-30kV	GDVLF-40kV	GDVLF-50kV	GDVLF-80kV
Rated Output Voltage	30kV(Peak value)	40kV(Peak value)	50kV(Peak value)	80kV(Peak value)
Application	Power cables and generators at 10kV and below	Power cables and generators at 13.8kV and below	Power cables and generators at 15.75kV and below	Power cables and generators at 35kV and below
Load capacity	0.1Hz, ≤1.1μF	0.1Hz, ≤1.1μF	0.1Hz, ≤0.8μF	0.1Hz, ≤0.5μF
	0.05Hz, ≤2.2μF	0.05Hz, ≤2.2μF	0.05Hz, ≤1.6μF	0.05Hz, ≤1.0μF
	0.02Hz, ≤5.5μF	0.02Hz, ≤5.5μF	0.02Hz, ≤4μF	0.02Hz, ≤2.5μF
Output frequency	0.1Hz、0.05Hz、0.02Hz			
Weight	Control unit: 5kg	Control unit: 5kg	Control unit: 5kg	Control unit: 5kg
	Booster: 25kg	Booster: 35kg	Booster: 50kg	Booster I: 25kg
	--	--	--	Booster II: 50kg



- ▶ It realizes the fully automatic voltage boost, step-down, measurement and protection as well as the manual intervention in the process of automatic voltage boost.
- ▶ Closed-loop negative feedback circuit is adopted. No capacity rising during outputting.



Portable

On-site test

With trolley

- ▶ Over-voltage protection function.
- ▶ Over-current protection function.
- ▶ Built-in protective resistor.
- ▶ Sampling from high voltage side, data is morereal.
- ▶ With high and low voltage double protection, protective action time is less than 20ms.
- ▶ Data of current, voltage, wave form can be directly sampled at high voltage side, so the data is true and accurate.



# GDYT

## Partial Discharge Test System

GDYT series Partial Discharge Test System is used for testing insulation level of various insulation materials, insulation structure and electrical products. It is also considered as PD power frequency source for transformers, CT/PTs, HV circuit breakers, coupling capacitors, bushings and other power equipment.

Specification	Capacity(kVA)	High Voltage(kV)	Low Voltage(kV)
GDYT-5/50	5	50	0.22
GDYT-50/50	50	50	0.22/0.38
GDYT-10/100	10	100	0.22/0.38
GDYT-50/100	50	100	0.22/0.38
GDYT-100/100	100	100	0.22/0.38
GDYT-15/150	15	150	0.22/0.38
GDYT-75/150	75	150	0.22/0.38
GDYT-150/150	150	150	0.38/0.6
GDYT-20/200	20	200	0.22/0.38
GDYT-100/200	100	200	0.22/0.38
GDYT-200/200	200	200	0.38/0.6
GDYT-25/250	25	250	0.22/0.38

- ▶ Using rapid electronic protection device.
- ▶ PD-free epoxy insulating cylinder with small PD value.
- ▶ Low impedance voltage.
- ▶ Strong anti-interference ability.



### GDJF-2008 Partial Discharge Detector

- High sensitivity.
- Wide range of test capacitance.
- Input unit (detecting impedance) is well equipped.
- Multiple combination of frequency band (nine).



### GDJF-2006 Digital Partial Discharge Detector

- Using high speed, large capacity data acquisition card.
- Automatic tracking external power supply frequency.
- Opening door and window can be arbitrarily set, the minimum is up to 1 degree.
- Single channel and 6-channel measurement.



# GIT series

## GIS High Voltage Partial Discharge Test System

The system is especially designed for testing GIS in the factory and on-site test, and for testing all GIS switchgears and GIS components such as insulators, insulating tension pole, GIS PT etc. It also can test transformers, power cables. The max. output of this system can be up to 1200kV, 6A.

As its good encapsulation, it can perform PD test in normal environment. When it tests partial discharge, the PD level is less than 3pc, and it can be added a HV bushing to perform the withstand voltage test at the same time.



Single phase/three phase VT testing system (with standard voltage transformer)



800kVA/800kV testing system (with encapsulated coupling capacitor, HV measurement capacitor, PD standard injection port and connection flange)

- ▶ Small and compact dimensions resulting in minimum space requirements.
- ▶ Partial discharge simulation test system can be customized for PD research.
- ▶ High safety because of encapsulation of all HV parts.
- ▶ Error calibration of PT or CVT can be made by this system.
- ▶ Direct flanging to the test object.
- ▶ Light weight. Rugged construction to withstand long transportation stresses.
- ▶ Large range of application in conjunction with HV bushing for withstand voltage test.
- ▶ Built-in HV measuring capacitor and coupling capacitor.
- ▶ Built-in HV disconnecting switch to separate multipath test object connector to ensure the safety of HV testing.

### Basic configuration

- Cylinder type voltage regulator (Frequency variable power source used in the GIS voltage transformer test system)
- Isolation transformer
- Compensating reactor
- SF6 HV testing transformer
- Capacitive divider
- Basic interface
- Control system



1200kVA/600kV test system with universal adjustable platform

### Optional Configuration

- SF6 HV bushing and disconnecting switch
- Various connection or adaptation flanges according to different test objects
- Coupling capacitor
- Partial Discharge detector
- Universal adjustable platform for testing GIS switchgear
- Standard voltage transformer (Only for GIS HV testing system)



With 6pcs test connectors of GIS VT test System



# GDJS series

## AC Insulation Test Set

GDJS Insulation Test Set is special for insulated boots, gloves, blanket, mats, sleeves, clothes, hat, ladder, insulated baffle, chairs, insulated stick, electroscopes and other security tools. It uses manual control mode, with strong adaptability.

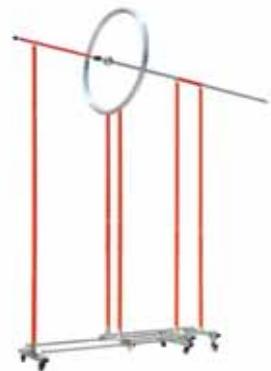


Manual Control



Automatic Control

Model No.	Rated capacity	Input voltage	Output voltage	Voltage accuracy	LV Current	Leakage current	Resolution of leakage current	Current accuracy
GDJS-63A	3kVA	220V	0-30kV	≤2.0%(F.S)	0-15A	0-20.0mA	0.1mA	≤1.5%(F.S)
GDJS-65A	5kVA	220V	0-50kV	≤2.0%(F.S)	0-25A	0-20.0mA	0.1mA	≤1.5%(F.S)
GDJS-610A	10kVA	220V	0-100kV	≤2.0%(F.S)	0-50A	0-20.0mA	0.1mA	≤1.5%(F.S)
GDJS-615A	15kVA	380V	0-150kV	≤2.0%(F.S)	0-37.5A	0-20.0mA	0.1mA	≤1.5%(F.S)



For testing electroscopes  
66kV-330kV



For testing electroscopes  
10kV-35kV



For testing insulating rod

- ▶ 8 measurement ways of HV voltage, LV current, 6-way leakage current.
- ▶ Movable control unit, easy wiring and detection.
- ▶ Oil type, dry type or SF6 gas type testing transformer for option.
- ▶ Control unit and HV unit are separate, to ensure safety.
- ▶ With zero, power, operation, timing indicators.

- ▶ With over-current protection, zero-start protection, sound and light alarm, power protected switch.
- ▶ Manual or automatic control unit is optional. For manual control unit, it is digital display.
- ▶ For automatic control unit, it is 320\*240 LCD screen, with high speed thermal printer.
- ▶ Multi-channel leakage are measured separately, with separate type insulation water tank.
- ▶ If there is breakdown or over limits, the HV output will be cut off automatically.
- ▶ New type time relay, with wide timing range(1S-99H).



GDZ-6  
For testing 6pcs insulation mats



GD-S  
For testing insulation rope



GD-D  
For testing insulation mat





# GDFR series

## High Voltage AC/DC Digital Meter

GDFR series AC/DC digital meter is on-site instrument, which test both AC and DC voltage. The digital meter and divider are equipped in one unit.

- ▶ Balance type equal potential shield structure.
- ▶ Fully-sealed insulation cylinder with internal excellent components.
- ▶ High accuracy and linearity, good stability and anti-interference ability.
- ▶ Small size, light weight, easy to carry in the field work.
- ▶ The voltage ratio can be customized, suitable for calibration.
- ▶ Inner shield anti-interference system.



GDFR-VLF (For VLF Calibration)  
The digital meter and divider can be made in one unit. It also can be made separately.

Model No.	GDFR-50	GDFR-100	GDFR-150	GDFR-200	GDFR-300	GDFR-400
Voltage(kV)	50	100	150	200	300	400
DC frequency(Hz)	<2					
AC frequency(Hz)	30-300					
Accuracy	AC: 1.5%/DC: 1.0%					
Accuracy for option(G type)	AC: 1.0%/DC: 0.5%					--
Accuracy for option(H type)	AC: 0.5%/DC: 0.5%				--	--
Impedance(MΩ)	650	1280	2000	2640	4000	5360
Capacitance(pF)	500	250	400/160	300	200	300
Voltage ratio	1000:1 or 10000:1(or customized)					
Height (mm)	500	650	900	1200	1750	2350
Dimension(mm)	150×150	160×160	200×200		260×260	800×800
Cable impedance(Ω)	50 / 75					
Range	1. Low range: 0-20kV 2. High range: 20kV-rated voltage				1. Low range: 0-200kV 2. High range: 200kV-rated voltage	
Cable length(m)	3	4	5	6	8	10
Weight(kg)	5.5	6.9	10.6	14.1	23.5	48.2
Packing Medium	Polyurethane foam materials					
Operation temperature	0 -45					
Relative humidity	<85%RH, no condensation					
Altitude	<1500m(or customized)					
Use condition	Indoor use or outdoor use in Sunny day					
Remark	Divider at 400kV or above should be customized					





# GDDF

## Multiple Frequency Induced Voltage Test Set

GDDF 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.



