

PG 10-504 / PG 12-804

Combination Wave Generator / Hybrid Generator

Generator	PG 10-504	PG 12-804
Surge voltage 1.2 / 50 μ s	0.2 – 10 kV	0.2 – 12 kV
Surge current 8 / 20 μ s	0.1 – 5kA	0.1 – 6kA



According to

IEC 61000-4-5

IEEE 587

The Combination Wave Generator PG10-504 / 12-804 is a combined impulse-current-/impulse-voltage generator which, for high-impedance loads, $R_L > 100\Omega$, delivers a standard impulse voltage with waveform 1.2/50 μ s and, for short-circuited output, a standard impulse current with waveform 8/20 μ s.

The generator allows surge testing of components and devices, galvanic coupling of surges to cable shields, shielded enclosures and cabinets as well as testing electromagnetic compatibility, EMC, of electronic devices and systems against pulsed and conducted interference.

Using an external Coupling-/Decoupling Network allows superimposition of the combination wave generator's output to the mains voltage of the device under test. The test set-up is suitable for surge immunity testing of electronic systems and devices full compliant to IEC 61000-4-5 and IEEE587. Demonstrating such immunity is generally a requirement for compliance with the requirements of the European EMC directive, a necessary step leading to the final attachment of the CE mark.

Executing surge immunity tests at power supply a line triggering of high-voltage pulses is accomplished synchronous with mains. The precise trigger point can be shifted between 0 to 360 ° after the zero crossing of the mains voltage. The polarity of the output voltage is selectable. Positive, negative or alternating polarity of the output voltage can be pre selected.

The PG10-504 / 12-804 excels by its compact design, simple handling and precise reproducibility of test impulses. The output current- and voltage waveforms, due to built-in sensors, can be recorded via separate signal outputs for current and voltage.

The generator features a microprocessor controlled user interface and a 7" touch screen unit for ease of use. The microprocessor allows the user to execute either standard test routines or a "user defined" test sequence. The test parameters which are shown on the built in display, are easily adjusted by means of touch screen.

A standard USB port provides the ability to print a summary of the test parameters to a USB stick.

Moreover, all generator functions may be computer controlled.

The software program PG-REMOTE allows full remote control of the test generator via fiber optic Ethernet interface as well as documentation and evaluation of test results, accordingly to the IEC 17025. To record definite impulses, it is equipped with an Impulse Recording Function (IRF)

TECHNICAL SPECIFICATIONS		PG 10-504	PG 12-804
Mainframe			
Microprocessor controlled touch panel		7", capacitive	
Optical Ethernet Interface for remote control of the generator		optional	
Interface for saving reports		USB	
External Trigger input / output		Switch / 10 V	
Connector for external safety interlock loop		24 V =	
and external red and green warning lamps acc. to VDE 0104		24 V=, 40 mA	
Mains power		230V, 50/60 Hz	
Dimensions: desk top case W * H * D		450*330*500 mm ³	
Weight		25 kg	
Combination Wave Generator acc. to IEC 61000-4-5: 2014			
Test voltage, (open circuit condition) ± 10 %		0.2 – 10 kV	0.2 – 12 kV
Waveform acc. to IEC 60060		1.2 / 50 µs ± 30/20 %	
Test current (short circuit condition) ± 10 %		0.1 - 5.0 kA	0.1 - 6.0 kA
Waveform acc. to IEC 60060		8 / 20 µs ± 20 %	
Polarity of output voltage/current, selectable		pos/neg/alt	
maximum stored energy		500 Joule	800 Joule
charging time for max. charging voltage		< 20s	
HV-output: isolated from ground		HV-OUT, COM	
Mains synchronous triggering :			
Phase shifting, digitally selectable		0 - 360 °, Step 1°	
Ext.Sync. Input for synchronisation to the external CDN mains		built-in	
Optical output for control of external CDN		built-in	
Display of peak values of pulse voltage and current			
Monitor output for pulse output voltage		ü = 1000 : 1 ± 5 %	
Monitor output for pulse output current		10V ≙ 5 kA ± 5 %	
Accessories			
power cable, turn key, HV-cable, 1m, instruction manual			

Options	PG 10-504	PG 12-804
PC software for remote control (Windows)		
PG Remote software test package, running under Microsoft Windows, for the external control of the device		
Includes 5 m long fibre optic cable and Ethernet PC Interface		
Test cabinet		
Test adapter with safety cabinet for component testing		
Coupling/decoupling networks		
CDN 10xxx, CDN 12xxx		
Coupling/decoupling networks for immunity test		
For AC/DC current 16A to 250A; Lines L1-N-PE or L1-L2-L3-N-PE		
Nominal voltage	3 * 690 V 50/60 Hz / 1000 V DC	