Oscillatory Wave Generator

IPG 2554

Oscillatory wave test

Slow damped oscillatory
100 kHz
1.0 MHz

Fast damped oscillatory
3.0 MHz
10.0 MHz
30.0 MHz

Acc. to IEC 61000-4-18:2006

The oscillatory wave generator IPG 2554 has been designed for immunity testing of electrical and electronic equipment against repetitive damped oscillatory waves according to IEC 61000-4-18 requirements.

It generates a decaying sine waveform with ringing frequency from 100 kHz to 30.0 MHz. These waveforms represent disturbances occurring in power, control and signal cables installed in high voltage and medium voltage stations and in heavy industrial installations.

The output amplitude is adjustable between 0.25 kV and 4 kV. The positive or negative polarity of the first amplitude can be selected.

The Coupling-/ Decoupling Network integrated allows superimposition of the generator output waveform to up to four interconnection lines of the equipment under test.

IPG 2554 features a microprocessor controlled user interface and display 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 the rotary encoder. A standard parallel interface provides the ability to print a summary of the test parameters whilst testing is being carried out.

Moreover, all generator functions, including the settings of the built-in Coupling-/Decoupling Network, may be computer controlled via the isolated optical interface.
The software program IPG-REMOTE allows full remote control of the test generator via Ethernet light guide 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).

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TECHNICAL SPECIFICATIONS	IPG 2554
Mainframe	
Microprocessor controlled touch panel	5”, 800X480, 24 bit
Optical Ethernet Interface for remote control of the generator	optional
Interface for saving reports	USB
External trigger input	10 V at 1 kΩ
External trigger output	10 V at 1 kΩ
Connector for external safety interlock loop	24 V=
External red and green warning lamps	230V / 60 W
Mains power	230 V / 50 Hz
Dimensions of desk top case W * H * D	450*310*520 mm^3
Weight	35kg
Slow damped oscillatory	
Peak1 open circuit voltage	200V to 3 kV (± 10%)
Oscillation frequencies	100 kHz 1 MHz (± 10%)
Repetition rate	40 Hz 400 Hz (± 10%) Range: (40 – 400Hz)
Voltage rise time (first peak)	75 ns ± 20%
Voltage decay	Peak5 > 50 % of Peak1 value Peak10 < 50 % of Peak1 value
Polarity of the first half-period	positive and negative
Burst duration	continuous
Test time	1 - 1000s
Output impedance	200 Ω ± 20%
Specifications short circuit:	
Short circuit current (Peak1)	1.25 A to 12.5 A (± 20 %)
Fast damped oscillatory	
Peak1 open circuit voltage	200V to 4 kV (± 10%)
Oscillation frequencies	3 MHz 10 MHz 30 MHz (± 10%)
Repetition rate	5000/s (± 10%) Range: (40 – 5000Hz)
Voltage rise time (first peak)	5 ns ± 30%
Voltage decay	Peak5 > 50 % of the Peak1 value Peak10 < 50 % of the Peak1 value
Polarity of the first half-period	positive and negative
Burst duration	3 MHz: 50 ms (± 20%) 10 MHz: 15 ms (± 20%) 30 MHz: 5 ms (± 20%) Range : (1ms – 50ms)
Burst period	300 ms (± 20%) Range: (300ms – 1000ms)
Test time	1 - 1000s
Output impedance	50 Ω ± 20%
Specifications short circuit:	
Current rise time	3 MHz: < 330 ns 10 MHz: < 100 ns 30 MHz: < 33 ns
Current oscillation frequencies	3, 10 and 30 MHz (± 30 %)
Decaying	Peak5 > 25 % of the Peak1 value Peak10 < 25 % of the Peak1 value
Short circuit current (Peak1)	4 A to 80 A (± 20 %)

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Slow and fast damped oscillatory	
Phase relationship with the power frequency	no relation
Monitor output	100:1 ± 5%
Output	
HV-output	HV-OUT , 4 mm ∅ connector
Coupling- / decoupling network for AC/DC power supply ports	**CDN 2554-16**
Coupling capacitor, slow pulses	0.5 µF
Coupling capacitor, fast pulses	33 nF
Isolation withstand capability of the coupling capacitors with the 1.2/50µs wave	5 kV
Supply current rating / voltage rating	16 A / 250 V
Number of lines	4 + PE
Coupling mode	line to line or line to ground
Common mode decoupling (attenuation)	20 dB
Differential mode decoupling (attenuation)	30 dB
Input line terminal: L1-L4, GND	4 mm ∅ connector
Output EUT terminal: L1-L4, GND	4 mm ∅ connector
Option:	
Software for remote control With Impulse Recording Function (IRF (XP, WIN7) incl. 5m long light guide and PC Ethernet interface	HILO-Remote

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