GDDF-5(7)



GDDF-10(15)

- ▶ Easy wiring and operation. It has lower requirement for power source capacity during on-site test.
- ▶ Internal compensation inductance, which compensates the current of tested object capacitance, and improves the loading capacity.
- ▶ Digital control technology.
- ▶ Real-time adjustment for step length. 1V, 2V, 5V and 10V are optional.



Model No.	Capacity	Output Voltage	Output Frequency	Remark
GDDF-3	3kVA	0~400V	50Hz, 100Hz, 150Hz, 200Hz	If more than 400V voltage is output, additional boosting transformer should be supplied. It can be customized according to requirement.
GDDF-5	5kVA	0~400V	50Hz, 100Hz, 150Hz, 200Hz	
GDDF-10	10kVA	0~400V	50Hz, 100Hz, 150Hz, 200Hz	
GDDF-15	15kVA	0~400V	50Hz, 100Hz, 150Hz, 200Hz	
GDDF-20	20kVA	0~400V	50Hz, 100Hz, 150Hz, 200Hz	
GDDF-30	30kVA	0~400V	50Hz, 100Hz, 150Hz, 200Hz	

- ▶ PC inserted. 7 inch color touch screen, with thermal printer.
- ▶ With a data storage capacity of 3200 sets of data.
- ▶ Advanced electronic technology, with variable frequency regulator.
- ▶ It can generate test voltage output of 1, 2, 3, 4 times frequency.

- ▶ Using high quality filling materials.
- ▶ Small size, light weight, easy to carry.
- ▶ Easy operation, intuitive display.
- ▶ High input impedance, good linearity.
- ▶ Shielding technology.





# GDZJ series

## Turn-to-Turn Surge Withstand Voltage Tester

Turn-to-turn surge withstand tester uses pulse waveform comparison method, which generate high voltage pulse to coil windings of motor or other equipment to conduct equivalent over-voltage simulation test. It can correctly and rapidly determine the quality of turn-to-turn insulation by observing, comparing and analyzing the displayed waveform.



Model No.	GDZJ-5S	GDZJ-10S	GDZJ-15S	GDZJ-45S
Peak voltage	500-5000V Continuously adjustable	500V-10kV	500V-15kV	500V-45kV
Peak value error	≤5% (1kV-5kV)	≤5% (1kV-10kV)	≤5% (1kV-15kV)	≤5% (1kV-45kV)
Waveform rising time	0.5μS or 0.2μS	0.5μS or 0.2μS	0.5μS or 0.2μS	0.01μS or 0.1μS
Power supply	220V±10% 50Hz	220V±5% 50Hz	220V±5% 50Hz	220V±5% 50Hz
Power consumption	≤100W	≤800W	≤800W	≤800W
Dimension	48*26*39cm	90*46*55cm	98*50*56cm	650*550*1700cm
Weight	24kg	70kg	70kg	180kg
Application	It is suitable for turn-to-turn insulation detection of AC/DC motors windings, also for turn-to-turn insulation detection of transformer winding and coil winding.			

### GDZJ-5S

- ▶ High accuracy, low failure rate.
- ▶ High electronic integration.



### GDZJ-10S

- ▶ With good identification performance.



### GDZJ-35S

- ▶ Observing, comparing and analyzing of displayed waveform.



# GDCY

## Impulse Voltage Test System



GDCY series Impulse Voltage Test System can produce a wide range of voltage and energy to simulate waveform such as lightning impulse, lightning chopped wave, switching impulse, to carry out impulse test for high voltage power equipment. When using steep device, it can make steep wave test for insulators(insulator string).

- ▶ Spring pressure type for the connector, easy to plug when adjusting wave.
- ▶ Unified connector is used for connecting rod of the main body, easy connection.
- ▶ Optical fiber isolated ethernet port communication between the computer control system and the main body.
- ▶ Full wave and chopped wave are electronic circuit, to adjust delaying ignition triggering.
- ▶ Trigger mode of three-gaps ball discharge, to ensure the reliability of the trigger.
- ▶ Plate structure for adjustable wave resistor, non-inductive winding.

Impulse voltage	100kV-7200kV
Standard lightning wave	1.2±30%/50±20%µS
Peak oscillation	<5%
Standard switching wave	250±20%/2500±60%µS
Wave front time of oscillating lightning wave	≤15µS
Wave front time of oscillating switching wave and front time of oscillating switching impulse wave	15µS-1mS
Min. output voltage	≥10%Un
Charging voltage instability	<±1%
Synchronizing range	≥20%
Synchronous discharge error rate	<2%
Ignition range	10%~100%
Working time	≥70%Un Discontinuous work (charge-discharge 300s/time) <70%Un Continuous work (charge-discharge 120s/time)
Generator efficiency: lightning wave (no load)	≥90%
Chopping time	2~5µS

# GDCL

## Impulse Current Generator

The impulse current generator is used to inspect the impulse capacity of electric equipment. This instrument can generate standard impulse waveforms such as 1/20µs , 4/10µs, 8/20µs, 10/350µs,18/40µs and 10/1000µs. The waveform technical meets IEC standards.

- ▶ Programmable controller and single chip microcomputer technology.
- ▶ Integrated design makes the system more simple, safe and durable.
- ▶ Using optical fiber to connect console and control box, to ensure safety.



20kV/10kA Impulse Test System





# GDPD-505

## Portable Partial Discharge Inspection Tester

GDPD-505 Portable Partial Discharge Inspection Tester is suitable for partial discharge live inspection of high voltage power equipment such as transformer, GIS, switchgear, power cables, lightning arresters, CT/PT. It effectively test insulation deterioration and prevent the equipment from breakdown or flash-over.



- ▶ No need to power off test object, to detect PD signal of power cables by non-contact method.
- ▶ Carry out comprehensive analysis of electromagnetic wave and ultrasonic wave signals at the same time.
- ▶ Detailed Measure and observe PD impulse statically and dynamically.



40kHz Ultrasonic sensor



150kHz Ultrasonic sensor



UHF sensor



Acoustoelectric sensor



TEV sensor



High frequency current transformer

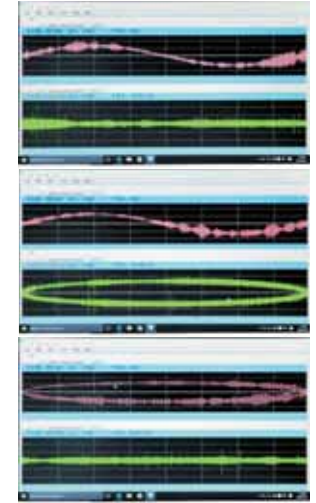


Pulse generator



Non-contact 40K ultrasonic sensor

- ▶ Digital filter technology, effectively eliminate field interference.
- ▶ Two kinds of power supply modes, rechargeable battery and external power.
- ▶ Digital windowing technology, to avoid interference.
- ▶ It will alarm automatically when preset warning value is exceeded.
- ▶ Display mode of ellipse, straight line and sine wave can be selected.
- ▶ Detailed measurement and discharge impulse can be observed.



Measuring channel	2 individual measuring channels, each channel is dual input mode, optical mode and electrical mode
Sampling accuracy	12Bit
Sampling rate	20MHz per channel
Inspection sensitivity	1pC
Measurement range	1pc-10000pc
Range	x0, x1, x10, x100, x1000, x10000 (>100dB)
	x10000 scale only for reference
Nonlinear error of the scale	≤ ±5%
Capacitance range of test object	6pF~250μF
Measuring frequency band: 3dB	10kHz~1MHz, with closing function of filter.
Programmable filter	Low-pass Filter 20kHz, 40kHz, 60kHz, 80kHz
	High-pass Filter 100kHz, 200kHz, 300kHz, 400kHz, OFF
	High-pass filter and low-pass filter can be selected arbitrarily.



# GDBT

## Transformer Test Bench

GDBT Transformer Test Bench is automatic test system. It is high automation, easy operation and accurate testing. It will reduce the mechanical failure and reading error as well as improve accuracy and applicability of whole system by integrating and digitizing the traditional power supply, voltage and power meters. The leaving factory test will be more easy and efficient.



- ▶ Automatic selection of intermediate transformer tap position and switch in the process of testing.
- ▶ The range of HV/LV current and voltage transformer can be selected automatically.
- ▶ Automatically switching the transformer range (no need manual operation).
- ▶ Complete no-load and load, DC resistance, ratio and induction test.
- ▶ Data processing and printing functions.
- ▶ The factory time for average completion of one transformer can be controlled within 20mins.
- ▶ Automatic boost and drop voltage, and automatic speed regulation, automatic stop.
- ▶ The balance degree of test current and voltage is automatically judged during testing.
- ▶ With zero protection, over-current protection and over-voltage protection functions.

