

# Oscillatory Wave Generator

## IPG 2551

**Oscillatory wave test**

**100 kHz**

**1.0 MHz**



**acc. to IEC 61000-4-12**

The oscillatory wave generator IPG 2551 has been designed for immunity testing of electrical and electronic equipment against repetitive damped oscillatory waves according to IEC 61000-4-12 requirements.

It generates a decaying cosine waveform with ringing frequency of 100 kHz or 1.0 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 2.5 kV. The polarity of the first amplitude alternates from wave to wave.

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

IPG 2551 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\_2551 allows full remote control of the test generator and documentation and evaluation of test results.

**Technical specification:**
**IPG 2551**
**Mainframe:**

Microprocessor controlled LCD module	8*40 characters
Parallel printer interface for on-line documentation	25-way 'D' connector
Optical-interface for remote control of the generator	built-in
External Trigger input	10 V at 1 k $\Omega$
Diagnostic input for monitoring of the test device	4 channels, 5 V - Level
Connector for external safety interlock loop	24 V =
and external red and green warning lamps acc. to VDE 0104 230 V, 60W	
Mains power	230 V , 50/60 Hz
Dimensions: desk top case W * H * D	471*156*520 mm <sup>3</sup>
Weight	25 kg

**Generator section:**
**IPG 2551**

Peak open circuit voltage	250V (-10%) to 2.5 kV (+10%)
Oscillation frequencies	100 kHz $\pm$ 10% 1 MHz $\pm$ 10%
Repetition rate	40 Hz 400 Hz
Voltage rise time (first peak)	75 ns $\pm$ 20%
Voltage decay	50% of the peak value between the third and sixth period
Polarity of the first half-period	positive and negative
Burst duration	not less than 2 s
HV-output, used for connection to external CDN's, HV-OUT	4 mm $\varnothing$ connector
output terminal with lower potential difference to ground: COM	4 mm $\varnothing$ connector
Output impedance	200 $\Omega$ $\pm$ 20%
Phase relationship with the power frequency	no relation
Monitor output	100:1 $\pm$ 5%

**Coupling-/decoupling network for AC/DC power supply ports CDN 2551-16**

Coupling capacitor	0.5 $\mu$ F
Isolation withstand capability of the coupling capacitors with the 1.2/50 $\mu$ s 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

**Option 1: Software for remote control**
**IPG\_2551.EXE**

Incl. PC-Interface with light guide	5m long
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