

Fully Automatic Impulse Voltage Test System

LVG Series



- IEC 61010
- IEC 60060-1
- IEC 60060-2
- GB331
- GB/T 16927.1
- GB/T 16896.1
- GB/T 16927.2

Features

- > H-shaped frame with an elegant and robust design
- > Automatic grounding system for enhanced safety and reliability
- > Synchronous discharge ball mechanism with a gap adjustment accuracy of up to 0.1 mm
- > Copper hemispherical electrodes with high-voltage pulse ignition, achieving a discharge synchronization rate of up to 99%
- > Equipped with a movable base for convenient adjustment of the installation position
- > Capacitive impulse voltage divider serves both to measure the peak value of the impulse output voltage and to provide the load capacitance
- > Wave-shaping resistors feature a spring-clip mounting design for quick and tool-free replacement
- > Reserved mounting platforms between stages for convenient equipment installation and stable access during maintenance
- > Flexible operation with support for highly automated control and system integration

Introduction

The LVG Series complies with relevant standards, including IEC 60060-1, IEC 60060-2, IEC 61010, GB 311, GB/T 16927.1-2011, GB/T 16927.2-2011, and GB/T 116896.1-2011.

The LVG Series Impulse Voltage Test System is suitable for products rated at medium and low voltage levels. The wavefront and wave-tail resistors can be connected in parallel, while effective isolation gaps are provided between the wave-tail resistors to improve discharge synchronization. The wave-shaping resistors feature a plate-type structure without wire winding, allowing all synchronous discharge spheres to be installed inside sealed insulating tubes while continuously supplying filtered air. This design minimizes the influence of environmental changes on the spark gap, ensuring stable and reliable discharge performance. The system supports the generation of various impulse waveforms, including 1.2/50 μ s.

Application Areas



Technical Parameters

Output Waveform	1.2/50 μ s
Output Peak Voltage	Max. 400 kV
T ₁ Front Time	1.2 μ s $\pm$ 30%
T ₂ Tail Time	50 μ s $\pm$ 20%
Overshoot	< 20%
Polarity	Positive, negative, auto-switching
Waveform Switching	Automatic switching
Charging Time	10 s ~ 999 s
Charging Voltage Stability	< 1%
External Synchronization Input	50 Hz
Trigger Mode	Automatic or manual; single trigger
Trigger Error Rate	< 1%
Trigger Range	100% of Rated Charging Voltage
Display	10-inch TFT Color Touchscreen
Measurement Display Accuracy	Better than 3%
Residual Voltage on DUT	< 5 kV
Voltage Measurement	High-Impedance Impulse Voltage Divider
Oscilloscope	TDS3012C, Optional
Insulation Strength	$\leq$ 500 V RMS (Public terminal COMMON to protective earth)

General Parameters

Working Power	AC 220 V, $\pm$ 10%, 50/60 Hz ($\pm$ 5%)
Ambient Temperature	-10°C ~ + 40°C
Relative Humidity	35% ~ 85%, RH (no condensation)
Grounding resistance	< 0.5 Ω
Structure Type	Open-frame structure; control unit separated from main body
Operating Table	1.8 m (L) $\times$ 1.2 m (H) $\times$ 1 m (W)
Free of conductive dust, fire and explosion hazards, and gases corrosive to metals and insulators; the power supply voltage shall be sinusoidal with a waveform distortion rate <5%.	

Specifications

Nominal Total Voltage	Level	Total Charging Energy(kJ)	Impulse Capacitor(nF)	Total Charging Energy(kJ)	Impulse Capacitor(nF)
100	1	2.5	500	5	1000
200	2	5.0	250	10	500
300	3	7.5	167	15	333
400	4	10.0	125	20	250
Minimum Time Interval Between Pulses		30 s		40 s	
Capacitance per stage of the generator		1 x 0.50 μ F /100 kV		1 x 1 μ F /100 kV	

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