- Integrated control of industrial single chip microcomputer.
- Integrated design, easy to upgrade and extension.
- Automatically collect and save data.



Test item	Auxiliary test item
Transformer no-load test	Transformer insulation resistance, absorption ratio, polarization index test
Transformer on-load test	Transformer insulation oil analysis system
Transformer power frequency AC Hipot test	Transformer dielectric loss test
Transformer multi-frequency induced-voltage test	Environmental temperature test
Transformer DC resistance test	Transformer partial discharge quantity test
Transformer ratio, group, error test	Transformer Oil chromatographic analysis system
Transformer temperature-rise test	--





## GDRB-II Transformer Frequency Response Analyzer

GDRB-II Transformer Frequency Response Analyzer detects transformer winding movements resulting from shipping damage, subjection to low impedance through faults, or general looseness of clamping structures brought on by normal effects of aging, in distribution and power transformers. It can reduce unplanned maintenance costs, and provide the possibility to improve system reliability by preventing outages.

Input impedance of acquisition channel	1MΩ
Quantization accuracy of acquisition channel	12 bit
Max.sampling rate of each channel	20Msps
Measuring range of sweep frequency	10Hz-2MHz
Max. static error of the acquisition channel	0.5%
Max. storage capacity of each channel	64K sampling point
Wide measuring dynamic range	-100dB-20dB
Sweeping mode	Scaling Logarithmic or Linear

- ▶ Access database to save test data.
- ▶ Using the most popular method of sweeping frequency to measure.
- ▶ Windows operating system, Simple wiring, easy to use.
- ▶ 6kV or above transformer can be measured.
- ▶ The transformer can be tested even with no cover and dismantling.
- ▶ Simple and convenient management of test data.

### GDRB-III

Transformer Frequency Response Analyzer

- Using sweeping frequency and impedance method to measure.
- Using high precision synchronous AC sampling of voltage and current.
- Only to short circuit low voltage side, high voltage side is no need.
- FFT digital signal processing technology to ensure accuracy and stability of measuring date.
- With digital filter, hardware anti aliasing filtering and anti-interference technology.
- The excitation signal and the response signal are collected respectively for calculating the transfer function.



### GDRB-I

Transformer Short Circuit and Impedance Tester

- LCD screen, data can be read clearly even in direct sunlight.
- Measurement data is accurate.
- With memory of data storage.
- Small size and light weight.



# GDZRC

## DC Winding Resistance Tester

GDZRC series DC winding resistance tester is designed to measure DC resistance of inductive devices, such as transformers and power inductors. It has features of fast measurement, small size and high accuracy, which make it an ideal equipment for measuring DC resistance of transformer winding and high inductive equipment.



- ▶ Four leads measurement to ensure measuring accuracy.
- ▶ Program-controlled current source to increase measuring speed.
- ▶ Auto discharge and discharge indication function, to ensure safety and availability.
- ▶ LCD screen and Built-in Printer.

Specification	GDZRC-5A	GDZRC-10A	GDZRC-20A	GDZRC-40A
Test current	1mA, 10mA, 1A, 5A	1mA, 10mA, 1A, 5A, 10A	1A, 5A, 10A, 20A	2.5A, 5A, 10A, 20A, 40A
Measurement range	1mA: 10Ω-20kΩ 10mA: 1Ω-2kΩ 1A: 10mΩ-20Ω 5A: 1mΩ-4Ω 10A: 1mΩ-2Ω	1mA: 1Ω-20kΩ 10mA: 1Ω-2kΩ 1A: 10mΩ-20Ω 5A: 1mΩ-4Ω 10A: 1mΩ-2Ω	1A: 10mΩ-20Ω 5A: 1mΩ-4Ω 10A: 1mΩ-2Ω 20A: 1mΩ-1Ω	2.5A: 10mΩ-8Ω 5A: 1mΩ-4Ω 10A: 1mΩ-2Ω 20A: 1mΩ-1Ω 40A: 1mΩ-500mΩ
Measurement accuracy	±0.2% (full scale)±2digit			
Mini. resolution	0.1μΩ			
Data storage capacity	255pcs			
Power supply	AC 220V±22V, 50Hz±2Hz			
Working environment	Environmental temperature: 0°~40° RH humidity: ≤80%			
Dimension	200*400*280mm			
Weight	6kg	6kg	10kg	32kg

# GDZRS-2H

## Handheld Three-phase DC Resistance Tester



- ▶ Hand-held type, light and portable.
- ▶ Synchronous winding magnetization technology.
- ▶ No need to re-connect and disconnect the test lead.
- ▶ Built-in automatic degaussing function.
- ▶ Automatically select the test current, max. current up to 2A.
- ▶ Wide measurement range of 0.1μΩ to 20kΩ.







# GDBR-P

## Transformer Power Analyzer

GDBR-P is mainly used to test capacity, no-load current, no-load loss, load loss, impedance voltage for transformers.

- ▶ 320\*240 high brightness LCD screen, with brightness adjustment. Touch buttons make the operation more convenient.
- ▶ When making three phase transformer no-load, load test, three phase voltage, current vector diagram will be shown.
- ▶ Measure transformer No-load current, No-load loss, short circuit voltage, short circuit loss and capacity.
- ▶ Real-time clock, recording test date automatically, suitable for storage and management of test results.

Specification	GDBR-P
Capacity measuring range	30kVA-2500kVA (for 10kV oil and dry transformers)
	50kVA-3150kVA (for 35kV oil transformers)
	50kVA-2500kVA (for 20kV dry transformers)
	50kVA-2000kVA (for 35kV dry transformers)
Voltage measuring range	0-450V(phase voltage), 0-800V(line voltage), automatic switching range.
Voltage accuracy	±0.2%FS at 20-100V; ±0.2% at 100-450V
Current measuring range	0-100A, automatic switching range
Current accuracy	±0.2%FS at 0.5-10A; ±0.2% at 10-100A
Power accuracy	±0.5% at $\cos\phi > 0.1$ ; ±1.0% at $0.02 < \cos\phi < 0.1$
Power supply	AC220V± 10%, 45-55Hz



# GDKC-5000

## Transformer Tap Changer Tester

GDKC-5000 Transformer Tap Changer Tester can accurately measure the transient time, transient waveform, transient resistance, three-phase synchronization and other parameters of the load tap changer. It is an ideal device for testing load tap changer. It meets the requirements of checking the action sequence of load tap changer and measuring of switching time.

- ▶ Automatically identify faults of the waveform.
- ▶ External mouse can be connected.
- ▶ Continuous testing, saving the power cut time of transformer.
- ▶ High accuracy resistance measurement, no need wire compensation.





# GD6600

## Capacitance and Dissipation Factor Tester

GD6600 measures the capacitance and dielectric loss factor (tgδ) of high voltage electric equipment. It is integrated structure, built-in dielectric loss test bridge, variable frequency adjustable power supply, boosting transformer and SF6 standard capacitor.



Frequency can be changed into 45Hz or 55Hz, 55Hz or 65Hz, 47.5Hz or 52.5Hz.

Anti-interference principle	Frequency conversion	
Power supply	AC 220V±10%	Generator can be used.
High voltage output	0.5kV~10kV	Every 0.1kV
	Accuracy	2%
	Max. current	200mA
	Capacity	2000VA
Self-excitation power	AC 0V~50V/15A	45Hz/55Hz 55Hz/65Hz
Resolution	tgδ: 0.001%	Cx: 0.001pF
Accuracy	△tgδ: ±(reading*1.0%+0.040%)	
	△C x : ±(reading*1.0%+1.00PF)	
Measurement range	tgδ, Without limit	
	Cx, 15pF < Cx < 300nF	
	Cx < 150pF at 5kV	
	Cx < 150pF at 5kV	
	Cx < 300pF at 1kV	
	CVT test, Cx < 300 nF	



- ▶ Touch LCD screen display.
- ▶ Calendar chip and large storage inside. Save testing result according to time order, check history record and print the result.
- ▶ The instrument data can be exported through U disk, and can be used to view and manage the data through the software on PC.

- ▶ The dielectric loss and capacitance value of Co in the upper end of CVT can be measured by using the reverse shielding method.
- ▶ High speed sampling signal. Inverter and sampling circuit inside are digitized controlled. Output voltage is adjusted continuously.
- ▶ No need to dismantle cable to measure dielectric loss and capacitance of CVT.



Heating controller



Oil vessel

- ▶ Test full sealed CVT (Capacitive Voltage Transformer) C1 and C2 dielectric loss and capacitance at the same time. Also test CVT transformation ratio and voltage angle difference.
- ▶ With oil test cell and heating controller, user can test tan delta of dielectric liquid such as transformer oil.



GD6100 is high-precision instrument for testing dielectric loss angle and volume resistivity of insulating oil or other insulating liquids. With its integrated structure, it contains major components such as dielectric loss oil cup, temperature controller, temperature sensor, dielectric loss test bridge, AC testing power supply, standard capacitors, Megger, DC high voltage source.



