

# FRONT-CHOPPED-WAVE GENERATOR

## IPG 506

**Measurement of  
dc spark-over voltage and  
impulse spark-over voltage**

**rise of output voltage, selectable:  
600 V = : 100 V/s  
5 kV impulse: 100V/μs - 5000 V/μs**

**Insulation resistance 0.25 -250 MW**

**acc. to CCITT / ITU-T, K12**



The front-chopped-wave generator IPG 506 is used for measuring dc spark-over voltage and impulse spark-over voltage of over-voltage protectors according to CCITT / ITU-T, K12.

### **dc spark-over voltage:**

A linearly rising voltage, rate of rise 100 V/s up to 637.5 V, is connected to the device under test. The spark-over voltage measured is shown in the display.

### **impulse spark-over voltage:**

A linearly rising impulse voltage, rate of rise 100 V/μs up to 5000 V/μs, open loop amplitude 5000 V, is connected to the device under test. The spark-over voltage is measured by use of a peak detector. The result is shown in the display. A built-in impulse voltage divider allows measurement of the spark-over voltage by use of an externally connected scope.

Moreover, the **insulation resistance** of the test device can be measured in the range of 0.25 - 250 MΩ. Test voltage selectable: 50 / 100 V.

The high-voltage output terminals are located on the top of the generator. They are protected by a dielectric cover with safety interlock.

Optionally a switch-unit can be integrated, which allows successive testing of up to 8 devices.

The front-chopped-wave generator IPG 506 feature a microprocessor controlled user interface and display unit for ease of use. The microprocessor allows the user to operate the generator manually or to generate, save and execute 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 and measured values of spark-over voltage whilst testing is being carried out.

The generator excels by its compact design, simple handling and precise reproducibility of test impulses. Moreover, all generator functions may be computer controlled via the isolated optical interface.

**Technical specification:**
**IPG 506**
**mainframe:**

Microprocessor controlled LCD module	8*40 characters
Optical-interface for remote control of the generator	built-in
Parallel printer interface for on-line documentation	25-way 'D' connector
External Trigger input	10 V at 1 k $\Omega$
External Trigger output	10 V at 1 k $\Omega$

Mains power	230 V, 50/60 Hz
Dimensions: 19" desk top case W * H * D	471*165*520 mm <sup>3</sup>
Weight	16.5 kg

**generator section:**

output terminals:	4 mm $\emptyset$ , connector
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**dc spark-over voltage:**

test voltage, controlled by a 8 bit DAC	637.5 V
rate of rise	100 V/sec
measurement of spark-over voltage, accuracy	8 bit $\pm$ 2 digit

**impulse spark-over voltage:**

test voltage, amplitude of the open loop impulse voltage	5 kV $\pm$ 10%
rate of rise, selectable	100/200/500 V/ $\mu$ s 1000/2000/5000 V/ $\mu$ s
repetition time, selectable	5 - 1000 sec
number of pulses, selectable	1 - 1000
polarity of output voltage, selectable	pos/neg
max. stored energy	6 Joule
measurement of spark-over voltage	500 - 1500 V +5%/-15%
monitor output for impulse output voltage	ratio 1000:1 $\pm$ 3%

**measurement of insulation resistance:**

measuring range of insulation resistance	0.25 - 250 M $\Omega$
test voltage selectable	50 V / 100 V

**safety test cover:**

mounted on the top of the equipment, type PA 503, safety interlock loop connected to the limit switch	
Dimensions: W * H * D	400*150*250 mm <sup>3</sup>

**Acc.:** power cable, turn-key, instruction manual

**Option 1:**

switch-unit for successive testing of 8 devices	built-in
output terminals:	4 mm $\emptyset$ , connector