# GD6100C

## Automatic Precision Oil Dielectric Loss Tester

GD6100C Automatic Oil Dielectric Loss Tester is used for measuring dielectric dissipation factor and DC resistivity of insulating oil and other insulating liquids. With full digital technology, all measurement is automatic. The test results can be saved automatically and printed. The operators without professional training can use it expertly.

Oil cup can be cleaned by oil sample.



# GD6100

## Automatic Precision Oil Dielectric Loss Tester



- ▶ All digital technology, automatic measurement.
- ▶ Advanced high-frequency induction heating mode, homogeneous heating, high speed, and easy to control.
- ▶ Large LCD screen, with printer.
- ▶ AC-DC-AC power supply conversion mode.

Measuring range	Capacitance: 5pF~200pF	Accuracy	Capacitance: $\pm(1\% \text{ of the reading} + 0.5\text{pF})$
	Relative Permittivity: 1.000~30.000		Relative Permittivity: $\pm 1\% \text{ of the reading}$
	Dielectric dissipation factor: 0.00001~100		Dielectric dissipation factor: $\pm(1\% \text{ of the reading} + 0.0001)$
	DC resistivity: 2.5M $\Omega$ m~20T $\Omega$ m		DC resistivity: $\pm 10\% \text{ of the reading}$
Resolution	Capacitance: 0.01pF	Temperature measuring range	0~125°C
	Relative Permittivity: 0.001	Temperature measuring error	$\pm 0.5^\circ\text{C}$
	Dielectric dissipation factor: 0.00001	--	--



# GDOT-80A/100A

## Insulation Oil Breakdown Tester 80kV/100kV

GDOT Insulation Oil Breaker Tester is fully digital industrial instrument with microcomputer control. It has the features of high accuracy and strong anti-interference ability.



- ▶ Automatic completing all test procedures.
- ▶ With over-voltage, over-current and limit protection.
- ▶ 1-6 times breakdown voltage value and times will be saved automatically. It will print test results.
- ▶ 100 results can be stored, current environmental temperature and humidity can be displayed.



GDOT-100



GDOT-80

Optional Electrodes



- ▶ LCD screen display.
- ▶ Display temperature and system clock.
- ▶ Single-chip control, easy to control.
- ▶ With RS232 port.

Power supply	AC220V±10%, 50Hz±1Hz	
Output voltage	0-80kV	0-100kV
Capacity	1.5kVA	
Speed of voltage increase	2.0-3.5kV/s, adjustable	0.5-5.0kV/s, adjustable
Voltage distortion rate	<3%	
Measurement accuracy	±3%	
Standing time	15mins, adjustable	
Voltage increasing interval	5mins, adjustable	
Voltage increasing times	1-6 times, optional	1-9 times, optional
Power	200W	
Applicable temperature	0°C-45°C	
Applicable humidity	<75% RH	
Dimension	465mm*385mm*425mm	
Weight	41kg(N.W.)	



GDOT-3B  
with three oil cups



GDOT-6B  
with six oil cups



# GDB-H

## Transformer Turns Ratio Tester(Handheld)

GDB-H is a hand-held device. It can accurately measure turns ratio, group and phase angle, which is suitable for all kinds of transformers such as Z type transformers, rectifier transformers, electric furnace transformers, phase-shifting transformers, traction transformers, scott and invert-scott transformers.

- ▶ Both single phase measurement and 3-phase automatic test.
- ▶ The test result is displayed by figure and hexagonal vector, directly show the transformer connection.
- ▶ Built-in high-capacity rechargeable Lithium-ion battery.
- ▶ Phase angle measurement functions.

# GDB-D

## Transformer Turns Ratio Tester



GDB-D Transformer Turn Ratio Tester is designed for three phases transformer in power system and especially for Z type winding transformer and other transformers with relatively large no-load current. The instrument is with wide range, fast testing speed, favorable repeatability, flexible date processing, convenient connection, perfect protection, easy learning and convenient operation.

- ▶ Small size and light weight.
- ▶ Favorable repeatability.
- ▶ Automatically save 99 data at most.
- ▶ Automatically calculate tap position.

- ▶ Two output voltages are optional and applicable to transformer whose zero-load current is relatively high.
- ▶ Flexible data processing, including retrieval, print, transfer to U-disk, delete and upload to PC computer for testing.
- ▶ Functions of transformer short-circuit protection and interturn short-circuit protection functions. If there is short circuit, relevant information will be displayed on the LCD screen.

- ▶ Applicable to transformers connected in Z type.
- ▶ Fast speed, which is only 18 seconds for three-phase.
- ▶ Wide testing range and the highest transformation ratio may reach 10000.



GDB-III  
3-phase Turns Ratio Tester



# GDKC-6A

## High Voltage Circuit breaker Analyzer



GDKC-6A Circuit Breaker Analyzer can measure the open/close time, bounce time, the synchronization time of circuit breaker. Also it can measure the speed of opening/closing, maximum speed, average speed, open distance, over travel, re-closing time data of O/C, C/O, O/C/O.

- ▶ 6 channels contacts, 1 channel velocity test.
- ▶ Three kinds of CLOSE-OPEN control modes.
- ▶ With dustproof and waterproof sealed plastic carry case.
- ▶ 5.7 inch color touch screen, high speed thermal printer.

Maximum Velocity	20m/s, Resolution: 0.01m / s; Accuracy: $\pm 1.0\%$ of the reading $\pm 0.05$ .
Test range of Travel	6mm-280mm
Min. resolution of Travel	0.1mm; accuracy: $\pm 1.0\%$ of the reading $\pm 0.1$ mm.
Time Range	10ms ~ 15s.
Time resolution:	0.1ms; time test accuracy: $\pm 0.5\%$ of the reading $\pm 0.2$ ms.
Resolution of 3phase synchronization	0.1ms; Test Accuracy: $\pm 0.5\%$ of the reading $\pm 0.1$ ms.
Test channels	8 channels including 6 channels contact, 1 channel velocity, 1 channel coil current.
Power supply	AC 220V $\pm 10\%$ ; 50Hz $\pm 1$ Hz
Operation power supply output	DC voltage 16V-270V adjustable, current 20A, digital program-controlled adjustment, continuous working time 3s.
Coil operation	1channel(OPEN/CLOSE coil)
	270V DC max, 20A DC max.
Breaker operation	Close (C), Open(O), Close-Open (C-O), Open-Close (O-C), Open-Close-Open (O-C-O)
	User can select any desired test.

# GDPD-300UF

## Portable Ultrasonic Partial Discharge Detector

GDPD-300UF is Online Partial Discharge Detector, which detects the PD of switch cabinet, GIS and transformers. It is widely used in the field of railway and chemical industry.



- ▶ PD detection of Transformers.
- ▶ PD detection of Switch cabinet.
- ▶ PD detection of GIS.
- ▶ PD detection of Insulators on the railway.
- ▶ PD detection of Insulators on the line.
- ▶ Air impermeability detection of SF6 gas.

Application	Detect PD Flaw And Locate PD Signal of HV electric equipment
Detection Principle	ultra-high frequency(UHF) and ultrasonic detection technology(AE)
Detection Frequency Band	UHF 300-1500(MHz), Ultrasonic 20-200(KHz)
Measurement Range	UHF -80 to -20dB, Ultrasonic 0-90dB
Sensitivity	Min 2pC(depends on distance between sensor and discharge source)
Sensor	UHF 300-2000MHz, with directional reception
	Ultrasonic 20-200kHz
LCD	2.8inch LCD touch screen display
Data Storage	1000 testing data can be stored





# GDHL

## Automatic Contact Resistance Tester

GDHL Automatic Contact Resistance Tester is designed to measure contact resistance of high/low voltage circuit breakers, bus-bar connection point of high current, bushing contact point, power cables and wires, and weld joint. It is light weight, strong anti-interference, high accuracy, easy to operate.

- ▶ Output high-current continuously.
- ▶ Two test modes: Routine Test and Switch Resistance Test.
- ▶ High speed thermal printer.
- ▶ Large measuring range, can be customized.



Contacts cable



Extension Cable



Standard Resistor



GDH-100

- ▶ Adjustable testing current and low ripple.
- ▶ 3 1/2 LED to display current and resistance.
- ▶ Over-current, short circuit and over-heat protection.
- ▶ Four leads measurement method, high accuracy.
- ▶ Easy to operate.
- ▶ Portable to carry.

- ▶ User-friendly. Resistance, current, voltage, time, status and notes can be displayed.
- ▶ Data storage and history data browsing functions, 256 sets of data can be saved.
- ▶ Automatically calculate resistivity after inputting cross-section and length.
- ▶ Standard resistance value is set, to calculate the error and compare the test resistance value with standard value.



GDHL-600

Model No.	Output Current	Max measurement range
GDHL-100	10A, 25A, 50A, 100A fixed steps(>10A current step)	200mΩ
GDHL-200	25A, 50A, 100A, 200A fixed steps(>25A current step)	80mΩ
GDHL-300	50A, 100A, 200A, 300A fixed steps(>50A current step)	40mΩ
GDHL-600	10A, 100A, 200A, 600A	20mΩ
Insulation	Grounding >20MΩ	
Protection Level	IP67	
Working mode	Test time can be user-defined	
Accessories	Power cord, measuring cable, digital temperature sensor, measuring standard resistor	
Cooling mode	Forced air cooling	



# GDSL-BX

## Portable Primary Current Injection Tester

GDSL-BX Primary Current Injection Test Set, is mainly used for testing current transformer, motor protector, air switch, switch cabinet, circuit breaker, protection screen and etc.



GDSL-BX-100



GDSL-BX-200



Model No.	GDSL-BX-100	GDSL-BX-200
Output power	3kVA	
Output current	500A in series, 1000A in parallel.	
Output voltage	6V in series, 3V in parallel.	
Secondary injection current	--	50A
Timing range	--	0.001s-999.999s, resolution 1ms, error 0.005%

- ▶ Synchronously measure the action time of equipment.
- ▶ Engineering plastics box, dust-proof and waterproof, IP67 class.
- ▶ Quick connects, lock design, good current-through capability.
- ▶ PVC panel, simple and neat.
- ▶ Current range can be changed, easy to read.

- ▶ Zero start function to prevent the test objects from damage caused by high current impulse. The equipment only can be started from zero.
- ▶ Accurate measurement. LCD digital indicator to display output current and voltage. The resolution of output current is 1A .
- ▶ Output 0-50A AC current, suitable for over current quick break testing of secondary protection.
- ▶ Directly display primary current and secondary current, convenient for CT/PT turn ratios calibration test. (Optional)
- ▶ Impulse selection function. The required current can be output directly without zero protection function when making quick-break testing for circuit breaker.





# GDSL series

## Primary Current Injection Test Set

GDSL series Primary Current Injection Test Set is mainly used for primary bus protection and whole group driving test of current transformer. It is also used to calibrate air switch, switchgear, circuit breaker and protection screen.



GDSL-A Automatic control



GDSL-D Manual Control

Model No	Output Capacity kVA	Output Current A	Power supply V	Open Voltage V	Power Phase	Note
GDSL-A-500	3	500	220	6	LN	One unit
GDSL-A-1000	6	1000	220	6	LN	One unit
GDSL-A-1500	9	1500	220	6	LN	One unit
GDSL-A-2000	12	2000	220 or 380	6	LN or AB	One unit or split type
GDSL-A-2500	15	2500	220 or 380	6	LN or AB	One unit or split type
GDSL-A-3000	18	3000	220 or 380	6	LN or AB	One unit or split type
GDSL-A-4000	24	4000	380	6	AB	Split type
GDSL-A-5000	30	5000	380	6	AB	Split type
GDSL-A-6000	36	6000	380	6	AB	Split type
GDSL-A-8000	48	8000	380	6	AB	Split type
GDSL-A-10000	60	10000	380	6	AB	Split type
GDSL-A-12000	72	12000	380	6	AB	Split type
GDSL-A-15000	90	15000	380	6	AB	Split type

- ▶ Full keyboard operation, intelligent working process.
- ▶ Real-time display output current, time and result.
- ▶ Routine current rising test.
- ▶ Impulse quick break test.
- ▶ Transformer turn ratio polarity test.



GDSL-A-600



GDSL-A-4000

- ▶ Time Error: 0.005%, range: ±2digits.
- ▶ Output current is standard sine wave, wave distortion <5%.
- ▶ If the current is over upper limit, it returns zero automatically and alarm.

- ▶ Current can be set randomly, accuracy 1.0% .
- ▶ Automatic timing after required output current is arrived. After timing is over, it returns zero automatically.
- ▶ Timing range: 0-9999ms, resolution 1ms.
- ▶ Displaying primary and secondary current, convenient for turn ratio calibration test of CT/PT.

### Optional function:

- ▶ Current action time of test object.
- ▶ Synchronously record and lock action time.
- ▶ Temperature rising is customized according to long time working temperature rising.
- ▶ Three phase balance regulator.
- ▶ AC/DC two modes current injection.



GDSL-A-2000



## GDHG-106B

### CT/PT Tester

It is suitable for all types of CT and PT for laboratory and on-site test which can be used to test VA characteristic, turn ratio, ratio error, angular difference and loading etc for all kinds of transformer.

- ▶ Finish all testing subject by itself, no need to connect auxiliary equipment.
- ▶ Built-in printer, to print results easily.
- ▶ Engineering plastic box with damping, strong and reliable.
- ▶ With USB port. The data can be saved in USB disk and read by PC (WORD file).
- ▶ Automatically display excitation knee point value, 5% and 10% error curve.
- ▶ Large screen LCD, graphically display.
- ▶ Portable design, about 35kg, suitable for on-site test.
- ▶ Save 3000 groups data.

## GDHG-201P

### CT/PT Analyzer

GDHG-201P CT/PT Analyzer is designed for analyzing current transformers and voltage transformers of protection or measurement use, which is suitable for laboratory and on-site test.

It can measure excitation characteristic, turn ratio, polarity, secondary winding resistance, secondary burden, ratio error, angular difference for all kinds of CT, also measure excitation characteristic, turn ratio, polarity, secondary winding resistance, ratio error, angular difference for all kinds of PT.



- ▶ Using advance variable frequency method to test VA curves and 10% error curve of CT/PT.
- ▶ It can make CT test when kept point is up to 60kV.
- ▶ Testing DC resistance, excitation and polarity of CT only by one button.
- ▶ Display measurement data and dynamic curve in real time.

Output		0-180V rms, 12A rms, 36A(peak)
Voltage measurement accuracy		±0.1%
CT Turn Ratio Measurement	Range	1-40000
	Accuracy	±0.05%
PT Turn Ratio Measurement	Range	1-40000
	Accuracy	±0.05%
Phase Measurement	Range	± 2 min
	Resolution	0.5 min
Secondary Winding Resistance Measurement	Range	0-300Ω
	Accuracy	0.2%±2mΩ
AC Loading Measurement	Range	0-1000VA
	Accuracy	2%±0.02V



# GDHG-206

## CT/PT On-site Calibrator

GDHG-206 CT/PT On-site Calibrator is designed for analyzing current transformers and voltage transformers of ratio error, angle error, ratio error/angle error of 1%-200% current. It can directly measure turns ratio and polarity, actual secondary burden of CT/PT.

The model uses DC and AC power supply with high precision and automatic linear adjustment. High speed and reliable digital processing module is also adopted.



- ▶ With USB port, easy to transmit data to PC.
- ▶ Detect the ratio and polarity of voltage transformer.
- ▶ Measure standard CT or non-standard CT 1%-200% any point error (angle error and ratio error).
- ▶ Adopt differ-frequency power supply which is very close to power frequency to test, to prevent the field power frequency electromagnetic radiation and series interference.

CT Turn Ratio Range	5A/5A- 25000A/5A (5A/1A- 5000A/1A) Turn ratio error $\pm 0.2\%$
PT Turn Ratio Range	Full range measurement $\pm 0.2\%$
PT/CT Error Accuracy	$\pm 0.05\%$
DC Resistance	0.0-0.1 $\Omega$ $\pm 3\%$
	0.1-50 $\Omega$ $\pm 1\%$
CT Secondary Burden	1 $\Omega$ -25 $\Omega$ $\pm 2\%$
PT Secondary Burden	1VA-500VA $\pm 2\%$
Ratio Error	0.001%-3% (100V)
Angle Error	0.00'-50' (100V)
Admittance	0.1ms-99.9ms
Error	X = $\pm(2\% \times X + 2\% \times Y \pm 2\text{digit})$ , Y = $\pm(2\% \times X + 2\% \times Y \pm 2\text{digit})$

- ▶ One time testing and display error at any actual burden of CT.
- ▶ Direct analyzing the data if it is pass or fail.
- ▶ Finish error measurement of CT/PT by single machine, convenient for on-site calibration.
- ▶ 320\*240 LCD screen display.



### GDCT-103B

#### CT On-site Calibrator

- ▶ With white screen.
- ▶ Using recurrence method to measure CT error.



### GDCT-103C

#### CT On-site Calibrator

- ▶ With true color big screen.
- ▶ Using recurrence method to measure CT error.



### GDPT-103

#### PT On-site Calibrator

- ▶ 320\*240 LCD screen display.
- ▶ Measure 20%-120% error of PT.



### GDPT-103C

#### CVT On-site Calibrator

- ▶ Analyze and Calibrate CVT for on-site test.
- ▶ Single machine to realize error test of CVT.

# GDHG-103

## CT/PT Calibrator



GDHG-103 CT/PT Calibrator is mainly used to calibrate CT/PT with accuracy class 0.01 to class 10, CT secondary rated current is 5A, 1A and PT secondary rated voltage is 100V, 100/√3V, 150V(100/√3V,220V). The test result is shown directly by figure.

Measurement Range	In-phase component(%): 0.0001-200, resolution 0.0001
	Quadrature component(min): 0.001-700.0, resolution 0.001
	Impedance(Ω): 0.001-20.0, resolution: 0.0001
	Admittance(ms): 0.0001-20.0, resolution: 0.0001
Accuracy	Basic error
	In-phase component: $\Delta X = \pm(X \times 2\% + Y \times 2\%) \pm D_x$
	Quadrature component: $\Delta Y = \pm(X \times 2\% + Y \times 2\% \times 34.48) \pm D_y$
	X, Y-- Display value of instrument
	Dx, Dy-- Quantization error
Error of Percent table: 1.5% (1.0% for option)	

- ▶ Save and check measurement result. Data will not lose after power off.
- ▶ 320\*240 LCD screen with back light.
- ▶ Strong adaptability for power supply.
- ▶ With data management function. It can be connected with PC.
- ▶ Automatic measurement, using difference value measurement method and direct measurement error.
- ▶ Automatic polarity judgment, automatically determine the polarity within 2%-20%.
- ▶ Display, save and print data.
- ▶ AC sampling and full data processing.
- ▶ Automatically switch range according to measurement data.

Optional components			
Inductive divider	Standard CT	Self-boosting standard transformer	Standard CT with current injector
CT load case	Standard PT	Control unit with double voltage regulator	PT load case



# GD-610W

## Insulator Faults Detector

GD-610W is used to detect faults of insulators and locate the faults in power station, substation without cutting power. It also can be used for PD detection, corona discharge detection, discharge detection of electric equipment.

- ▶ Aluminum frame, robust and light weight.
- ▶ With stereo headphone and LCD screen.
- ▶ Far distance detection, laser aiming, which locate the degradation insulators accurately.
- ▶ Strong interference ability.

Center Frequency	40kHz±1Hz	Working Voltage	DC6.5V-8.4V, lithium battery
Sensitivity	Discharge mode: pinpoint arc discharge	Overall Dimension	445*410*320 (mm)
	Discharge interval: 4mm	Laser	Output wave length: 650nm
Effective distance	0.5M-15M below 2kV		Divergency degree of light beam: 0.4mrad
	5-40M at 2-10kV		Exit pupil power: ≥70mw
	5-50M at 10-220kV		Dimension: Φ16*60mm
	10-60M at 220-500kV		Min. Facula: Φ0.3mm



- It is charged by constant current and stopped by itself after full charge.
- Lithium battery for 1000 times charging, with automatic charging system.
- With sound indication, safe and reliable, easy operation.
- With data lock function, under-voltage function (if low voltage, the instrument will shut off automatically).



# GDYZ-301

## Zinc Oxide Lightning Arrester Tester

GDYZ-301 Automatic Zinc Oxide Lightning Arrester Characteristic Tester is the special equipment of testing zinc oxide arrester electric performance. It is suitable for testing various voltage levels zinc oxide with electricity or without, thus to detect dangerous problems inside the device caused by wet insulation or valve plate aging.

- ▶ 800 × 480 LCD touch screen, high speed thermal printer.
- ▶ No strong electricity inside, voltage no more than 12V.
- ▶ Support two types voltage sampling mode, wired and wireless.
- ▶ Built-in high energy Li-battery, suitable for no power supply field.
- ▶ Equipped with USB interface, support to export data.
- ▶ With a 4GB SD card, massive testing data can be stored.
- ▶ With dustproof, waterproof, anti-corrosion plastic sealed box.
- ▶ Software function can be extended according to customer demand.
- ▶ Current and voltage sensors are completely isolated, safe and reliable.
- ▶ 3-phase current, 3-phase voltage testing at the same time, more efficient.
- ▶ Suitable for testing in various situation such as lightning arrester with or without electricity, laboratory.
- ▶ Support no voltage sampling mode and use software calculation to get voltage standard.



# GDJB series

## Relay Protection Tester

Relay Protection Microcomputer Test Device plays a key role in operating electricity power systems reliably and safely. It is the testing device used in professional field of microcomputer protection, relay protection, excitation measurement, fault recorder.

### GDJB-1200A



▶ High-speed digital controlling processor is adopted as the output core of the tester. 32 bit double precision arithmetic is employed in the software, through which arbitrary high-accuracy waveform of each phase can be produced.

▶ A circuit of special adjustable DC power supply output is located on the rear panel, which has 110V and 220V two shifts that can be used as test standby power supply on the spot.

▶ High precise linear power amplifier, 6 phase voltage and 6 phase current output simultaneously.

▶ High precision D/A converter is employed for ensuring the precision and linearity of current and voltage in the whole range.

▶ With 8.5" TFT true color LCD display, tracking ball and optimized keyboard, which can be used without the external mouse and keyboard.

▶ 10 channels digital input and 8 channels output.

### GDJB-802

- ▶ 4 phase voltage and 3 phase current output.
- ▶ 320\*240 dot matrix LCD screen display.
- ▶ 7-channel contacts input and 2 pairs idle contact output.



### GDJB-902A

- ▶ 4 phase voltage and 3 phase current output.
- ▶ 800\*600 LCD TFT screen display.
- ▶ 10-channel contacts input and 8 pairs idle contact output.

### GDJB-II

- ▶ It is single phase calibration device for relay testing. It shows clear data, operation is easy.
- AC voltage: 0-250V/4A adjustable
- AC current: 0-100A/7V (200A can be customized) 0-20A/25V adjustable 0-5A/8V adjustable
- DC voltage: 0-250V/4A adjustable
- DC current: 0-20A/25V
- Current accuracy: 1.0%
- Voltage accuracy: 0.5%



# GDYM-3A

## Three Phase Electric Energy Meter Calibrator

GDYM-3A Electric Energy Meter Calibrator is multi-parameter measuring instrument which is full digital, multi-function and high precision. It is not only enable to calibrating the error, but also to measure voltage, current effective value, active power, reactive power, apparent power, power frequency, power factor, phase relationship, etc. It is especially suitable for calibrating the measurement accuracy of 3-phase electric energy meter in the power supply unit.

- ▶ The wave form of A, B, C voltage or current can be measured and displayed.
- ▶ Simultaneous calibration of one or two electronic energy meters.
- ▶ User-defined parameters. Save 5000pcs data.



- ▶ 7 inches TFT LCD screen.
- ▶ Keyboard design for input keys.
- ▶ With USB port, easy for copy data.
- ▶ Wide supply voltage from 30V to 480V.
- ▶ Error self checking for 5A clamp.
- ▶ Wiring emulation function.

Voltage Range	30V-480V		
Voltage Error	± 0.1%		
Output voltage	Terminal	0.1-5A wide range	
	Clamp	5A, 100A, 500A, 1000A	
Frequency Measurement Range	± 0.01Hz		
Phase Measurement Range	-180°~ +180°		
Max. Phase Error	±0.1°		
Harmonic measurement	±0.1%		
Harmonic range	2-21times		
Harmonic power measurement	2-42times		
Pulse constant	Low Freq.	5A	3600P/kWh
		Other	3600*(5/Ie) P/kWh
	High Freq.	5A	3.6x10 <sup>7</sup> P/kWh
		Other	3.6x10 <sup>7</sup> *(5/Ie) P/kWh
Note: Ie is rated current			



**GDYM-1A**  
Single Phase Electric Energy  
Meter Calibrator



**GDW-5000A**  
Portable Three Phase Power  
Inspection Tester



**GDW-5000B**  
Three Phase Power  
Inspection Tester



# GDYB-S6

## Three Phase Energy Meter Test System

GDYB-S series Three Phase Energy Meter Test System is used to measure various kinds of single/three phase energy meters of 0.1% and below. It has good appearance, complete functions and excellent performance.



- ▶ Automatic testing on every unit voltage, current, power stability and three phase total power stability.
- ▶ Automatically locate the mark area of rotary meter, which enables easier false actuation tests.

- ▶ Malfunction checking, locating, protecting and alarming functions to avoid damaging of the bench resulted from wrong manual wiring or operating.

- ▶ The error processing system can receive signal from the photoelectric sampler and output pulse of the insert type electronic meter, and high frequency pulse signal of standard meter.

- ▶ Meters in same type(same phase line, rated voltage, calibrated current) but different constant (at most 3 kinds) can be test at same time.

- ▶ Compact design, the meter rack of the testing equipment and the desk frame are all made of special aluminum alloy and the desk faceplate is made of fireproof and heatproof fiber material.



# GDYB-D12

## Single Phase Energy Meter Test System

GDYB-D series Single Phase Energy Meter Test System is used to measure various kinds of single phase meters of 0.1% and below. It has good appearance, complete functions and excellent performance.



- ▶ High stability and reliability, which can provide strong output power. Voltage (current) loop can take load of any type.

- ▶ Photoelectric sampler can realize three-dimensional adjustment, It can not only sample the turn-plate signal of the rotary meter but also receive the strobe signal of the electronic meter.

- ▶ Superimposing 2-21 harmonics in fundamental wave of power frequency, harmonic amplitude and phase can be set according the requirements. Also harmonic analysis and draw waveform can be carried out to the output.

- ▶ PC software provides complete functions, such as report printing, quantity counting and assets maintaining.

- ▶ Test multifunction meter's communication function of the 485 port, demand error and clocking error (this meter must have time signal output).

- ▶ Advanced automation. All test items are controlled by PC in one test.
- ▶ Easy to use, both keyboard and PC operation are available.





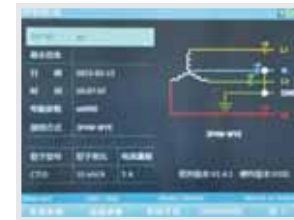
GDE6000 Handheld Power Quality Analyzer is suitable to analyze power quality for power plant, power transmission line, distribution facility, facilities of industrial electricity, railway electric circuit.



# GDE6000

## Power quality Analyzer

It can measure voltage, current, harmonic, inter-harmonic, harmonic group, higher harmonic, fluctuation, flickering, power, power factor, active and reactive, apparent power. Abnormal conditions such as impulse current/voltage increase or decrease, frequency abnormal, 3-phase unbalance, transient over-voltage, short time interruption can be checked quickly.



GDE6100  
Multi-point synchronous measurement

- ▶ Easy wiring, suitable for analyzing power quality of any line.
- ▶ With protection wristband, safe and easy operation.
- ▶ With scaling and zoom function, easy to check details.
- ▶ Waveform recording function, recording time 1-10mins.
- ▶ Historical data comparison and analysis.
- ▶ Automatically record measurement data.

Connection Mode	Single phase 2 wires/two-phase 3 wires/three-phase 3 wires/three-phase 4 wires
Voltage Range	1000Vrms
Current Range	AC 5A-6kA
Basic Accuracy	Voltage: $\pm 0.1\%$ nominal value
	Current: $\pm 0.1\%$ of the reading + current clamp accuracy
	Power (active, reactive, apparent): $\pm 0.5\%$ of the reading
	Frequency: $\pm 0.001\text{Hz}$
	Voltage unbalance rate: $\pm 0.2\%$ of the reading
	Voltage transient increasing, decreasing, short-time interruption: $\pm 0.1\%$ of the reading
	Power factor: $\pm 1\%$ of the reading
	Fluctuation: $\pm 1\%$ of the reading
	Impulse current: $\pm 0.1\%$ of the reading
Harmonic: accorded with IEC61000-4-7	

## GD-2136L/H Cable Fault Locating System

GD-2136L/H Cable Fault Locating System is important tool to maintain all kinds of cables. It uses various detection way to test cable faults, which is suitable for different levels voltage power cables and communication cables.

### The system contains below units:

- GD-2131L/H Impulse Generator
- GD-2132 Cable Fault Locator
- GD-2133 Cable Fault Tester
- Other accessories

- ▶ High sensitivity, high accuracy of locating.
- ▶ It also can be used in DC HV withstand test.
- ▶ Two locating way, low voltage pulse and high voltage flashover.
- ▶ Wave form and data automatically display on big LCD screen.



### GD-2131L/H Impulse Generator

It's used to generate HV impulse when using impulse flashover method to detect high impedance fault.

### GD-2132 Cable Fault Locator

Including transmitter, receiver, Inductive probe, potential type detection frame. It is suitable to test all kinds of power cable with metallic conductor.



### GD-2133 Cable Fault Tester

It can test faults of short circuit, grounding, high impedance leakage, high impedance flashover fault and cable's poor connection, disconnection for all kinds of power cables (voltage degree 1kV-35kV), local cable, communication cable, coaxial-cable and metal overhead line.

### GD-2138 Cable Fault Locating System

It can measure the distance of cable fault, trace the test cable, and locate the fault point.

It detects high impedance flashover, high impedance leaking, high/low impedance earthing, short circuit, open circuit, poor contact.





## GD-4136L/H Cable Fault Locating System

GD-4136L/H Cable Fault system is important tool to maintain all kinds of cables. It uses various detection way to test cable faults, which is suitable for different levels voltage power cables and communication cables.

### The system contains below units:

- GD-2131L/H Impulse Generator
- GD-4132 Cable Fault Locator
- GD-4133 Multi-pulse Cable Fault Tester
- GD-4133S Multiple Pulse Coupler



- ▶ With anti-noise headphone.
- ▶ Location and Route detection at the same time.
- ▶ Various waveform to be displayed in different colors, easy to identify.
- ▶ Distance test method: LV pulse, Pulse current, Multiple pulse.
- ▶ Acoustic and Magnetic signal waveform display, signal and noise is easy to distinguish.



### GD-4132 Cable Fault Locator

Including main unit, acoustic and magnetic sensor, anti-noise headphone and charger. It is suitable to test all kinds of power cable with metallic conductor. Its main function is locating poor insulation point, detecting circuit and depth of power cable.



### GD-4133 Multi-pulse Cable Fault Tester

GD-4133 Cable Fault Locator is used to measure distance between cable faults. It's easy to operate and with friendly interface.

### GD-4133S Multiple Pulse Coupler

It is working together with GD-4133 Cable Fault Detector, used for detecting high impedance leak fault, flashover fault, low impedance earth and open circuit fault of power cables. GD-4133S supplied pulse coupling signal for GD-4133 and isolate it from high voltage equipment.



### GD-4138 Multiple Pulse Cable Fault Locating System (more compact, one device)

It is an integrated equipment that can trace, locate the underground cables, with fault distance measurement and HV generation.



## GD-2134D

### Cable Identifier

GD-2134D 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.

- ▶ Various detection mode, more accurate.
- ▶ Fault signal output to detect Pipe grounding fault.
- ▶ Automatic impedance matching and functions of overload&short-circuit protection.
- ▶ Receiving frequency:500Hz, 1kHz, 8kHz, 33kHz, power frequency, radio frequency, fault frequency.
- ▶ Automatic measurement of depth and current.
- ▶ Three output mode: Direct connection output, Clamp Coupling output, Radiation induction.
- ▶ Signal input mode: Internal coil, clamp, 1k echometer, 8k echometer, A-type rack.
- ▶ Built-in Rechargeable lithium battery.

## GDAS-500

### DC Circuit Breaker Test Set



Circuit Breakers are one of the critical "safety-valves" of electrical systems and basic maintenance procedures are essential to maintain maximum reliability.

This instrument is designed for testing DC circuit breakers at rated current of 1A to 500A, also for DC protection devices at 6A to 100A. It is suitable for on-site test of substations.

- ▶ With strong anti-interference ability and good EMC (electromagnetic compatibility).
- ▶ Optional for ampere-second characteristic test or through current characteristic test.
- ▶ The instrument can be used separately or linked to PC.
- ▶ Protection functions for overheat, over-current and over voltage.

- ▶ Automatic data storage. Be capable of saving 200 testing results, which will not lose in power failure.

- ▶ Current range can be automatically switched by multiple high precision sensors. 14 digit AD acquisition chip of high capacity.

- ▶ 320\*240 LCD screen, thermal printer, full keyboard operation, and intelligent operation system.





# GDF-3000

## DC System Earth Fault Tester

In DC system, there are many earth faults including indirect earth fault, non-metal earth fault, loop earth fault, positive and negative earthing fault, positive and negative balance earth fault, multi-point earth fault. GDF-3000 Earth Fault Tester for DC System locates these earth faults and displays the parameters of system voltage, earth voltage, earth resistance and earth impedance of branches accurately.



Voltage of DC System	220V±15%, 110V±10%, 48V±10%, 24V±10%, or customized voltage level.
Capacitance range	System to the earth, total capacitance ≤100μF Single branch to the earth, ≤5μF
Output power of Transmitter	≤0.05W
Measurement range of Transmitter	Bus bar to the earth: 0-1000kΩ
	System to the earth: 0-1000kΩ
Accuracy of Receiver	<10μA
Locating range of Receiver	220V DC system: 0-500kΩ
	110V DC system: 0-250kΩ
	48V DC system: 0-125kΩ



GDHX-9500 uses wireless transmission technology, safe and reliable, fast and accurate, suitable for using at different voltage levels (10V-500KV). When checking the grid structure, it is able to accurately identify the relative phase of different leads for the three-phase connected line, without any electrical connection between two measurement components, which makes the application of the measurement device very flexible and safe.

# GDHX-9500

## Wireless Phase Detector



- ▶ Large capacity lithium battery.
- ▶ With automatic calibration and electric calibration function.
- ▶ Broadcast test result, more convenient for test.
- ▶ Far distance detection up to 150m, penetrate the blocking of wall.
- ▶ Color LCD screen , clearly display three phase vector diagram and test result.



GDHX-9100



# GDSF-II

## SF6 Gas Analyzer(Three-in-one)

GDSF-II SF6 Gas Analyzers is 3-in-1 device, which can test humidity, decomposition products, purity of SF6 gas in one on-site measurement.

- ▶ Automatic zero calibration.
- ▶ Built-in rechargeable battery, AC/DC power available.
- ▶ Intelligently display electricity quantity.
- ▶ Support data communication.
- ▶ Long life thermal sensors with temperature compensation.
- ▶ Data Management System Software.



GDWS-II  
SF6 Gas Dew Point Analyzer



GDP-II  
SF6 Gas Purity Analyzer

Power Supply	220VAC±10%, 50Hz, AC/DC use, with over-charge protection, working time no less than 5hours	
SF6 Gas Humidity	Measuring range	dew point -100 ~ +30 °C (support ppmv, etc.)
	Dew point accuracy	± 0.5 °C (when the dew point temperature is below 0 °C, the sensor output is the frost point)
	Response time	63% [90%], +20→-20 °C Td 5s[45s], -20→-60 °C Td 10s[240s]
	Resolution	dew point 0.1 °C or 0.1ppm
	Repeatability	± 0.5 °C
	Gas flow	0.8-0.9L/min
	Pressure measurement	0-1.0Mpa
SF6 Gas Purity	Probe protection	stainless steel sintering filter
	Measuring range	0 - 100% SF6
SF6 decomposition products	Accuracy and repeatability	±0.5%, nothing to do with the flow
	H2S	1 ~ 200ppm (standard)
	SO2	1 ~ 100ppm (standard)
	Sensitivity	0.5ppm
	Gas flow	0.5±0.1L/min

Model No.	Picture	Accessory
GDFJ-II SF6 Gas Decomposition Products Analyzer		
GDJD-3A Automatic Calibrator of SF6 Density Relay		



## GDWG-V

### SF6 Leak Detector

GDWG-V SF6 Gas Leak Detector is infrared type leak detector. It is double LCD display and real-time shows SF6 concentration. It rapidly detect SF6 breaker, GIS leakage point and yearly leakage rate qualitatively and quantitatively. It's a good device suitable for power supply department, installation and overhaul unit, power test institute.

- ▶ Non radioaction materials, easy to storage and transportation.
- ▶ Free from the restrain of humidity content.
- ▶ High sensitivity which can detect SF6 gas drops to 1 ppmv in the air.
- ▶ Free from the restrain of pollutant.
- ▶ Response time of internal pump only 1 second.
- ▶ Few maintenance (1 times every 5 years), and no wear parts.
- ▶ Used for particle filter of sensor protection.
- ▶ Measuring method: Automatic air exhaust and sampling.
- ▶ No need consumable.

Measurement Principle	Double waves non-dispersive infrared spectrometer(NDIR)
Measurement Range	0-1500ppm SF6
Sensitivity	1ppm
Repeatability	0.3%
Response Time	1s
Accuracy	0.5ppm
Storage Temperature	-40~+70°C
Operation Environment	Temperature:-10~+60°C, Relative humidity: ≤90%RH
Sampling Mode	Built-in electromagnetic diaphragm pump, automatic suction.

Model No.	Picture	Features
GDWG-1000 SF6 Gas Leak Detector		<ul style="list-style-type: none"> <li>• Dot-matrix color LCD display and menu-driven function management.</li> <li>• Settable alarm lower limit displayed on the screen and optical alarm.</li> <li>• Self-calibration function.</li> <li>• Small size, convenient for handheld testing.</li> <li>• High brightness LED light source capable of illumination.</li> </ul>
GDWG-IV SF6 Leak Detector		<ul style="list-style-type: none"> <li>• LCD display.</li> <li>• User-defined alarm with sound and light.</li> <li>• High sensitivity and good stability.</li> <li>• Small size, easy to carry.</li> <li>• Built-in Li battery, AC/DC on-site use.</li> </ul>
GDWG-II SF6 Gas Leak Detector		<ul style="list-style-type: none"> <li>• Small size, light weight, hand-held device, portable design.</li> <li>• High sensitivity and stability, detected leak quantity is 3g/year.</li> <li>• Digital LCD display, sound and light alarm. If SF6 gas available, it will sound alarm.</li> <li>• Fast response speed, short recovery time.</li> </ul>



# GDQH-601

## SF6 Gas Recycling and Refilling Device

It is one unit recycling device, including vacuuming system, compression system, purification system, storage system and condensing system. It is suitable for SF6 electrical equipment, GIS manufacturer and institute.



- ▶ Recycle SF6 gas of electric equipment including water treatment and oil treatment.
- ▶ Recycle SF6 gas of SF6 equipment and liquid storage, residual voltage measurement.
- ▶ Vacuuming gas for SF6 switchgear and GIS and vacuum measurement.
- ▶ Liquefaction tank vacuuming and measurement.
- ▶ Vacuuming for device itself and measurement.
- ▶ Gas Refilled for SF6 gas switch.
- ▶ Dry SF6 gas and purification treatment.
- ▶ Easy to move.



GDQH-601-50	Exhausting quantity of compressor is 12m <sup>3</sup> /h, pumping speed of vacuum pump is 15L/S, gas storage up to 50kg	It is suitable for column type circuit breaker, mini switch box, ring main unit, and small storage container
GDQH-601-160	Exhausting quantity of compressor is 14m <sup>3</sup> /h, pumping speed of vacuum pump is 15L/S, gas storage up to 160kg	It is better to be used for power equipment manufacturer, and suitable for on-site installation and maintenance for 35kV-110kV GIS
GDQH-601-200	Exhausting quantity of compressor is 14/19m <sup>3</sup> /h, pumping speed of vacuum pump is 15/30L/S, gas storage up to 200kg	It is better to be used for power equipment manufacturer, and suitable for on-site installation and maintenance for 110kV-220kV GIS
GDQH-601-400	Exhausting quantity of compressor is 19m <sup>3</sup> /h, pumping speed of vacuum pump is 18L/S, gas storage up to 400kg	It is better to be used for power equipment manufacturer, and suitable for on-site installation and maintenance for 110kV-500kV GIS
GDQH-601-600	Exhausting quantity of compressor is 33m <sup>3</sup> /h, pumping speed of vacuum pump is 26L/S, gas storage up to 600kg	It is better to be used for power equipment manufacturer, and suitable for on-site installation and maintenance for 110kV-800kV GIS





# GD3126A/B

## Insulation Resistance Tester

GD3126 Insulation Resistance Tester is widely used in maintenance of electrical equipment in transformer substation, power plant, etc. It is suitable for carrying out measurement of insulation resistance (IR), absorption ratio (DAR) and polarization index (PI) of all kinds of high voltage equipment, including switchgear, transformers, reactors, capacitors, motors, generators and cables, etc.



- ▶ Microcomputer control, menu operation and LCD screen dot matrix display.
  - ▶ Output high voltage of each range can be continuously adjusted from zero.
  - ▶ Able to withstand impact of short circuit and residual voltage of the measured capacitance.
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- ▶ Maximum resistance measurement range up to 10TΩ, automatic switching range.
  - ▶ Automatic measurement of ambient temperature, air humidity and test time.
  - ▶ Storage of 60 groups of measuring results, and the data will not be lost for 20 years.

- ▶ Displays the test time, buzz tips at every 15 seconds, 5 minutes without operation will prompt shutdown.
- ▶ With shockproof, moisture-proof and dust-proof structure, suitable to use in the harsh working environment.
- ▶ Automatic measurement of R15, R60, R600, automatic calculation of absorption ratio and polarization index.
- ▶ Automatically discharge high voltage after measurement is completed, the discharge time is no more than 30 seconds.

Rated test voltage		GD3126A(5kV)		GD3126B(10kV)				
		50V, 100V, 250 V, 500V, 1.0kV, 2.5kV, 5.0kV		50V, 100V, 250 V, 500V, 1.0kV, 2.5kV, 5.0kV, 10.0kV				
Output voltage error		±5%						
Resistance range	Upper limit	100GΩ-10TΩ		100GΩ-20TΩ				
	Lower limit	0.1MΩ		0.1MΩ				
Accuracy		Class 5.0						
High voltage display error		±( 5%·Ux + 1d )						
Temperature measuring error		±0.5℃						
Humidity measuring error		±2%RH						
Short circuit current		Approx. 6mA						
Voltage ripple		<3%						
Insulation resistance		> 500 MΩ (between test wire and case)						
Withstand voltage		AC10.0kV 50Hz 1min (between test wire and case)						
Power supply		14.8V lithium battery						
Batter service time after one charging		30 days 10 times DAR & 5 times PI test per day						
Working temperature and humidity		0℃ ~ + 40℃ < 85%RH						
Storage temperature and humidity		- 20℃ ~ + 50℃ < 90%RH						
Dimension (mm)		325 (L)*250(W)*130(H)						
Weight		3.7kg						
Resistance measuring error								
Voltage steps	50 V	100 V	250 V	500 V	1.0 kV	2.5 kV	5.0 kV	10.0 kV
±( 3%·Rx + 1d )	0.2GΩ	0.4GΩ	1GΩ	2GΩ	4GΩ	10GΩ	20GΩ	40GΩ
±( 5%·Rx + 1d )	2GΩ	4GΩ	10GΩ	20GΩ	40GΩ	0.1TΩ	0.2TΩ	0.4TΩ
±( 10%·Rx + 2d )	20GΩ	40GΩ	100GΩ	200GΩ	0.4TΩ	1TΩ	2TΩ	4TΩ
±( 25%·Rx + 2d )	100GΩ	200GΩ	500GΩ	1TΩ	2TΩ	5TΩ	10TΩ	20TΩ



		
<b>GD2000D</b> Insulation Resistance Tester	<b>GDCR2000G</b> Earth Resistance Tester	<b>GDCR3000</b> Earth Resistance Tester
		
<b>GDLP</b> Transmission Line Test System	<b>GD-2133S</b> UHV Cable Sheath Fault Distance Tester	<b>GD2135B</b> Cable Puncture Device
		
<b>GDYG-F</b> Earth Fault Locator of Overhead Line	<b>GDEB-5</b> Digital HV Bridge Cable Fault Tester	<b>GDZB-60</b> Automatic Cable Burner

		
<b>GDKS-205</b> Automatic Flash Point Open Cup Tester	<b>GDBS-305</b> Automatic Flash Point Closed Cup Tester	<b>GDZL-503</b> Automatic Interfacial Tension Tester
		
<b>GDC-9560B</b> Gas Chromatograph Analyzer	<b>GDW-102</b> Oil Dew Point Tester	<b>GDW-106</b> Oil Dew Point Tester
		
<b>GDSZ-402</b> Automatic Oil Acid Tester	<b>GDQH-901</b> Kinematic Viscosity Tester	<b>GDZD-601</b> Multi-Function Shaker